

**CITY OF STORM LAKE
REGULAR COUNCIL SESSION MEETING,
CITY HALL COUNCIL CHAMBERS
APRIL 3, 2023
5:00 PM**



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

AGENDA

Access to the official meeting can also be done through the following ways:

BY TELEPHONE:

Dial: 1-312-626-6799 or toll-free: 1-888-475-4499

Zoom Meeting ID: 933-2006-3301

BY COMPUTER:

<https://zoom.us/j/93320063301>

Open the Meeting

- **Call to Order**
- **Pledge of Allegiance**
- **Proclamation**

- A. **Consideration of Changes in Agenda and Setting the Agenda**
- B. **Disclosure by City Council Members**
- C. **Hear the Public**
- D. **Consent Agenda**
 - 1. [Consent Agenda](#)
 - 2. [Buy Local Information](#)
 - 3. [Motion to Approve The 2023 Bridge of Storm Lake Run for Our Future 1/2 Marathon, 10K and 5K.](#)
- E. **Unfinished Business**
 - 1. [Resolution No. 43-R- 2022-2023 To Approve Request from Storm Lake United for 2023 Events](#)
- F. **New Business**
 - 1. [Motion To Approve Elevator Contract and Authorize a Down Payment.](#)
 - 2. [Public Hearing for the Plans, Specifications, Form of Contract, and Engineer's Estimate for the Runway 17/35 Edge Lighting Project](#)
 - 3. [Resolution No. 52-R-2022-2023 Approving the Plans, Specifications, Form of Contract, Engineer's Estimate, Awarding the Bid, and Submittal of the FAA Grant Application for the Runway 17/35 Edge Lighting Project](#)
 - 4. [Public Hearing On The Proposed Amendment No. 9 To The Storm Lake Industrial Park Urban](#)

Renewal Plan

5. Resolution No. 53-R-2022-2023 Determining An Area Of The City To Be An Economic Development Area, And That The Rehabilitation, Conservation, Redevelopment, Development Or A Combination Thereof, Of Such Area Is Necessary In The Interest Of The Public Health, Safety Or Welfare Of The Residents Of The City; Designating Such Area As Appropriate For Urban Renewal Projects; And Adopting The Amendment No. 9 To The Storm Lake Industrial Park Urban Renewal Plan
6. Public Hearing On The Authorization Of A Loan Agreement And The Issuance Of Notes To Evidence The Obligation Of The City Thereunder
7. Resolution No. 54-R-2022-2023 Initiating Proceedings To Take Additional Action For The Authorization Of A Loan Agreement And The Issuance Of Not To Exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes.
8. Motion Setting Public Hearing On Fiscal Year 2022-2023 Budget Amendment
9. Ordinance No. 04-O-2022-2023 Amending Title IV of the Storm Lake, Iowa City Code by Amending Section 4-3-2(d) of Chapter 4-3 on Solicitors, Which Section Defines "Transient Merchant," and by Adding New Chapter 4-10 Regulating Mobile Food and Beverage Vendors - 2nd Reading
10. Closed Session Reference Iowa Code Chapter 21.5 (c) Matters of Litigation
11. Resolution No. 55-R-2022-2023 Approving a Mutual Release Agreement
12. City Council Requested Items

G. Adjourn

Meeting Protocol

If you wish to speak today, please:

1. To speak on an agenda item please approach the podium when that agenda item is called and upon recognition by the Mayor identify yourself by stating your name and address.
2. If your issue is not a topic on the agenda please approach the podium under the "Hear the Public" agenda item and upon recognition by the Mayor identify yourself by stating your name and address.
3. Please keep your remarks to three (3) minutes or less.
4. If you require accommodation for this meeting including but not limited to translation services, hearing assistance, or accessibility please contact the City Clerk at least four (4) hours prior to the start of the meeting.

**If you have concerns about any of the items on the consent agenda, they may be separated from the consent agenda and voted on individually.*

***Ordinances may be read at three consecutive meetings or readings may be waived and ordinances may be passed at only one or two meetings.*

Find us on Facebook <https://www.facebook.com/cityofstormlake> Follow us on Twitter [@Storm_Lake](https://twitter.com/Storm_Lake)
Find us on the Web at <http://www.stormlake.org>

Staff Summary

04/03/2023

Agenda Item # D.1.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
[p \(712\) 732-8000](tel:(712)732-8000)
[f \(712\) 732-4114](tel:(712)732-4114)

REPORT TO: Honorable Mayor & Council

FROM: Mayra Martinez City Clerk

SUBJECT: **Consent Agenda**

BACKGROUND:

- List of Bills
- King's Pointe & Sunrise Pointe Disbursements
- Approve March 20, 2023 City Council Minutes
- Approve 2023 Bridge of Storm Lake Run for Our Future 1/2 Marathon, 10K and 5K
- Approve Buy Local Information
- Approve Storm Lake Police Department City Code Enforcement Update

FISCAL IMPACT: The City Will Pay The Following Expenditures:

- List of Bills: \$539,548.83
- King's Pointe & Sunrise Pointe Golf Course Bills: \$164,587.26

RECOMMENDATION: Approve Consent Agenda

ATTACHMENTS:

[4.3.2023 Expense Report.pdf](#)

[4/3/2023 King's Pointe Claims 3.16.2023 to 3.29.2023.pdf](#)

[03/20/2023 City Council Minutes.pdf](#)



Storm Lake, IA

My Buy Local_v1

Payment Date Range: 03/23/2023 - 04/05/2023

Vendor Name	Buy Local Info	Payable Description	Total Payments
BVC			
Power Solutions, Inc	BVC	Campground Storage Building Services	4,225.85
Mike's Electronics Inc	BVC	Well 20 Service Call	394.52
4 Seasons Plumbing Heating & Cooling	BVC	Urinal Repairs	128.73
Alan Slight	BVC	3/28/2023 Proctor Testing	75.00
Buena Vista County Solid Waste	BVC	Recycling	41.08
	BVC Total:	4,865.18	
Contract/Agreement			
Woodruff Construction, Inc	Contract/Agreement	Pay #3 of Library HVAC CDBG	183,350.00
Local Government Professionals Services, Inc	Contract/Agreement	Grant Admin Services	4,000.00
	Contract/Agreement Total:	187,350.00	
Local			
MidAmerican Energy Company	Local	Electric Services	61,674.34
Storm Lake Industrial Corporation	Local	Pay Request #4 of FY2023 per Agreement	8,000.00
Rebnord Technologies, Inc	Local	Fisheye Camera	3,255.00
Bomgaars Supply, Inc	Local	Supplies	2,475.46
Deere Credit, Inc	Local	Generator	1,673.02
Michael P. Reinert	Local	Stainless Steel Materials	1,315.00
Storm City Auto Parts, Inc	Local	Springs & Supplies	1,136.46
Plumbing & Heating Wholesale, Inc	Local	Check Valve	672.31
Rent-All, Inc	Local	Tent Purchase	600.00
Storm City Auto Parts, Inc	Local	Leaf Spring	518.18
A & A Automotive	Local	Step Installation	422.96
Arnold Motor Supply, LLP	Local	Supplies	387.13
North Lake Truck Repair	Local	Lightbar Light	348.54
Hy-Vee, Inc	Local	Supplies	299.49
WalMart #01-1526	Local	Supplies	261.46
Qwest Corporation	Local	Phone Service	256.81
Rent-All, Inc	Local	Scaffolding	255.00
Visual Edge Inc	Local	Copier Maintenance Agreement	93.94
Marilyn Fields	Local	3/28/2023 Proctor Testing	75.00
Rebnord Technologies, Inc	Local	Mouse	49.90
Culligan Water Storm Lake	Local	Supplies	25.50
Storm Lake Bakery	Local	Supplies	14.85
Iowa Office Supply Inc	Local	Paper	10.84
Culligan Water Storm Lake	Local	Supplies	8.50
	Local Total:	83,829.69	
Non-Local			
General Traffic Controls, Inc	Non-Local	UPS on Traffic Signals	34,998.00
Eastern Aviation Fuels, Inc	Non-Local	Jet A Fuel	23,143.68
Boji Portable Toilets Inc	Non-Local	RAGBRAI Portable Toilet Down Pay	21,175.00
Mississippi Lime Company	Non-Local	Lime	17,923.33
Sta-Mel Enterprises, Inc	Non-Local	Deicing Salt	4,621.88
Chem-Sult, Inc	Non-Local	Sodium Chlorite	3,806.22
Smith Fertilizer & Grain	Non-Local	Beet Chemical	3,342.54
Sta-Mel Enterprises, Inc	Non-Local	Deicing Salt	2,203.63
Linde Inc	Non-Local	Carbon Dioxide	2,120.82
Sta-Mel Enterprises, Inc	Non-Local	Deicing Salt	2,025.13
Pitney Bowes Inc	Non-Local	Postage	1,500.00
Core & Main LP	Non-Local	Testing Supplies	1,460.97
Marcus Lumber Company Corp	Non-Local	Santa's Castle Supplies	1,347.82
Iowa Association of Municipal Utilities	Non-Local	FY2024 Membership Dues	1,126.00
Foundation Analytical Laboratory, Inc	Non-Local	Testing Supplies	1,079.00

My Buy Local_v1

Payment Date Range: 03/23/2023 - 04/05/2023

Vendor Name	Buy Local Info	Payable Description	Total Payments
Doolittle Oil Co, Inc	Non-Local	Oil	996.34
Marcus Lumber Company Corp	Non-Local	Doors for Clubhouse Reno	905.96
Hach Company	Non-Local	Testing Supplies	875.00
Dale Vitito	Non-Local	Uniforms	643.19
Foundation Analytical Laboratory, Inc	Non-Local	Testing Services	588.25
Hallett Materials	Non-Local	Sand	588.24
HD Supply, Inc	Non-Local	Manhole Ladder	469.15
Foundation Analytical Laboratory, Inc	Non-Local	Testing Services	464.00
Hach Company	Non-Local	Testing Supplies	445.00
Boji Portable Toilets Inc	Non-Local	Portable Toilet Rental	400.00
Siouxland Turf Products	Non-Local	Chemicals	361.68
Central Iowa Distributing, Inc	Non-Local	Cleaning Supplies	276.60
Marcus Lumber Company Corp	Non-Local	Supplies	270.06
Electric Pump Inc	Non-Local	Upper Guide	264.17
University Enterprises, Inc	Non-Local	3/24/23- WTO Enrollment- Muniz	225.00
Midwest Breathing Air, LLC	Non-Local	Quarterly Air Test	222.00
Menards, Inc	Non-Local	Concrete Paint	218.95
Central Iowa Distributing, Inc	Non-Local	Cleaning Supplies	217.20
Marcus Lumber Company Corp	Non-Local	Santa's Castle Supplies	201.12
Central Iowa Distributing, Inc	Non-Local	Cleaning Supplies	190.00
Cintas First Aid & Safety	Non-Local	First Aid Supplies	182.60
W. W. Grainger, Inc	Non-Local	Wire Shelve Unit	174.29
Dakota Supply Group	Non-Local	Supplies	173.94
Intoximeters, Inc	Non-Local	Supplies	140.00
Iowa Municipal Finance Officers Associatio	Non-Local	Spring 2023 Conf Reg- Martinez	125.00
NW Iowa Planning & Development Commi	Non-Local	12/21/2022 CPR/AED Training	108.00
HD Supply, Inc	Non-Local	Meter Bottoms	99.49
Hach Company	Non-Local	Testing Supplies	96.63
NCL of Wisconsin, Inc	Non-Local	Testing Supplies	91.74
Underground Location Company	Non-Local	Locate Services	60.00
Iowa Municipal Finance Officers Associatio	Non-Local	2023 Membership- Martinez	50.00
W. W. Grainger, Inc	Non-Local	Gaskets & Supplies	46.34
UPS	Non-Local	Shipping	45.49
Iowa Fire Chiefs Association	Non-Local	2023 Membership- Schlessner	25.00
Color-Ize Promo Plus, LLC	Non-Local	Locker Magnets	17.00
Marcus Lumber Company Corp	Non-Local	Supplies	33.10
Iowa Department of Agriculture & Land Ste	Non-Local	FY2023 Meter Licenses	9.00

Non-Local Total: 132,173.55

Payroll/Refunds

Custodian of Petty Cash	Payroll/Refunds	2023 CG Start-Up Cash	260.00
Travis Beeck	Payroll/Refunds	3/21/2023 Training- Ankeny	209.60
Jorge Tarin	Payroll/Refunds	3/15/2023 Travel Reimb- Ankeny	196.50
Travis Beeck	Payroll/Refunds	3/7/2023 Travel Reimb- Ankeny	196.50
Patrick Diekman	Payroll/Refunds	Retirement Food Reimb 3/28/2023	99.44
Daniel Holmes	Payroll/Refunds	12/12/2022- Drink Wtr 2- Test Fee	96.87
Stephan Hamer	Payroll/Refunds	2/27/2023 DW Dist 4- Test Fee	96.87
Daniel Holmes	Payroll/Refunds	2/13/2023- Drink Wtr 2- Test Fee	32.29
Gustavo Muniz	Payroll/Refunds	3/10/2023- Collection Class- Muniz	31.00
Curtis B. Christiansen	Payroll/Refunds	3/27/2023 DW Dist 4- Cert Fee	22.04
Stephan Hamer	Payroll/Refunds	3/27/2023 DW Dist 4- Cert Fee	22.04
Daniel Holmes	Payroll/Refunds	3/20/2023- Drink Wtr 2- Cert Fee	22.04

Payroll/Refunds Total: 1,285.19

Grand Total: 409,503.61

King's Pointe Resort

Claims Publication

From 3/16/2023 to 3/29/2023

Vendor	Description	Amount
Alliant Energy	Utilities	\$ 4,155.26
Amazon Capital Services, Inc	Supplies	\$ 466.00
Aurelia Lumber Co Inc	Supplies	\$ 111.85
Cintas Corporation	Supplies	\$ 936.41
Consolidated Hospitality	Services	\$ 4,363.64
Crescent Electric Supply Company	Supplies	\$ 339.49
Daniels Filter Service	Supplies	\$ 270.32
David L. Klous	Refund	\$ 400.00
Doll Distribution	Beverages	\$ 1,034.75
ECOLAB	Supplies	\$ 1,082.44
Elliott Threatt	Refund	\$ 300.00
Foundation Analytical Laboratory, Inc	Services	\$ 33.00
Grainger	Supplies	\$ 116.51
Grell Roofing, LLC	Services	\$ 10,300.00
GuestSupply	Supplies	\$ 2,840.01
HyVee	Beverages	\$ 1,064.61
Imagine The Possibilities Inc	Services	\$ 120.00
Johnson Brothers	Beverages	\$ 1,012.75
Laurens House of Print, LTD	Services	\$ 69.55
Long Lines LLC	Utilities	\$ 1,026.09
M3 Accounting Services Inc.	Services	\$ 345.00
Marcus Lumber Co	Supplies	\$ 56.97
Martin Brothers	Food	\$ 11,353.16
McKenzie Kiger	Refund	\$ 300.00
MidAmerican Energy	Utilities	\$ 11,539.74
Office Elements	Supplies	\$ 111.20
Olsen Welding & Machine	Supplies	\$ 15.00
Pepsi Beverages Company	Beverages	\$ 903.56
Pitney Bowes	Postage	\$ 142.50
Plumbing and Heating Wholesale, Inc.	Supplies	\$ 30.53
Quore Systems, LLC	Services	\$ 285.00
Rebnord Technologies, Inc.	Services	\$ 2,988.33
Rent-All Inc.	Services	\$ 384.00
Sceptre Hospitality Resources, LLC	Services	\$ 2,364.63
Shift 4	Services	\$ 596.00
Storm Lake Ace Hardware	Supplies	\$ 638.73
Storm Lake Hydraulics Co Inc.	Supplies	\$ 6.75
Storm Lake Times	Advertising	\$ 238.00
Sysco Iowa, Inc.	Food	\$ 15,281.44
Verde Outdoor Media LLC	Services	\$ 1,850.00
W-O Payroll 3/16/23	Payroll	\$ 85,114.04
		<u><u>\$ 164,587.26</u></u>

CITY OF STORM LAKE, REGULAR COUNCIL MEETING, CITY HALL COUNCIL CHAMBERS MARCH 20, 2023, 5:00 PM

Present: Mayor Michael Porsch, Council Members Maggie Martinez, Matt Ricklefs, Tyson Rice, and Kevin McKinney (via Zoom). Absent: Council Member Ramos.

Staff Present: City Manager Keri Navratil, Assistant City Manager David Derragon, City Attorney Phil Havens, King's Pointe Manager Amy VonBank, Police Chief Chris Cole, Fire Chief Glenn Schlessler, Public Works Director Matt Beckman, Building and Code Compliance Director Scott Olesen, Library Director Elizabeth Huff, Development Services Specialist Lee Dutfield, Communications Coordinator Dana Larsen, Public Services Supervisor Scott Bonebrake, Assistant Public Services Supervisor Brandon Ripke, Finance Director Brian Oakleaf, Staff Accountant Tyler Gibbins, and Deputy City Clerk Nelda Kirkholm.

Media Present: Ryan Thompson with KAYL Radio and Amber Mohmand with Storm Lake Times-Pilot.

Mayor Porsch called the meeting to order at 5:00 pm.

Pledge of Allegiance

Agenda - Moved by Council Member Ricklefs to approve setting the agenda as presented. Seconded by Council Member Rice. Vote: All ayes with Council Member Ramos absent. Motion carried.

Disclosure by City Council Members – No items at this time.

Mayor Porsch informed the Public that we had three City Council members present for the meeting and Council Member McKinney present via Zoom. Mayor Porsch introduced and welcomed Amy Tarin who is a fifth grader in the Storm Lake schools and she is attending the Council meeting as a student Council member. Mayor

Hear the Public – Andriette Wickstrom from 909 W 5th Street spoke to the City Council members and the public stating that Storm Lake has lost a lot of trees due to storms, people cutting them down and the ash borer disease. She likes the Storm Lake Proud initiative, and she thinks to keep that going we really need to be serious about replacing trees. City Manager Keri Navratil explained that the City does have a tree program for removal and replacement of trees. City Manager Navratil stated that there are several ways to replace trees in Storm Lake: a home owner can plant a tree, the City Donation program, Trees Forever and Aliant Energy has a tree program. Mayor Porsch commented that the City could do more publicizing regarding the tree programs.

Consent Agenda – Moved by Council Member Rice to pull Resolution No. 43-R-2022-2023 to approve request from Storm Lake United for 2023 events off the Consent agenda. Seconded by Council Member Martinez. Vote: All ayes with Council Member Ramos absent. Motion carried.

Moved by Council Member Ricklefs to table Resolution No. 43-R-2022-2023 to approve request from Storm Lake United for 2023 events. Seconded by Council Member Martinez. Vote: All ayes with Council Member Ramos absent. Motion carried.

Moved by Council Member Martinez to approve the Consent Agenda which includes List of Bills Check #'s 79585 through 79591 and 79648 through 79704, EFT #'s 1053, and 3875 through 3929, approve March 6, 2023 City Council minutes, acknowledge February 2023 Library minutes and

February 2023 Airport minutes, approve renewal liquor licenses for Mo's Tap and Puffs pending dram shop approval, approve BVU Block Party noise variance for April 29, 2023 and Buenafication Day Noise variance for April 20, approve Buy Local information and Storm Lake Police Department City Code Enforcement update. Seconded by Council Member Ricklefs. Vote: All ayes with Council Member Ramos absent. Motion carried.

Unfinished Business – None at this time.

New Business

Sunrise Pointe Golf Course – Council Member Rice requested for future golf fee rate changes to provide rate comparisons of similar sized golf courses and what the corresponding City's general contribution is for their golf course to ensure that our City's rate is comparable to similar City's rates. Moved by Council Member Martinez to adopt Resolution No. 44-R-2022-2023 revising fees at Sunrise Pointe Golf Course. Seconded by Council Member Ricklefs. Roll Call Vote: Ayes: Council Members Martinez, Ricklefs and McKinney. Nays: Council Member Tyson Rice with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 44-R-2022-2023

RESOLUTION SETTING FINES AND FEES

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA that the following schedule of fees are approved and effective as of March 20th, 2023.

<u>Administration</u>	<u>Fee</u>	<u>Code Section</u>
Administrative Fee	\$30.00	
City Code Subscription (yearly)	\$50.00	
Garbage Truck Permits (per business)	\$100.00	3-1-5
Insufficient Check Fee	\$30.00	
New Friends List	\$10.00	
Peddlers Transient Merchant Permit (1 Day)	\$25.00	4-3-6
Investigation Fee	\$25.00	4-3-4
Peddlers Transient Merchant Permit (1 Week)		\$75.00 4-3-6
Investigation Fee	\$25.00	4-3-4
Transient Merchant Permit (28 days)	\$150.00	
Investigation Fee	\$25.00	
Solicitors Permit (per person)	\$2.00	4-3-6
Solicitors Permit (principal) (1 day)	\$25.00	4-3-6
Investigation Fee (per organization)	\$25.00	4-3-4
Investigation Fee (per Individual soliciting)		\$5.00
Solicitors Permit (principal) (1 week)	\$75.00	4-3-6
Investigation Fee	\$25.00	4-3-4
Investigation Fee (per Individual soliciting)		\$5.00
Solicitors Permit (principal) (28 days)	\$150.00	
Investigation fee (per organization)	\$25.00	
Investigation Fee (per Individual soliciting)		\$5.00
Taxi Permit (Business)	\$100.00	4-5-3
Taxi Permit (per vehicle)	\$10.00	4-5-3
Cancel Permit Fee	\$25.00	

Freedom of Information Requests (FOIA Request)

Single Sided Copy 8.5x11	\$.30/page	
Duplex copy 8.5x11	\$.40/page	
Single Sided Legal	\$.35/page	
Duplex Legal copy	\$.45/page	
Single Sided Ledger (11x17)	\$.70/page	
Single Sided Ledger with Color Print	\$.90/page	
Duplex Ledger (11x17)	\$.80/page	
Duplex Ledger with Color Print	\$ 1.00/page	
Large Format Prints (one side only and in color)	\$ 8.00/page	
CD Cost (for requests that ask for the files digitally on a CD)	\$ 10.00	
Research Hourly Rate – per hour/per person	\$ 25.00	
Mailing Costs – 3 pages	\$ 1.00	
Mailing Costs – 50 pages	\$ 5.00	
Mailing Costs – 100 pages	\$ 10.00	
Special City Council Meeting	\$ 250.00	
Downtown Parking Space Rental Fees (specific lots)		
Per quarter (paid quarterly)	\$ 75.00	
Per six months (paid bi-annually)	\$ 112.50	
Annually (paid annually)	\$ 150.00	

Airport Hangar Rent (monthly fees)

Hangar A	\$ 75.00	
12 Month Lease Discount Rate	\$ 65.00	
Hangar B	\$ 75.00	
12 Month Lease Discount Rate	\$ 65.00	
Hangar C (VT)	\$ 400.00	
Hangar D	\$ 92.00	
12 Month Lease Discount Rate	\$ 80.00	
Hangar E	\$ 110.00	
12 Month Lease Discount Rate	\$ 95.00	
Hangar F	\$ 156.00	
12 Month Lease Discount Rate	\$ 135.00	
FBO Stall	\$ 173.00	
12 Month Lease Discount Rate	\$ 150.00	

Daily Inside Storage/per night	\$ 30.00	
--------------------------------	----------	--

Building Official

Central Business District Bench & Flower Pot Permit	\$ 25.00	
Driveway (Curb) Cut, Inspection & Marking Residential	\$ 150.00	
Driveway (Curb) Cut, Inspection & Marking Commercial	\$ 200.00	
ROW Temp Closure Permit	\$ 25.00	
Building Moving Permit (Per Bldg)	\$ 100.00	5-1-1
Demolition Permit	\$ 50.00	
Pool Inspection	\$ 20.00	8-8-11
Re-inspection Fee (after 1 per inspection)	\$ 35.00	

No Show Fee (per event)	\$50.00	
Rental Registration Fee – Yearly (July 1st – June 30th)		
Base Registration Fee (Structure and 1 unit)	\$10.00	5-8-9
Additional unit in excess of 1 (per unit)	\$5.00	5-8-9
Late Registration Fee - Per Landlord License		\$50.00 5-8-9
Additional unit in excess of 1 (up to 6 units)	\$50.00	
Property Maintenance Ordinance Appeal	\$150.00	Zoning Ord.
Variance Request	\$150.00	Zoning Ord.
Zoning Request	\$200.00	Zoning Ord.
Conditional Use	\$300.00	Zoning Ord.
Sub-Division Application Fee	\$300.00	
Sidewalk Repair Permit Fee	\$0	
New Construction Incentive		
Single Family Attached and Single Family Detached Dwelling	\$1.00	
(only valid from March 2, 2020 to December 31, 2020 with Council approval)		

Building & Sign Permit Fees

Building & Sign Permit <\$1,200	\$22.02	5-2-2
Building & Sign Permit \$1,200-2,000		5-2-2
\$22.02 + \$2.88 for each additional \$100.00 over \$1,200		
Building & Sign Permit \$2,001-25,000		5-2-2
\$45.06+ \$9.16 for each additional \$1,000.00 over \$2,000		
Building & Sign Permit \$25,001-50,000		5-2-2
\$255.74 + \$6.22 for each additional \$1,000.00 over \$25,000		
Building & Sign Permit \$50,001-100,000		5-2-2
\$411.24+ \$4.15 for each additional \$1,000.00 over \$50,000		
Building & Sign Permit \$100,001 or more		5-2-2
\$618.74+ \$3.61 for each additional \$1,000.00 over \$100,000		
Portable Sign Permit (14 days)	\$30.00	Zoning Ord.

Electrical Fees

For New Residences		5-4-9
Single Dwelling	\$38.00	
Duplex Dwelling	\$56.75	
Triplex Dwelling	\$75.50	
4-Plex Dwelling	\$113.00	
Multi Units Between 5 and 12	\$156.75	
Over 12 Units	\$156.75 plus \$38.00 each over 12	
For New Commercial or Industrial Buildings		
First \$5,000.00 at \$8.00 per/\$1,000.00 of cost		
Second \$5,000.00 at \$6.75 per /\$1,000.00 of cost		
Third \$5,000.00 at \$5.50 per/\$1,000.00 of cost		
Fourth \$5,000.00 at \$4.25 per/\$1,000.00 of cost		
Fifth \$5,000.00 at \$3.00 per/\$1,000.00 of cost		
All over \$25,000.00 at \$1.50 per/\$1,000.00 of cost		

For Rewiring, Repairs or Alterations on Residence, Commercial and Industrial Buildings

\$100.00 to \$150.00 electric contract	\$6.75
\$151.00 to \$200.00 electric contract	\$8.00
\$201.00 to \$250.00 electric contract	\$9.25
\$251.00 to \$300.00 electric contract	\$10.50
\$301.00 to \$350.00 electric contract	\$11.75
\$351.00 to \$400.00 electric contract	\$13.00
\$401.00 to \$450.00 electric contract	\$14.25
\$451.00 to \$500.00 electric contract	\$15.50
\$501.00 to \$1,000.00 electric contract	\$23.00
\$1,001.00 to \$2,000.00 electric contract	\$28.00
All over \$2,001.00	\$28.00 plus \$1.50 per \$100.00

Plumbing Fees

For New Residences

5-3-10

Single Dwelling	\$38.00
Duplex Dwelling	\$56.75
Triplex Dwelling	\$75.50
4-Plex Dwelling	\$113.00
Multi Units Between 5 and 12	\$156.75
Over 12 Units	\$156.75 plus \$38.00 each over 12

For New Commercial or Industrial Buildings

First \$5,000.00 at \$8.00 per/\$1,000.00 of cost
Second \$5,000.00 at \$6.75 per /\$1,000.00 of cost
Third \$5,000.00 at \$5.50 per/\$1,000.00 of cost
Fourth \$5,000.00 at \$4.25 per/\$1,000.00 of cost
Fifth \$5,000.00 at \$3.00 per/\$1,000.00 of cost
All over \$25,000.00 at \$1.75 per/\$1,000.00 of cost

For Repairs or Alterations on Residence, Commercial and Industrial Buildings

\$100.00 to \$150.00 plumbing contract	\$6.75
\$151.00 to \$200.00 plumbing contract	\$8.00
\$201.00 to \$250.00 plumbing contract	\$9.25
\$251.00 to \$300.00 plumbing contract	\$10.50
\$301.00 to \$350.00 plumbing contract	\$11.75
\$351.00 to \$400.00 plumbing contract	\$13.00
\$401.00 to \$450.00 plumbing contract	\$14.25
\$451.00 to \$500.00 plumbing contract	\$15.50
\$501.00 to \$1,000.00 plumbing contract	\$23.00
\$1,001.00 to \$2,000.00 plumbing contract	\$28.00
All over \$2,001.00	\$28.00 plus \$1.50 per \$100.00

Campground

Class A Site (Lake View, Patio, Water, Sewer, Electric, Cable TV, Fire Pit)	\$30.00
Class C Site (Lake View, Patio, Water, Sewer, Electric, Fire Pit)	\$28.00
Class E Site	\$25.00

(Water, Sewer, Electric)

Class F Site (Electric)	\$20.00
----------------------------	---------

Glass G Site (Tent)	\$12.00
------------------------	---------

Long Term Stay Rate

Limited to Long Term Stay slots which include Water, Sewer, Electric
Minimum 30 day stay paid in advance – 10% off

Extra Vehicle Parking (if space available)	\$5.00
--	--------

Non-Campers Dump Station (per event)	\$5.00
--------------------------------------	--------

Non-Camper Shower (per shower)	\$5.00
--------------------------------	--------

Fire Department

False Alarm Fee (after 1)	\$150.00	4-7-16
Liquor License Inspection Fee	\$50.00	
Fireworks Display (Mortar sizes from 1-3 inches)	\$150.00	
Fireworks Display (Mortar size larger than 3 inches)	\$250.00	
Emergency Response and/or Cleanup of Material (per hour)		
Large Fire Apparatus	\$150.00	
Fire Commander Vehicle	\$75.00	

Golf Course

Single Season Pass	\$325.00
New Member- First Year Single Season Pass	\$150.00
Family Season Pass - Family: Two or more persons (one of whom is the householder) related by birth, marriage, or adoption, living together and sharing common living, sleeping, cooking, and eating facilities within an individual housing unit as defined by the Storm Lake Zoning Code.)	
Junior Season Pass (17 and Under)	\$50.00
Electric Cart Storage	\$300.00
Gas Cart Storage	\$285.00
Locker Rent/yr	\$20.00
Golf Club Rental	\$10.00
Trail Fee (per day)	\$10.00
Pull Cart Rental	\$3.00
Pull Cart (year)	\$65.00
Trail Fee (year)	\$170.00
10 Round Punch Card	\$125.00
Discount Tickets – per 9 holes (sold in advance with minimum quantity of 50)	\$10.00
Weekday 9 Holes	\$15.00
Weekday 18 Holes	\$20.00

Weekend 9 Holes	\$20.00
Weekend 18 Holes	\$25.00
Cart Rental 9 Holes	\$15.00
Cart Rental 18 Holes	\$25.00
Yearly Cart Rental	\$325.00
Hall Rental	\$250.00
Hall Rental - Friday Setup Fee	\$100.00

(Valid only after 5:00 pm Friday with following Sat. rental)

Hall Rental (weekday 4hrs or less)	\$100.00
Bar Setup Fee (Event Center Only)	\$100.00
9-Hole Course Rental Fee (Minimum 25 participants)	\$250.00
18-Hole Course Rental Fee (Minimum 25 participants)	\$400.00

*Course Rental Fees are due at the time of booking.

*Cancellations require a 72 hour advanced notice.

*If cancelled inside the 72 hour period, only 50% of the rental Fee will be refunded.

Group Cart Rental Fee (25 Carts)	\$350.00
----------------------------------	----------

Group Golf Rates Without Cart Rental As Set by the Following Table

# Rounds per Event	9 Holes	18 Holes
0-50	\$12.00 / Round	\$15.00 / Round
51-99	\$9.00 / Round	\$10.00 / Round
100+	\$8.00 / Round	\$9.00 / Round

Police

Administrative Fee	\$30.00		
Alarm Business Permit Application	\$75.00	4-7-6	
Alarm Business Permit Renewal	\$75.00	4-7-9	
False Alarm Equip Malfunction (after 3)	\$75.00	4-7-16	
False Alarm	\$75.00	4-7-16	
Building Escorts (per car)	\$75.00	5-1-3	
Cat License – Not Neutered/Spayed (per year)		\$20.00	8-4-2
Neutered/Spayed (per year)	\$10.00		
Dog License – Not Neutered/Spayed (per year)		\$20.00	8-3-2
Neutered/Spayed (per year)	\$10.00		
Fingerprinting	\$10.00		
Impound/Storage Fee (per day)	\$30.00	8-6-5	
Impound Storage Fee – felony related (per day)		\$50.00	
Parking Fine	\$15.00	9-11-4	
Police Escort Fee – per hour, per unit	\$75.00	5-1-3	
Emergency Response and/or Cleanup of Material (per hour)			
Police Vehicle (per vehicle)	\$75.00		

King's Pointe Outdoor Aquatic Center

Family Season Pass	\$275.00
(up to 5 family members can be included on Pass, Children 4 and under need not be on pass, as they are free.)	
Up to 4 additions of children 5-12 years old @\$55 each	

Single Season Pass (children and adults)	\$150.00
Adult BV Resident Daily Pass (Age 12+)	\$8.00
Child BV Resident Daily Pass (Age 5-11)	\$5.00
Children (Age 5-11) Standard Pricing	\$12.00
Adults (Age 12+) Standard Pricing	\$15.00
4 and under	free
Twilight Pricing (after 3:00)	
Age 12+	\$7.50
Age 5-11	\$6.00
Age 0-4	free
Land Lovers	\$5.00
Swim Lessons	\$40.00

Roadway Maintenance

Street Cuts & Replacement - Half Street	\$800.00
Street Cuts & Replacement Full Street	\$1600.00

Sewer

Sewer Svc Permit & Connection Fee	\$150.00	3-2-4
Private Wastewater System Permit	\$50.00	3-2-3

Shelter House

Rental Fee - per side	\$110.00
Damage Deposit – per side	\$200.00
AWAYSIS Pavilions – per time slot (3 times available)	\$25.00
Frank Starr Park Open Shelter – per time slot (2 times available)	\$50.00
Campground Open Shelter – per time slot (2 time slots available)	\$50.00
AWAYSIS Great Lawn – per day	\$200.00
Band Shell – per day	\$25.00

Water

Door Tag Fee	\$20.00	3-5-3
Meter Testing Fee (within 2%)	\$50.00	3-4-20
Shut Off – 8 AM to 3 PM	\$50.00	3-4-19 & 3-5-3
Shut Off – After 3 PM	\$75.00	3-4-19 & 3-5-3
Water Svc Permit & Connect Fee	\$150.00	3-4-5
Water Tapping Fee (per inch)	\$65.00	3-4-5
Outside City Limits Hook-up Fee	\$1,500.00	3-4-6
Combined Utility Deposit	\$160.00	
Bulk Water Sales Access Card	\$10.00	

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Not To Exceed \$6,200,000 Urban Renewal Revenue Capital Loan - Moved by Council Member Rice to adopt Resolution No. 45-R-2022-2023 fixing a date for a Public Hearing for April 3, 2023 at 5:00 pm in the City Hall Council Chambers the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes of the City of Storm Lake, State of Iowa, and providing for publication of notice thereof. Seconded by Council Member Ricklefs. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 45-R-2022-2023

**RESOLUTION FIXING DATE FOR A MEETING ON THE
AUTHORIZATION OF A LOAN AGREEMENT AND THE ISSUANCE
OF NOT TO EXCEED \$6,200,000 URBAN RENEWAL REVENUE
CAPITAL LOAN NOTES OF THE CITY OF STORM LAKE, STATE
OF IOWA, AND PROVIDING FOR PUBLICATION OF NOTICE
THEREOF**

WHEREAS, by Resolution No. 33-R-91-92, adopted September 16, 1991, this Council found and determined that certain areas located within the City are eligible and should be designated as an urban renewal area under Iowa law, and approved and adopted the Storm Lake Industrial Park Urban Renewal Plan (the "Plan" or "Urban Renewal Plan") for the Storm Lake Industrial Park Urban Renewal Area (the "Area" or "Urban Renewal Area") described therein, which Plan is on file in the office of the Recorder of Buena Vista County; and

WHEREAS, the Plan has subsequently been amended, lastly by the adoption of Amendment No. 9 to the Plan, adopted by Resolution No. 53-R-2022-2023 adopted April 3, 2023; and

WHEREAS, it is deemed necessary and advisable that the City of Storm Lake, State of Iowa, should provide for the authorization of a Loan Agreement and the issuance of Urban Renewal Revenue Capital Loan Notes, to the amount of not to exceed \$6,200,000, as authorized by Sections 384.24A, 403.9 and 403.19, of the Code of Iowa, for the purpose of providing funds to pay costs of carrying out project(s) as hereinafter described; and

WHEREAS, the Loan Agreement and Notes shall be payable solely and only out of the net revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended, and shall be a first lien on the future Net Revenues of the Storm Lake Industrial Park Urban Renewal Area; and shall not be general obligations of the City or payable in any manner by taxation and the City shall be in no manner liable by reason of the failure of the Net Revenues to be sufficient for the payment of the Loan Agreement and Notes; and

WHEREAS, before the Loan Agreement and Notes may be issued, it is necessary to comply with the provisions of the Code, and to publish a notice of the proposal to issue such notes and of the time and place of the meeting at which the Council proposes to take action for the authorization of the Loan Agreement and Notes and to receive oral and/or written objections from any resident or property owner of the City to such action.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, STATE OF IOWA:

Section 1. That this Council meet in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at 5:00 P.M., on the 3rd day of April, 2023, for the purpose of taking action on the matter of the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, the proceeds of which notes will be used to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, as amended, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark.

Section 2. That the Clerk is hereby directed to cause at least one publication to be made of a notice of the meeting, in a legal newspaper, printed wholly in the English language, published at least once weekly, and having general circulation in the City. The publication to be not less than four clear days nor more than twenty days before the date of the public meeting on the issuance of the Notes.

Section 3. The notice of the proposed action to issue notes shall be in substantially the following form:

(To be published between March 21, 2023 and March 29, 2023)

NOTICE OF MEETING OF THE CITY COUNCIL OF THE CITY OF
STORM LAKE, STATE OF IOWA, ON THE MATTER OF THE
PROPOSED AUTHORIZATION OF A LOAN AGREEMENT AND
THE ISSUANCE OF NOT TO EXCEED \$6,200,000 URBAN
RENEWAL REVENUE CAPITAL LOAN NOTES, AND THE
HEARING ON THE ISSUANCE THEREOF

PUBLIC NOTICE is hereby given that the City Council of the City of Storm Lake, State of Iowa, will hold a public hearing on the 3rd day of April, 2023, at 5:00 P.M., in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at which meeting the Council proposes to take additional action for the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark. The Notes will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by the Net Revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended.

At the above meeting the Council shall receive oral or written objections from any resident or property owner of the City to the above action. After all objections have been received and considered,

the Council will at the meeting or at any adjournment thereof, take additional action for the authorization of a Loan Agreement and the issuance of the Notes to evidence the obligation of the City thereunder or will abandon the proposal to issue said Notes.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Sections 384.24A, 403.9 and 403.19 of the Code of Iowa.

Dated this 20th day of March, 2023.

Nelda Kirkholm, Deputy City Clerk
City of Storm Lake, State of Iowa

(End of Notice)

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

FY 2023-2024 Budget - Mayor Porsch opened the public hearing for the F 2023-2024 Budget stating this was the time and place for any comments. Hearing no comments and no objections received prior to this public hearing from the Public or City Council, Mayor Porsch closed the public hearing.

Moved by Council Member Martinez to adopt Resolution No. 46-R-2022-2023 adopting the FY 2023-2024 budget. Seconded by Council Member Rice. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 46-R-2022-2023

RESOLUTION ADOPTING THE 2023-2024 FISCAL YEAR BUDGET FOR THE CITY OF STORM LAKE, IOWA

Be it resolved by the Council of the City of Storm Lake, Iowa:

Whereas the proposed budget has been published as required by law, and

Whereas the City Council has held a public hearing as required by law, and

Whereas all transfer of funds must be approved by resolution of the City Council.

NOW THEREFORE BE IT RESOLVED that the annual budget for the fiscal year ending June 30, 2024, as set forth in the Budget Summary and in the detailed budget in support thereof showing the revenue estimates, transfers and appropriation expenditures and allocations to program activities for said fiscal year be adopted.

ADOPTED BUDGET SUMMARY
City Name: STORM LAKE
Fiscal Year July 1, 2023 - June 30, 2024

	GENERAL	SPECIAL REVENUES	TIF SPECIAL REVENUES	DEBT SERVICE	CAPITAL PROJECTS	PERMANENT	PROPRIETARY	BUDGET 2024	RE-ESTIMATED 2023	ACTUAL 2022
Revenues & Other Financing Sources										
Taxes Levied on Property	1 2,643,724	996,992		631,425	0			4,272,141	4,697,246	4,591,765
Less: Uncollected Property Taxes-Levy Year	2 0	0	0	0	0	0	0	0	0	0
Net Current Property Taxes	3 2,643,724	996,992		631,425	0			4,272,141	4,697,246	4,591,765
Delinquent Property Taxes	4 0	0		0	0	0		0	0	0
TIF Revenues	5		1,779,143					1,779,143	834,563	828,352
Other City Taxes	6 1,042,989	2,158,637		16,042	0			3,217,668	3,209,899	3,185,817
Licenses & Permits	7 179,695	0					0	179,695	289,015	206,086
Use of Money and Property	8 7,195	0	0	0	0	0	0	7,195	70,190	228,417
Intergovernmental	9 654,779	1,714,930	0	0	1,007,335		2,553,510	5,930,554	6,617,124	1,872,942
Charges for Fees & Service	10 1,468,008	52,500		0	0	0	14,089,650	15,610,158	11,907,688	17,788,667
Special Assessments	11 0	0		0	0		0	0	0	0
Miscellaneous	12 0	0		0	0	32,700	0	32,700	4,790,122	716,529
Sub-Total Revenues	13 5,996,390	4,923,059	1,779,143	647,467	1,007,335	32,700	16,643,160	31,029,254	32,415,847	29,418,575
Other Financing Sources:										
Total Transfers In	14 1,615,166	1,189,480	250,000	2,326,226	7,493,488	0	5,381,136	18,255,496	9,343,708	10,710,144
Proceeds of Debt	15 0	0	0	0	0		10,613,287	10,613,287	1,450,000	1,422,307
Proceeds of Capital Asset Sales	16 0	0	0	0	0	0	0	0	0	0
Total Revenues and Other Sources	17 7,611,556	6,112,539	2,029,143	2,973,693	8,500,823	32,700	32,637,583	59,898,037	43,209,555	41,551,026
Expenditures & Other Financing Uses										
Public Safety	18 2,878,006	956,367	0			10,000		3,844,373	3,732,278	3,499,113
Public Works	19 437,882	1,545,988	0			0		1,983,870	1,927,785	1,877,859
Health and Social Services	20 23,000	0	0			0		23,000	18,000	7,743
Culture and Recreation	21 1,552,139	179,612	0			29,330		1,761,081	1,362,072	1,405,424
Community and Economic Development	22 648,263	33,862	447,992			0		1,130,117	629,130	394,870
General Government	23 706,512	47,698	0			0		754,210	678,225	736,296
Debt Service	24 0	0	0	2,326,226		0		2,326,226	2,336,567	2,223,950
Capital Projects	25 1,444,710	850,000	0		10,044,199	0		12,338,909	8,499,306	4,877,166
Total Government Activities Expenditures	26 7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330		24,161,786	19,183,363	15,022,421
Business Type Proprietary: Enterprise & ISF	27						21,410,224	21,410,224	13,585,625	15,808,450
Total Gov & Bus Type Expenditures	28 7,690,512	3,613,527	447,992	2,326,226	10,044,199	39,330	21,410,224	45,572,010	32,768,988	30,830,871
Total Transfers Out	29 672,210	2,843,576	1,527,131	727,146	0	0	12,485,433	18,255,496	9,343,708	10,710,144
Total ALL Expenditures/Fund Transfers Out	30 8,362,722	6,457,103	1,975,123	3,053,372	10,044,199	39,330	33,895,657	63,827,506	42,112,696	41,541,015
Excess Revenues & Other Sources Over	31									
(Under) Expenditures/Transfers Out	32 -751,166	-344,564	54,020	-79,679	-1,543,376	-6,630	-1,258,074	-3,929,469	1,096,859	10,011
Beginning Fund Balance July 1	33 4,929,020	3,146,737	-28,480	129,468	2,433,330	345,955	11,191,716	22,147,746	21,050,887	21,040,876
Ending Fund Balance June 30	34 4,177,854	2,802,173	25,540	49,789	889,954	339,325	9,933,642	18,218,277	22,147,746	21,050,887

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Lime Hauling Contract –Moved by Council Member Rice to approve adopting a lime hauling contract with Custom MRA Custom Applications, LLC. Seconded by Council Member Ricklefs. Vote: All ayes with Council Member Ramos absent. Motion carried.

Public Works Director Matt Beckman presented to City Council the bid from MRA Custom Applications, LLC asking for approval of the Lime Hauling contract. Mr. Nasaars with PH Plus, LLC spoke to City Council and explained his bid proposal and asked that they take into consideration the bid they provided over the bid provided by MRA Custom Applications.

Biosolid Hauling Contract - Moved by Council Member Rice to approve a biosolid hauling contract with Bryce Widman from Storm Lake, Iowa. Seconded by Council Member Martinez. Vote: All ayes with Council Member Ramos absent. Motion carried.

Memorial Park Lift Station Improvement Project - Moved by Council Member McKinney to adopt Resolution No. 47-R-2022-2023 approving close out for the Memorial Park Lift Station Improvement project. Seconded by Council Member Martinez. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 47-R-2022-2023

**RESOLUTION APPROVING CLOSE OUT FOR THE
MEMORIAL LIFT STATION PROJECT**

WHEREAS, the plans, specifications, form of contract, estimate of cost, and award bid were filed with the CITY for the construction of certain public improvements described in general as the Memorial Lift Station Project; and

WHEREAS, notice of hearing on plans, specifications, form of contract and estimate of cost for said public improvements was published as required by law; and

WHEREAS, a contract in the amount of \$2,076,000.00 was awarded to Gridor Construction, Inc. for the project; and

WHEREAS, Change Order No. 1, approved on June 7, 2021, increased the project cost in the amount of \$23,612.00 for a total contract amount of \$2,099,612.00; and

WHEREAS, Change Order No. 2, approved on September 7, 2021, increased the project cost in the amount of \$2,116.00 for a total contract amount of \$2,101,728.00; and

WHEREAS, Change Order No. 3, approved on December 6, 2021, increased the project cost in the amount of \$15,794.00 for a total contract amount of \$2,117,522.00;

WHEREAS, Change Order No. 4, approved on February 7, 2022, increased the project cost in the amount of \$11,043.00 to the contract for a total contact amount of \$2,128,565.00 and set the Substantial Completion date as April 1, 2022, and the new Final Completion date as May 2, 2022.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA;

Section 1. To approve final close out of the Memorial Lift Station Project and final payment in the amount of \$106,428.25.

Section 2. That the Mayor and Clerk are hereby directed to execute this Close Out Resolution.

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Well 21 Project - Moved by Council Member Rice to adopt Resolution No. 48-R-2022-2023 to set a date for a Public Hearing for May1, 2023 at 5:00 pm in the City Hall Council Chambers to approve plans, specifications, form of contract, and engineer's estimate of cost and set date for bid letting for new production Well 21 Project. Seconded by Council Member Martinez. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 48-R-2022-2023

A RESOLUTION SETTING THE TIME AND PLACE FOR A PUBLIC HEARING TO APPROVE PLANS, SPECIFICATIONS, FORM OF CONTRACT, AND ENGINEERS ESTIMATE OF COST FOR NEW PRODUCTION WELL 21 PROJECT

WHEREAS, the City Council of the City of Storm Lake has undertaken a public improvement project for a New Production Well 21 Project; and

WHEREAS, the engineer on the project has developed plans, specifications, and form of contract for the proposed project that are now on file with the City Clerk; and

WHEREAS, the City Council wishes to conduct a public hearing concerning the plans, specifications, and form of contract for the project.

NOW THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA, that a public hearing is hereby established to review the plans, specifications, and form of contract and to establish a bid opening date for the New Production Well 21 Project.

BE IT FURTHER RESOLVED, that a public hearing be set for Monday, May 1, 2023 at 5:00 p.m. in the City Hall Council Chambers at 620 Erie Street, Storm Lake, Iowa for the purposes of reviewing and taking public input on the plans, specifications, and form of contractor for the proposed project.

BE IT FURTHER RESOLVED, that the City Clerk be directed to publish notice of said public hearing in the City's official newspaper not less than four days before the date of the hearing and not more than 20 days prior to the hearing date.

PASSED, APPROVED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE THIS 20th DAY OF MARCH 2023.

BY THE CITY COUNCIL OF THE CITY
OF STORM LAKE, IOWA

Michael Porsch, Mayor

ATTEST

Nelda Kirkholm, Deputy City Clerk

Storm Lake Library HVAC Project - Moved by Council Member Martinez to approve Amendment No. 1 to the agreement for grant administration services with Simmering-Cory for the Library HVAC CDBG award. Seconded by Council Member Ricklefs. Vote: All ayes with Council Member Ramos absent. Motion carried.

State Revolving Fund (SRF) Loan - Moved by Council Member Ricklefs to adopt Resolution No. 49-R-2022-2023 setting a Public Hearing for May1, 2023 at 5:00 pm in the City Hall Council Chambers to review an application for a State Revolving Fund (SRF) Loan and to make available to the public the contents of an environmental information document and the City's project plan. Seconded by Council Member Martinez. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 49-R-2022-2023
Setting Public Hearing To Review An Application For A State
Revolving Fund (SRF) Loan And To Make Available To The Public
The Contents Of An Environmental Information Document And The
City's Project Plan

WHEREAS, the City Council of the City of Storm Lake desires to apply for a State Revolving Fund (SRF) loan, and

WHEREAS, the City will be holding a Public Hearing to review an application for a State Revolving Fund (SRF) loan and to make available to the public the contents of an environmental information document and the City's project plan. These documents include design and environmental information related to the proposed improvements to the City's water supply system.

WHEREAS, The purpose of this Public Hearing is to inform area residents of the community of Storm Lake of this proposed action, discuss the actual cost and user fees associated with this project, and to address citizen's concerns, if any, with the plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF STORM LAKE, IOWA, that a public hearing be conducted by the City Council in the Council Chambers, located in City Hall at 620 Erie Street, Storm Lake, Iowa on Monday, May 1, 2023, at 5:00 p.m.

BE IT FURTHER RESOLVED, that the City Clerk shall give notice of said public hearing by publication of a notice in the Storm Lake Times Pilot at least once, not less than four (4) and not more than twenty (20) days before the meeting.

PASSED, APPROVED, AND ADOPTED this 20th DAY OF MARCH, 2023

BY THE CITY COUNCIL OF THE
CITY OF STORM LAKE, IOWA

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Oneida Street Phase 2 Project - Moved by Council Member Rice to approve FY 2027 Regional Transportation Improvement Application for Oneida Street reconstruction Phase 2 project. Seconded by Council Member Ricklefs. Vote: All ayes with Council Member Ramos absent. Motion carried.

Transient Merchant Ordinance Moved by Council Member McKinney to approve first reading of Ordinance No. 04-O-2022-2023 amending Title IV of the Storm Lake, Iowa City Code by amending

Section 4-3-2(d) of Chapter 4-3 on Solicitors, which section defines “Transient Merchant,” and by adding new Chapter 4-10 Regulating Mobile Food and Beverage Vendors. Seconded by Council Member Ricklefs. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

Volunteer Program - Moved by Council Member Rice to adopt Resolution No. 50-R-2022-2023 approving to adopt the City of Storm Volunteer Program. Seconded by Council Member Martinez. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 50-R-2022-2023

RESOLUTION ADOPTING A VOLUNTEER PROGRAM FOR THE CITY OF STORM LAKE IOWA

WHEREAS, a cornerstone of a vibrant, successful community is the pride its residents display in efforts to improve the appearances of multiple aspects of the city; and

WHEREAS, it is imperative that available volunteer options are meaningful in order to ensure that the tasks completed by residents, local groups and, at times, visitors provide the opportunity for the volunteer to truly feel what being Storm Lake Proud is all about; and

WHEREAS, the list of opportunities for volunteering is open to any and all possibilities that may attract the interest of an inspired volunteer; and

WHEREAS, the City of Storm Lake encourages employees to become involved in our community, lending their voluntary support to programs that positively impact the quality of life in our community.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA;

Section 1. That the City of Storm Lake, Iowa hereby adopts a volunteer policy as attached and noted as Exhibit 1.

Section 2. That the City of Storm Lake, Iowa will coordinate volunteer opportunities for the public to enhance the community.

Section 3. That the City of Storm Lake, Iowa employees will commit to volunteering their time in the community.

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

Donation Program - Moved by Council Member Ricklefs to adopt Resolution No. 51-R-2022-2023 approving to adopt the City of Storm Lake Donation Program. Seconded by Council Member Rice. Roll call vote: All ayes with Council Member Ramos absent. Motion carried.

RESOLUTION NO. 51-R-2022-2023

RESOLUTION ADOPTING A DONATION PROGRAM FOR THE CITY OF STORM LAKE IOWA

WHEREAS, individuals, community groups and businesses may wish to make donation to the City in either cash or in-kind contribution that enhance projects, facilities and programs; and

WHEREAS, the need for projects, facilities and program exceeds the City's ability to fund all such needed projects; and

WHEREAS, the purpose of this policy is to establish guidelines that 1) ensure donations occur at arm's length from any City decision making process, 2) provide criteria and process for the acceptance of donations, and 3) give the City the ability to accept donations that meet its needs and capacity to maintain the donation.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA;

Section 1. That the City of Storm Lake, Iowa hereby adopts a donation policy as attached and noted as Exhibit 1.

Section 2. That donations shall be accepted through a written agreement and approved by the City Council.

Section 3. That in-kind capital donations will subject to normal City review, permitting, inspection and insurance requirements.

PASSED AND APPROVED this 20th day of March, 2023.

Michael Porsch, Mayor

ATTEST:

Nelda Kirkholm, Deputy City Clerk

City Council Requested Items – Council Member McKinney requested work sessions for changes in fee resolutions.

Adjourn - Moved by Council Member Ricklefs to adjourn at 6:00 pm. Seconded by Council Member Rice. Vote: All ayes with Council Member Ramos absent. Motion carried.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Staff Summary

04/03/2023

Agenda Item # D.2.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Mayra Martinez City Clerk

SUBJECT: Buy Local Information

BACKGROUND: Early in 2011 during a Study Session discussion Council asked staff to look at putting together some analysis information regarding the amount of purchases made locally. We have pulled that information together and a provided a summary of purchases identified in the current list of bills to be approved that are purchased locally (within the City of Storm Lake), within Buena Vista County, and outside of Buena Vista County are presented here for Council's review. This information is presented for for both the City and King's Pointe's bills. As the reader reviews the information they should note the following key notes: Costs associated with any major capital project (those bid under the State of Iowa Bid Law) are excluded from the calculation Costs associated with travel is excluded from the calculation and % Costs associated with payroll is excluded from the calculation and % In some cases there is only one vendor or an item is only available from vendors outside of the City limits and/or Buena Vista County – we have not identified these Some departments have fairly minor budgets and a major purchase can skew the % and or amount for a given review period (For Example: the Airport may have normally \$4,000 - \$6,000 in expenses until they purchase Jet Fuel or Av Gas which can be \$10,000 + and as a vendor who is not local this can skew the information for that review period) Local has been determined to be has an office front in the area and based on where the office front is located for local vs. BV County (For Example: Wal-Mart is considered local since they have a store in Storm Lake even though their headquarters is not located here) As with all analytical data it is possible to interpret the numbers in a variety of ways and as we move forward we would be happy to provide further detail and or revise the way in which we show the data. Likewise if you have any questions or concerns please don't hesitate to contact city staff.

FISCAL IMPACT:

BREAKOUT CALCULATED EXPENSES:

Buena Vista County: \$ 4,865.18

Contract/Agreement:	\$ 187,350.00
Local:	\$ 83,829.69
Non-Local:	\$ 132,173.55
<u>Payroll/Refunds/Payroll Tax & Ins:</u>	<u>\$ 131,330.41</u>
TOTAL EXPENSES:	\$ 539,548.83

RECOMMENDATION: Review Buy Local Information

ATTACHMENTS:
[4/3/2023 Project Report.pdf](#)

Summary

Project Summary							
Project Number	Project Name	Total Budget	Date Range Budget	Beginning Balance	Total Activity	Ending Balance	Budget Remaining
01112-0019	WasteWater Treatment Facility Wetlan...	1,173,565.00	0.00	1,171,509.84	0.00	1,171,509.84	2,055.16
01112-0020	10th & Ontario StormWater Improvem...	1,753,734.33	0.00	1,753,734.33	0.00	1,753,734.33	0.00
01112-0021	4th & Oats StormWater Improvements	832,997.63	0.00	833,347.35	0.00	833,347.35	-349.72
OP1.122814	Richland Street, Phase 2 Improvements	174,107.75	174,107.75	174,095.25	0.00	174,095.25	12.50
OP1.124529	2021 Fiber Optic System Improvement	1,512,413.00	0.00	1,512,318.50	0.00	1,512,318.50	94.50
OP1.124889	2021 Cabin Construction	3,300.00	0.00	3,300.00	0.00	3,300.00	0.00
OP1.125106	BRIC	8,573,638.49	8,573,638.49	212,709.99	0.00	212,709.99	8,360,928.50
OP1.126252	Comprehansive Plan & Zoning Code Up...	125,880.00	125,880.00	114,960.50	0.00	114,960.50	10,919.50
OT5.128791	Runway 17/35 Lighting Replacement	99,900.00	99,900.00	31,947.00	0.00	31,947.00	67,953.00
16-19284	4th & Bartion Storm Water Improvemen..	760,113.88	0.00	760,113.88	0.00	760,113.88	0.00
19-22797	Memorial Lift Station Improvements	2,533,320.00	877.16	2,544,128.46	0.00	2,544,128.46	-10,808.46
20-23848	Storm Lake WTP- Electrical MCC Replac...	268,494.81	0.00	285,519.75	0.00	285,519.75	-17,024.94
20-24387	Radio Park Lift Station Replacement	571,448.36	571,448.36	573,607.61	0.00	573,607.61	-2,159.25
20-HSG-022	2021 Housing Sustainability Project	224,994.00	224,994.00	177,417.12	0.00	177,417.12	47,576.88
21-26215	Downtown Master Plan	113,000.00	113,000.00	103,650.00	0.00	103,650.00	9,350.00
22-26698	Storm Lake WTP- Well No. 21	199,028.00	199,028.00	136,679.25	0.00	136,679.25	62,348.75
22-26815	W 6th Street Utilities Extension	304,318.00	304,318.00	126,627.20	0.00	126,627.20	177,690.80
22-27926	Storm Lake WTP- Well #22	129,200.00	129,200.00	31,290.00	0.00	31,290.00	97,910.00
35665	1st & Mae Street	764,059.53	0.00	764,059.53	0.00	764,059.53	0.00
8406	7th & Geneseo St Sanitary Sewer Impro...	410,306.35	0.00	410,306.35	0.00	410,306.35	0.00
HTG322020	T-Mobile Hometown Grant Q-3-22	0.00	0.00	11,712.00	0.00	11,712.00	-11,712.00
IA0091	SL Elevated Water Storage- Tower #5	760,100.15	760,100.15	332,083.92	0.00	332,083.92	428,016.23
New	Lead Service Line Replacement Prelim E...	15,500.00	15,500.00	0.00	0.00	0.00	15,500.00
OP1.125220	4th Street Watermain Improvement Pro...	486,673.86	486,673.86	434,591.32	0.00	434,591.32	52,082.54
P11.112742	North Central SW Phase II	1,854,441.25	0.00	1,854,469.26	0.00	1,854,469.26	-28.01
P11.118940	Oneida Street Reconstruction from RR t...	2,526,433.98	-2,121.56	2,513,334.28	0.00	2,513,334.28	13,099.70
P11.120411	Highway 7/110 Traffic Lane/Signalization	4,661,065.85	0.00	4,123,687.13	0.00	4,123,687.13	537,378.72
P11.120478	Tulip Lane SW Improvements	443,607.50	0.00	442,111.30	0.00	442,111.30	1,496.20
P11.120650	2020 Expansion Blvd Improvements	1,169,938.10	0.00	1,168,724.60	0.00	1,168,724.60	1,213.50
P11.122266	7th Street Sewer Lining/2021 CIPP	495,443.50	495,443.50	495,287.16	0.00	495,287.16	156.34
SP21122	SL Library CDBG- COVID (CV) Grant	677,887.25	677,887.25	222,328.97	187,350.00	409,678.97	268,208.28
TS1.119823	Runway 13/31 & Taxiway Lighting	459,190.70	0.00	459,190.70	0.00	459,190.70	0.00
Report Total:		34,078,101.27	12,949,874.96	23,778,842.55	187,350.00	23,966,192.55	10,111,908.72

Group Summary						
Group	Total Budget	Date Range Budget	Beginning Balance	Total Activity	Ending Balance	Budget Remaining
Airport Projects	559,090.70	99,900.00	491,137.70	0.00	491,137.70	67,953.00
ARPA Project	760,100.15	760,100.15	332,083.92	0.00	332,083.92	428,016.23
Building Resilient Infrastructure and Co...	8,573,638.49	8,573,638.49	212,709.99	0.00	212,709.99	8,360,928.50

Staff Summary

04/03/2023

Agenda Item # D.3.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Chris Cole Police Chief

SUBJECT: **Motion to Approve The 2023 Bridge of Storm Lake Run for Our Future 1/2 Marathon, 10K and 5K.**

BACKGROUND:

The Bridge of Storm Lake is hosting the 2023 Run for Our Future Event on **Saturday, 06-17-2023**. This event is the same as past years and includes a half-marathon, 10K and 5K walk / run.

The half-marathon will begin at 7:00 AM at the Storm Lake Marina and circle the lake south on HWY 110 proceeding through Lakeside transitioning to the lake trail. The runners will remain on the lake trail winding through Frank Starr and Emerald Park with the race ending back at Storm Lake Marina via Marina Road (see attached map)

The 10K will begin at 8:00 AM at Lakeside Marina and follow the Lake Trail, Starr Park, wind through Emerald Park and end at Storm Lake Marina via Marina Road. (See attached Map)

The 5K will begin at 8:00am at Methodist Manor and follow the westbound route ending at the Storm Lake Marina. (See Attached Map)

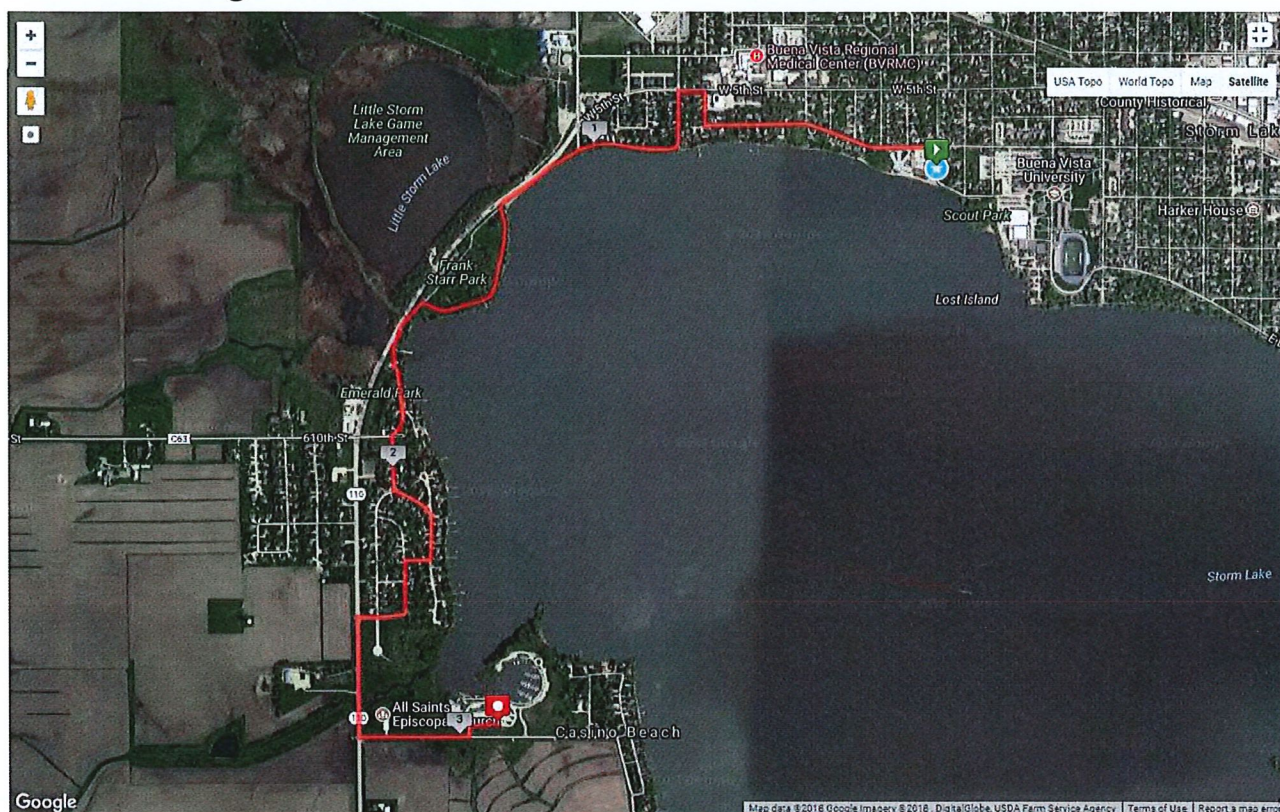
Organizers are in the process of obtaining the insurance certificates and will forward them upon receipt.

FISCAL IMPACT: None

RECOMMENDATION: Approve Request upon receipt of appropriate insurance certificates.

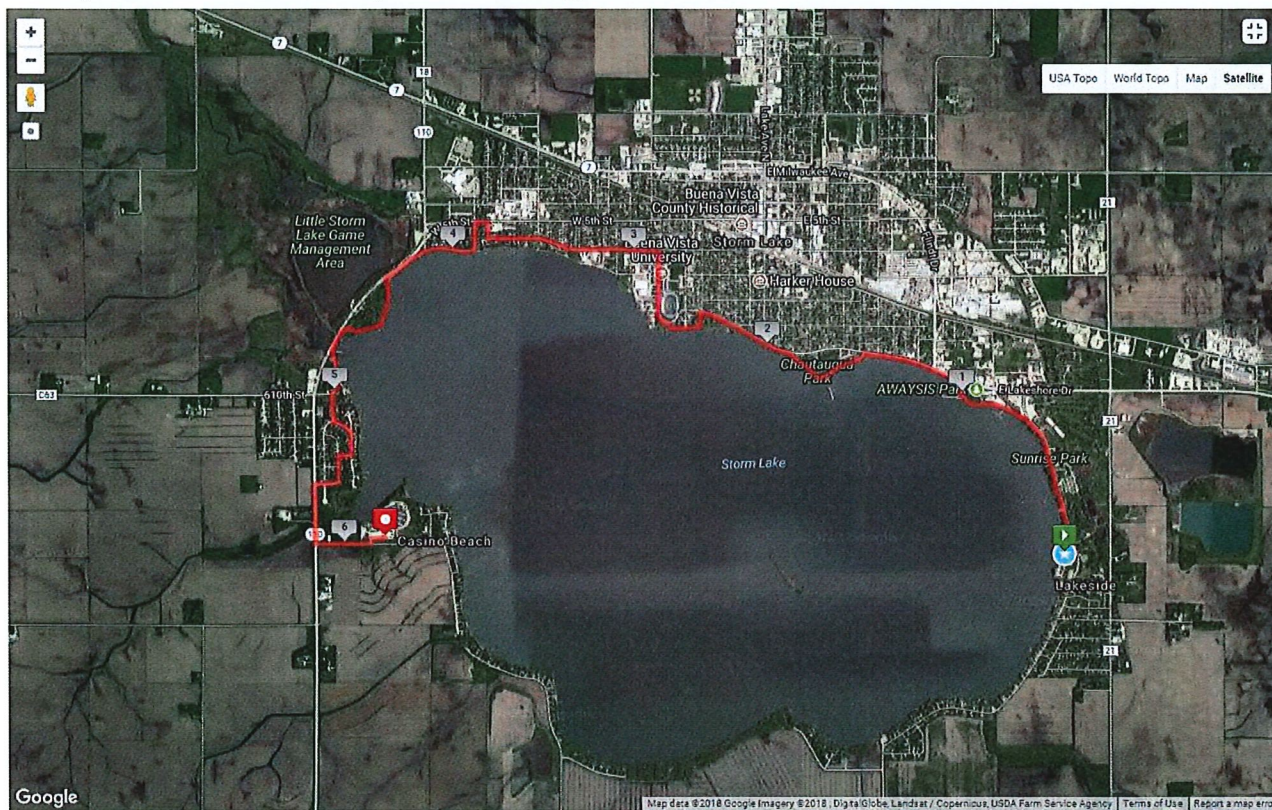
ATTACHMENTS:
[20230329141305779.pdf](#)

5K - The Bridge of Storm Lake's Run For Our Future



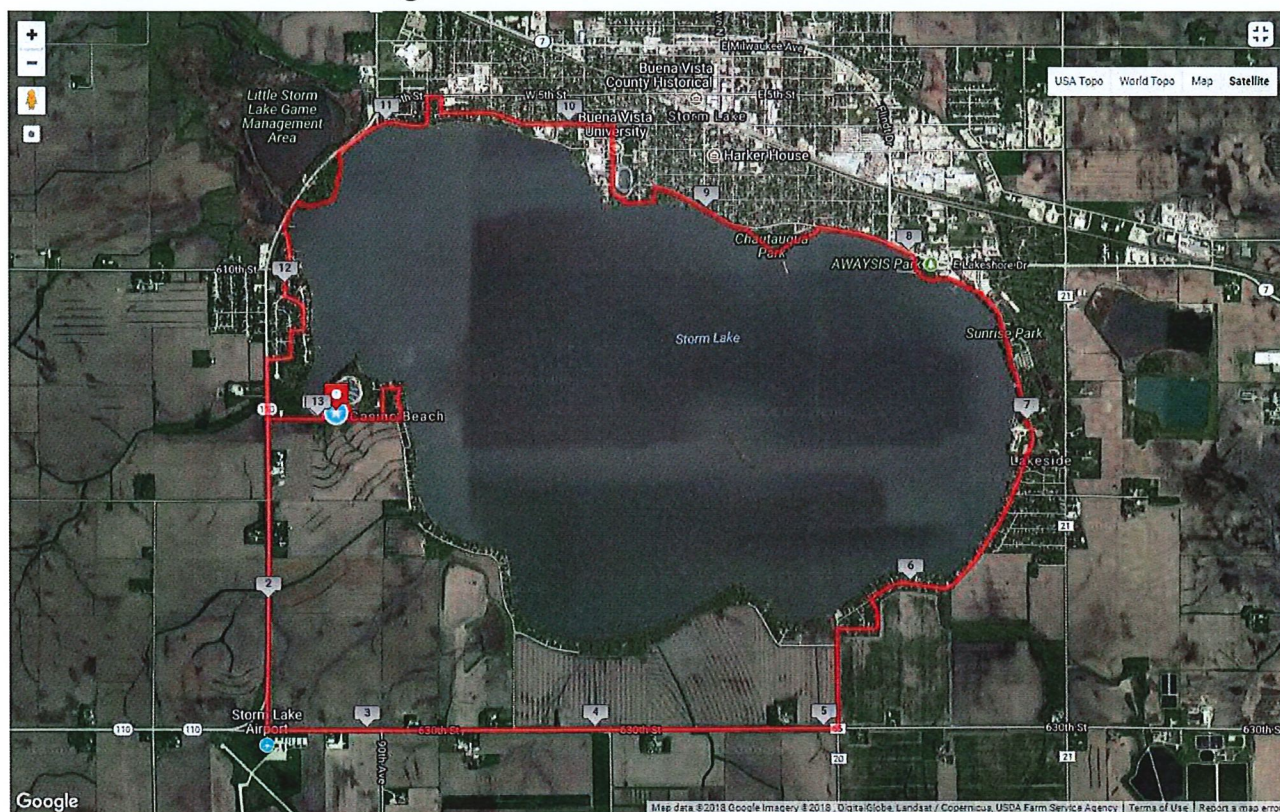
Start in front of Lake Pointe Villa (408 Barton St). Ends in West Marina Parking Lot

10K (Marina to Marina) - The Bridge of Storm Lake's Run For Our Future



Start in front of Lakeside Marina (Follow signs in switching from Road to Bike Path) Ends in West Marina Parking Lot

1/2 Marathon - The Bridge of Storm Lake's Run For Our Future



Start @ Finish Line, Casino Beach Loop then out south on Hwy 110 around the lake (Follow signs in switching from Road to Bike Path)

Staff Summary

04/03/2023

Agenda Item # E.1.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Chris Cole Police Chief

SUBJECT: **Resolution No. 43-R- 2022-2023 To Approve Request from Storm Lake United for 2023 Events**

BACKGROUND:

For the Storm Lake *Farmers Market*, Storm Lake United would like to request permission for the following:

- Authorization to have sales of farmer raised goods in Public Parking Lot C located at Erie Street and 6th Street.
- Permission for set up of *Farmers Market* stands starting on **Saturday, June 10th and running through Saturday, October 28th on both Thursday Nights from 3:00pm to 6:30pm and on Saturday Mornings from 7:00am to 1:00pm.**
- A Noise Variance on Thursday events and Saturday events for the duration.
- **SLAPT on Stage:** Date and Time to be determined

Ridiculous Days will be taking place in the business district on **July 13th through July 15th, 2023.** Storm Lake United would like to request the following for this event:

- Permission to hold sidewalk sales from Thursday, July 13th at 7:00am through Saturday, July 15th at 5:00pm in the 500, 600 & 700 blocks of Lake Avenue including the side streets immediately adjacent on 5th and 6th Streets.
- Permission to allow community members to sell secondhand goods on Saturday, July 15th from 8:00 am to 4:00 pm. Spaces will be assigned to sellers beforehand and will not be in front of any existing open business. A \$20 refundable deposit will be collected by Storm Lake United when a seller signs-up. The deposit will be refunded to the seller once it has been confirmed their assigned space is clear of any items or trash.

- Permission to allow local food vendors on sidewalks on Saturday, July 15th from 8:00am to 4:00pm.

August 18-20, 2023, Storm Lake United is planning to host *Wood, Wine & Blues*. *Wood, Wine & Blues*, a community-wide event that will include a three-day chainsaw carving competition between professional wood carvers and a wine and arts festival on Saturday, August 19th and Sunday August 20th in the park with craft vendors selling their products, Iowa wineries and breweries providing free tastings for the public, a wine trailer, and free daytime concerts from various artists. Should SLU decide to sell beer or bring in a vendor, all Iowa ABD guidelines will be followed, and public safety will be notified. Storm Lake United would like to request permission for the following:

- To use Sunset Park on Friday, August 18th between the hours of 8:00am to 9:00pm. On Saturday, August 19th from 8:00am to 9:00pm. On Sunday, August 20th from 8:00am to 6:00pm.
- To use the Sunset Park Band Shell from 10:00am to 9:00pm on Saturday, August 19th. and from 10:00 am to 5:00 pm on Sunday, August 20th.
- To have a Noise Variance in Sunset Park on Friday, August 18th from 8:00am to 9:00pm. On Saturday, August 19th from 8:00am to 9:00pm. On Sunday, August 22nd from 8:00am to 5:00pm.
- To allow chainsaw competitors to complete tree sculpture carvings with the designated logs located in Sunset Park on Friday, August 18th from 8:00 am to 5:30pm. Saturday, August 19th from 8:00am to 5:00pm. Sunday, August 20th from 8:00am to 3:30pm.
- To allow craft vendors to display and sell their products in Sunset Park Saturday, August 19th and Sunday, August 20th from 10:00 am to 5:00pm.
- To allow Storm Lake United to sell quick carve sculptures that the competing carvers will create in a 90-minute quick carve competition via silent auction on Saturday, August 19th and Sunday, August 20th.
- To allow food vendors to sell their products on Friday, August 18th, Saturday, August 19th and Sunday, August 20st in Sunset Park.
- To allow the wine vendors to sell glasses of wine on Saturday, August 19th and Sunday August 20th from the hours of 11:00 am to 5:00 pm during the Wood, Wine and Blues event. Wine vendors will only be serving wine by the glass and selling unopened bottles of Iowa Wines. Wine vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Should SLU obtain correct licenses from the Iowa ABD, request to allow the brewery vendors to sell glasses of beer on Saturday, August 19th and Sunday, August 20st from the hours of 11:00 am to 5:00 pm during the Wood, Wine and Blues event. Brewery vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- To allow the competing carvers to sell their work in Sunset Park.
- Permission to set-up Koenig portable toilets as needed.
- To allow for a free to enter 32 team cornhole competition that is open to the community.
- For appropriate support from parks and public safety.

- For access to electrical power in Sunset Park.
- Request to the City of Storm Lake for assistance to stage and stand the carvers' logs prior to competition.
- Request to the City of Storm Lake for assistance to relocate wood carvings from Sunset Park after competition.

The competing carvers will be responsible to supply their own safety equipment, including safety netting, fire extinguishers, eye protection, ear plugs, and chainsaw resistant pants or chaps. Each carver will be required to sign a waiver before they will be able to compete in the competition.

Chills and Thrills is the annual Halloween Trick or Treat in Storm Lake that includes coordination with BVU Student Organization and local businesses to provide a family friendly Halloween Trick or Treat event for the citizens of Storm Lake. This year the event is scheduled for **Saturday, October 28th**. Storm Lake United would like to request a permit for the following activities during *Chills and Thrills 2023*:

- A Noise Variance beginning at 9:00am to 12:00pm.
- Permission for student organizations and local businesses to set up tables for games and candy on the 500, 600 & 700 block of Lake Avenue from 9:00am to 12:00pm.

Lastly, ***Miracle on Lake Avenue*** will take place on Thursday, December 7th, 2023. A weather date is also requested for Friday December 8th. Storm Lake United would like to make the request for the following activities on Lake Avenue between 5:00pm and 9:00pm.

- A Noise Variance for holiday music is needed for the parade and sidewalk activities on the 500 and 600 blocks of Lake Avenue from 5:00pm to 9:00pm.
- The parade will start at 6:00pm. The staging area will be in the 500 and 600 blocks of Cayuga Street. The parade will go West on 7th Street, South on Lake Avenue, East on Railroad Street and North on Erie Street ending in the 700 block.
- A street closure at the 200 block of East 5th Street for the Tree Lighting ceremony that will take place immediately following the parade. Once the ceremony is over, the street will be reopened.

FISCAL IMPACT:

The Parks Department and Police Department will accrue staff time associated with each of the planned events. Those staff hours and related equipment will be absorbed in the normal operating budget.

RECOMMENDATION:

Approve Resolution No. 43-R-2022-2023 to approve requests upon receipt of applicable insurance policies and proof of beer and wine

licensing.

ATTACHMENTS:

[Resolution No. 43-R-2022-2023 - SLU Events 2023.pdf](#)

RESOLUTION NO. 43-R-2022-2023

A RESOLUTION APPROVING STORM LAKE UNITED REQUESTS FOR A SERIES OF 2023 COMMUNITY EVENTS

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA:

To Approve The Following Events:

Farmers Market:

- Authorization to have sales of farmer raised goods in Public Parking Lot C located at Erie Street and East 6th Street.
- Permission for set up of Farmers Market stands and sales starting Saturday, June 10th, 2023, and running through Saturday, October 28th, 2023 on both Thursday nights from 3:00 pm to 6:30 pm and on Saturday mornings from 7:00 am to 1:00 pm.
- A Noise Variance on Thursday events and Saturday events for the duration.
- **SLAPT on Stage:**
- Date and Time to be determined.

Ridiculous Days:

- Permission to hold sidewalk sales starting Thursday, July 13, 2023, at 7:00 am through Saturday, July 15, 2023 at 5:00 pm in the 500, 600, and 700 blocks of Lake Avenue, including the side streets immediately adjacent on 5th Street and 6th Street.
- Permission to allow community members to sell secondhand goods on Saturday, July 15, 2023, from 8:00 am to 4:00 pm.
- Permission to allow local food vendors on sidewalks on Saturday, July 15, 2023, from 8:00 am to 4:00 pm.

Wood, Wine & Blues:

- Request to use Sunset Park on Friday, August 18, 2023, from 8am to 9pm, Saturday, August 19, 2023, from 8am to 9pm and Sunday, August 20, 2023, from 8:00 am to 6:00 pm for a three day chainsaw carving competition and a wine and arts festival.
- Request to use Sunset Park Bandshell on Saturday, August 19, 2023, from 10 am to 9 pm and Sunday, August 20, 2023, from 10am to 5pm.
- Request a Noise Variance in Sunset Park on Friday, August 18, 2023, from 8am to 9pm, on Saturday August 19, 2023, from 8am to 9pm, and on Sunday August 22, 2023, from 8am to 6pm.
- Request to allow chainsaw competitors to complete tree sculpture carvings with designated logs located in Sunset Park on Friday, 8/18/23 (8am-5:30pm), Saturday, 8/19/23 (8am-5pm), and Sunday, 8/20/23 (8am-3:30pm).
- Request to allow craft vendors to display and sell their products in Sunset Park Saturday, August 19, 2023, and Sunday, August 20, 2023, from 10am to 5pm.
- Permission for Storm Lake United to sell quick carve sculptures created from a quick carve competition via silent auction on Saturday, August 19, 2023, and Sunday August 20, 2023.
- Permission to allow food vendors to sell their products in Sunset Park on Friday, August 18, 2023, Saturday, August 20, 2023, and Sunday, August 20, 2023.

- Permission to allow wine vendors to sell glasses of wine and unopened bottles of Iowa wine in Sunset Park on Saturday, August 19, 2023, and Sunday, August 20, 2023, from 11am to 5pm during the Wood, Wine, and Blues event. Wine vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Request to allow brewery vendors to sell glasses of beer on Saturday, August 19, 2023, and Sunday August 20, 2023, from 11am to 5pm in Sunset Park. Brewery vendors will be required to submit proof of a valid liquor license and insurance to the City of Storm Lake prior to the event.
- Permission to allow the wood carvers to sell their wood carvings in Sunset Park.
- Permission to set-up Koenig portable toilets as needed.
- Permission to allow for a free 32 team cornhole competition open to the community.
- Request for access to electrical power in Sunset Park.
- Request for appropriate support from Parks and Public Safety.
- Request to the City of Storm Lake for assistance to stage and stand the wood carver's logs prior to competition.
- Request the City of Storm Lake for assistance to relocate wood carvings after the competition.

Chills and Thrills

- Request permission for student organizations and local businesses to set-up tables for games and hand out candy in the 500, 600, and 700 blocks of Lake Avenue from 9:00 am to 12:00 pm on Saturday October 28, 2023.
- Request a Noise Variance on Saturday, October 28, 2023, from 9:00 am to 12:00 pm

Miracle on Lake Avenue

- Request a Parade Permit and street closures for Thursday, December 8, 2023, at 6:00 pm.
- Request a Noise Variance in the 500 and 600 block of Lake Avenue for holiday music, a parade, and sidewalk activities on Thursday, December 8, 2022, from 5:00 pm to 9:00 pm.
- Request for a street closure of the 200 block of East 5th Street immediately following the parade for a Tree Lighting ceremony.

In each of the submitted event requests there was also a standing request for appropriate assistance from the Parks, Streets and Police Departments.

PASSED AND APPROVED this 3rd Day of April 2023

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Staff Summary

04/03/2023

Agenda Item # F.1.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Scott Olesen Building & Code Compliance Director

SUBJECT: **Motion To Approve Elevator Contract and Authorize a Down Payment.**

BACKGROUND: The elevator located in the Kings Pointe lighthouse is in need of repair to the pump and control systems to make it operational so that the facility can be open to the public. The existing controls are obsolete and we have been unable to source parts to repair the equipment and put it back into operation. The attached contracts would replace the hydraulic pump, elevator control systems, and associated hardware, as well as the communication system in the elevator cab to meet the current State standards for passenger elevators. The contractor is responsible for making the installation and obtaining and passing an inspection with the State Elevator Inspector.

I have attached copies of the proposals from both Schumacher Elevator Company and Rebnord Technologies for your review.

FISCAL IMPACT: The total cost for Schumacher Elevator Company and Rebnord Technologies is \$97,125.75. The cost of the 25% down payment is \$23,219.00.

RECOMMENDATION: Review and approve the attached contracts from Schumacher Elevator and Rebnord Technologies for the repair of the Lighthouse elevator and approve the 25% down payment required by Schumacher for the project.

ATTACHMENTS:

[Rebnords Technologies](#)

[Schumacher Contract - KP - corrected.pdf](#)



Prepared for City of Storm Lake
CSL - Lighthouse UPS
Quote #126-1



Quotation

Rebnord Technologies
 210 Sale Barn Road
 Storm Lake, IA 50588
<http://www.rebtech.com>
 (712) 732-6449

Date: 3/23/2023
 Reference: 126-1
 Valid until: 4/7/2023
 For: Tyler Gibbins
 City of Storm Lake

Description	Quantity	Unit Price	Price (Exc Tax)
1500 VA UPS	1	\$899.95	\$899.95
Extended Runtime Module	3	\$899.95	\$2699.85
Management Card	1	\$399.95	\$399.95
Network Drops - Line from Switch to Control Cabinet x3	1	\$150.00	\$150.00
Used Rack Cabinet Used rack cabinet for UPS and Network Switch.	1	\$100.00	\$100.00

Items Sub-total	\$4249.75
Annual	\$0.00
Sales tax	\$0.00
TOTAL	\$4249.75

This quotation is presented to the customer above on the date created, and is valid until the quotation expiry date. All prices quoted were correct at the time of quotation creation, and are subject to change due to supply. Any questions regarding your quotation, please speak with your representative. To accept this quotation, in whole or in part, please reply to the sender with your wishes, specifying a valid purchase order number, where possible.
 Thank you for your business. It is very much appreciated.

Date: 3/22/2023

Version: 1

Kings Point

SCHUMACHER ELEVATOR COMPANY PROPOSAL



ATTENTION:	Scott Olesen	PROJECT ID:	SCH000050-5385
COMPANY:	-	PROJECT TYPE:	Modernization - 2019 Code YR
PROJECT CITY:	Storm Lake	TAXES:	Included
PROJECT STATE:	IA	P&P BOND:	Not Included
SCHUMACHER BRANCH:	Fort Dodge	PRIME CONTRACTOR:	Not Applicable



Nick Shinstine



nick.shinstine@schumacherelevator.com



(319) 406-1275

SUMMARY				
DESCRIPTION	CAPACITY	TOTAL STOPS	TRAVEL	PRICE
(1) Hydraulic Twin-Jack Holeless	2500	2	10'-0"	\$92,876.00
				\$92,876.00

This quote is valid for 30 days from 3/22/2023. Typical production lead time is 12 weeks after all approved drawings are received. This quote is based on the information provided by the customer and is compliant with 2019 code. If information received reflects different field data or requirements, pricing will be adjusted and a new revised quote will be provided.

SCH000050-5385



KINGS POINT
ELEVATOR 1
HYDRAULIC TJ HOLELESS - PASSENGER - 2500LBS
3/22/2023

ELEVATOR (1) – GENERAL OVERVIEW

ELEVATOR TYPE: HYDRAULIC	SPEED: 100 FPM	HOISTWAY WIDTH: EXISTING
SUB-TYPE: TJ HOLELESS	TRAVEL: 10'-0"	HOISTWAY DEPTH: EXISTING
CLASS: PASSENGER	FUTURE TRAVEL: N/A	ENTRANCE WIDTH: EXISTING
CAPACITY: 2500	OVERHEAD: 12'-6"	ENTRANCE HEIGHT: EXISTING
OPERATION: SIMPLEX	PIT DEPTH: 4'-0"	PLATFORM WIDTH: EXISTING
HOSPITAL CAR: NO	POWER SUPPLY: 460 VOLT / 3 PHASE	PLATFORM DEPTH: EXISTING
FRONT LANDINGS: 2	DOOR LOCATIONS: FRONT	INSIDE CAB WIDTH: EXISTING
REAR LANDINGS: 0	DOOR TYPE: SINGLE SPEED	INSIDE CAB DEPTH: EXISTING
SIDE LANDINGS: 0	MACHINE ROOM: ADJACENT LEFT	INSIDE CAB HEIGHT: EXISTING
WALKTHROUGHS: 0	PIT ACCESS: BOTTOM LANDING	SEISMIC ZONE: 0

NOTES: Proposal dimensions are for estimating purposes only and not for construction use. All dimensions to be verified during the engineering process and are subject to change.

ADDENDUMS:

ELEVATOR CAB

Retain Existing Cab

CONTROLLER & LANDING SYSTEM

Starter (Soft Start), Limit Switches / Brackets / Cams, SEC - APS (CEDES) Landing System, Controller: SEC Controller ASSY (Hydro-Auto-Mation-PLC, SS-5), Car Top Inspection Station

CAR STATION

Two-Way Audio/Visual Communication for hearing and/or speech impaired, RATH Phone, Emergency Light, Car Stations by Schumacher - #4 Stainless Steel

CAR DOORS & OPERATOR

Door Operator (Dover-GAL Conversion), FCU47 (2D) Car Door Screen

JACK EQUIPMENT

Retain existing equipment.

SLING & PLATFORM

Retain existing equipment.

PIPING & POWER UNIT

Maxton UC4M-E1 Valve, L47.5" X D21.5" X H57" Tank, Machine Room Shut-Off Valve(s), SUBMERSIBLE PUMP (SEIM PA 045#4A), Power Unit Silencer, Pit Shut-Off Valve(s), 2 sch 40 piping, Dipstick 2009, Motor: 20HP80ST/15HP120ST 230/460V 3PH SUB ELMO

SIGNAL EQUIPMENT

Hall Stations by Schumacher - #4 Stainless Steel, Position Indicator(s) In COP, Car Traveling Lantern

HOISTWAY ENTRANCES

Retain existing equipment.

HOISTWAY EQUIPMENT

Multi-Cable

ADDITIONAL COMPONENTS

Hoistway lighting

UNIT PRICE:

\$92,876.00

SCH000050-5385

3/22/2023

All equipment provided by Schumacher Elevator company is non-proprietary – providing owners with the highest degree of flexibility in terms of maintenance and repair at the most competitive rates.

SUMMARY				
DESCRIPTION	CAPACITY	TOTAL STOPS	TRAVEL	PRICE
(1) Hydraulic Twin-Jack Holeless	2500	2	10'-0"	\$92,876.00
TOTAL PRICE:				\$92,876.00

PROPOSAL ACCEPTANCE

This proposal document defines pricing, scope of work, and exclusions. Your signature below signifies acceptance of this proposal document. **This proposal document is not a contract. A binding contract agreement is required in order to commence work. Contract payment terms are subject to credit review.**

Purchaser: _____

Supplier: Schumacher Elevator Company

Signature: _____

Signature: 

Printed Name: _____

Printed Name: Nick Shinstine

Title: _____

Title: Estimator & Project Manager

Date Signed: _____

Date Signed: 3/22/2023

OBLIGATIONS OF OWNER

The following work is the responsibility of the Owner, and at no cost to Schumacher Elevator Company. All work to be performed per the latest revision of the applicable national code and/or local code.

GENERAL WORK

- a. Provide all cutting of walls, floors or partitions, together with all repairs made necessary by such cutting or changes;
- b. Provide a staging and storage area close to the elevator hoistway;
- c. Provide for removal of all spoils and debris accumulated during excavation from the lowest landing of the premises as required;
- d. Both legal hoistway and machine room must be maintained at a temperature range 55°F - 85°F;
- e. Provide proper support and install inserts provided by Schumacher Elevator Company as shown on G-1 print of the approved drawings;
- f. Provide a legal machine room of adequate size, properly ventilated, lighted and heated per Elevator Code;
- g. Provide routing for hydraulic and electrical lines;
- h. Provide and install heat and smoke detectors as required;
- i. Complete all this work in such time as not to delay work of Schumacher Elevator Company;
- j. The price and installation schedule of Schumacher Elevator Company is based on these jobsite conditions existing at the beginning and during installation of the elevator equipment;
- k. Complete all work prior to state inspection, if reinspection is required, the cost will be shared by the parties involved.
- l. Provide a fire extinguisher in the machine room or in a location convenient to the machine space.
- m. In accordance with code, if sprinklers are installed in hoistway, machine room, control space or machine space, provide means to automatically disconnect the main line power supply of the affected elevator and any other power supplies used to move the elevator upon the application of water is required (*Not applicable in the state of Minnesota*);

HOISTWAY & PIT WORK

- n. Provide a legal hoistway of proper size with adequate pit depth, overhead height and be constructed to withstand forces and loads resulting from the use of the elevator;
- o. Provide code compliant means to extract water from the pit;
- p. Provide a hoisting beam as required at top of hoistway for digging and hoisting;
- q. Provide all necessary sill supports;
- r. Fill in around jack hole in pit, build in around door frames and grout under sills, as required by elevator contractor;
- s. Provide all cutting of walls, floors or partitions, together with all repairs made necessary by such cutting or changes;
- t. Provide all painting including hoistway doors and frames furnished with prime finish;
- u. Provide means to guard and protect the hoistway during the time the elevator is being installed;
- v. Provide sump pump and sump pit in elevator hoistway floor;

ELECTRICAL WORK

- w. Electrical disconnects, one for three phase and several single-phase power supplies, with properly sized wires, as require by the manufacturer;
- x. Provide standby power unit and means for starting it, that will deliver enough regulated power to the elevator disconnect switches to operate one or more elevators at a time at full-rated speed;
- y. Provide electrical power to machine room and connect to controller terminals, with an intervening fused disconnect properly located in machine room, including shunt trip breakers, if required;
- z. Provide a transfer switch for each feeder for switching from normal power to standby power and a contact on each transfer switch closed on normal power supply with two wires from this contact to one elevator controller;
- aa. Provide means for absorbing power regenerated by the elevator system when running with overhauling loads such as full load down;
- bb. Provide any required emergency power of adequate size to include switch gear and preconditioning signals, which may be required;
- cc. Provide without charge, adequate power for excavation and tools during construction, starting, testing, and adjusting of equipment;
- dd. Provide a separate 110-volt AC, 15-amp circuit fused disconnect terminated at controller;
- ee. Provide GFI outlet and guarded light and switch;
- ff. Provide means to guard and protect the hoistway during the time the elevator is being installed;
- gg. Hoistway lighting. If the controller for an elevator is being replaced, permanent lighting shall be installed in the hoistway of the elevator. Three-way switches to control the hoistway lighting shall be installed at the pit access door and the top landing access door. The lighting shall be sufficient to provide 10 foot-candles of light to the center of the elevator path measured when the car top lights are off. Engineering calculations that prove 10 foot-candles of light are provided to the center of the elevator path may be substituted for light meter measurements under circumstances such as a glass back car where use of a light meter is not practical. - Iowa Chapter 73.8 (8);
- hh. ASME A17.1 2019 & IBC 2018 Code - Emergency Operation & Signaling Devices

For states that have adopted the ASME A17.1 2019 code or IBC 2018 the owner shall provide in addition to a dedicated analog phone line [1] an ethernet connection with internet access to the controller cabinet in the machine room. Per code, the ethernet connection is required to have 4-hour back-up power in the event power loss.

[1] Other options may be substituted such as cellular or VOIP. Please consult your local IT or telecom provider. This option still requires back-up power and must be communicated with your Schumacher Elevator Representative

*Fire control panel by others- per National Fire Alarm Code 6.15.3.2

The owner agrees to indemnify and hold harmless Schumacher Elevator Company against all claims, damages, losses, expenses, fines, and penalties, including but not limited to attorneys' and/or consultants fees, arising out of or resulting from the failure of the owner to carry out any obligations of the owner outlined in the foregoing agreement.

CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT SA505385 is entered into effective as of 3/15/2023 by and between SCHUMACHER ELEVATOR COMPANY, an Iowa corporation, located in Denver, Iowa, acting as an independent contractor and hereinafter referred to as the "Supplier", and -, of Storm Lake, IA, hereinafter referred to as the "Purchaser."

That for the consideration herein expressed, it is agreed by and between the parties as follows:

SECTION 1 - AGREEMENT

The Supplier agrees to furnish all labor, material, equipment, and supervision necessary to perform and complete the scope of work described in PROPOSAL DOCUMENT: SCH000050-5385

- A) The Project: **KINGS POINT - STORM LAKE, IA**
- B) The Price: **\$92,876.00**

SECTION 2 - CONTRACT DOCUMENTS

The Contract Documents consist of this Contract agreement (hereinafter "Agreement"), exhibits, and supplemental documents such as drawings, schedules, specifications, and addenda provided such exhibits and supplemental documents are attached to this Agreement or described in this Agreement or an exhibit to this Agreement with sufficient clarity to enable each party to understand that the exhibits and other supplemental documents are part of this Agreement. This Agreement and any exhibits and supplemental documents that meet the criteria of the preceding sentence represent the entire integrated agreement between the parties hereto and supersede all prior negotiations, representations, proposals, quotations, or agreements whether written or oral.

SECTION 3 – GENERAL TERMS & CONDITIONS

1. Contract price is based on project completion by 7/30/2023. If project completion is delayed by persons other than Supplier beyond this date, then Supplier will be compensated by Purchaser for increases in the cost of material and labor through an increase in the Contract price that corresponds to the percentage change in Supplier's material costs and labor costs between the date of this Agreement and the actual completion date.
2. Supplier's design specifications supersede any descriptions or specifications in Purchaser's bid documents. Purchaser recognizes that minor differences in design, dimensions, and appearance between the product(s) supplied and the specifications are to be expected and are not a breach of this Agreement or a defect in the products manufactured by Supplier.
3. Supplier will commence work at the job site upon the Purchaser's completion of "Construction Requirements" form. All checklist items on the form must be completed prior to mobilization. If Supplier is unable to deliver materials and commence work on the scheduled start date, Purchaser will be responsible for storage at a rate of \$400 per week/per elevator.
4. In the event Purchaser or Owner demands that Supplier stop work at the jobsite due to circumstances beyond the Supplier's control, a remobilization fee of \$2,000 will be added to the contract price. A fully executed change order confirming Purchaser's agreement to pay the \$2,000 remobilization fee is required for Supplier to return to the jobsite.
5. Supplier will complete the scope of work during regular working hours of 6:00 A.M. to 5:00 P.M. (not to exceed 8 hours per day for new construction and 10 hours per day for alteration of existing elevators and in either case not to exceed 40 hours in a work week) during regular working days of Monday to Friday, excluding holidays. Expedited work schedules can be arranged between the Supplier and the Purchaser with a fully executed change order specifying the additional compensation to be paid for the expedited work.
6. Contract price includes (1) elevator inspection by the local authority having jurisdiction. Additional inspections by other entities and re-inspections due to code violations not caused by Supplier are not included, and subsequent inspections will be charged at a rate of \$400 for re-inspections without Supplier present, and at a rate of \$1,200 for re-inspections requiring Supplier to be present. A fully executed change order is required prior to Supplier performing re-inspections.

7. Supplier will notify Purchaser in writing when the Project has been completed. Purchaser will complete Supplier's "Ready for Inspection" form. All checklist items on the form must be completed prior to scheduling the inspection. The inspection will occur within (10) business days of Supplier receiving confirmation that the checklist items have been completed, or at the authority having jurisdiction's earliest convenience. At conclusion of elevator inspection, Purchaser shall have an authorized representative execute the uniform "Acceptance for Use" form.
8. At the conclusion of the project, the Supplier will perform safety, full load, and fire service tests to ensure that each elevator conforms to all applicable codes.
9. Temporary use and construction use of the elevator is not permitted unless approved by Supplier in writing. If Supplier agrees to temporary use of the elevator, Purchaser will sign Supplier's "Acceptance for Temporary/Construction Use" form to authorize any temporary use. Temporary Use will be provided at a rate of \$750 per month for a hydraulic elevator and at a rate of \$1,000 per month for a traction elevator. Temporary use will not cause the warranty period for Supplier's installation services to commence. The warranty period for Supplier's installation services will not commence until there is an executed "Acceptance for Use" form. Purchaser will be responsible to pay for replacement materials that are due to vandalism, damage, or misuse during the temporary use timeframe.
10. Elevator "runtime" is not included in this Agreement. If runtime is requested by Purchaser and provided by Supplier, Purchaser will be billed for runtime at the rate of \$150/hour for run time provided during normal business hours. Purchaser will sign an "Authorization for Runtime" form prior to the Supplier performing any runtime.
11. All work performed outside of the scope of this Agreement will be billed to Purchaser at a single worker rate of \$200 per man hour for regular time (6am to 5 pm) and \$375 per man hour for overtime (after 5pm and before 6am or over 8 hours per day or 40 hours in a workweek), plus any expenses. A team hour (a mechanic and an apprentice) will be billed at a rate of \$350 per hour for regular time and \$675 per hour for overtime, plus any expenses. Purchaser must enter into a change order describing the additional work and confirming the applicable rate before Supplier is required to perform work outside the scope of this Agreement.
12. Supplier will provide the following electronic closeout documents: standard owner's information manual, standard final as built drawings, and Supplier's standard warranty. One paper copy of the closeout documents will be provided at the Purchaser's request. Additional paper copies are available at \$300 per set.
13. The terms of this Agreement shall not be supplemented or amended by Purchaser's bid documents or a contract provided by Purchaser. This Agreement sets forth the entire agreement between the parties. If the Purchaser accepts the terms of this Agreement by issuing a purchase order, Supplier shall not be bound by any of the terms in the purchase order, and none of the terms in the purchase order shall have the affect of amending, modifying or nullifying any of the terms of this Agreement. In the event of a conflict between the terms of Purchaser's purchase order and this Agreement, the terms of this Agreement shall govern the contractual relationship between Supplier and Purchaser.
14. Neither party shall be liable to the other party hereunder for special, indirect, consequential, exemplary or incidental damages.
15. Supplier will secure and maintain minimum insurance coverage to protect against claims for bodily injury or death, or for damage to property, which may arise out of the operations by the Supplier or by anyone employed by them. Certificates of Workers' Compensation, Employer's Liability, and Commercial General Liability, Commercial Automobile Liability, and Umbrella/Excess Liability will be furnished to the Purchaser upon request.
16. If Purchaser terminates or cancels this Agreement, Purchaser shall be liable for all costs incurred by Supplier through the date of Supplier's receipt of Purchaser's written notice of cancellation. Purchaser agrees to pay any cancellation fees within ten (10) days of the cancellation date.

SECTION 4 – PAYMENT TERMS

MILESTONE	DESCRIPTION	PERCENTAGE VALUE	TIMING
Down Payment	Reserves spot on master schedule, begins submittal, engineering, and procurement process	25%	Billed upon execution of contract. Payment due Net 30 days.
Progress Billings	Storage and delivery of material, mobilization, field installation	Percentage of Completion	Billed monthly by the 20th of the month; for work completed through the end of the current month. Payment due Net 30 days.

- All change orders must be executed prior to the performance of the work described in the change order. However, if Purchaser instructs or directs Supplier to provide work outside the scope of this Agreement and the work is performed by Supplier without first obtaining a change order, then the change order must be signed by Purchaser prior to Supplier having an obligation to schedule the final inspection.
- If final payment is not made within 30 days of the final progress billing, the Supplier shall be relieved of the obligation to honor its warranty and any obligations to provide the warranty maintenance.
- Purchaser agrees to pay interest at the rate of 1.5% per month or 18% APR on all past due account balances.
- Purchaser agrees to pay all collection costs incurred to collect past due account balances. Collection costs include all reasonable attorney fees, collection agency fees, court costs, and litigation expenses.
- Purchaser agrees that should legal action become necessary to enforce collection of past due account balances, jurisdiction and venue shall be in the Iowa district court in Bremer County, Iowa.
- Any tax or other governmental charge imposed upon the sale of the goods shall be paid by Purchaser, and Purchaser's failure to pay any applicable tax shall be a breach of this entire agreement.

SECTION 5 – WARRANTY

There are two components to Supplier's warranty. Supplier warrants and guarantees it shall perform its labor in a skillful manner. Supplier also provides a limited warranty regarding the products manufactured by Supplier.

Supplier's labor (workmanship) is guaranteed for a period of (1) year from the date of the executed "Acceptance for Use" form for each elevator. The workmanship warranty excludes ordinary wear and tear, improper use, vandalism, abuse, misuse, neglect, or any other causes beyond Supplier's control. This express limited warranty with respect to workmanship is in lieu of all other warranties, express or implied, including any warranties of merchantability or fitness for a specific purpose.

The terms of Supplier's limited warranty with respect to products manufactured by Supplier are set forth in the "Standard Warranty – Packages & Components" attached as **EXHIBIT A**.

SECTION 6 – INDEMNIFICATION

Supplier shall indemnify and hold Purchaser harmless from and against all claims, damages, losses and expenses arising out of or resulting from any negligent act or omission of Supplier, Supplier's Contractors, or anyone directly or indirectly employed by Supplier or Supplier's Contractors. Supplier shall not be obligated to indemnify or hold Purchaser harmless for any claims, damages, losses and expenses arising out of or caused in whole or in part by any act or omission of Purchaser, Purchaser's other contractors and Contractors, or anyone directly or indirectly employed by or supervised by Purchaser or Purchaser's other contractors or Contractors.

CONTRACT ID: SA505385

SECTION 7 – RISK OF LOSS

Risk of loss shall pass to Purchaser as soon as the materials and equipment are delivered to the Purchaser. Purchaser shall pay all costs of insurance from the time that risk of loss passes to Purchaser.

SECTION 8 – FORCE MAJEURE

Supplier shall not be responsible for any delivery or failure to make delivery of all or any part of the goods purchased under this agreement due to federal, state, or municipal action, statute, ordinance, or regulation, strike or other labor trouble, acts of God or natural disasters, riot or other civil disturbance, inability to secure raw materials or supplies, or, without limiting the foregoing, by any other cause, contingency, or circumstance within or without the United States not subject to Supplier's control which prevents or hinders the manufacture or delivery of the goods sold hereunder. The provisions of this paragraph shall not be limited by any provision in which time is made of the essence.

CONTRACT ACCEPTANCE*Purchaser:*

Supplier:

Signature:

Signature:

Printed Name:

Printed Name:

Title:

Title:

Date Signed:

Date Signed:

DO YOU NEED TO ISSUE A PURCHASE ORDER?

P.O. #

EXHIBIT A

STANDARD WARRANTY – PACKAGES & COMPONENTS

Schumacher Elevator Company warrants all manufactured products to be free of defects in material and workmanship under normal and intended use conditions for a period of 1 year from the date of shipment from our factory.

During the term of the warranty, Schumacher Elevator Company will replace any product manufactured by Schumacher Elevator Company which is confirmed to be defective in material and/or workmanship by inspection at our factory.

This warranty excludes ordinary wear and tear, improper installation by others, improper use, vandalism, abuse, misuse, neglect, or any other causes beyond the control of Schumacher Elevator Company.

This warranty is voided if products are improperly exposed to the elements. The warranty is also voided if the manufactured products are altered or modified in any manner, including modifications or alterations to the circuitry. This warranty is also voided if improper wiring methods are used during installation of the manufactured products.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A SPECIFIC PURPOSE.

Schumacher Elevator Company will not be liable for any contingent or consequential costs such as the cost of installation of replacement or repaired products, travel expense, or any other expense incurred in connection with the replacement or repair.

Schumacher Elevator Company will not be liable for loss of profits, or any other indirect, consequential, or incidental damages.

Products not manufactured by Schumacher Elevator Company are not covered by this warranty. If Schumacher Elevator Company has purchased products from another manufacturer and resold such products to the Purchaser, the standard warranty provided by the third-party manufacturer, if any, will apply. The Purchaser is encouraged to refer to the description of warranty terms offered by third-party manufacturers in their respective O&M Manual.

This warranty replaces and supersedes any and all previous warranties offered by Schumacher Elevator Company.

WARRANTY EXCHANGE – PACKAGES & COMPONENTS

To begin the warranty exchange process, the Purchaser should contact our inventory department to request trouble shooting assistance and to obtain a Return Material Authorization (RMA) number. If Schumacher Elevator Company determines that an exchange is necessary, the replacement product will be sent via the appropriate shipping method along with the RMA number.

The Purchaser will be responsible for the cost of shipping the product in question, freight prepaid, with the RMA number included, to our factory for evaluation within thirty (30) days of the RMA being issued.

If the product in question is not shipped to Schumacher Elevator within 30 days of Purchaser's receipt of the replacement product, the Purchaser will be invoiced the full purchase price of the replacement product. No credit will be offered if the product in question is not returned within 30 days.

Upon receipt of the product in question, Schumacher Elevator will perform a full evaluation to determine whether the product has any defects in material or workmanship not caused by exclusions to Schumacher Elevator Company's warranty. If the evaluation determines that there are no defects in material or workmanship or existing defects are the result of a warranty exclusion, the Purchaser will be invoiced the full purchase price of the replacement product.

When returning products to Schumacher Elevator Company, the Purchaser is encouraged to use a trackable shipping method. Schumacher Elevator Company is not responsible for products lost, stolen or damaged in the course of shipping the products to Schumacher Elevator Company.

Staff Summary

04/03/2023

Agenda Item # F.2.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Tyler Gibbins Staff Accountant

SUBJECT: **Public Hearing for the Plans, Specifications, Form of Contract, and Engineer's Estimate for the Runway 17/35 Edge Lighting Project**

BACKGROUND: The existing lighting on runway 17/35 were installed 30+ years ago and are in need of replacement. The existing lighting system is experiencing outages due to old lights and wire. The parts for the lights are also becoming more expensive and harder to find.

The new installation will include replacing all the edge lights along runway 17/35 with two alternates of lighting around the existing wind cone and rotating beacon.

The engineer's estimate for this project is \$401,100.

FISCAL IMPACT: There is no fiscal impact for holding the public hearing.

RECOMMENDATION: Open Public Hearing
Accept Oral or Written Comments
Close Public Hearing

ATTACHMENTS:

[Notice of Public Hearing SLB-Runway 17-35 Edge Lighting.pdf](#)
[Project Plans](#)
[Project Specifications](#)
[Engineer's Estimate](#)

SECTION 00105 - NOTICE OF PUBLIC HEARING

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

Public Hearing on Proposed Contract Documents and Estimated Costs for Repair or Improvement. A public hearing will be held by the City of Storm Lake on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 5:00 P.M CDST on April 3, 2023, at City Hall, 620 Erie Street, Storm Lake, Iowa 50588.

PROJECT DESCRIPTION: Runway 17/35 Edge Lighting

At said hearing, the City Council will consider the plans, specifications, proposed form of contract, and estimated total cost for the project, the same now being on file in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said City Council will also receive and consider any objections to said plans, specifications, estimate of cost, and form of contract made by any interested party.

GOVERNING SPECIFICATIONS

FEDERAL AVIATION ADMINISTRATION AC 150/5370-10H, DATED DECEMBER 21, 2018 "STANDARDS FOR SPECIFYING CONSTRUCTION ON AIRPORTS" AND ALL SUPPLEMENTS.

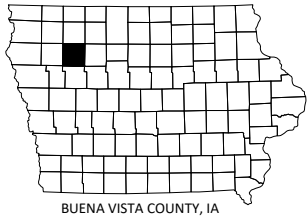
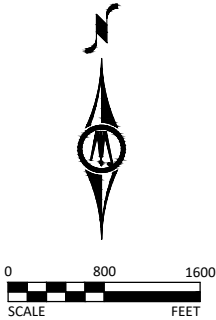
ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

NOTE:EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL, 1-800-292-8989.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



MAP OF THE CITY OF STORM LAKE
BUENA VISTA COUNTY, IA



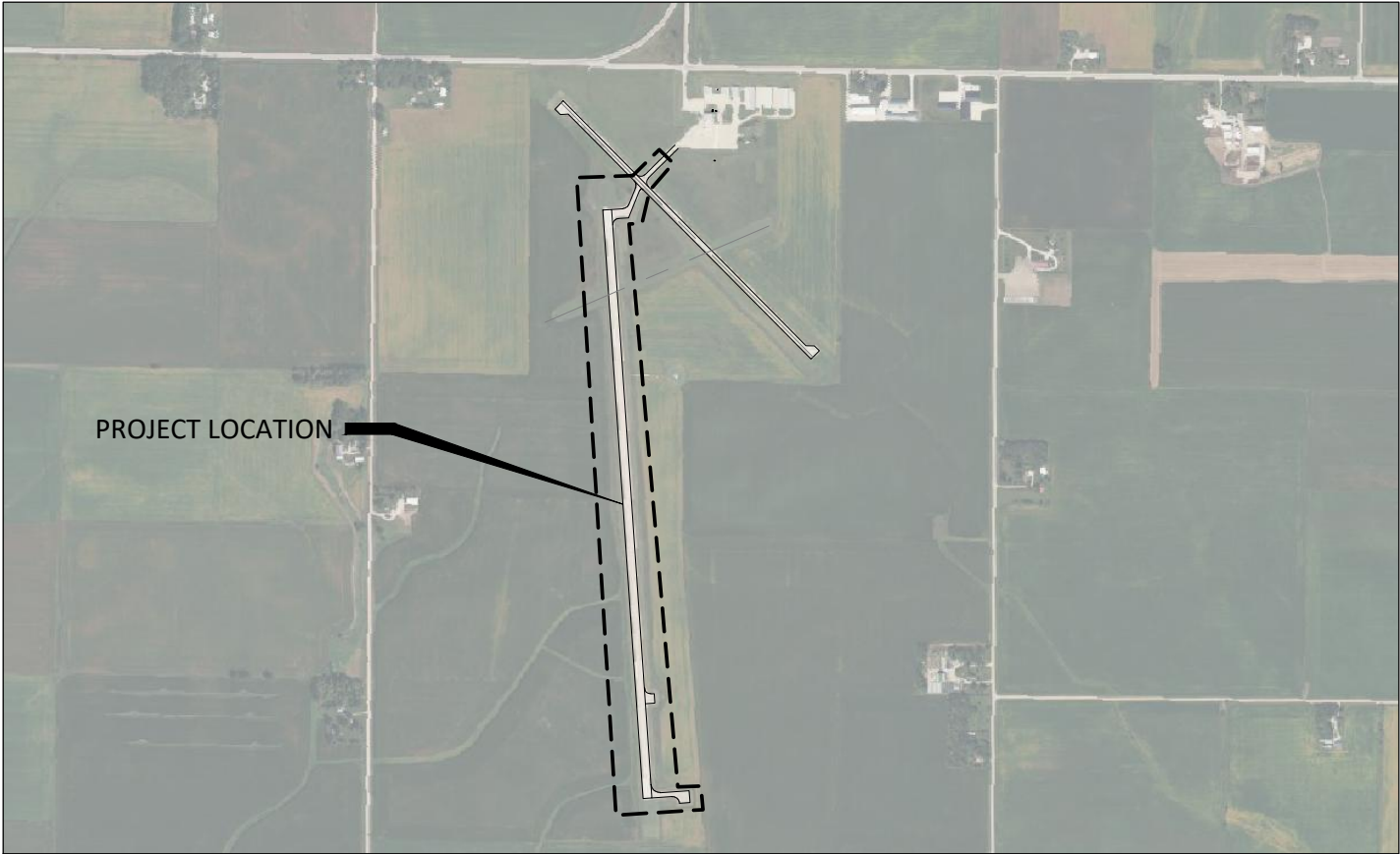
BUENA VISTA COUNTY, IA

STORM LAKE MUNICIPAL AIRPORT
CONSTRUCTION PLANS FOR
INSTALL RUNWAY 17/35 EDGE LIGHTING

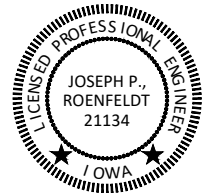
STORM LAKE, IOWA
BMI PROJECT #: 0T5.128791
AIP NO. 3-19-0088-018-2023

MARCH 2023

AIRPORT REFERENCE CODE B-II
RUNWAY 17/35 (RDC) B-II-5000
RUNWAY 13/31 (RDC) B-I-VISUAL
RUNWAY 6/24 (RDC) A-I-VISUAL
TAXIWAY DESIGN GROUP (TDG) 2A



SHEET NUMBER	SHEET TITLE
A.01 - A.02	TITLE SHEET, LEGEND, SYMBOLS & GENERAL INFORMATION
B.01 - B.03	ELECTRICAL DETAILS
C.01 - C.02	QUANTITIES & ESTIMATE REFERENCE INFORMATION
E.01 - E.09	ELECTRICAL PLAN
E.10	ELECTRICAL PLAN - ALTERNATE A & B
G.01	STATIONING INFORMATION
J.01 - J.02	CONSTRUCTION SAFETY & PHASING PLAN
P.01 - P.05	LIGHTING LAYOUT
R.01 - R.03	REMOVALS & EXISTING CONDITIONS



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

JOSEPH P. ROENFELDT, P.E.

LICENSE NUMBER: 21134 DATE: March 1, 2023

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023

PAGES OR SHEETS COVERED BY THIS SEAL:

ALL SHEETS



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
0T5.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

TITLE SHEET

SHEET

A.01

52

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		SATELLITE DISH
	AIR CONDITION UNIT		SIGN TRAFFIC
	ANTENNA		SIGNAL CONTROL CABINET
	AUTO SPRINKLER CONNECTION		SOIL BORING
	BARRICADE PERMANENT		SIREN
	BASKETBALL POST		TELEPHONE BOOTH
	BENCH		TILE INLET
	BIRD FEEDER		TILE OUTLET
	BOLLARD		TILE RISER
	BUSH		TRANSFORMER-ELECTRIC
	CATCH BASIN RECTANGULAR CASTING		TREE-CONIFEROUS
	CATCH BASIN CIRCULAR CASTING		TREE-DEAD
	CURB STOP		TREE-DECIDUOUS
	CLEAN OUT		TREE STUMP
	CULVERT END		TRAFFIC ARM BARRIER
	DRINKING FOUNTAIN		TRAFFIC SIGNAL
	DOWN SPOUT		TRASH CAN
	FILL PIPE		UTILITY MARKER
	FIRE HYDRANT		VALVE
	FLAG POLE		VALVE POST INDICATOR
	FLARED END / APRON		VALVE VAULT
	FUEL PUMP		VAULT
	GRILL		VENT PIPE
	GUY WIRE ANCHOR		WATER SPIGOT
	HANDHOLE		WELL
	HANDICAP SPACE		WETLAND DELINEATED MARKER
	IRRIGATION SPRINKLER HEAD		WETLAND
	IRRIGATION VALVE BOX		WET WELL
	LIFT STATION CONTROL PANEL		YARD HYDRANT
	LIFT STATION		
	LIGHT POLE		
	MAILBOX		
	MANHOLE-COMMUNICATION		
	MANHOLE-ELECTRIC		
	MANHOLE-GAS		
	MANHOLE-HEAT		
	MANHOLE-SANITARY SEWER		
	MANHOLE-STORM SEWER		
	MANHOLE-UTILITY		
	MANHOLE-WATER		
	METER		
	ORDER MICROPHONE		
	PARKING METER		
	PAVEMENT MARKING		
	PEDESTAL-COMMUNICATION		
	PEDESTAL-ELECTRIC		
	PEDESTRIAN PUSH BUTTON		
	PICNIC TABLE		
	POLE-UTILITY		
	POST		
	RAILROAD SIGNAL POLE		
	REGULATION STATION GAS		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS
	LIGHT POLE

SURVEY SYMBOLS

	BENCHMARK LOCATION		CAST IRON MONUMENT
	CONTROL POINT		STONE MONUMENT
	MONUMENT FOUND		

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING
	TRENCHLESS PIPE (PLAN VIEW)
	TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROJECT LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL - 1-800-292-8989

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL OTHER THAN D:

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

LEVEL D - INFORMATION COMES SOLELY FROM EXISTING UTILITY RECORDS.

LEVEL C - SURVEYING ABOVE GROUND UTILITY FACILITIES, SUCH AS MANHOLES, VALVE BOXES, ETC; AND CORRELATING THIS INFORMATION WITH EXISTING UTILITY RECORDS.

LEVEL B - THE USE OF SURFACE GEOPHYSICAL TECHNIQUES TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF UNDERGROUND UTILITIES.

LEVEL A - THE USE OF NONDESTRUCTIVE DIGGING EQUIPMENT AT HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	RT	RIGHT
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SAN	SANITARY SEWER
ALT	ALTERNATE	HH	HANDHOLE	SCH	SCHEDULE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MH	MANHOLE	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VCP	VITRIFIED CLAY PIPE
C.O.	CHANGE ORDER	MPW	MUSCATINE POWER & WATER	VERT	VERTICAL
COMM	COMMUNICATION	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
CSP	CORRUGATED STEEL PIPE	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CLVT	CULVERT	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
DIA	DIAMETER	NTS	NOT TO SCALE	WM	WATERMAIN
DIP	DUCTILE IRON PIPE	NWL	NORMAL WATER LEVEL	WS	WATER SERVICE
DWY	DRIVEWAY	OHW	ORDINARY HIGH WATER LEVEL		
E	EXTERNAL CURVE DISTANCE	PC	POINT OF CURVE		
ESMT	EASEMENT	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEV/EL	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	CY	CUBIC YARD
ER	END RADIUS	PERM	PERMANENT	EA	EACH
EX	EXISTING	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
FES	FLARED END SECTION	PL	PROPERTY LINE	LB	POUND
F-F	FACE TO FACE	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
FF	FINISHED FLOOR	PT	POINT OF TANGENT	LS	LUMP SUM
F&I	FURNISH AND INSTALL	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
FM	FORCEMAIN	PVMT	PAVEMENT	SF	SQUARE FEET
FO	FIBER OPTIC	R	RADIUS	SV	STOCKPILE VOLUME
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE	SY	SQUARE YARD
GRAN	GRANULAR	RET	RETAINING		
GRAV	GRAVEL	R/W	RIGHT-OF-WAY		
GU	GUTTER	RSC	RIGID STEEL CONDUIT		



BOLTON & MENK

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT

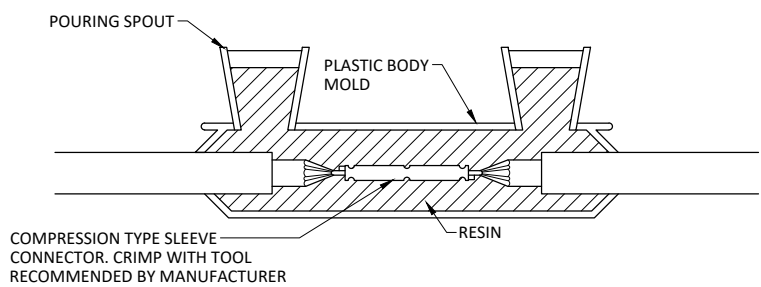
INSTALL RUNWAY 17/35 EDGE LIGHTING

LEGEND, SYMBOL & GENERAL INFORMATION

SHEET

A.02

53

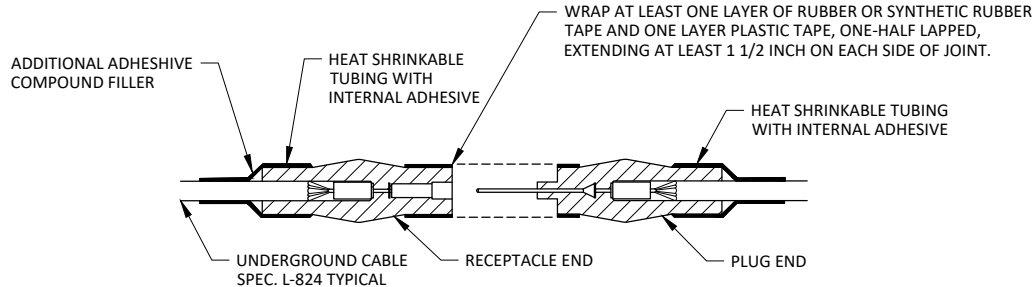


NOTE:
CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.

FOR SPLICES IN HOMERUNS AND EXTENSIONS TO EXISTING CABLE ONLY

1 TYPE A CONNECTION

NOT TO SCALE

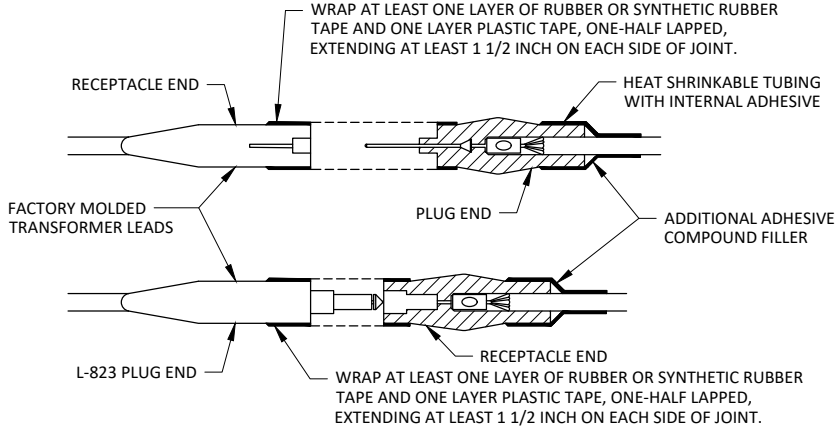


NOTE:
CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.

FOR SPLICED FOR USE AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT

2 TYPE B CONNECTION

NOT TO SCALE

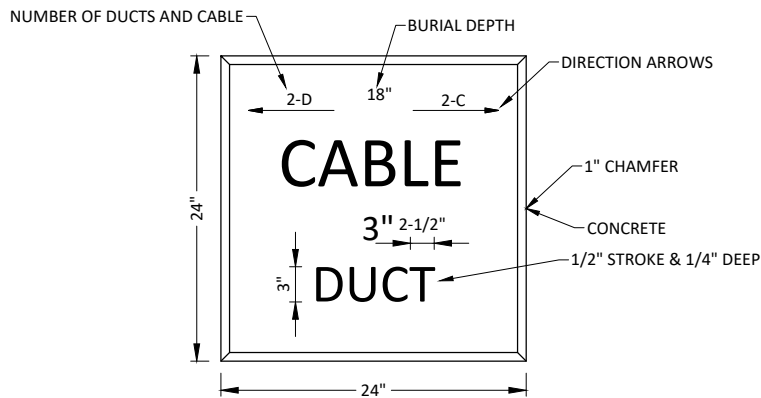


NOTE:
CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.

FOR SPLICES AT TAXIWAY/RUNWAY LIGHTS

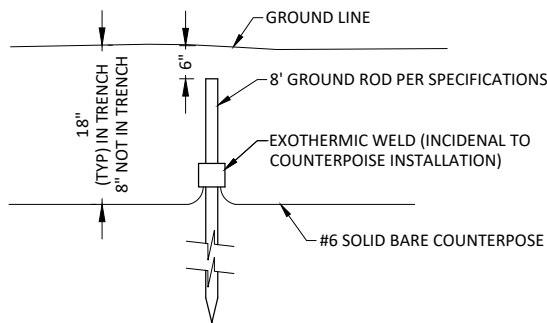
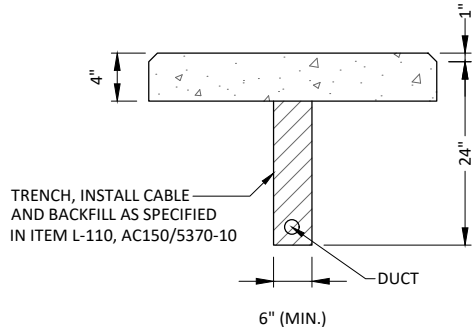
3 TYPE C CONNECTION

NOT TO SCALE



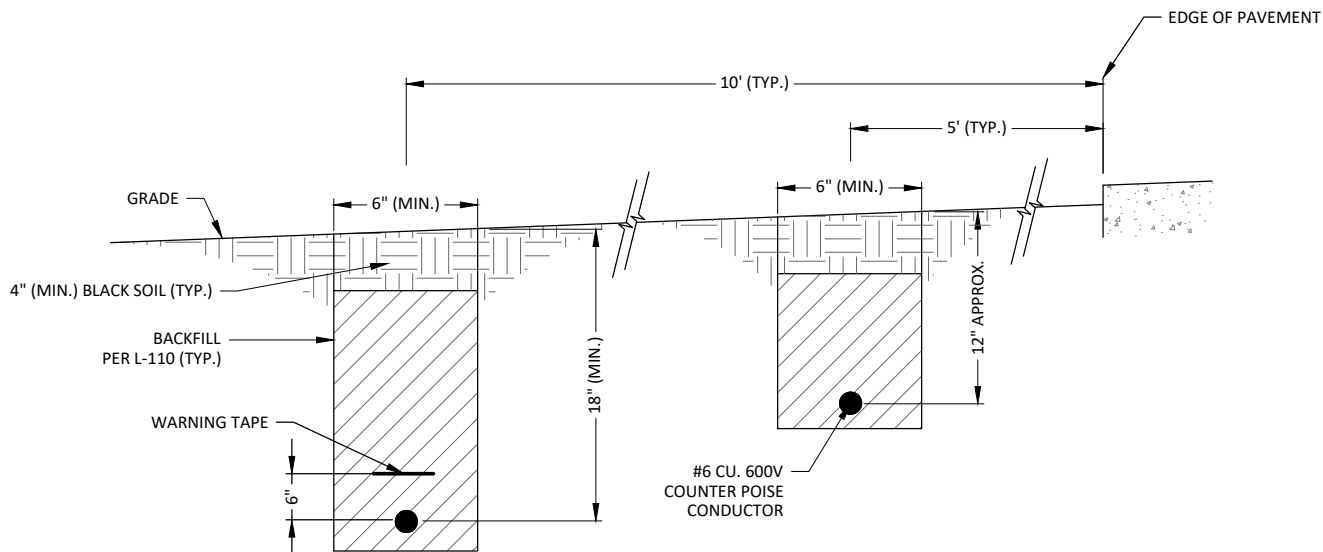
4 CONCRETE MARKER DETAIL

NOT TO SCALE



5 GROUND ROD DETAIL

NOT TO SCALE



6 TYPICAL TRENCH DETAIL

NOT TO SCALE



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

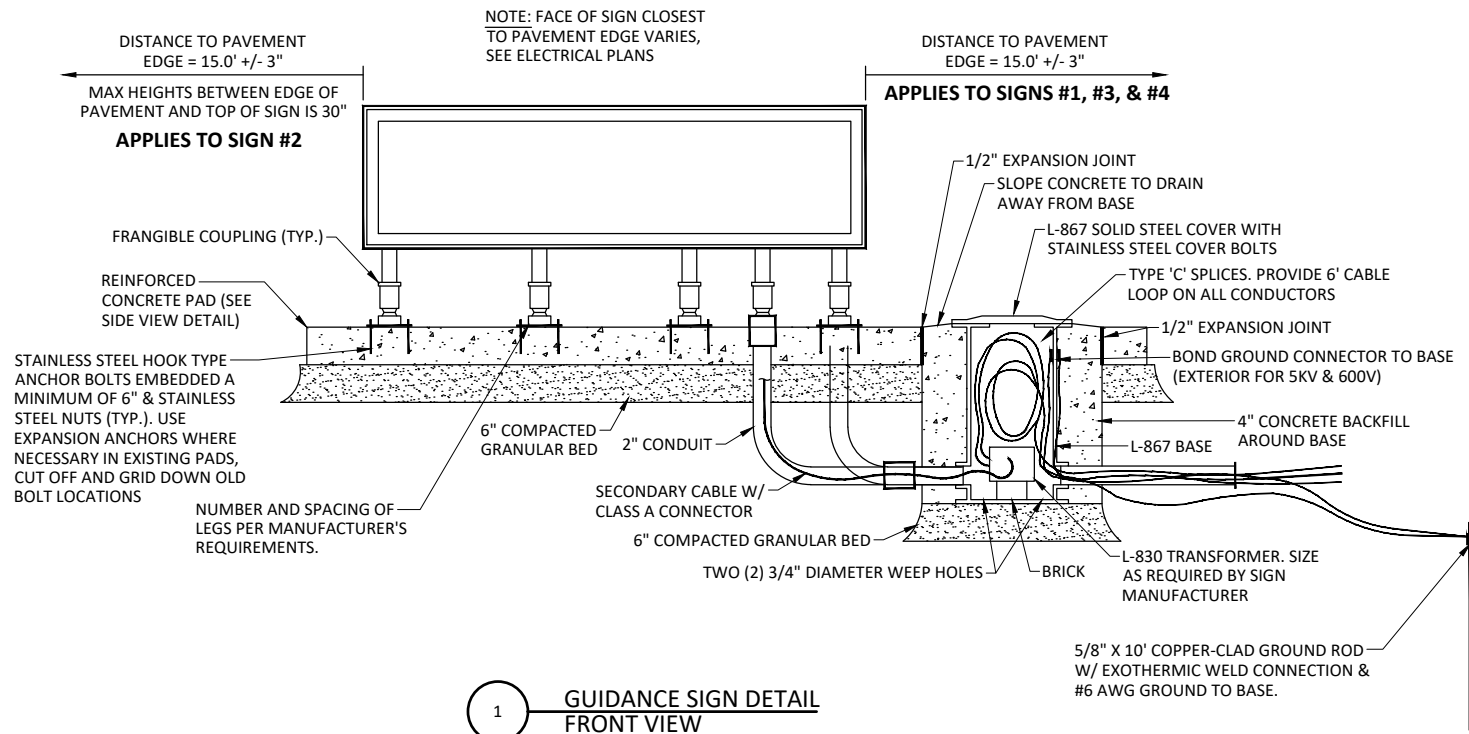
STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

ELECTRICAL DETAILS

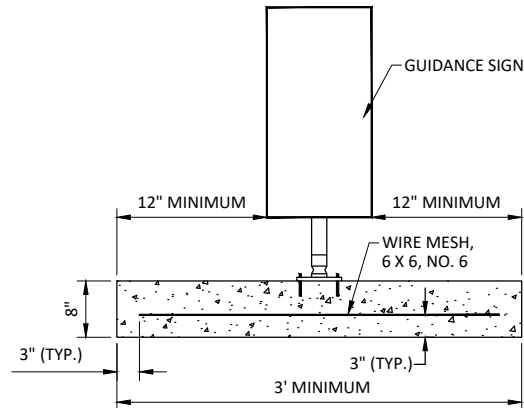
SHEET

B.01

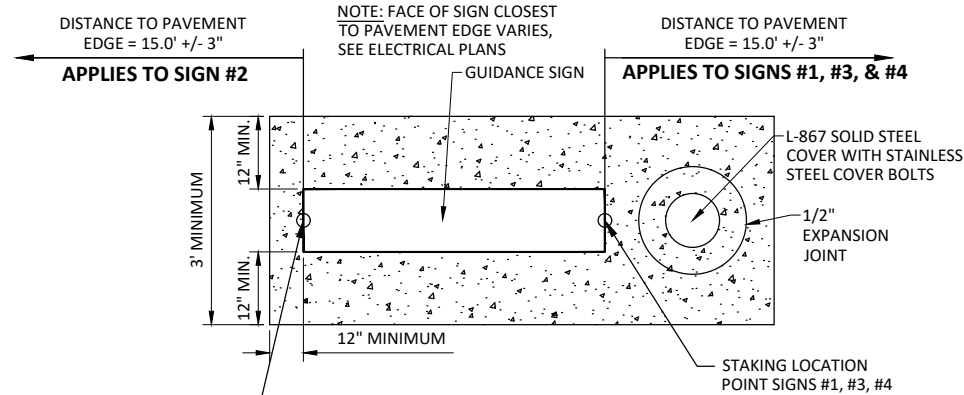
54



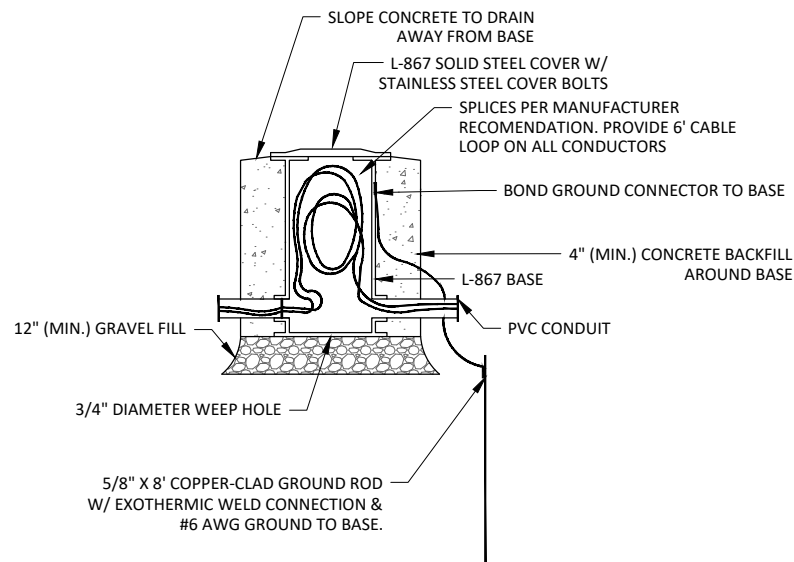
1 GUIDANCE SIGN DETAIL FRONT VIEW
NOT TO SCALE



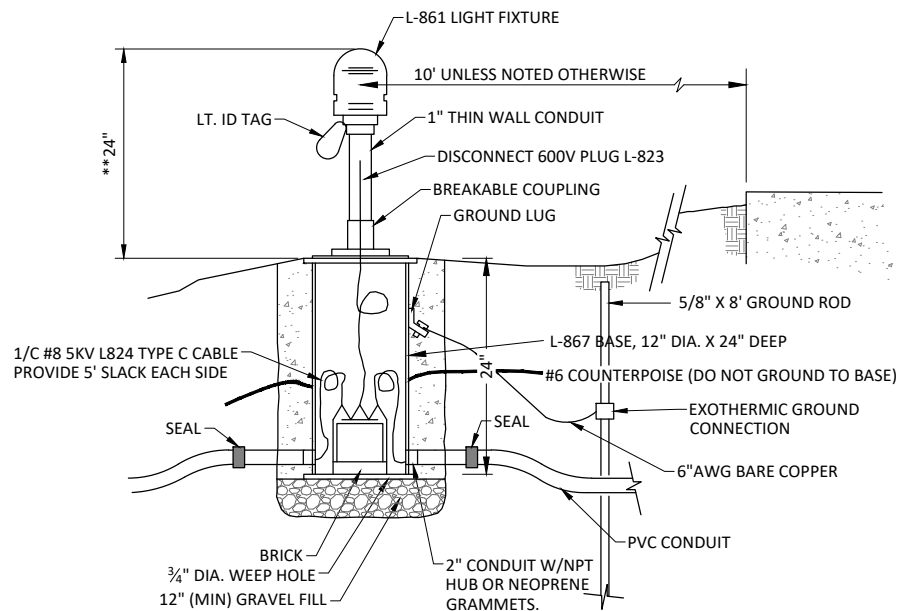
2 GUIDANCE SIGN DETAIL SIDE VIEW
NOT TO SCALE



3 GUIDANCE SIGN DETAIL PLAN VIEW
NOT TO SCALE



5 HANDHOLE SIZE "B" OR "D"
NOT TO SCALE



MIRL/MITL NOTE:
LIGHT I.D. TAG TO BE NON-CORROSIVE WITH ENGRAVED PERMANENT NUMBERS. LETTERS TO BE 1 1/2" MIN. HEIGHT. NUMBERING TO BE DETERMINED BY ENGINEER AND OWNER. ATTACH TAG TO LT. WITH NON-CORROSIVE METAL WIRE TIE, SO I.D. CAN BE READ FROM PAVEMENT.

EACH LIGHT SHALL BE GROUNDED BY THE FOLLOWING METHOD. METHOD (SHOWN) IS CONNECT EACH BASE TO A 5/8" X 8' (MIN.) GROUND ROD INSTALLED NEXT TO THE BASE WITH #6 AWG BARE COPPER JUMPER. GROUNDING SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE LIGHTS.

**TOP OF LIGHT SHALL BE 24" ABOVE ADJACENT EDGE OF PAVEMENT, BUT NOT MORE THAN 30" ABOVE BASE COVER.

4 TYPICAL BASE MOUNTED FIXTURE DETAIL
NOT TO SCALE

SIGN LEGEND							
SIGN #	SIGN SIZE	FACE ON PRIMARY SIDE	FACE ON SECONDARY SIDE	COLOR (SEE SIGN ARRAY TABLE)			
				PRIMARY SIDE		SECONDARY SIDE	
				LEGEND 1	LEGEND 2	LEGEND 3	LEGEND 4
1	1	C 31-13	RAMP↑ C	Y,B	W,R	B,Y	Y,B
2	1	C 17	RAMP↑ C	Y,B	W,R	B,Y	Y,B
3	1	C 13-31	17↗ C	Y,B	W,R	B,Y	Y,B
4	1	A1 35	A1↑A1	Y,B	W,R	B,Y	Y,B

SIGN ARRAY

PRIMARY SIDE

LEGEND 1 LEGEND 2

SECONDARY SIDE

LEGEND 1 LEGEND 2

COLOR LEGEND

W,R	MANDATORY (L-858R)	WHITE LEGEND WITH A BLACK TEXT OUTLINE, ON RED BACKING
B,Y	DIRECTIONAL (L-858Y)	BLACK LEGEND ON YELLOW BACKING
Y,B	LOCATION (L-858L)	YELLOW LEGEND WITH YELLOW TEXT OUTLINE ON BLACK BACKING



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

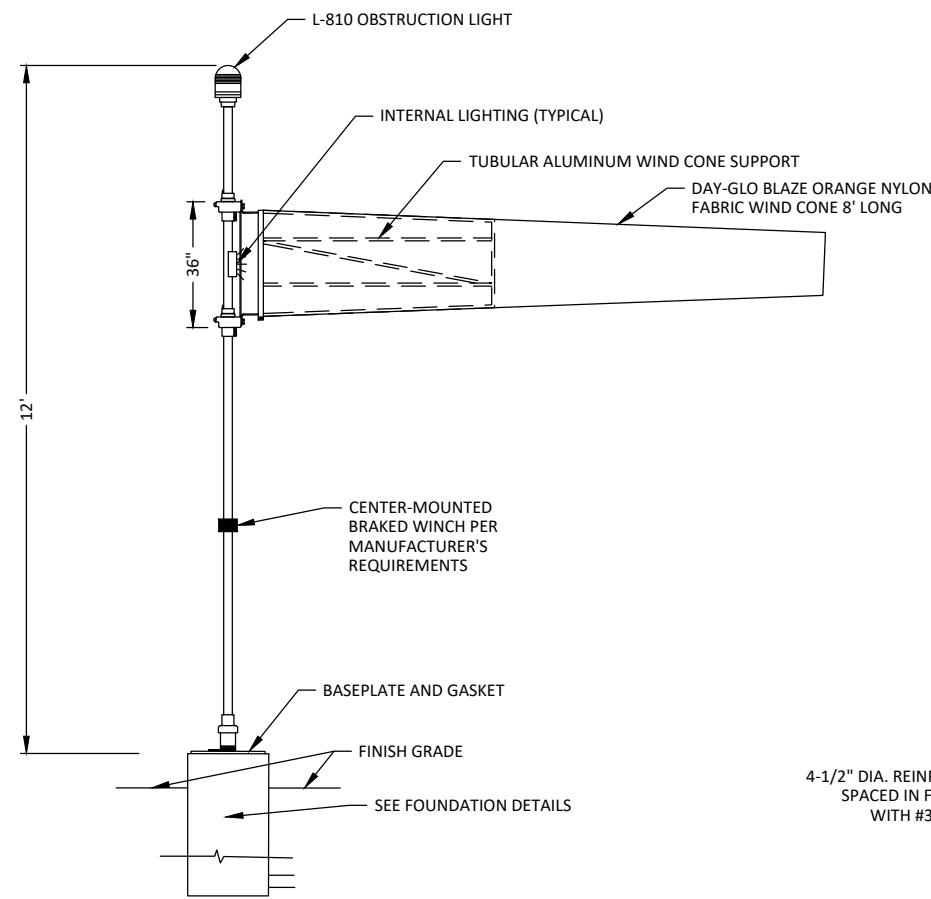
STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

ELECTRICAL DETAILS

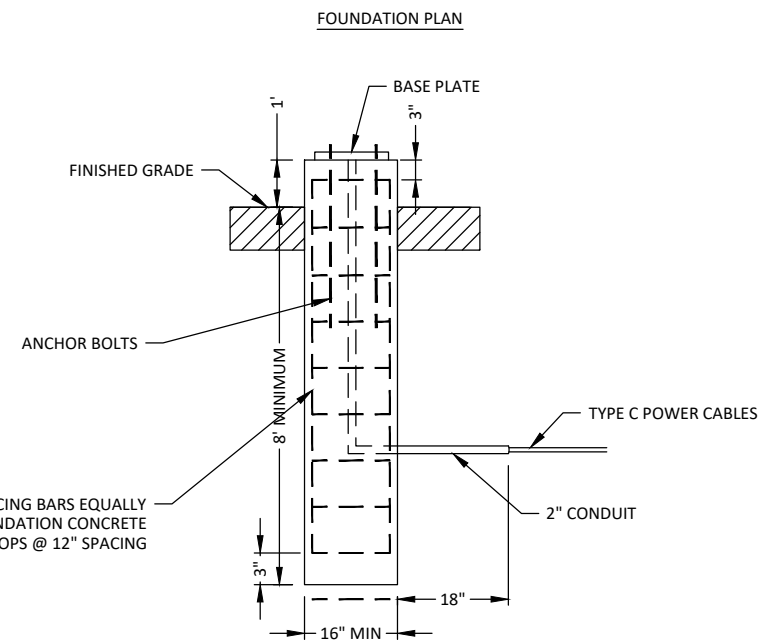
SHEET

B.02

55



STANDARD ILLUMINATED WIND CONE ASSEMBLY



FOUNDATION PROFILE

1 L-807 WIND CONE ASSEMBLY
NOT TO SCALE

© Bolton & Menk, Inc. 2023. All Rights Reserved. 1519 BALTIMORE DRIVE AMES, IOWA 50010 3/7/2023 2:27:16 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

ELECTRICAL DETAILS

SHEET

B.03

56

© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\3046\03128791\CA\CA\CA\128791 - C01.dwg 3/7/2023 2:27:22 PM

ESTIMATED PROJECT QUANTITIES (BASE BID)					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
1	C-105	MOBILIZATION	LS	1	
2	C-105	TRAFFIC CONTROL	LS	1	
3	C-105	CONSTRUCTION SURVEY	LS	1	
4	T-901	SEEDING FERTILIZING AND MULCHING	LS	1	
5	L-108	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15000	
6	L-108	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	LF	11500	
7	L-110	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12500	
8	L-110	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	
9	L-110	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	
10	L-115	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	
11	L-125	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	
12	L-125	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	
13	L-125	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	
14	L-125	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	
15	L-125	SPARE PARTS, AS LISTED	LS	1	
16	L-125	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	

ESTIMATED PROJECT QUANTITIES (ALTERNATE A)					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
A1	L-107	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	
A2	L-108	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	
A3	L-108	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	
A4	L-110	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	
A5	L-115	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	
A6	L-125	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	

ESTIMATED PROJECT QUANTITIES (ALTERNATE B)					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
B1	L-101	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	
B2	L-125	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

STORM LAKE MUNICIPAL AIRPORT

INSTALL RUNWAY 17/35 EDGE LIGHTING

QUANTITIES & ESTIMATE REFERENCE INFORMATION

SHEET

C.01

57

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3046\013128791\04\05\0128791 - 001.dwg 3/7/2023 2:29:48 PM

ESTIMATE REFERENCE INFORMATION (BASE BID)		
ITEM NO.	ITEM CODE	DESCRIPTION
1	C-105	<u>MOBILIZATION</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION C-105 AND THE PLANS. A SAFETY COMPLIANCE DOCUMENT (SPCD) SHALL BE WRITTEN IN ACCORDANCE WITH AC 150/5370-2G SECTION 4.2.2. BASIS OF PAYMENT SHALL BE LUMP SUM AND SHALL INCLUDE ALL PREPARATORY WORK COSTS INCURRED INCLUDING BUT NOT LIMITED TO COSTS OF BONDS, INSURANCE, AND OTHER MISCELLANEOUS ITEMS THAT DO NOT HAVE THEIR OWN SEPARATE BID ITEMS BUT ARE REQUIRED TO COMPLETE THE PROJECT, SHALL BE INCLUDED IN THIS BID ITEM. CONSTRUCTION ENTRANCES SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM. METHOD OF PAYMENT SHALL BE A LUMP SUM.
2	C-105	<u>TRAFFIC CONTROL</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION C-105 AND THE PLANS. BASIS OF PAYMENT SHALL BE LUMP SUM AND SHALL INCLUDE ALL TRAFFIC CONTROL NECESSARY PER THE PLANS AND CSPP. METHOD OF PAYMENT SHALL BE A LUMP SUM.
3	C-105	<u>CONSTRUCTION SURVEY</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION C-105 AND THE PLANS. THIS ITEM SHALL INCLUDE ALL SURVEY NECESSARY FOR THE LAYOUT AND STAKING OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE FIELD NOTES AND VERIFICATION CHECKS AS PROVIDED IN THE FAA GENERAL PROVISION SECTIONS AND SHALL PROVIDE ADDITIONAL SURVEYING REQUIREMENTS THAT ARE ALSO LISTED IN THE REFERENCE SPECIFICATIONS FOR THE PROJECT. BASIS OF PAYMENT SHALL BE LUMP SUM.
4	T-901	<u>SEEDING FERTILIZING AND MULCHING</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION T-901 AND THE PLANS. THIS ITEM SHALL PROVIDE FOR SEEDBED PREPARATION, SEEDING, FERTILIZING AND MULCHING OF ALL AREAS DISTURBED BY CONSTRUCTION. THIS BID ITEM WILL BE ACCEPTED WHEN A STAND OF GRASS HAS BEEN ESTABLISHED IN ACCORDANCE WITH REFERENCE SPECIFICATION SECTION T-901. BASIS OF PAYMENT SHALL BE A LUMP SUM. ANY SEEDING CORRECTION, RESEEDING, WEEDY AREAS, ERODED AREAS, BARE SPOTS AND AFFECTED AREAS BE THE REMEDIED AT THE EXPENSE OF THE CONTRACTOR.
5	L-108	<u>NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. CABLE MARKERS, DUCT MARKERS, VERTICAL LENGTHS OF WIRE, AND SLACK SHALL BE CONSIDERED INCIDENTAL. VOLTAGESENSE CABLE, CONNECTIONS AND ANY OTHER MATERIALS NEEDED FOR REILS SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
6	L-108	<u>NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
7	L-110	<u>NON-ENCASED 2" PVC/HDPE CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
8	L-110	<u>2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. ANY ADDITIONAL TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
9	L-110	<u>2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. ANY ADDITIONAL TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
10	L-115	<u>L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-115 AND THE PLANS. HANDHOLES SHALL INCLUDE 3/4" DRAIN NIPPLE, EXTERNAL GROUNDING LUG, PROVISIONS FOR CONDUIT PENETRATIONS AND SHALL HAVE A 3/8" MINIMUM THICK LID. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. SIZE B HANDHOLES REQUIRED NEAR GUIDANCE SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE GUIDANCE SIGN BID ITEM. BASIS OF PAYMENT SHALL BE PER EACH.

11	L-125	<u>L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
12	L-125	<u>L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
13	L-125	<u>L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
14	L-125	<u>L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. HANDHOLE LOCATED NEAR EDGE OF SIGN SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM. BASIS OF PAYMENT SHALL BE PER EACH.
15	L-125	<u>SPARE PARTS, AS LISTED</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER EACH.
16	L-125	<u>DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ALL FOUNDATION BASES, HAND HOLES, CONDUCTORS,AND RELATED MATERIALS FROM THE EXISTING RUNWAY AND TAXIWAY EDGE LIGHTING SYSTEM SHALL BE REMOVED AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ALL EXISTING EDGE LIGHTS SHALL BE SALVAGED TO THE AIRPORT. IF AIRPORT DOES NOT WANT THE ITEMS THEY SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY. BASIS OF PAYMENT SHALL BE LUMP SUM.

ESTIMATE REFERENCE INFORMATION (ALTERNATE A)		
ITEM NO.	ITEM CODE	DESCRIPTION
A1	L-107	<u>L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-107 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER EACH WIND CONE INSTALLED. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE A LUMP SUM.
A2	L-108	<u>NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. CABLE MARKERS, DUCT MARKERS, VERTICAL LENGTHS OF WIRE, AND SLACK SHALL BE CONSIDERED INCIDENTAL. WIRE SIZE ASSUMED FOR BIDDING. IF AFTER FIELD INVESTIGATION, WIRE SIZE IS LARGER, CONTRACTOR SHALL UPGRADE WIRE SIZE TO MATCH EXISTING. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
A3	L-108	<u>NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. CABLE MARKERS, DUCT MARKERS, VERTICAL LENGTHS OF WIRE, AND SLACK SHALL BE CONSIDERED INCIDENTAL. WIRE SIZE ASSUMED FOR BIDDING. IF AFTER FIELD INVESTIGATION, WIRE SIZE IS LARGER, CONTRACTOR SHALL UPGRADE WIRE SIZE TO MATCH EXISTING. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
A4	L-110	<u>NON-ENCASED 2" PVC/HDPE CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
A5	L-115	<u>L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-115 AND THE PLANS. HANDHOLES SHALL INCLUDE 3/4" DRAIN NIPPLE, EXTERNAL GROUNDING LUG, INTERNAL GROUNDING LUG, PROVISIONS FOR CONDUIT PENETRATIONS AND SHALL HAVE A 3/8" MINIMUM THICK LID. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
A6	L-125	<u>DEMOLITION AND REMOVAL OF EXISTING WINDCONE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ALL FOUNDATION BASES, HAND HOLES, CONDUCTORS, AND OTHER MATERIALS RELATED TO THE REMOVAL OF WIND CONE SHALL BE REMOVED SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY. BACKFILL DIRT SHALL BE CONSIDERED INCIDENTAL. BASIS OF PAYMENT SHALL BE LUMP SUM.

ESTIMATE REFERENCE INFORMATION (ALTERNATE B)		
ITEM NO.	ITEM CODE	DESCRIPTION
B1	L-101	<u>L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATIONS L-101 AND THE PLANS. REMOVAL OF EXISTING ROTATING BEACON HEAD SHALL BE PAID FOR UNDER ITS OWN BID ITEM. CONDUIT AND WIRE SHALL REMAIN IN PLACE TO BE RE-UTILIZED. CONTRACTOR SHALL REPLACE WITH NEW L-802 A LED ROTATING BEACON HEAD SUPPLIED BY OWNER. ANY ADDITIONAL WIRE, SUPPLIES OR CUSTOM FABRICATION NEEDED TO PRIVDE AN OPERATIONAL UNIT SHALL BE CONSIDERED INCIDENTAL. BASIS OF PAYMENT SHALL BE A LUMP SUM.
B2	L-125	<u>DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION SECTION L-125 AND THE PLANS. BEACON TOWER, BEACON FOUNDATION, BEACON CONDUITS, AND BEACON WIRING SHALL BE RE-UTILIZED IN THE CONSTRUCTION OF THE NEW ROTATING BEACON AND INCIDENTAL TO THE RESPECTIVE BID ITEM . ALL REMOVED MATERIALS SHALL BE SALVAGED TO THE AIRPORT. IF AIRPORT DOES NOT WANT THE ITEMS THEY SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY. BASIS OF PAYMENT SHALL BE LUMP SUM.



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

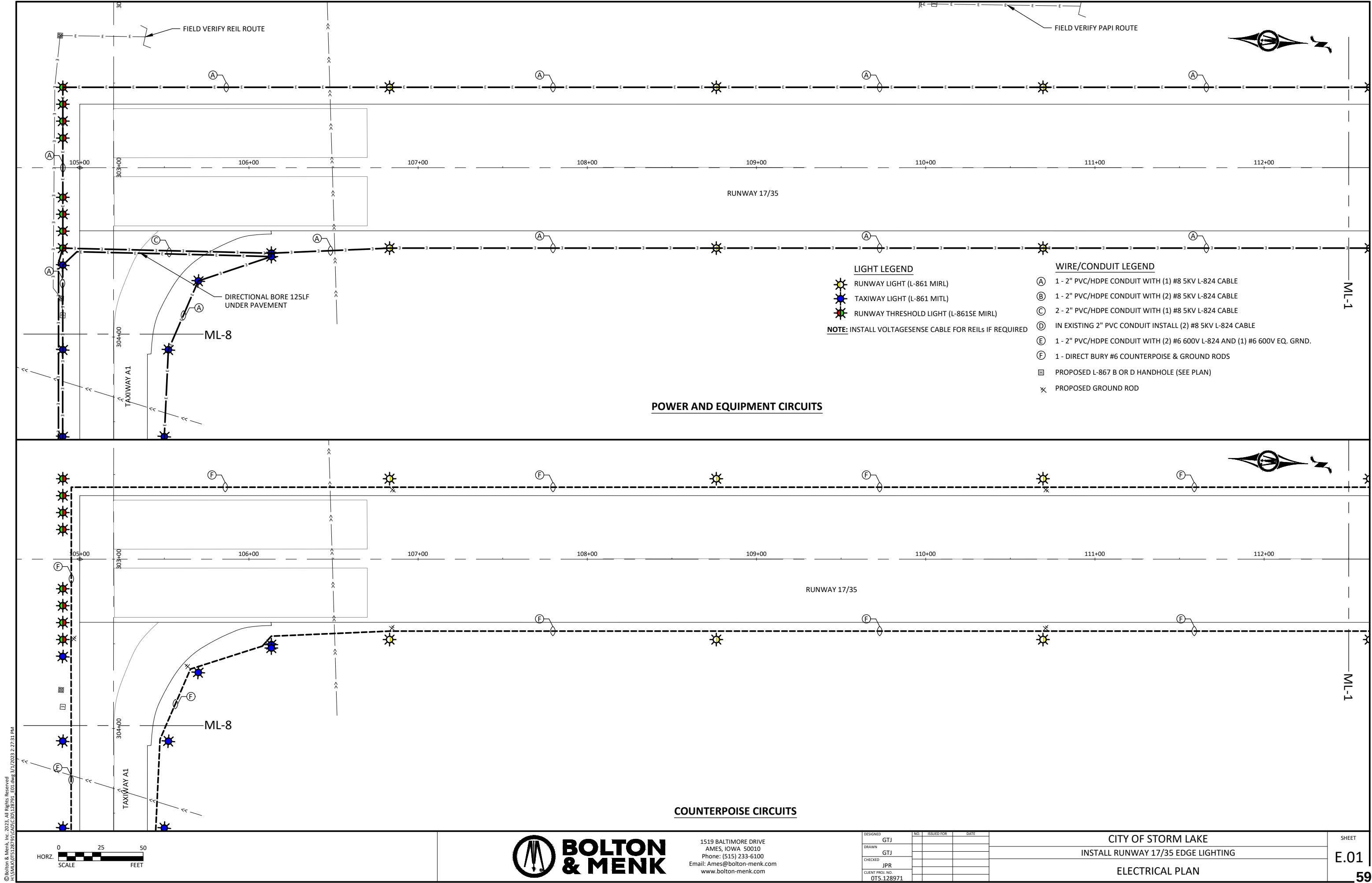
DESIGNED	JWH	REV	DESCRIPTION	DATE
DRAWN	JWH			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
QUANTITIES & ESTIMATE REFERENCE INFORMATION

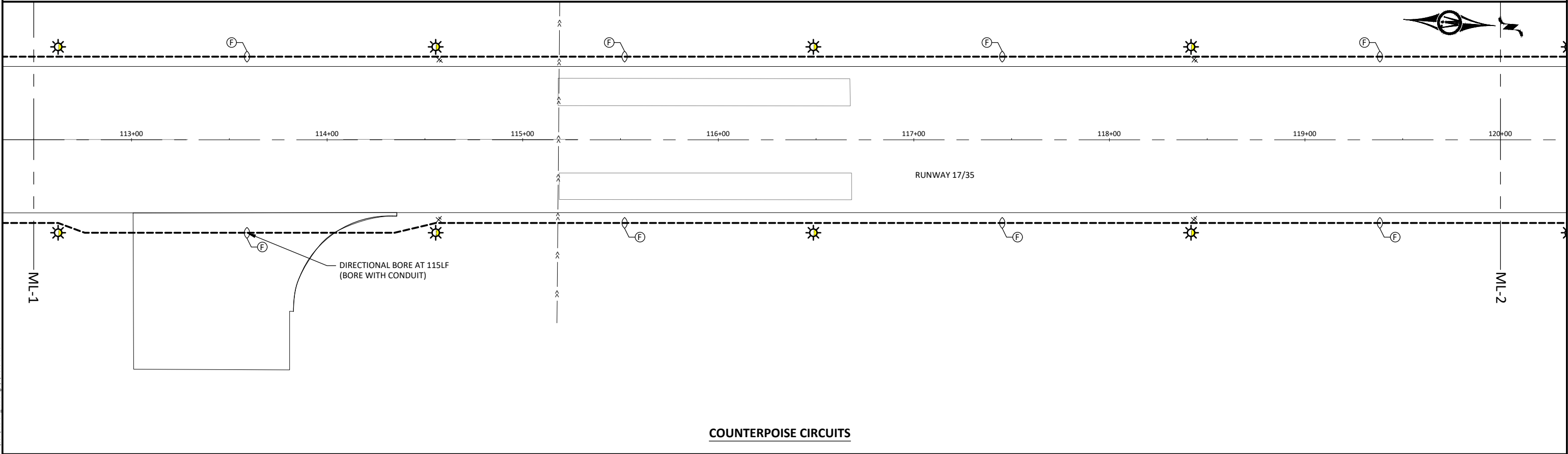
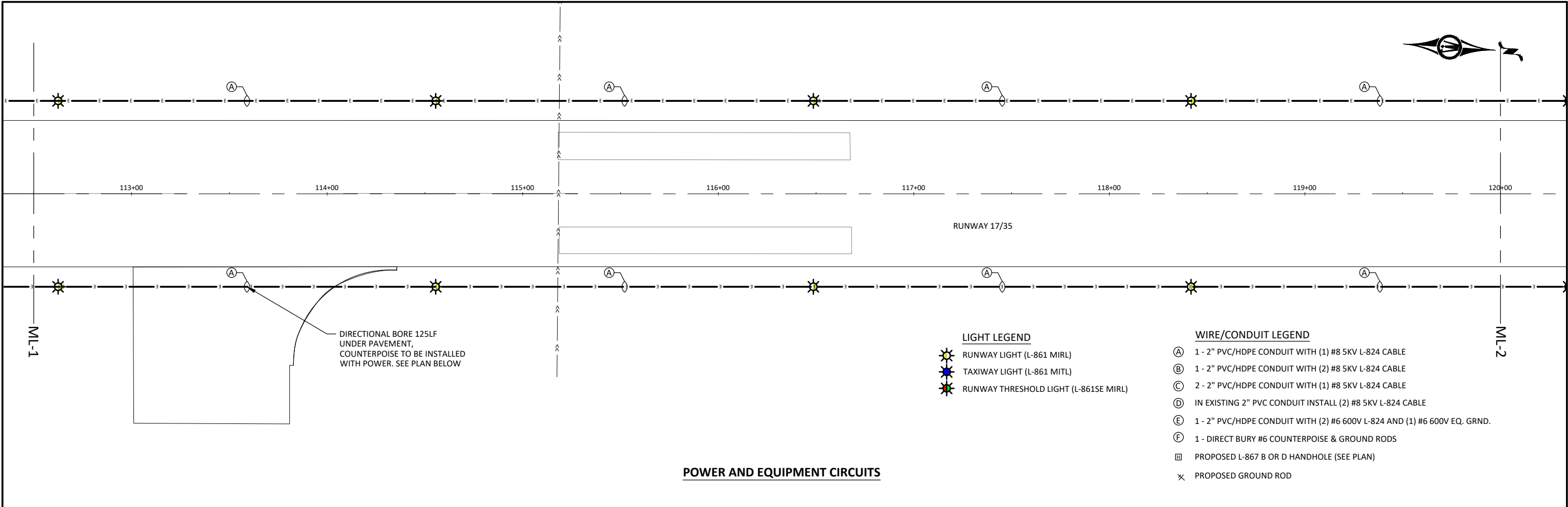
SHEET

C.02

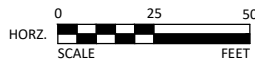
58



© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\31504\03128971\CA\CSA\128971_01.dwg 3/7/2023 2:27:31 PM



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3040\013128971\CA\CA\CA\128971_01.dwg 3/7/2023 2:27:31 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

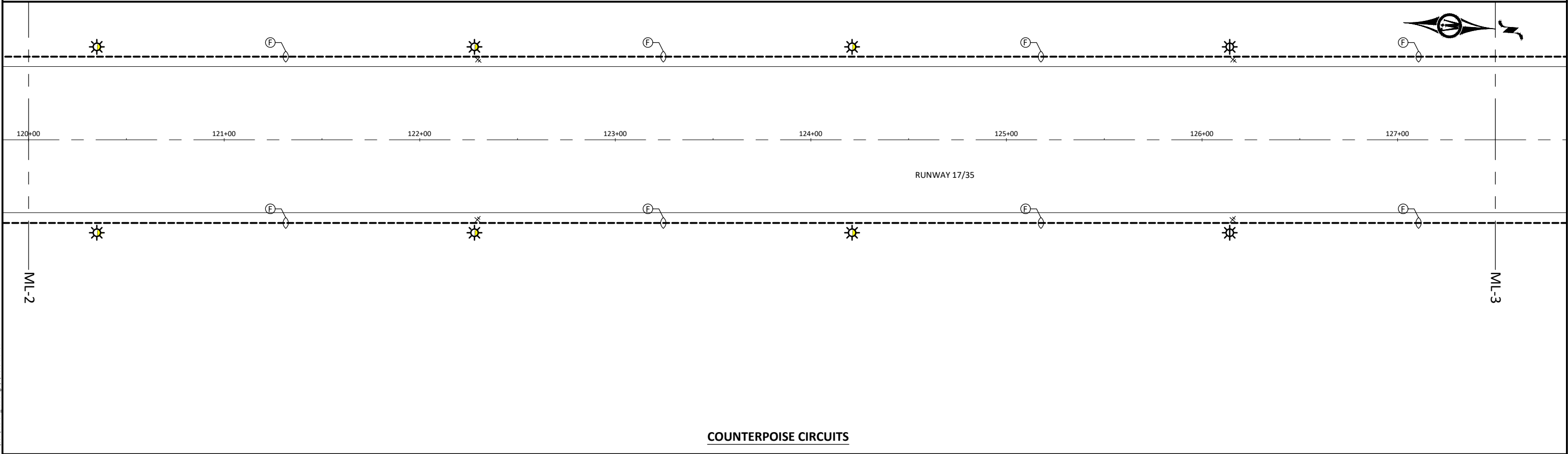
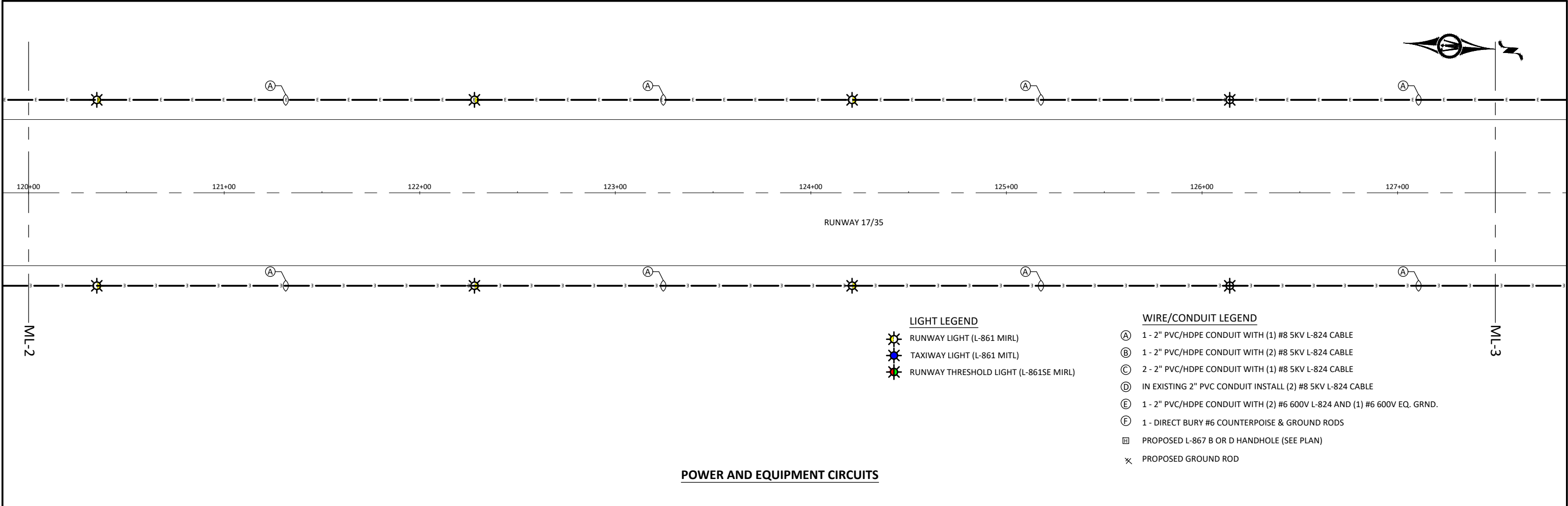
DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

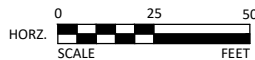
SHEET

E.02

60



© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\3046\03128971\CA\CA\CA\128971_01.dwg 3/7/2023 2:27:32 PM



BOLTON & MENK

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

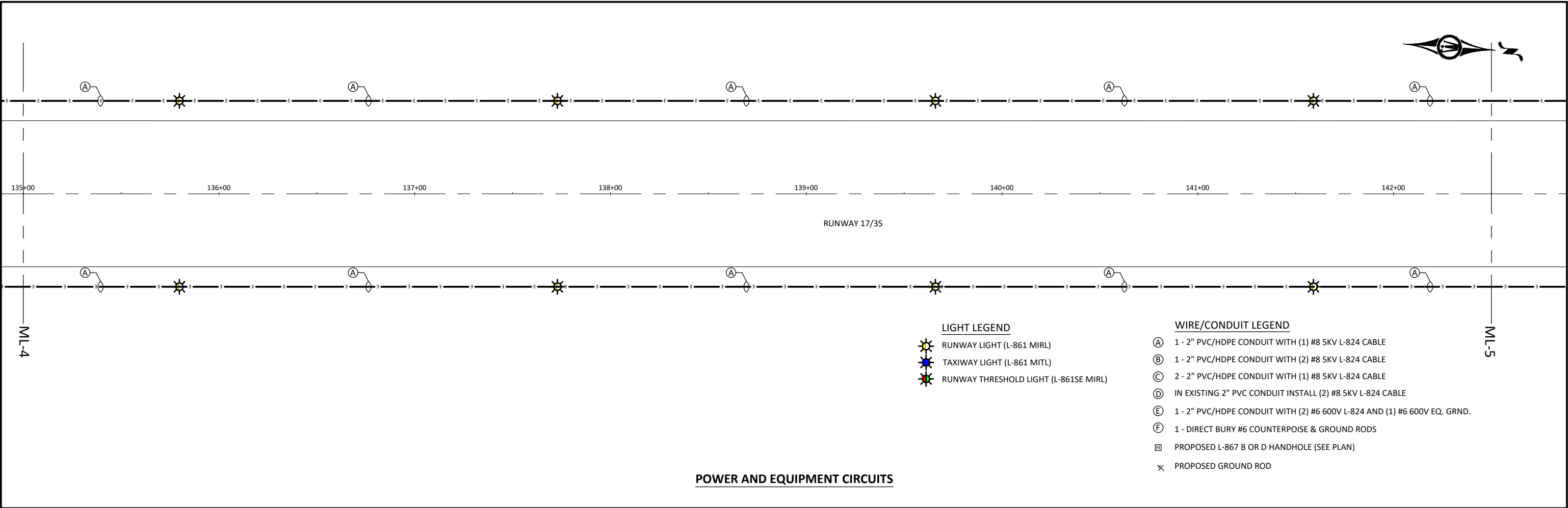
DESIGNED	GTJ	NO.	ISSUED FOR	DATE
DRAWN	GTJ			
CHECKED	JPR			
CLIENT PROJ. NO.	0T5.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.03

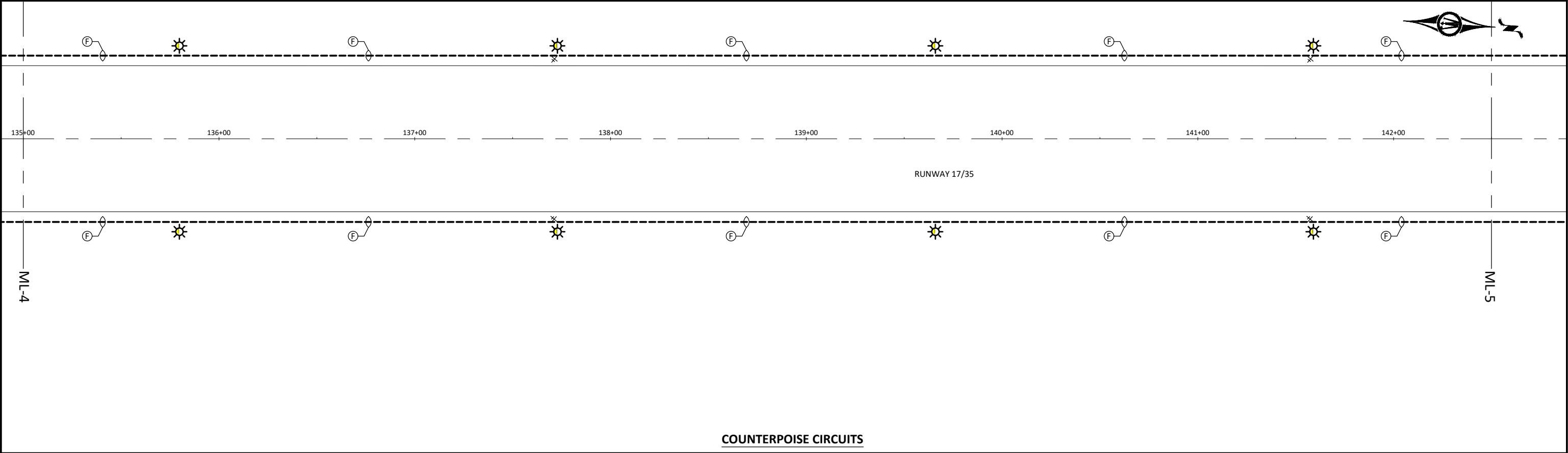
61



POWER AND EQUIPMENT CIRCUITS

- LIGHT LEGEND**
- RUNWAY LIGHT (L-861 MIRL)
 - TAXIWAY LIGHT (L-861 MITL)
 - RUNWAY THRESHOLD LIGHT (L-861SE MIRL)

- WIRE/CONDUIT LEGEND**
- 1 - 2" PVC/HDPE CONDUIT WITH (1) #8 5KV L-824 CABLE
 - 1 - 2" PVC/HDPE CONDUIT WITH (2) #8 5KV L-824 CABLE
 - 2 - 2" PVC/HDPE CONDUIT WITH (1) #8 5KV L-824 CABLE
 - IN EXISTING 2" PVC CONDUIT INSTALL (2) #8 5KV L-824 CABLE
 - 1 - 2" PVC/HDPE CONDUIT WITH (2) #6 600V L-824 AND (1) #6 600V EQ. GRND.
 - 1 - DIRECT BURY #6 COUNTERPOISE & GROUND RODS
 - PROPOSED L-867 B OR D HANDHOLE (SEE PLAN)
 - PROPOSED GROUND ROD



COUNTERPOISE CIRCUITS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128971\CA\CA\CA\128971_01.dwg 3/7/2023 2:27:33 PM



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

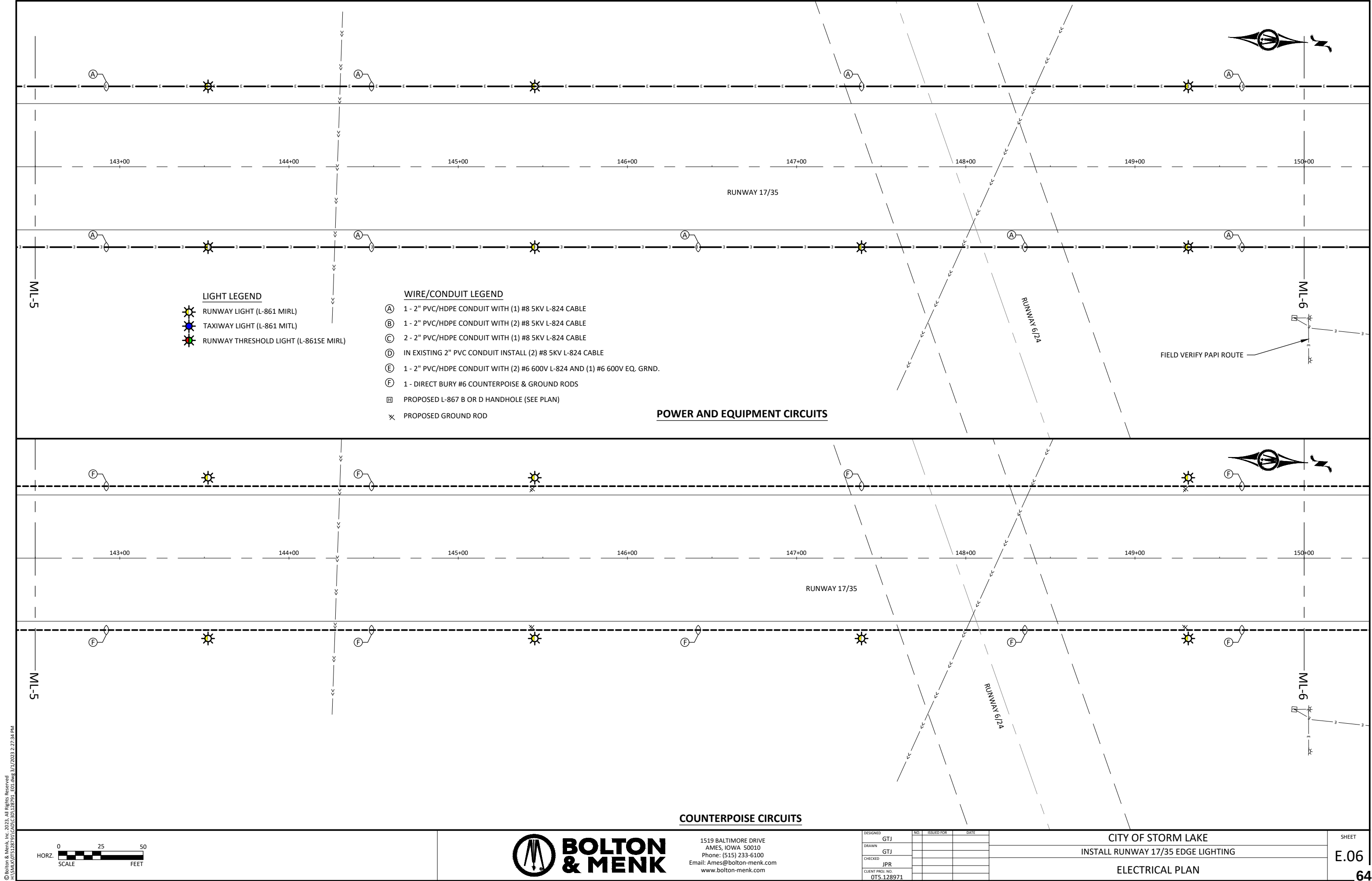
DESIGNED	GTJ	NO.	ISSUED FOR	DATE
DRAWN	GTJ			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.05

63



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3046\013128971\CA\CA\013128971_01.dwg 3/7/2023 2:27:34 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

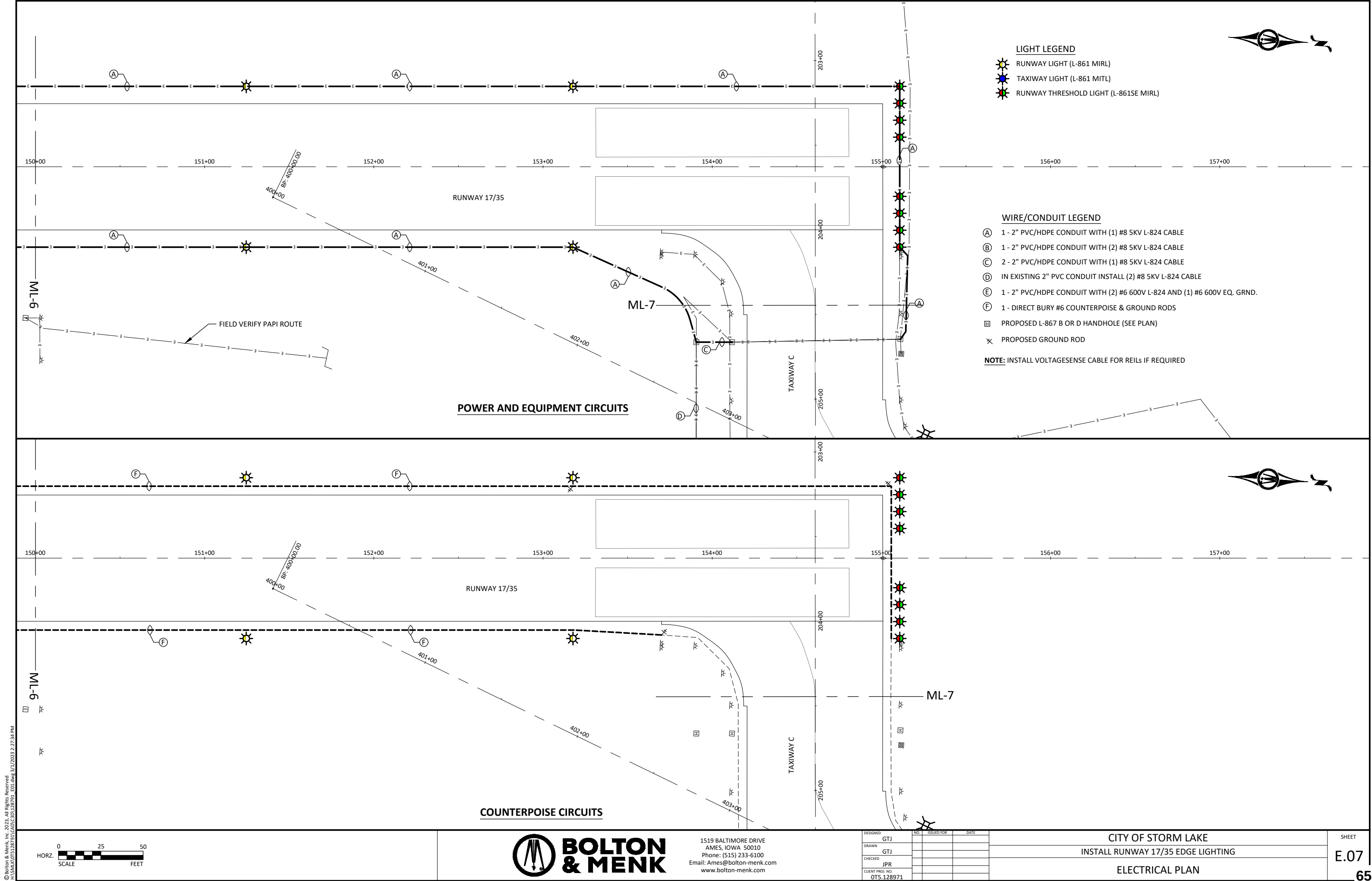
DESIGNED	GTJ	NO.	ISSUED FOR	DATE
DRAWN	GTJ			
CHECKED	JPR			
CLIENT PROJ. NO.	0T5.128971			

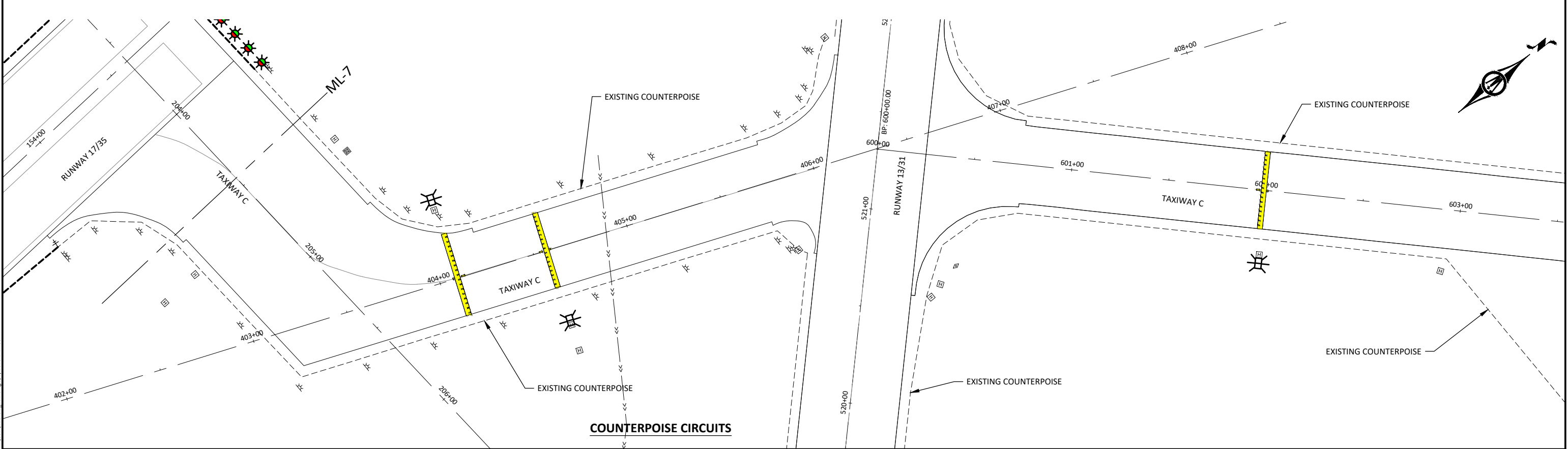
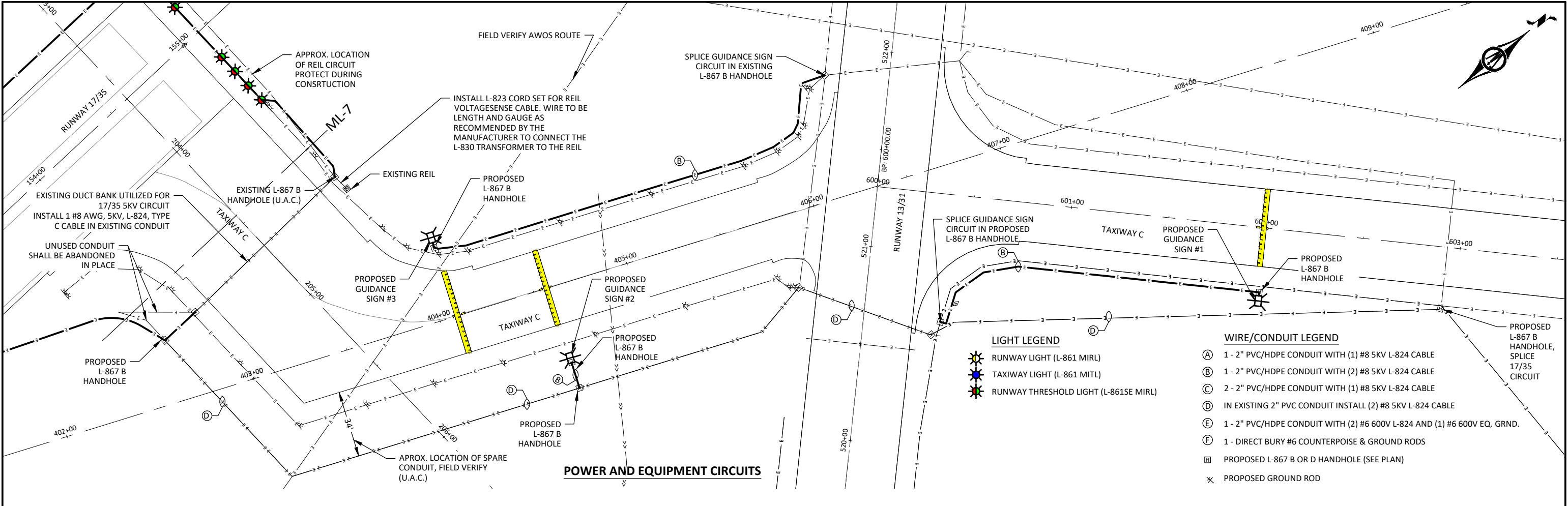
CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.06

64





© Bolton & Menk, Inc. 2023. All Rights Reserved
1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

HORZ. SCALE 0 25 50 FEET



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128971			

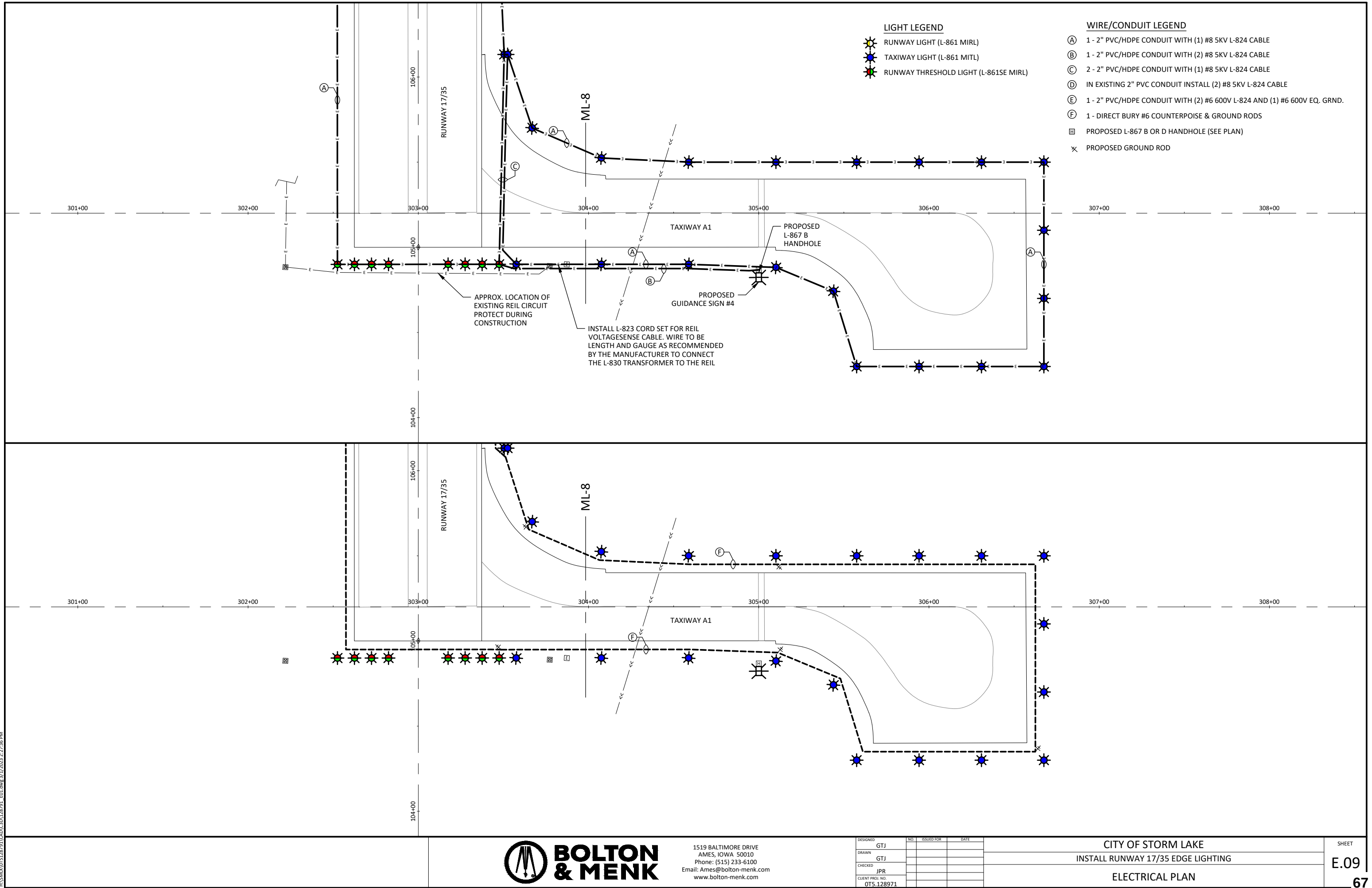
CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.08

66

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\315128971\315128971.dwg 3/7/2023 2:27:36 PM





LOCATION OF EXISTING
PRIMARY WINDCONE



FIELD VERIFY PRIMARY
WINDCONE POWER ROUTE

PROPOSED L-867 D HANDHOLE
CONTRACTOR SHALL INTERCEPT
EXISTING PRIMARY WINDCONE
CIRCUIT SO THE EXISTING
WINDCONE MAY REMAIN ONLINE
DURING CONSTRUCTION

PROPOSED PRIMARY WINDCONE
LOCATION TO BE DETERMINED IN
FIELD AND SHALL BE DEPENDANT ON
EXISTING CIRCUIT LOCATION

EXISTING
PRIMARY
WINDCONE

FIELD VERIFY AWOS
POWER ROUTE

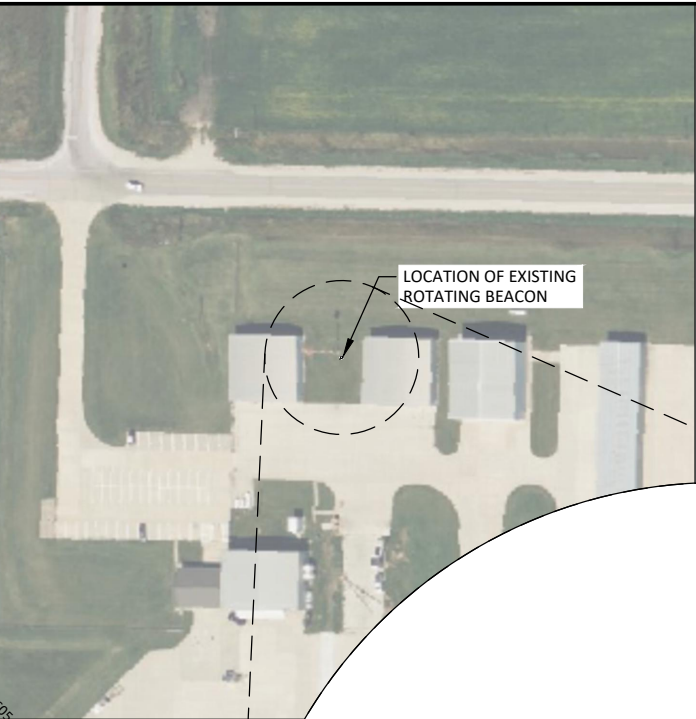
LIGHT LEGEND

-  RUNWAY LIGHT (L-861 MIRL)
-  TAXIWAY LIGHT (L-861 MITL)
-  RUNWAY THRESHOLD LIGHT (L-861SE MIRL)

WIRE/CONDUIT LEGEND

- (A) 1 - 2" PVC/HDPE CONDUIT WITH (1) #8 5KV L-824 CABLE
- (B) 1 - 2" PVC/HDPE CONDUIT WITH (2) #8 5KV L-824 CABLE
- (C) 2 - 2" PVC/HDPE CONDUIT WITH (1) #8 5KV L-824 CABLE
- (D) IN EXISTING 2" PVC CONDUIT INSTALL (2) #8 5KV L-824 CABLE
- (E) 1 - 2" PVC/HDPE CONDUIT WITH (2) #6 600V L-824 AND (1) #6 600V EQ. GRND.
- (F) 1 - DIRECT BURY #6 COUNTERPOISE & GROUND RODS
-  PROPOSED L-867 B OR D HANDHOLE (SEE PLAN)
-  PROPOSED GROUND ROD

PRIMARY WINDCONE REPLACEMENT - ALTERNATE BID A



LOCATION OF EXISTING
ROTATING BEACON



EXISTING ROTATING BEACON
TOWER TO BE REPLACED

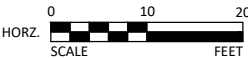
EXISTING
HANGAR

EXISTING
HANGAR

APRON

- NOTES:
- CONTRACTOR SHALL RE-UTILIZE TOWER, FOUNDATIONS, WIRING, CONDUITS AND ALL OTHER APPURTENANCES.
 - CONTRACTOR SHALL REMOVE EXISTING ROTATING BEACON HEAD.
 - CONTRACTOR SHALL REPLACE ROTATING BEACON HEAD.
 - ANY FABRICATION REQUIRED TO MOUNT THE PROPOSED ROTATING BEACON REPLACEMENT HEAD ON EXISTING TOWER SHALL BE CONSIDERED INCIDENTAL.

ROTATING BEACON IMPROVEMENTS - ALTERNATE BID B



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
0T5.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN - ALTERNATE BID A & B

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128791\G01\GSD\128791_G01.dwg 3/1/2023 2:27:45 PM

STATIONING INFORMATION

RUNWAY 17/35
BEGIN - 100+00 END - 160+00
N - 3681430.67 N - 3687416.71
E - 4452604.17 E - 4452195.21

RUNWAY 13/31
BEGIN - 500+00 END - 532+00
N - 3685634.43 N - 3687907.76
E - 4454009.08 E - 4451756.97

TAXIWAY A1
BEGIN - 300+00 END - 310+00
N - 3681929.16 N - 3681996.81
E - 4452269.42 E - 4453267.13

TAXIWAY C (E-W)
BEGIN - 200+00 END - 210+00
N - 3686853.75 N - 3686922.84
E - 4451870.06 E - 4452867.67

TAXIWAY C (17/35 TO 13/31)
BEGIN - 400+00 END - 410+00
N - 3686560.33 N - 3687487.59
E - 4452271.74 E - 4452646.15

TAXIWAY C (TO APRON)
BEGIN - 600+00 END - 605+00
N - 3687148.19 N - 3687500.21
E - 4452509.45 E - 4452864.53



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

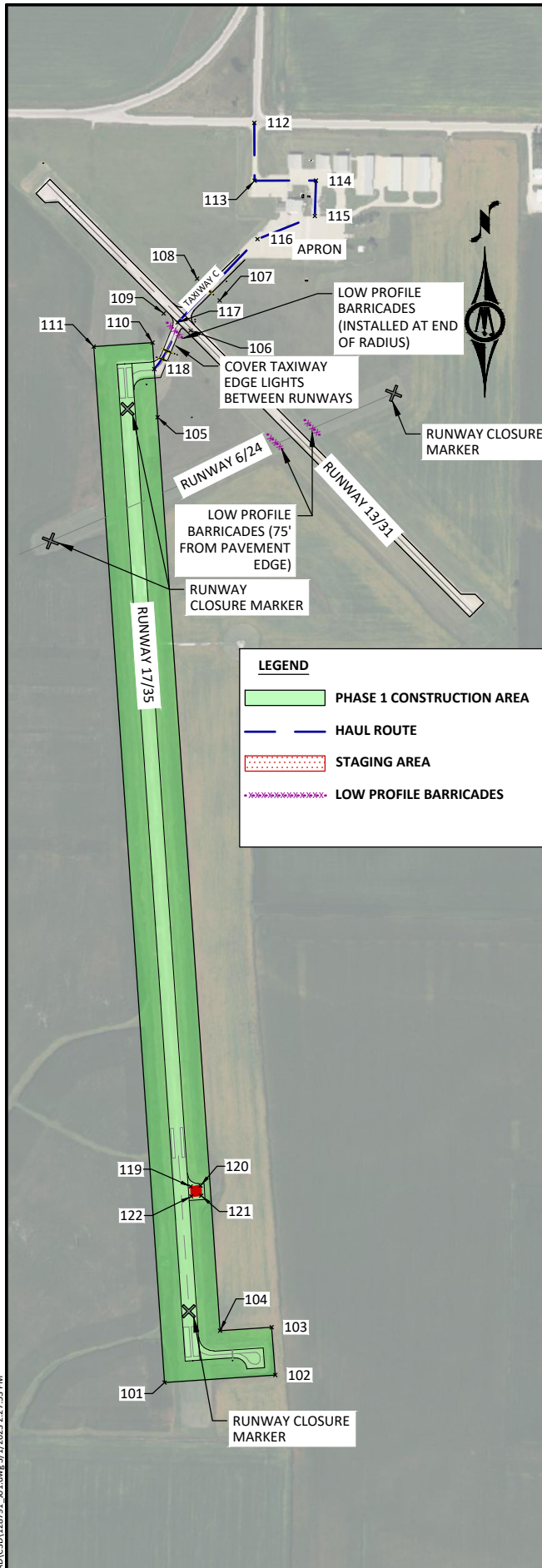
STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
STATIONING INFORMATION

SHEET

G.01

69

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\SWD\013128791\CA\CD\128791_01.dwg 3/1/2023 2:27:53 PM



PHASE 1 CONSTRUCTION NOTES:

WORK ELEMENTS:

- ELECTRICAL REMOVALS ALONG RUNWAY 17/35.
- EDGE LIGHTING ALONG RUNWAY 17/35 AND TURNAROUND.
- INSTALLATION OF ANY CABLING OUTSIDE OF 200' FROM THE CENTERLINE OF RUNWAY 13/31.
- PRIMARY WINDCONE INSTALLATION.

ACTIVE AREAS AFFECTED:

- RUNWAY 17/35 CLOSED FOR DURATION.
- RUNWAY 6/24 CLOSED FOR DURATION.
- RUNWAY 13/31 OPEN FOR DURATION.
- TAXIWAY C TO RUNWAY 13/31 OPEN FOR DURATION.

DURATION:

- CONSTRUCTION SHALL BE COMPLETED IN TIMEFRAME PRESCRIBED WITHIN THE NOTICE OF LETTING.

NOTAMs:

- RUNWAY 17/35 CLOSED.
- RUNWAY 6/24 CLOSED.

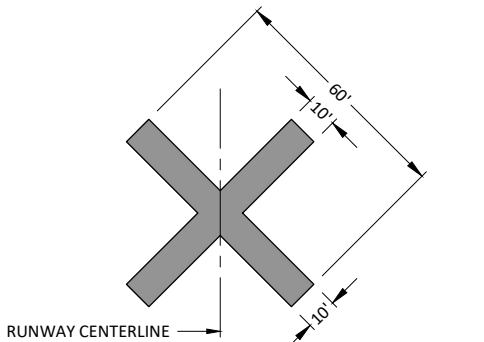
NOTES:

- CONTRACTOR SHALL REMAIN OUTSIDE OF ACTIVE AIRFIELD AREAS DURING CONSTRUCTION OF PHASE 1. CROSSING OF ACTIVE AIRFIELD AREAS SHALL BE DONE WITH THE ASSISTANCE OF PERSONNEL WITH AN AVIATION RADIO TO MONITOR AIR TRAFFIC.
- RUNWAY CLOSURE MARKERS SHALL BE PLACED OVER THE NUMERALS OF RUNWAY 17/35 AND PLACED NEAR THE END OF RUNWAY 6/24.
- DUE TO RUNWAY 17/35 BEING CLOSED FOR THE PHASE, EDGE LIGHT COVERS SHALL BE PLACED OVER THE TOP OF TAXIWAY EDGE LIGHTS BETWEEN RUNWAY 13/31 AND RUNWAY 17/35.
- SEE CSPP FOR MORE INFORMATION.

WORK AREA				
POINT NUMBER	LATITUDE	LONGITUDE	ELEVATION	EQUIPMENT AGL
101	N42°35'13.508"	W95°14'27.810"	1480.000'	20'
102	N42°35'13.993"	W95°14'20.414"	1483.000'	20'
103	N42°35'16.353"	W95°14'20.721"	1482.000'	20'
104	N42°35'16.127"	W95°14'24.166"	1479.000'	20'
105	N42°36'01.225"	W95°14'29.600"	1476.536'	20'
106	N42°36'05.544"	W95°14'27.514"	1476.536'	20'
107	N42°36'07.066"	W95°14'25.612"	1476.536'	20'
108	N42°36'08.116"	W95°14'27.150"	1476.536'	20'
109	N42°36'06.362"	W95°14'29.343"	1476.536'	20'
110	N42°36'04.911"	W95°14'30.044"	1476.536'	20'
111	N42°36'04.653"	W95°14'33.973"	0.000'	20'

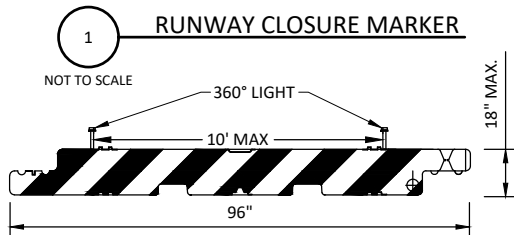
STAGING AREA				
POINT NUMBER	LATITUDE	LONGITUDE	ELEVATION	EQUIPMENT AGL
119	N42°35'23.231"	W95°14'26.337"	0.000'	20'
120	N42°35'23.275"	W95°14'25.671"	0.000'	20'
121	N42°35'22.783"	W95°14'25.614"	0.000'	20'
122	N42°35'22.739"	W95°14'26.280"	0.000'	20'

HAUL ROUTE				
POINT NUMBER	LATITUDE	LONGITUDE	ELEVATION	EQUIPMENT AGL
112	N42°36'15.879"	W95°14'23.538"	0.000'	20'
113	N42°36'13.020"	W95°14'23.443"	0.000'	20'
114	N42°36'13.089"	W95°14'19.336"	0.000'	20'
115	N42°36'11.331"	W95°14'19.364"	0.000'	20'
116	N42°36'10.135"	W95°14'23.169"	0.000'	20'
117	N42°36'05.935"	W95°14'28.390"	0.000'	20'
118	N42°36'03.601"	W95°14'29.886"	0.000'	20'



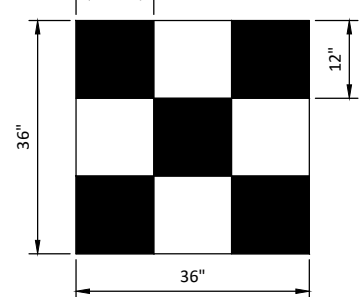
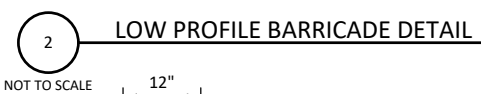
NOTES:

- CLOSURE CROSSES SHALL BE PLACED ON NUMERICAL MARKINGS.
- CLOSURE CROSSES SHALL BE MOVED OFF THE END OF EACH RUNWAY ONCE NUMERICAL MARKINGS HAVE BEEN REMOVED.
- CLOSURE CROSSES SHALL BE ADEQUATELY SECURED TO THE GROUND.



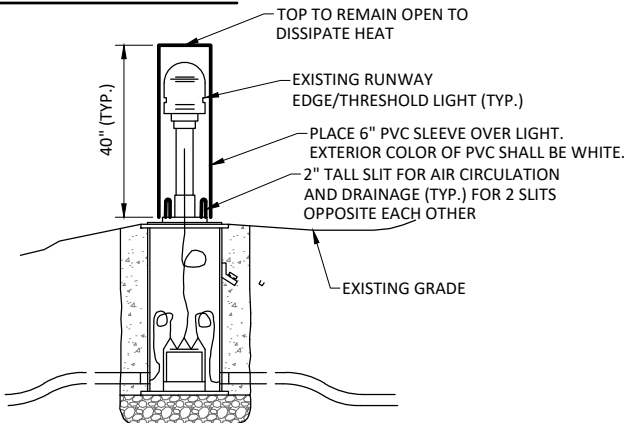
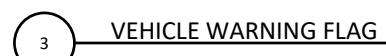
NOTES:

- GAPS BETWEEN BARRICADES SHALL BE NO MORE THAN 4 FEET.



NOTES:

- FLAG SHALL HAVE A CHECKERED PATTERN OF INTERNATIONAL ORANGE AND WHITE SQUARES



NOT TO SCALE

SAFETY AND CONSTRUCTION NOTES

(SEE CONSTRUCTION SAFETY AND PHASING PLAN IN SPECIFICATIONS FOR ADDITIONAL DETAIL)

GENERAL CONSTRUCTION SAFETY:

- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS SET FORTH IN FAA AC 150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION", WHICH IS INCLUDED IN THE PROJECT MANUAL APPENDIX. CONSTRUCTION SAFETY SHALL BE DISCUSSED DURING THE PRE CONSTRUCTION MEETING AND AT WEEKLY PROJECT MEETING.
- CONTRACTOR IS RESPONSIBLE FOR ALL PUBLIC AND PRIVATE UTILITY LOCATIONS DURING CONSTRUCTION.

CONSTRUCTION EQUIPMENT:

- ALL CONSTRUCTION EQUIPMENT SHALL BE PARKED IN DESIGNATED STAGING/STORAGE AREAS WHEN NOT IN USE OR OVERNIGHT. ALL BOOMS SHALL BE LOWERED WHEN NOT IN USE.
- THE EXPECTED MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT IS 20 FEET AT ANY LOCATION. THE CONTRACTOR SHALL VERIFY ANY EQUIPMENT HEIGHT MORE THAN 20 FEET AND NOTIFY THE ENGINEER AND OWNER A MINIMUM OF 72 HOURS IN ADVANCE OF ANY CONSTRUCTION THAT REQUIRES EQUIPMENT WITH HEIGHTS OF MORE THAN 20 FEET SO THAT THE APPROPRIATE NOTICE TO AIR MISSIONS (NOTAM) MAY BE ISSUED.
- ALL EQUIPMENT WORKING ON THE AIRPORT CONSTRUCTION SITE MUST HAVE AN AMBER FLASHING BEACON AND/OR WARNING FLAG. THE VEHICLE WARNING FLAGS SHALL BE AS PER DETAIL ON SHEET. THE FLAG SHALL BE SECURELY ATTACHED TO THE HIGHEST POINT ON THE CONSTRUCTION EQUIPMENT OR VEHICLE AND BE VISIBLE AT ALL TIMES. VEHICLE WARNING FLAGS ARE THE MINIMUM REQUIREMENT. AMBER FLASHING BEACONS ARE NOT REQUIRED BUT IF USED SHALL MOUNTED ON THE HIGHEST POINT OF THE CONSTRUCTION EQUIPMENT OR VEHICLE AND OPERATING WHENEVER EQUIPMENT IS IN USE.
- VEHICULAR TRAFFIC LOCATED IN OR CROSS ACTIVE MOVEMENT AREAS MUST HAVE A WORKING TWO-WAY RADIO CONTACT WITH AIRPORT OPERATIONS OR BE ESCORTED BY A PERSON IN RADIO CONTACT. THE DRIVER, THROUGH PERSONAL OBSERVATION, SHOULD CONFIRM THAT NO AIRCRAFT ARE APPROACHING THE VEHICLES POSITION. CONSTRUCTION PERSONNEL MAY OPERATE IN A MOVEMENT AREA WITHOUT TWO-WAY RADIO COMMUNICATION PROVIDED A NOTAM IS ISSUED CLOSING THE AREA AND THE AREA IS PROPERLY MARKED TO PREVENT INCURSIONS.

HAUL ROUTES, TRAFFIC CONTROL & ACCESS CONTROL

- ALL TEMPORARY ACCESS, STORAGE/STAGING AREAS AND ROADS SHALL BE RESTORED TO ORIGINAL CONDITION, INCLUDING TOPSOILING, RESEEDING, IF NECESSARY, AFTER USE BY THE CONTRACTOR. RESTORATION OF THESE AREAS SHALL BE CONSIDERED INCIDENTAL.
- THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS NECESSARY.
- THIS LAYOUT IS A MINIMUM REQUIREMENT NECESSARY TO ASSIST THE CONTRACTOR IN DETERMINING THE COST FOR PROVIDING NECESSARY TRAFFIC CONTROL. THE CONTRACTOR MAY ADD ADDITIONAL WARNING DEVICES UPON APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OWNER A MINIMUM OF 72 HOURS IN ADVANCE OF ANY PROPOSED CONSTRUCTION WITHIN THE APRON OR TAXIWAY SAFETY AREAS, RUNWAY PROTECTION ZONES, APPROACH AREAS OR REQUIRED CLOSURE AREAS SO THAT THE APPROPRIATE NOTICE TO AIR MISSIONS (NOTAM) MAY BE ISSUED. THE AIRPORT MANAGER WILL ALSO ISSUE TIMELY NOTAMS WHICH SPECIFICALLY DETAIL THE CURRENT STATUS OF THE AIRPORT DURING CONSTRUCTION, INCLUDING CLOSURE STATUS. THE NOTAM SHALL INCLUDE THE PROPOSED LOCATION, TIME AND DATE OF COMMENCEMENT OF CONSTRUCTION.
- INSPECT FOR AND REMOVE FOREIGN OBJECT DEBRIS (FOD) ON OR NEAR AIRCRAFT MOVEMENT AREAS BY SWEEPING DAILY AT TIMES OF CONCURRENT CONSTRUCTION AND AIRCRAFT OPERATIONS. WASTE AND LOOSE MATERIAL MUST NOT BE PLACED IN ACTIVE AIRCRAFT MOVEMENT AREAS. MATERIALS TRACKED ONTO THESE AREAS MUST BE REMOVED CONTINUOUSLY DURING THE PROJECT. THE CONSTRUCTION SITE, INCLUDING THE STAGING AREA, SHALL BE KEPT CLEAN OF ALL PERSONNEL DEBRIS.
- THERE SHALL BE NO UNAUTHORIZED PERSONNEL ON AIRFIELD. CONTRACTOR SHALL USE THE DESIGNATED AIRPORT ACCESS ROUTE WHEN ENTERING AIRPORT PROPERTY. NO GATES ARE TO BE LEFT OPENED AND UNATTENDED.
- AT ALL TIMES, WHILE CONSTRUCTION IS IN PROGRESS, THE CONTRACTOR SHALL HAVE A DESIGNATED PERSON MONITORING THE UNICOM OR CTAF (122.700).
- PERSONAL VEHICLES SHALL NOT BE ALLOWED ON THE AIRFIELD. ALL PERSONAL VEHICLES SHOULD BE PARKED IN A DESIGNATED STAGING/STORAGE AREA OR ANOTHER AREA AS DESIGNATED BY THE AIRPORT MANAGER.
- WHEN ACCESS POINTS ARE CREATED IN THE SECURITY FENCING TO PERMIT THE PASSAGE OF CONSTRUCTION VEHICLES OR PERSONNEL, TEMPORARY GATES SHOULD BE EQUIPPED SO THEY CAN BE SECURELY CLOSED AND LOCKED TO PREVENT ACCESS BY ANIMALS AND PEOPLE.
- LOW PROFILE BARRICADE FLASHERS, AND FLASHERS OF ANY KIND UTILIZED ON THE PROJECT SHALL BE INSPECTED AT DUSK EACH DAY TO ENSURE ALL FLASHERS ARE PROPERLY WORKING.
- PROMINENTLY MARK OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIALS AND LIGHT THESE OBSTACLES DURING HOURS OF RESTRICTED VISIBILITY AND DARKNESS. CONSTRAIN STOCKPILED MATERIAL TO PREVENT ITS MOVEMENT AS A RESULT OF THE MAXIMUM ANTICIPATED AIRCRAFT BLAST AND FORECAST WIND CONDITIONS.
- PRIOR TO OPENING OR RE-OPENING ANY CLOSED PAVEMENT AREA, THE CONTRACTOR, TOGETHER WITH THE AIRPORT MANAGER AND ENGINEER SHALL INSPECT THE PAVEMENT, SAFETY AREAS AND PRIMARY SURFACE FOR ANY OBSTRUCTION OR FOD.
- WHEN AIRFIELD IS CLOSED FOR CONSTRUCTION (RUNWAY CLOSURES IN PLACE), THE BEACON SHALL REMAIN IN OPERATION BUT ALL OTHER AIRFIELD LIGHTING & NAVAIDS SHALL BE TURNED OFF.
- THE CONTRACTOR SHALL NOTIFY AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) PERSONNEL, MUTUAL AID PROVIDERS AND OTHER EMERGENCY SERVICES IF CONSTRUCTION REQUIRES SHUTTING OFF OR OTHERWISE DISRUPTING ANY WATER LINE OR FIRE HYDRANT ON THE AIRPORT OR ADJOINING AREAS AND IF CONTRACTORS WORK WITH HAZARDOUS MATERIAL ON THE AIRFIELD. NOTIFICATION MUST ALSO BE MADE WHEN THE WORK PERFORMED WILL CLOSE OR AFFECT ANY EMERGENCY ROUTES. ALSO MAKE NOTIFICATION WHEN SERVICES ARE RESTORED.

PROJECT NOTES:

- CONTRACTOR SHALL PROVIDE A SAFETY COMPLIANCE DOCUMENT PRIOR TO ISSUE OF NOTICE TO PROCEED.
- A REPRESENTATIVE SHALL BE PROVIDED BY THE CONTRACTOR ON-CALL 24 HOURS A DAY FOR EMERGENCY MAINTENANCE OF AIRPORT TRAFFIC CONTROL DEVICES AND LIGHTING.
- CONTRACTOR, ENGINEER AND AIRPORT MANAGER SHALL CONDUCT DAILY INSPECTIONS TO ENSURE CONFORMANCE TO CONSTRUCTION SAFETY PHASING PLAN.
- CONTRACTOR SHALL HAVE A SWEEPER ON-SITE AT ALL TIMES TO PICKUP DEBRIS FROM ACTIVE PAVEMENT AREA AS IT OCCURS.
- FOR MORE INFORMATION REGARDING CONTRACT TIME ALLOWED FOR CONSTRUCTION, REFER TO THE NOTICE OF LETTING FOR THE PROJECT.

GENERAL CONSTRUCTION SAFETY:

THE RESPONSIBILITY FOR ALL SAFETY SHALL FALL UPON THE CONTRACTOR(S) DURING CONSTRUCTION. THIS SAFETY PLAN SHALL BE REVIEWED BY THE FAA PRIOR TO CONSTRUCTION NOTICES. ANY ATTACHMENT, DEVIATIONS, OMISSIONS, OR CONTRADICTIONS TO THE FAA REGULATIONS DISCOVERED DURING REVIEW SHALL BE MADE PART OF THE SAFETY PLAN PRIOR TO CONSTRUCTION, AND HENCE BECOME PART OF THE CONTRACT CONDITIONS. THE CONTRACTOR SHALL CONFIRM PRIOR TO ENTERING INTO A CONSTRUCTION CONTRACT THAT NO MODIFICATIONS TO THIS SAFETY PLAN HAVE BEEN MADE. AT THE CONTRACTORS REQUEST, THE ENGINEER SHALL PROVIDE DOCUMENTATION THAT INDICATES NO MODIFICATIONS, REVISIONS, OR ADDITIONAL ITEMS BE INCLUDED IN THIS SAFETY PLAN.



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

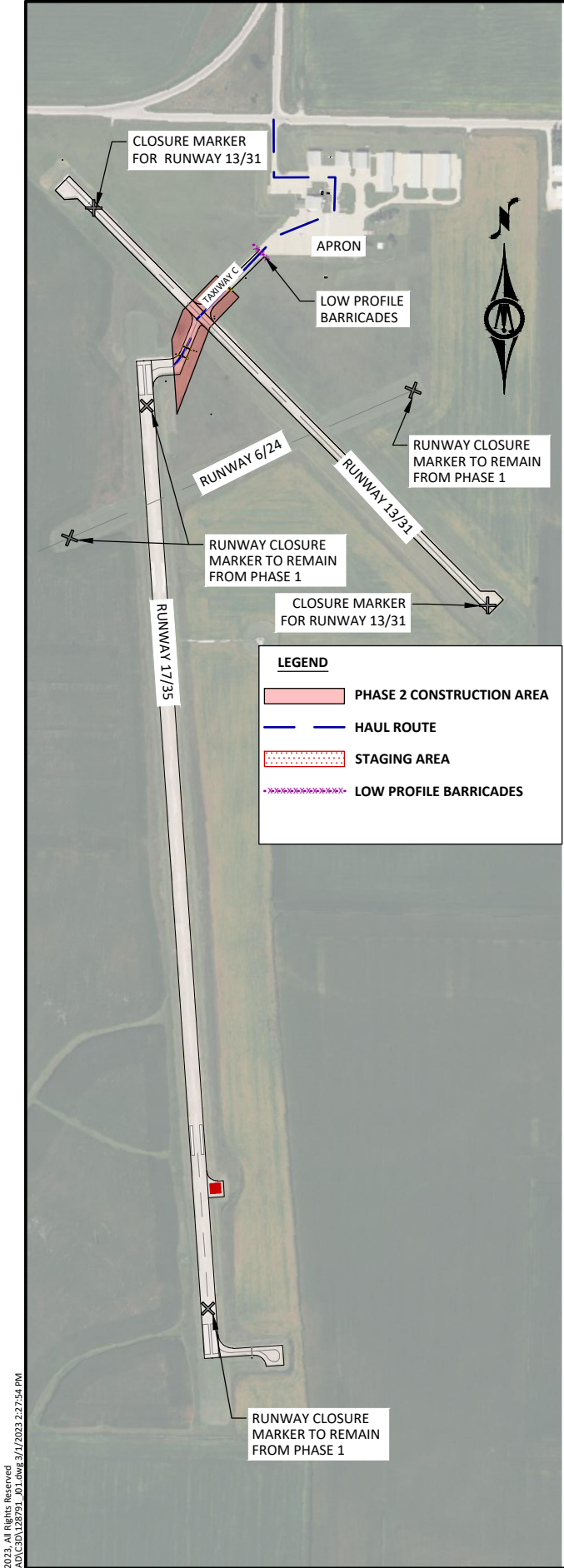
DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
0TS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
CONSTRUCTION SAFETY & PHASING PLAN

SHEET

J.01

70



PHASE 2 CONSTRUCTION NOTES:

WORK ELEMENTS:

- REMAINING WORK WITHIN THE RUNWAY 17/35 AND RUNWAY 13/31 INTERSECTION, 200' IN EITHER DIRECTION FROM RUNWAY 13/31 CL.
- ELECTRICAL INSTALLATIONS
- GUIDANCE SIGN INSTALLATIONS ALONG TAXIWAY C.
- ROTATING BEACON REPLACEMENT.

ACTIVE AREAS AFFECTED:

- RUNWAY 17/35 CLOSED FOR DURATION.
- RUNWAY 6/24 CLOSED FOR DURATION.
- RUNWAY 13/31 CLOSED FOR DURATION.
- TAXIWAY C CLOSED FOR DURATION.

DURATION:

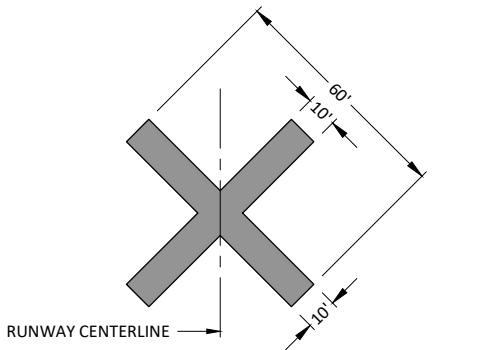
- CONSTRUCTION SHALL BE COMPLETED IN TIMEFRAME PRESCRIBED WITHIN THE NOTICE OF LETTING.

NOTAMS:

- RUNWAY 17/35 CLOSED.
- RUNWAY 13/31 CLOSED.
- RUNWAY 6/24 CLOSED.
- ROTATING BEACON INOPERABLE.

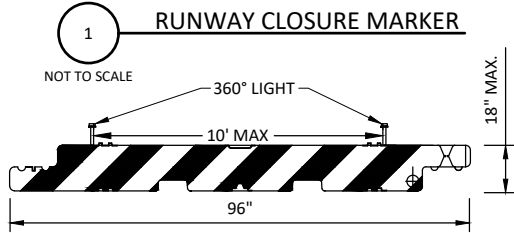
NOTES:

- LOW PROFILE BARRICADES SHALL BE PLACED AT THE APRON/CONNECTING TAXIWAY C ENTRANCE.
- RUNWAY CLOSURE MARKERS SHALL BE PLACED OVER NUMERALS OF RUNWAY 13/31.
- RUNWAY CLOSURE MARKERS FROM PHASE 1 SHALL REMAIN IN PLACE FOR RUNWAY 17/35 AND RUNWAY 6/24.
- TURN OFF ALL EDGE LIGHTING FROM RUNWAY 17/35 AND RUNWAY 13/31 FOR THE DURATION OF PHASE 2.
- SEE CSPP FOR MORE INFORMATION.



NOTES:

1. CLOSURE CROSSES SHALL BE PLACED ON NUMERICAL MARKINGS.
2. CLOSURE CROSSES SHALL BE MOVED OFF THE END OF EACH RUNWAY ONCE NUMERICAL MARKINGS HAVE BEEN REMOVED.
3. CLOSURE CROSSES SHALL BE ADEQUATELY SECURED TO THE GROUND.



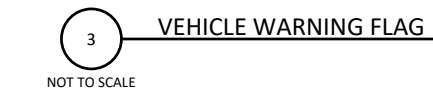
NOTES:

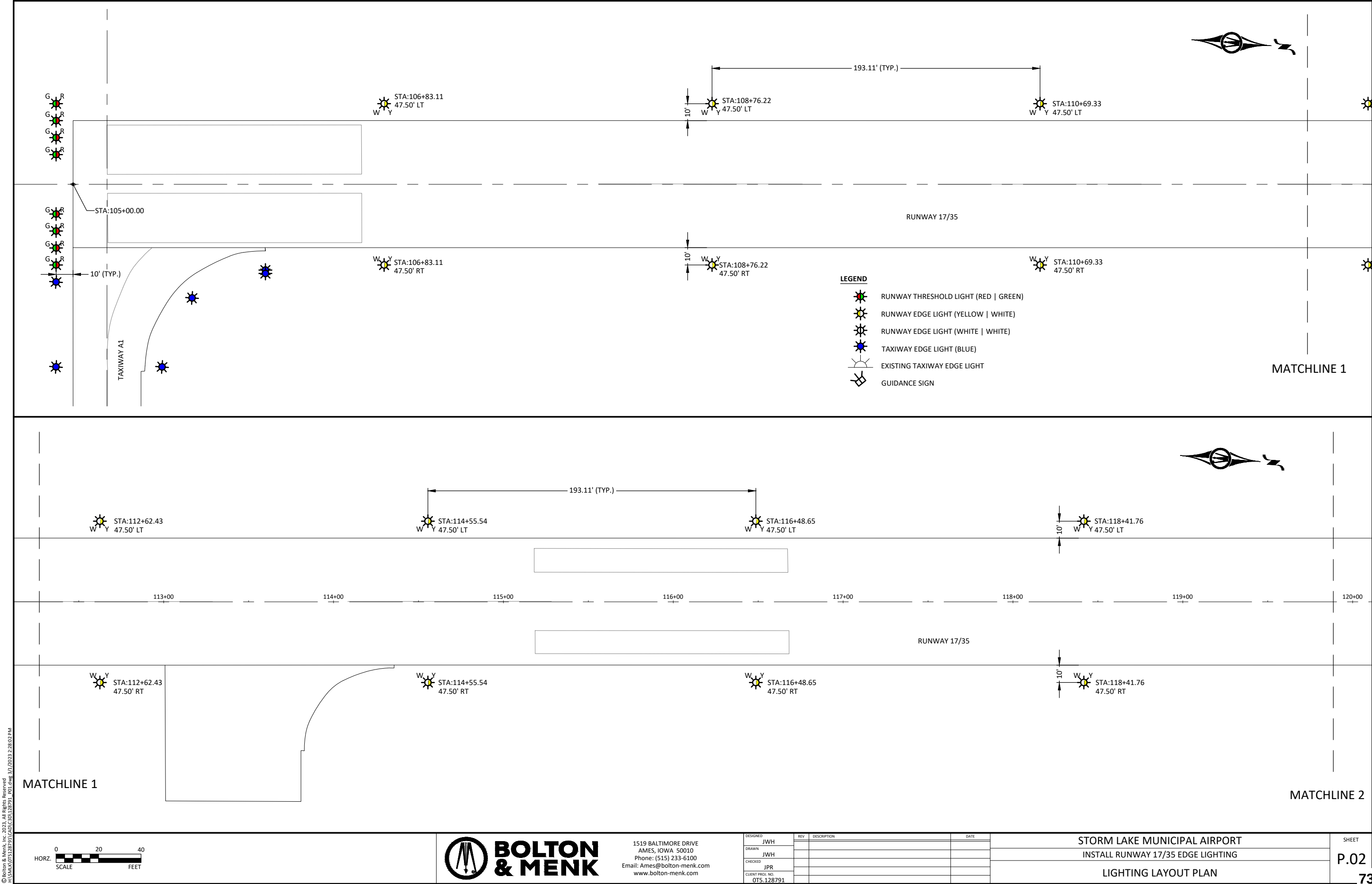
1. GAPS BETWEEN BARRICADES SHALL BE NO MORE THAN 4 FEET.



NOTES:

1. FLAG SHALL HAVE A CHECKERED PATTERN OF INTERNATIONAL ORANGE AND WHITE SQUARES





© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128791\3128791.dwg 3/7/2023 2:28:02 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	JWH	REV	DESCRIPTION	DATE
DRAWN	JWH			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
LIGHTING LAYOUT PLAN

SHEET

P.02

73

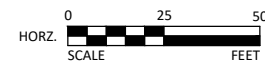
© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\31461\03128791\CA\CSA\128791_P01.dwg 3/7/2023 2:28:03 PM

MATCHLINE 2

MATCHLINE 3

MATCHLINE 3

MATCHLINE 4



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	JWH	REV	DESCRIPTION	DATE
DRAWN	JWH			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128791			

STORM LAKE MUNICIPAL AIRPORT

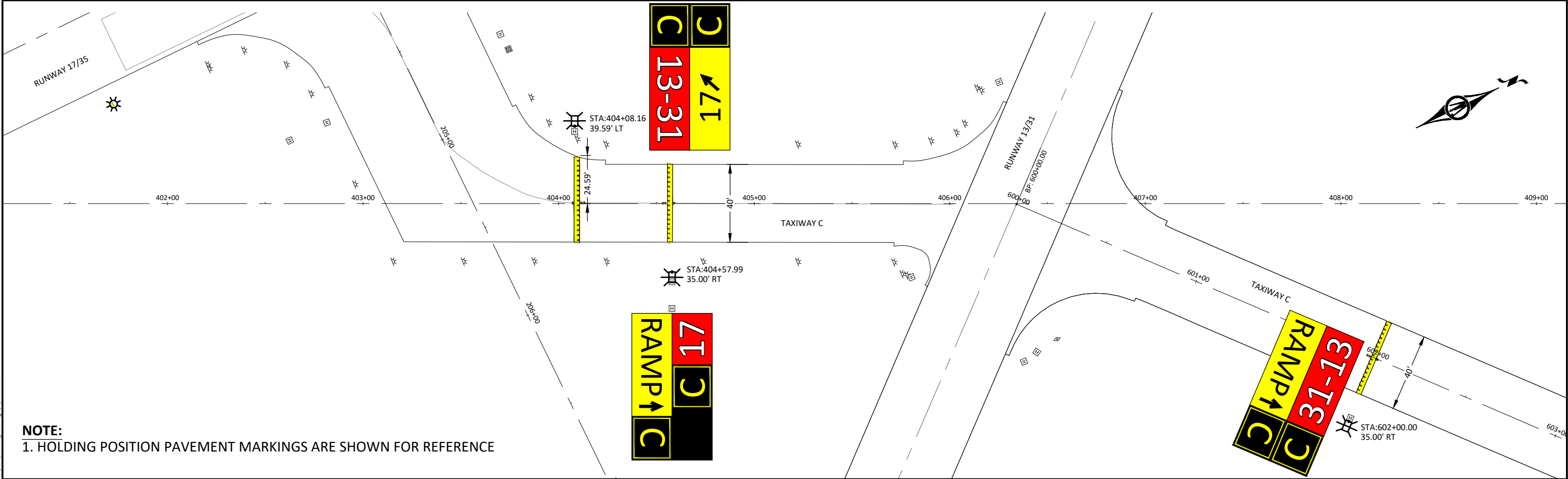
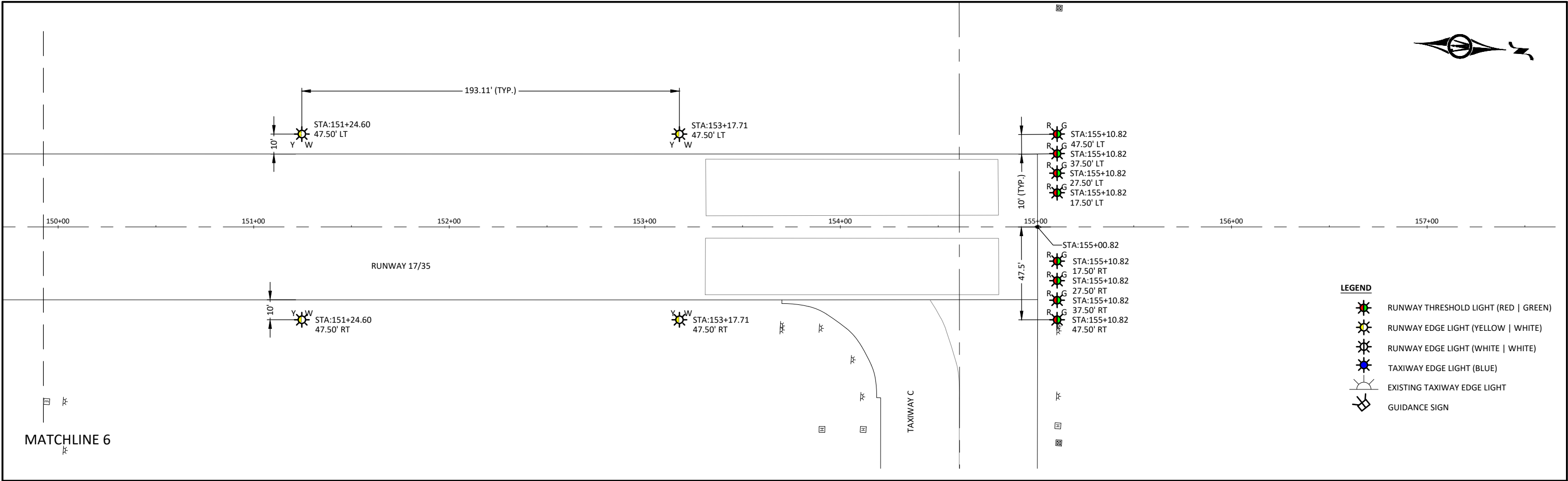
INSTALL RUNWAY 17/35 EDGE LIGHTING

LIGHTING LAYOUT PLAN

SHEET

P.03

74



NOTE:
1. HOLDING POSITION PAVEMENT MARKINGS ARE SHOWN FOR REFERENCE



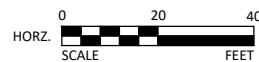
1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
LIGHTING LAYOUT PLAN

SHEET
P.05
76

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\318791\128791\128791.dwg 3/7/2023 2:28:11 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
REMOVALS & EXISTING CONDITIONS

SHEET

R.01

77

APPROX. LOCATION OF STORM SEWER
PROTECT DURING CONSTRUCTION

EXISTING REIL CIRCUIT
FIELD VERIFY ROUTE

EXISTING REIL
PROTECT DURING CONSTRUCTION

APPROX. LOCATION OF REIL CIRCUIT
PROTECT DURING CONSTRUCTION

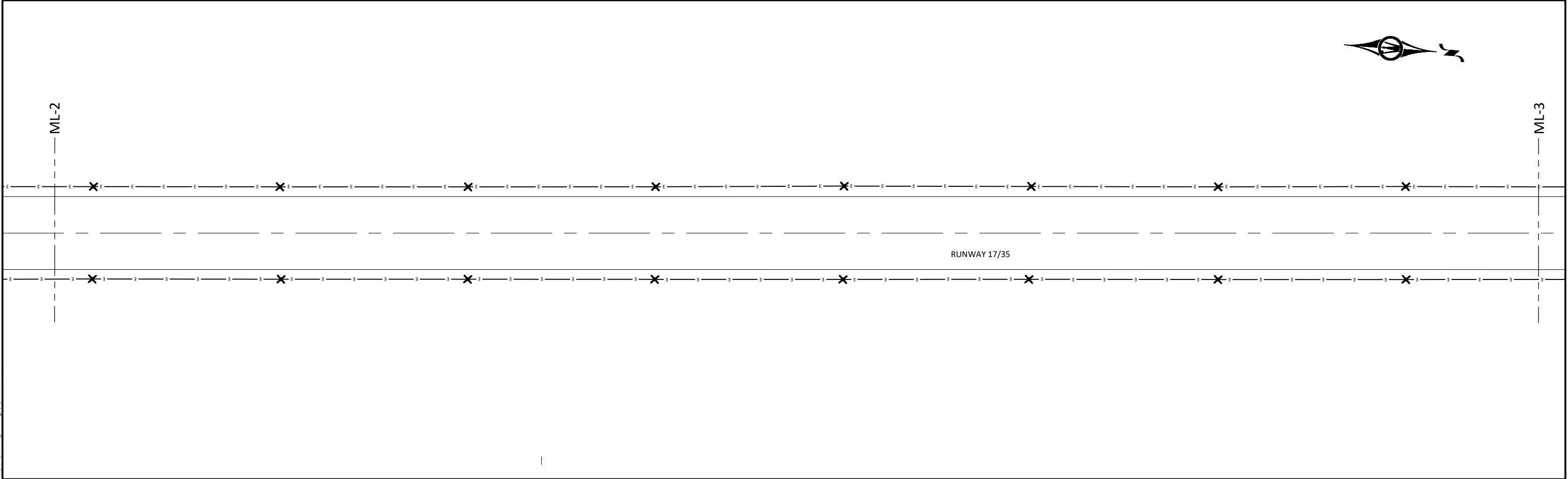
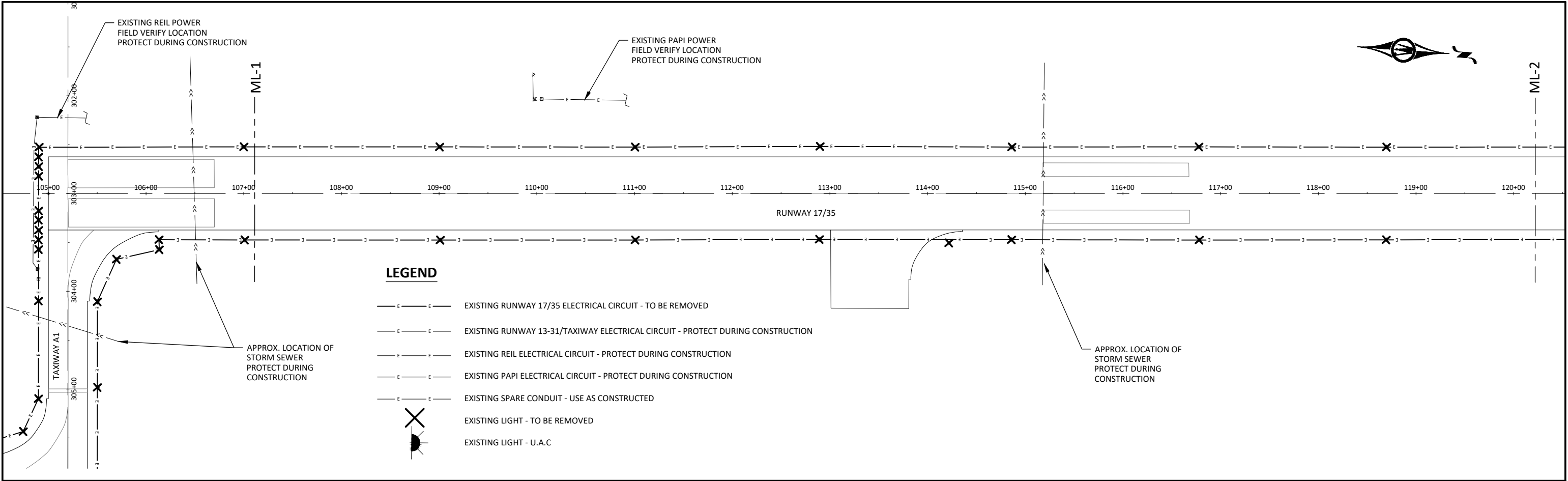
EXISTING L-867 B HANDHOLE
FOR REIL VOLTAGESENSE
U.A.C.

EXISTING REIL
PROTECT DURING CONSTRUCTION

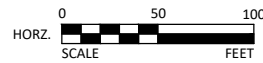
APPROX. LOCATION OF STORM SEWER
PROTECT DURING CONSTRUCTION

LEGEND

- E — E — EXISTING RUNWAY 17/35 ELECTRICAL CIRCUIT - TO BE REMOVED
- E — E — EXISTING RUNWAY 13-31/TAXIWAY ELECTRICAL CIRCUIT - PROTECT DURING CONSTRUCTION
- E — E — EXISTING REIL ELECTRICAL CIRCUIT - PROTECT DURING CONSTRUCTION
- E — E — EXISTING PAPI ELECTRICAL CIRCUIT - PROTECT DURING CONSTRUCTION
- E — E — EXISTING SPARE CONDUIT - USE AS CONSTRUCTED
-  EXISTING LIGHT - TO BE REMOVED
-  EXISTING LIGHT - U.A.C



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128791\128791-01\Drawings\3128791-01.dwg 3/7/2023 2:28:12 PM

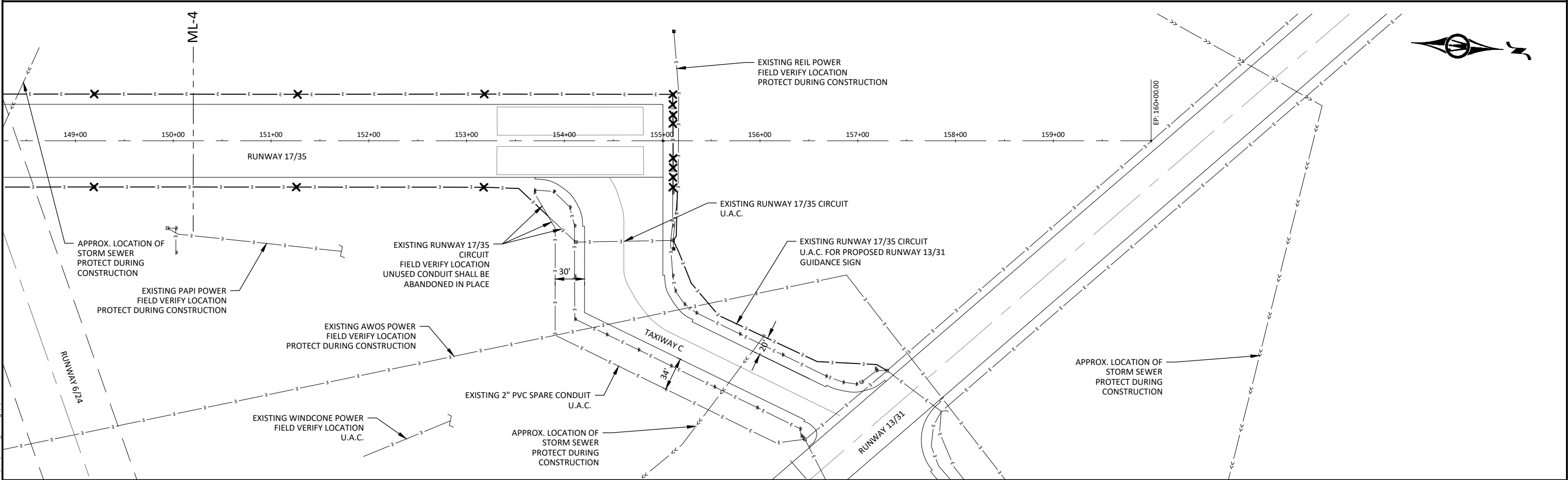
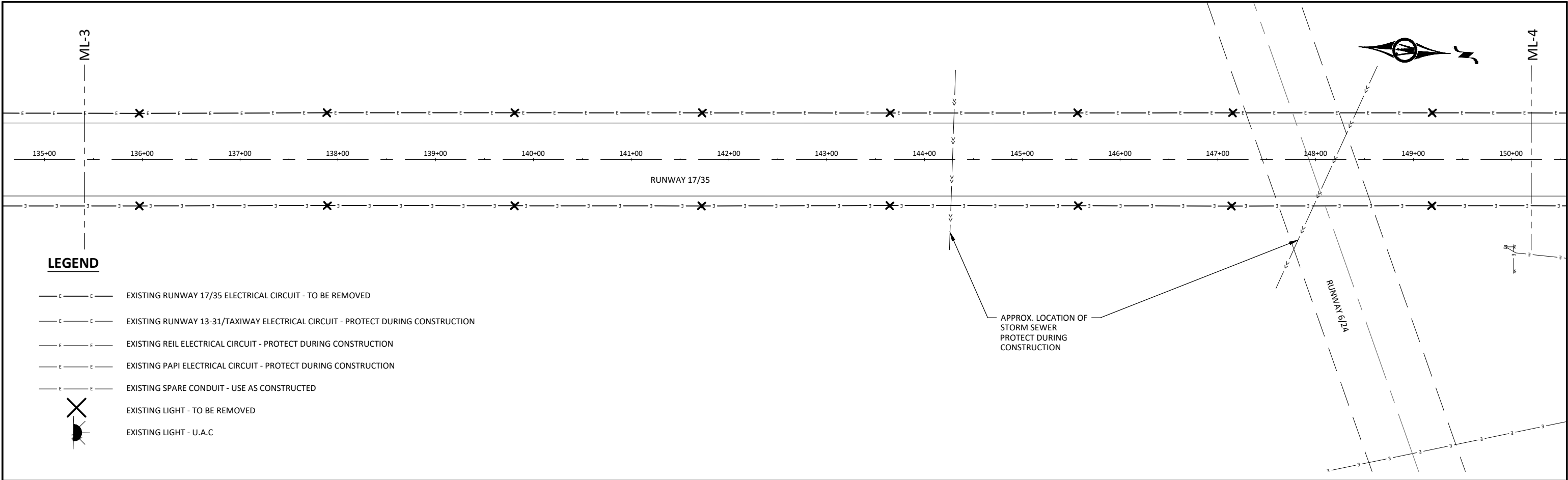


1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

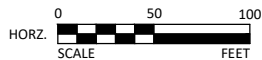
DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
REMOVALS & EXISTING CONDITIONS

SHEET
R.02
78



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3154\013128791\CA\CD\128791_01.dwg 3/7/2023 2:28:13 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	JWH	REV	DESCRIPTION	DATE
DRAWN	JWH			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
REMOVALS & EXISTING CONDITIONS

SHEET

R.03

79

PROJECT MANUAL

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791



Real People. Real Solutions.

Bolton-Menk.com

SECTION 00005 – CERTIFICATION

PROJECT MANUAL

for

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

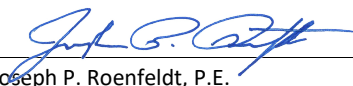
Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.



Joseph P. Roenfeldt, P.E.

Date: March 1, 2023

License No. 21134

My renewal date is December 31, 2023

Pages or sheets covered by this seal:

ALL PAGES

SECTION 00010 - TABLE OF CONTENTS

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

CONTRACT DOCUMENTS:

PROJECT MANUAL:

INTRODUCTORY INFORMATION, BIDDING REQUIREMENTS, CONTRACT FORMS AND CONDITIONS OF CONTRACT

00005 – CERTIFICATION PAGE
00010 – TABLE OF CONTENTS
00100 – NOTICE TO BIDDERS
00105 – NOTICE OF PUBLIC HEARING
00200 – INSTRUCTIONS TO BIDDERS

ITEMS TO BE SUBMITTED WITH THE BID:

00410 – PROPOSAL
00410 - C – PROPOSAL ATTACHMENT: PART C – BID ITEMS AND QUANTITIES
00411 – BIDDER STATUS FORM
00411 – WORKSHEET: AUTHORIZATION TO TRANSACT BUSINESS
00412 – BUY AMERICAN CERTIFICATION FORM FOR MANUFACTURED PRODUCTS
00412 – BUY AMERICAN WAIVER REQUEST
00412 –BUY AMERICAN PREFERENCE CONSTRUCTION PROJECT CONTENT PERCENTAGE
WORKSHEET
00412 – BUY AMERICAN CONFORMANCE LISTING
00413 – DBE UTILIZATION STATEMENT
00413 – DBE LETTER OF INTENT
00420 – BID BOND

ITEMS TO BE EXECUTED AFTER AWARD OF CONTRACT:

00500 – CONTRACT
00610 – PERFORMANCE BOND
00620 – PAYMENT BOND
00650 – INSURANCE REQUIREMENTS

FAA SUPPLEMENTARY PROVISIONS

FAA SP – FAA SUPPLEMENTARY PROVISIONS
WR - WAGE RATES

FAA GENERAL CONTRACT PROVISIONS

PART 1

10 – DEFINITION OF TERMS
20 – PROPOSAL REQUIREMENTS AND CONDITIONS
30 – AWARD AND EXECUTION OF CONTRACT
40 – SCOPE OF WORK
50 – CONTROL OF WORK
60 – CONTROL OF MATERIALS
70 – LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC
80 – EXECUTION AND PROGRESS
90 – MEASUREMENT AND PAYMENT

FAA TECHNICAL SPECIFICATIONS

PART 2 - GENERAL CONSTRUCTION ITEMS

C-105 - MOBILIZATION

PART 3 - SITEWORK

NOT USED FOR THIS PROJECT

PART 4 - BASE COURSES

NOT USED FOR THIS PROJECT

PART 5 - STABILIZED BASE COURSES

NOT USED FOR THIS PROJECT

PART 6 - FLEXIBLE PAVEMENTS

NOT USED FOR THIS PROJECT

PART 7 -RIGID PAVEMENTS

NOT USED FOR THIS PROJECT

PART 8 - SURFACE TREATMENTS

NOT USED FOR THIS PROJECT

PART 9 - MISCELLANEOUS

P-610 - CONCRETE FOR MISCELLANEOUS STRUCTURES

PART 10 - FENCING

NOT USED FOR THIS PROJECT

PART 11 - DRAINAGE

NOT USED FOR THIS PROJECT

PART 12 - TURFING

T-901 - SEEDING

T-908 – MULCH

PART 13 - LIGHTING INSTALLATION

L-101 - AIRPORT ROTATING BEACONS

L-107 - AIRPORT WIND CONES

L-108 - UNDERGROUND POWER CABLE FOR AIRPORTS

L-110 - AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

L-115 - ELECTRICAL MANHOLES AND JUNCTION STRUCTURES

L-125 - INSTALLATION OF AIRPORT LIGHTING SYSTEMS

SUPPLEMENTAL SPECIFICATIONS

NOT USED FOR THIS PROJECT

DRAWINGS (UNDER SEPARATE COVER):

Sheets numbered A.01 through R.03, inclusive, dated March 2023, and with each sheet bearing the following general title:

**Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport**

APPENDICES

- CONSTRUCT SAFETY AND PHASING PLAN (CSPP)
- FAA AC 150/5370-2G – OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION

******END OF SECTION******

SECTION 00100 - NOTICE TO BIDDERS

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising the repair & improvement as stated below must be **filed before 2:00 P.M. CDST on March 23, 2023**, in the office of the City Clerk, City Hall, 620 Erie Street, Storm Lake, Iowa 50588.

Time and Place Sealed Proposals Will be Opened and Considered. Sealed proposals will be opened and bids tabulated at 2:00 P.M. on March 23, 2023, in the office of the City Clerk, City Hall, 620 Erie Street, Storm Lake, Iowa 50588 for consideration by the City of Storm Lake at its meeting at 5:00 P.M CDST on April 3, 2023, City Hall, 620 Erie Street, Storm Lake, Iowa 50588. The City of Storm Lake reserves the right to reject any and all bids, to waive informalities or technicalities in any bid, and to enter into such contract, or contracts, as it shall deem to be to the best interest of the City of Storm Lake.

Time for Commencement and Completion of Work. Work on the improvement shall commence upon approval of the contract by the City Council and as stated in the Notice to Proceed. All work under the Contract must be substantially complete in 27 Working Days for the Base Bid Plus Alternate A. Work related to Alternate A shall be worked on concurrently with the base bid. Work related to Alternate B shall be completed in an additional 3 working days. Liquidated damages as set forth in Section 00500 – Contract.

It is understood that their might be extended lead times for receipt of materials to be incorporated into the project. The contractor shall not start the project until all materials to be incorporated into the project have been received. Pending receipt of all materials to be incorporated, construction may occur in calendar year 2023 or calendar year 2024 construction season.

Bid Security. Each bidder shall accompany its bid with bid security, as defined in Iowa Code Section 26.8, as security that the successful bidder will enter into a contract for the work bid upon. The bidder's security shall be in an amount equal to 5% percent of the total amount of the bid. The bid shall contain no condition except as provided in the specifications.

If the bidder fails to execute the contract and to furnish an acceptable performance and payment bond or provide a Certificate of Insurance within ten (10) days after acceptance of the bid by the City of Storm Lake, the bid security may be forfeited or cashed by the City of Storm Lake as liquidated damages.

Contract Documents. Copies of the project documents are available for a price of \$25.00 per set. This fee is refundable, provided the plans and specifications are returned complete and in good usable condition, and they are returned within fourteen (14) calendar days after the award of the project. Please contact Bolton & Menk, Inc at cedarrapids@bolton-menk.com to obtain a hard set of project documents. Complete digital project bidding documents are available at www.bolton-menk.com or www.questcdn.com. You may view the digital plan documents for free by entering **Quest project # 8413976** on the website's Project Search page. Documents may be downloaded for \$0.00. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, viewing, downloading, and working with this digital project information.

Preference of Products and Labor. By virtue of statutory authority, further preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes. **Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.**

Sales Tax Exemption Certificates. The bidder shall not include sales tax in the bid. The City of Storm Lake will distribute tax exemption certificates and authorization letters to the Contractor and all subcontractors who are identified. The Contractor and subcontractor may make copies of the tax exemption certificates and provide a copy to each supplier providing construction materials. These tax exemption certificates and authorization letters are applicable only for this specific project under the Contract.

Award of Contract. All proposals submitted in accordance with the instructions presented herein will be subject to evaluation. Bids may be held by the City of Storm Lake for a period not to exceed **Ninety (90) days** from the date of the bid opening for the purpose of conducting the bid evaluation.

The Owner will base the award of contract upon the lowest aggregate sum proposal submitted from those bidders the Owner confirms as being responsive and responsible. The right is reserved, as the City of Storm Lake may require, to reject any and all bids and to waive any informality in the bids received.

Prospective Bidders are hereby advised that award of contract is contingent upon the owner receiving Federal funding assistance under the Airport Improvement Program.

Federal Provisions

This project is subject to the following Federal provisions, statutes, and regulations:

Equal Employment Opportunity - Executive Order 11246 and 41 CFR Part 60: The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions. The successful Bidder shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin.

Goals for Minority and Female Participation – Executive Order 11246 and 41 CFR Part 60:

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables:

Goals for minority participation for each trade: **0.4%**

Goals for female participation in each trade: **6.9 %**

These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its Federally involved and non-federally involved construction.

Certification of Non-Segregated Facilities – 41 CFR Part 60: A certification of Non-segregated Facilities must be submitted prior to the award of a federally-assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

Contractors receiving federally assisted construction contract awards exceeding \$10,000, which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause. The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Disadvantaged Business Enterprise – 49 CFR Part 26: The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contracts. In accordance with 49 CFR Part 26.45, the sponsor has established a **contract goal of 0%** participation for small business concerns owned and controlled by certified socially and economically **Disadvantaged Business Enterprise (DBE)**. The bidder shall make and document good faith efforts, as defined in Appendix A of 49 CFR Part 26, to meet this established goal.

Davis-Bacon Act, as amended – 29 CFR Part 5: The Contractor is required to comply with wage and labor provisions and to pay minimum wages in accordance with the current schedule of wage rates established by the United States Department of Labor.

Debarment, Suspension, Ineligibility and Voluntary Exclusion – 49 CFR Part 29: The bidder certifies, by submission of a proposal or acceptance of a contract, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. Individuals or companies listed in the General Services Administration's "Excluded Parties Listing System" will not be considered for award of contract.

Foreign Trade Restriction – 49 CFR Part 30

The Bidder and Bidder's subcontractors, by submission of an offer and/or execution of a contract, is required to certify that it:

- a. Is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- b. Has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
- c. Has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Buy American Certificate – Aviation Safety and Capacity Act of 1990:

This contract is subject to the "Buy American Preferences" of the Aviation Safety and Capacity Act of 1990. Per Title 49 U.S.C. Section 50101, all steel and manufactured products installed under an AIP assisted project must be produced in the United States unless the Federal Aviation Administration has granted a formal waiver.

As a condition of bid responsiveness, Bidders must complete and submit as part of their proposal the enclosed Buy American certification. Bidder must indicate whether it intends to meet Buy America preferences by only installing steel and manufactured products produced with the United State of America; or if it intends to seek a permissible waiver to the Buy America requirements.

PROJECT DESCRIPTION: Install Runway 17/35 Edge Lighting

This Notice is given by authority of the City of Storm Lake

Mayra Martinez, City Clerk

Storm Lake Municipal Airport
OT5.128791
March 2023

NOTICE TO BIDDERS

PAGE 00100-3

SECTION 00105 - NOTICE OF PUBLIC HEARING

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

Public Hearing on Proposed Contract Documents and Estimated Costs for Repair or Improvement. A public hearing will be held by the City of Storm Lake on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 5:00 P.M CDST on April 3, 2023, at City Hall, 620 Erie Street, Storm Lake, Iowa 50588.

PROJECT DESCRIPTION: Runway 17/35 Edge Lighting

At said hearing, the City Council will consider the plans, specifications, proposed form of contract, and estimated total cost for the project, the same now being on file in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said City Council will also receive and consider any objections to said plans, specifications, estimate of cost, and form of contract made by any interested party.

SECTION 00200 - INSTRUCTIONS TO BIDDERS

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

The work comprising the above referenced project shall be constructed in accordance with the FAA Standard Specifications, and as further modified by the supplemental specifications and special provisions included in the contract documents. The terms used in the contract version of the documents are defined in said Standard Specifications. Before submitting a bid, please review the requirements in these specifications. Please be certain that all documents have been completed properly as failure to complete and sign all documents and to comply with the requirements listed below can cause a submitted bid not to be read.

ARTICLE 1 - BID SECURITY

- 1.01 The bid security must be in the minimum amount of 5% of the total bid amount including all add alternates (do not deduct the amount of deduct alternates). Bid security shall be in the form of a cashier's check, or a certified check drawn on a FDIC insured bank in Iowa; or a certified check drawn on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn **ON A CREDIT UNION IN IOWA OR CHARTERED UNDER THE LAWS OF THE UNITED STATES; OR A BID BOND EXECUTED BY** a corporation authorized to contract as a surety in Iowa or satisfactory to the City Of Storm Lake, hereinafter called the "Jurisdiction".
- 1.02 The bid bond must be submitted on the **enclosed Bid Bond form as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink;** electronic, copies, or facsimile (fax) of any signature on the bid bond is not acceptable.
- 1.03 Bid security other than said bid bond shall be in accordance with Chapter 26 of the Iowa Code.

ARTICLE 2 - SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER

- 2.01 The proposal shall be sealed in an envelope, properly identified as the Proposal with the project title and the name and address of the bidder. The bid security shall be sealed in a separate envelope identified as the "Bid Security" and attached to the outside of the bid proposal envelope. The Proposal and Bid security shall be deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see that its proposal is delivered to the Jurisdiction prior to the time for opening bids along with the appropriate bid security. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered.
- 2.02 The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if any of these documents are omitted from the Proposal envelope.
 - A. PROPOSAL – Complete each of the following parts:
 - PART B – ACKNOWLEDGMENT OF ADDENDA, IF ANY HAVE BEEN ISSUED;
 - PART C – BID ITEMS, QUANTITIES AND PRICES;
 - PART F – ADDITIONAL REQUIREMENTS;
 - PART G – IDENTITY OF BIDDER;

- B. The following documents which are part of the proposal documents must be completed and attached:
1. Bidder Status Form
 2. Worksheet: Authorization To Transact Business
 3. Buy American Waiver Request
 4. Buy American Preference Construction Project Content Percentage Worksheet
 5. Buy American Conformance Listing
 6. DBE Utilization Statement
 7. DBE Letter of Intent
 8. Sign the proposal. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature will not be accepted.
 9. Documents must be submitted as printed. No alterations, additions, or deletions are permitted. If the Bidder notes a requirement in the contract documents which the Bidder believes will require a conditioned or unsolicited alternate bid, the Bidder must immediately notify the Engineer in writing. The Engineer will issue any necessary interpretation by an addendum.

ARTICLE 3 - PROSECUTION AND PROGRESS OF THE WORK

- 3.01 The work is located at the Storm Lake Municipal Airport.

Work on the improvement shall commence upon approval of the contract by the City of Storm Lake and as stated in the Notice to Proceed. All work under the Contract must be substantially complete as stated in Section 00500-Contract. Liquidated Damages will be assessed as detailed in the stated in Section 00500 - Contract.

- 3.02 Community Events.

Successful bidder will be required to coordinate with the owner and accommodate the owner's requirements for the following list of events:

NONE

- 3.03 Each successful bidder will be required to furnish a corporate surety bond in an amount equal to 100% of its contract price. Said bond shall be issued by a responsible surety approved by City of Storm Lake and shall guarantee the faithful performance of the contract, the terms and conditions therein contained, the prompt payment of all material and labor, protect and save harmless City of Storm Lake from claims and damages of any kind caused by the operations of the contract, and shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of one (1) year from and after acceptance of the work.
- 3.04 The City of Storm Lake, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42U.S.C. 2000d to 2000d-4 and title 49 Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that with any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

ARTICLE 4 - PREFERENCE OF PRODUCTS AND LABOR

4.01 In accordance with Iowa statutes, a resident bidder shall be allowed preference against a nonresident bidder from a state or foreign country provided that state or foreign country gives or requires any preference to bidders from that state or foreign country. This includes, but is not limited to, any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state of foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

4.02 Buy America Preference

- A. As a matter of bid responsiveness, Bidder must indicate within their proposal how they intend to comply with the Buy America preferences established by Title 49 USC 50101. The bidder may choose to certify it will comply with Buy America preferences by only installing steel and manufactured products that are 100% made in the United States; or the bidder may choose to certify that they cannot fully comply with Buy America preferences and thus requests a waiver to Buy America preferences.
- B. A bidder that certifies they will meet Buy America preferences by requesting a waiver also agrees to prepare and submit a formal waiver request and the associated component cost calculation if selected by the owner as the bidder with the apparent low bid. The successful bidder must submit their formal waiver request and component cost calculation to the owner within the timeframe prescribed on the Buy America certification.

4.03 Disadvantage Business Enterprise (DBE)

- A. The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the City of Storm Lake, Iowa to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders, including those who qualify as a Disadvantaged Business Enterprise.
- B. The Owner has established a DBE contract goal for this contract. The Goal is listed in the Notice to Bidders and Notice of Public Hearing. The Bidder/Offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to subcontract the prime contract to certified DBE firms as defined in 49 CFR Part 26.
- C. All bidders shall submit the following information with their proposal on the forms provided:
 - 1. The name and addresses of DBE firms that will participate in the contract;
 - 2. A description of the work that each DBE firm will perform;
 - 3. The dollar amount of the participation of each DBE firm participating;
 - 4. Written documentation of the Bidder/Offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
 - 5. Evidence of good faith efforts undertaken by the bidder, as described in appendix A to 49 CFR Part 26.

The successful Bidder will be required to provide written confirmation from the participating DBE firms verifying their intent to participate as in the project. This written confirmation shall be submitted prior to execution of the contract.

4.04 Good Faith Efforts (DBE)

Bidder must demonstrate that they made good faith efforts to achieve participation with DBE firms. This requires that the bidder show that it took all necessary and reasonable steps to secure participation by certified DBE firms. The owner will not consider mere pro forma efforts as a good faith effort.

Actions constituting evidence of good faith efforts are described in appendix A to 49 CFR Part 26. Such actions include but are not limited to:

- A. Soliciting DBE participation through all reasonable and available means. This may include public advertisements and phone calls/faxes to known certified DBE firms.
- B. Consult State Department of Transportation office to obtain a list of certified DBE firms.
- C. Selecting portions of work that increases the likelihood that DBE firms will be available to participate
- D. Providing DBE firms with sufficient information and time to review the project plans and specifications.
- E. Documenting all contacts with DBE firms. This includes name, address, phone number, date of contact and record of conversation/negotiation.

ARTICLE 5 - TAXES

- 5.01 The City of Storm Lake will issue a sales tax exemption certificate and authorization letters to the Contractor and all subcontractors for all materials purchased on the project. Tax exemption certificates are applicable only for the specific project for which the tax exemption certificate is issued.
- 5.02 The Contractor shall provide a listing to the City of Storm Lake identifying all appropriate subcontractors qualified for use of the tax exemption certificate. The Contractor and subcontractors may make copies of the certificate and provide to each supplier providing construction materials.
- 5.03 Income Tax:
 - A. Successful Bidder is subject to payment of Iowa income tax on income from this work in amounts prescribed by law.
 - B. If successful bidder is a non-Iowa partnership, individual or association, Bidder shall furnish evidence prior to execution of contract that bond or securities have been posted with the Iowa Department of Revenue in the amount required by law.

****END OF SECTION****

ITEMS TO BE SUBMITTED WITH THE BID

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

SECTION 00410 - PROPOSAL

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

PROPOSAL: PART A – SCOPE

The City of Storm Lake, hereinafter called the "Jurisdiction", has need of a qualified contractor to complete the work comprising the below referenced repair or improvement. The undersigned Bidder hereby proposes to complete the work comprising the below referenced repair or improvement as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588, at the prices hereinafter provided in Part C of the Proposal, for the following described improvements:

PROJECT DESCRIPTION: Install Runway 17/35 Edge Lighting

PROPOSAL: PART B – ACKNOWLEDGMENT OF ADDENDA

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER _____	ADDENDUM NUMBER _____
ADDENDUM NUMBER _____	ADDENDUM NUMBER _____

and certifies that said addenda were utilized in the preparation of this bid.

PROPOSAL: PART C – BID ITEMS AND QUANTITIES

UNIT BID PRICE CONTRACTS: The Bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Prices, and the Total Construction Costs on the Proposal Attachment: Part C – Bid Items and Quantities. In case of discrepancy, the **Unit Bid Price governs**. The quantities shown on the Proposal Attachment: Part C – Bid Items and Quantities are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. **The Total Base Bid plus all bid alternates shall be used for comparison of bids.** The jurisdiction shall only use the Total Construction Cost for determining the sufficiency of the bid security.

SEE INCLUDED PROPOSAL ATTACHMENT

PROPOSAL: PART D – GENERAL

The Bidder hereby acknowledges that the Jurisdiction, in advertising for public bids for this project reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total bid only, not including any alternates; and

3. Make such alterations in the contract documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and
4. Make The BIDDER, by submission of a proposal, acknowledges that award of this contract is subject to the provisions of the Davis-Bacon Act. The BIDDER accepts the requirement to pay prevailing wages for each classification and type of worker as established in the attached wage rate determination as issued by the United States Department of Labor. The BIDDER further acknowledges and accepts their requirement to incorporate the provision to pay the established prevailing wages in every subcontract agreement entered into by the Bidder under this project.
5. The BIDDER acknowledges that the OWNER has established a contract Disadvantaged Business Enterprise goal for this project. The contract goal established is provided in the Notice to Bidders and Notice of Public Hearing. The BIDDER acknowledges and accepts the requirement to apply and document good faith efforts, as defined in Appendix A, 49 CFR Part 26, for subcontracting a portion of the prime contract to certified Disadvantaged Business Enterprises (DBE), as defined in 49 CFR Part 26 for purposes of meeting the OWNER'S established goal. The BIDDER, in complying with this requirement, proposes participation by Disadvantaged Business Enterprises as stated on the attached forms, "Utilization Statement" and "Letter of Intent"; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Jurisdiction, provide proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code, and furnish a performance and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said bond; and
3. Commence the work upon written Notice to Proceed; and
4. Substantially complete the work on or before as detailed in Section 00500 – Contract; and
5. Pay liquidated damages for noncompliance with said completion provisions at the rate detailed in Section 00500 – Contract.

PROPOSAL: PART E – NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Jurisdiction; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and
3. That no part of the bid price received by the Bidder was or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and
4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to submit a sham bid or to refrain from bidding; and

5. That the bid has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder; and
6. That all statements in this proposal are true; and
7. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

PROPOSAL: PART F – ADDITIONAL REQUIREMENTS

The Bidder hereby agrees to comply with the additional requirements listed below which are included in this proposal and identified as proposal attachments:

The following documents are attached to and made a part of this Bid:

1. Bid Guaranty in the form of a completed Bid Bond in the amount of 5% (five percent) of the amount bid.
2. Completed "Bidder Status Form," signed and dated. The Worksheet: Authorization to Transact Business is not required to be submitted with the Bid. It is intended to be used to assist the bidder in completing the Bidder Status Form.
3. Completed "Buy American Certification Form for Manufactured Products," signed and dated. **If you check the first box certifying compliance with Buy American requirements, then additional forms listed below as item 4, item 5, and item 6 are not required.**
4. Completed "Buy American Waiver Request," signed and dated, if the second box is checked on the "Buy America Certification." Otherwise, attach form and indicate "N.A." on the form. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
5. Completed "Buy American Preference Construction Project Content Percentage Worksheet," signed and dated if "Buy America Waiver Request" is completed. Otherwise, attach form and indicate "N.A." on the form. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
6. Completed "Buy America Conformance Listing," signed and dated if signed and dated if "Buy America Waiver Request" is completed. Otherwise, attach form and indicate "N.A." on the form. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
7. Completed DBE forms "Utilization Statement"
8. Completed DBE "Letter of Intent". One copy shall be submitted for each DBE subcontractor. The "Letters of Intent" do not need to be signed by the DBE firms at the time of the bid opening. However, all other information in the letter must be provided with the bid. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
9. Evidence of good faith efforts required by 49 CFR Part 26, Appendix A. If proposed DBE goal is met, submittal of evidence of good faith efforts is not required.
10. Evidence of BIDDER'S qualifications per the requirements of the Instructions-to-Bidders.

PROPOSAL: PART G - IDENTITY OF BIDDER

The Bidder shall indicate whether the bid is submitted by a/an:

☐ Individual,
Sole Proprietorship

Bidder

☐ Partnership

Signature

☐ Corporation

By

Name (Print/Type)

☐ Limited Liability Company

Title

☐ Joint-venture; all parties must join-in and
execute all documents

Street Address

☐ Other

City, State, Zip Code

The bidder shall enter its Public
Registration Number ____ - ____
issued by the Iowa Commissioner of Labor
Pursuant Section 91C.5 of the Iowa Code.

Telephone Number

**Type or print the name and title of the company's
owner, president, CEO, etc. if a different person
than entered above**

Failure to provide said Registration
Number shall result in the bid being read
under advisement. A contract will not be
executed until the Contractor is registered.

Name

Title

**NOTE: The signature on this proposal must be an original signature in ink; copies, facsimiles, or
electronic signatures will not be accepted.**

SECTION 00410 – C - PROPOSAL

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

PROPOSAL ATTACHMENT: PART C – BID ITEMS AND QUANTITIES

This is a UNIT BID PRICE CONTRACT. The bidder must provide the Unit Bid Price, the total Bid Price, and the Total Bid Amount; in case of discrepancy, the Unit Bid Price governs. The Quantities shown on the Proposal Attachment: Part C – Bid Items and quantities are approximate only but are considered sufficiently adequate for the purpose of comparing bids. **The Jurisdiction shall use the Total Base Bid plus all bid alternate amounts for comparison of bids.**

SEE SCHEDULE OF PRICES ON NEXT PAGE

BASE BID

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	\$	\$
2	TRAFFIC CONTROL	LS	1	\$	\$
3	CONSTRUCTION SURVEY	LS	1	\$	\$
4	SEEDING FERTILIZING AND MULCHING	LS	1	\$	\$
5	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15000	\$	\$
6	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING	LF	11500	\$	\$
7	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12500	\$	\$
8	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$	\$
9	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$	\$
10	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	\$	\$
11	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	\$	\$
12	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	\$	\$
13	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	\$	\$
14	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	\$	\$
15	SPARE PARTS, AS LISTED	LS	1	\$	\$
16	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	\$	\$
		TOTAL AMOUNT BASE BID: \$			

TOTAL - BASE BID (Written Format): _____

BID ALTERNATE A

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
A1	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	\$	\$
A2	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	\$	\$
A3	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	\$	\$
A4	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	\$	\$
A5	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	\$	\$
A6	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	\$	\$
		TOTAL AMOUNT BID ALTERNATE A: \$			

TOTAL - BID ALTERNATE A (Written Format): _____

BID ALTERNATE B

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
B1	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	\$	\$
B2	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	\$	\$
		TOTAL AMOUNT BID ALTERNATE B: \$			

TOTAL - BID ALTERNATE B (Written Format): _____

TOTAL AMOUNT OF BASE BID AND ALL ALTERNATES:

TOTAL OF BASE BID AND ALL ALTERNATES: (Written Format): _____

Note: It is understood that the above quantities are estimated for the purpose of this bid. All quantities are subject to revision by the owner as noted in section 00500 - CONTRACT.

Bidder Name

Section 00411 - Bidder Status Form

To be completed by all bidders

Part A

Please answer "Yes" or "No" for each of the following:

- ☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).
- ☐ Yes ☐ No My company has an office to transact business in Iowa.
- ☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.
- ☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.
- ☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.
If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.
If you answered "No" to one or more questions above, your company is a non-resident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders

Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ to _____ Address: _____
(mm/dd/yyyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____
(mm/dd/yyyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____
(mm/dd/yyyy) City, State, Zip: _____

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders

Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State: _____
2. Does your company's home state or foreign country offer preferences to bidders who are residents? ☐ Yes ☐ No
3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

You may attach additional sheet(s) if needed.

To be completed by all bidders

Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

SECTION 00411 - WORKSHEET: AUTHORIZATION TO TRANSACT BUSINESS

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

- ☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.
- ☐ Yes ☐ No My business is a sole proprietorship, and I am an Iowa resident for Iowa income tax purposes.
- ☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.
- ☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.
- ☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa Secretary of State, has filed its most recent biennial report with the Secretary of State, and has neither received a certificate of withdrawal from the Secretary of State nor had its authority revoked.
- ☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.
- ☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.
- ☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state and has not filed a statement of termination.
- ☐ Yes ☐ No My business is a limited partnership, or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa Secretary of State that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.
- ☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.
- ☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

SECTION 00412 - BUY AMERICAN CERTIFICATION FORM FOR MANUFACTURED PRODUCTS

(Non-building projects such as airfield/roadway construction, equipment acquisition, etc.)

As a matter of bid responsiveness, the Bidder or Offeror must complete, sign, date, and submit this certification statement with their proposal. The Bidder or Offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (☐) or the letter "X".

- ☐ The Bidder or Offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States, or;
 - b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing, or;
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the Bidder or Offeror agrees:

- 1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
- 2. To faithfully comply with providing US domestic product.
- 3. To furnish US domestic product for any waiver request that the FAA rejects.
- 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- ☐ The Bidder or Offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent Bidder or Offeror with the apparent low bid agrees:

- 1. To submit to the Owner within 5 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
- 2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
- 3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
- 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver - The cost of the item components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the "item". The required documentation for a type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100% US domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

- a) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- b) Percentage of non-domestic component and subcomponent cost as compared to total “item” component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

- a) Detailed cost information for total project using US domestic product.
- b) Detailed cost information for total project using non-domestic product.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

SECTION 00412 - BUY AMERICA WAIVER REQUEST

Title 49 U.S.C Section 50101 (b)

FOR AIRFIELD DEVELOPMENT PROJECTS FUNDED UNDER THE AIRPORT IMPROVEMENT PROGRAM

Type of Waiver Request:

The bidder may request a waiver subject to the provisions of Section 50101(b)(3) or Section 50101(b)(4). The bidder may not request a waiver under Section 50101(b)(1) or Section 50101(b)(2). Bidder is hereby advised that the Owner's approval with the bidder's waiver request is contingent upon FAA approval. The bidder must select one of the following applicable waiver provisions:

☐ **Section 50101(b)(3):** Bidder hereby requests a waiver to Buy America preferences based upon Section 50101(b)(3) for the equipment identified below. The bidder certifies that _____ % of the cost of components and subcomponents comprising the equipment are produced in the United States and that final assembly occurs within the United States. *(Bidder must attach a copy of the component cost calculation table)*

Equipment: _____

☐ **Section 50101(b)(4):** Bidder hereby requests a waiver to Buy America preferences based upon Section 50101(b)(4). The bidder asserts provision of domestic material increases the cost of the overall project by more than 25%. *(Note: This type of waiver is very rare)*

Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.

Certification Signature:

In accordance with Section 50101(b), we request a waiver to the Buy America provisions based on the above certification and attached documentation.

Bidder's Firm Name

Date

Signature

1.1 Instructions for Section 50101(b)(3) Waiver:

1. "Equipment" in Section 50101 shall mean the following:
 - a) Individual type "L" items (Airfield Lighting Equipment) as listed in FAA Advisory Circular 150/5345-53.
 - b) Individual bid items as established within FAA Advisory Circular 150/5370-10. The bid item application may not be applied for the type "L" items listed in AC 150/5345-53.
 - c) A waiver request may only address one specific equipment item. Submit separate requests for each equipment item for which a waiver.
 - d) Items listed under the Nationwide Waiver do not require further review. Please refer to the following webpage: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls
2. The bidder must base the U.S. percentage upon the value that results from completing a component cost calculation table similar to the attached format. Bidder shall avoid mere pro forma efforts to establish the waiver request percentage. The Bidder must submit the component cost calculation table as an attachment to the waiver request.
3. Components/subcomponents are the material and products composing the "equipment".
4. The final assembly of the AIP-funded "equipment" must be within the USA (*Section 50101(b)(3)(B)*). Final assembly is the substantial transformation of the components and subcomponents into the end product.
5. All steel used in the "Equipment" must be produced in the United States.
6. The Buy American requirements apply to all tier contractors and subcontractors. All contractors/subcontractors are required to provide appropriate documentation that indicates origin of manufacturer and percentage of domestic made product.
7. The bidder is hereby advised there is no implied or expressed guarantee that a requested waiver will be issued by the Federal Aviation Administration (FAA). Less than 60% USA component/subcomponent proposed for this facility CANNOT be waived. Products made with foreign steel are not eligible for a waiver.

1.2 Instructions for Section 50101(b)(4) Waiver:

1. The 25% cost increase waiver is rarely applicable. Consult Owner before making this request.

1.3 North America Free Trade Act (NAFTA)

The NAFTA **does not** apply to the AIP. Products and material made in Canada or Mexico must be considered as foreign made products.



– CONFIDENTIAL –

NOT SUBJECT TO DISCLOSURE UNDER EXEMPTION # 4 OF THE FREEDOM OF INFORMATION ACT

**FAA Buy American Preference Construction
Project Content Percentage Worksheet**

Airport Sponsor:

Date:

Airport Worksite:

Worksite LOCID:

Project Description:

Total material cost: _____

U.S. Content: _____ %

Non-U.S. Content: _____ %

Project Material Structure List (Bill of Materials)

Line	Material Level (1 or 2)	Materials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

For FAA Use Only

Storm Lake Municipal Airport
0T5.128791
March 2023

PROPOSAL ATTACHMENT – BUY AMERICAN

PAGE 00412-5

Line	Material Level (1 or 2)	Materials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
SUBTOTAL				

For FAA Use Only

TOTAL MATERIAL COST

U.S. Content: _____ %

Non-U.S. Content: _____ %

The undersigned certifies that this information is true and accurate to the best of their knowledge. A false certification represents a violation of 18 U.S.C § 1001 and 49 U.S.C § 47126. Signatory has the burden of proof to establish compliance.

Signature: _____

Name:

Time:

Storm Lake Municipal Airport
OT5.128791
March 2023

PROPOSAL ATTACHMENT – BUY AMERICAN

SECTION 00412 - BUY AMERICA CONFORMANCE LISTING

Title 49 U.S.C Section 50101 (b)

FOR AIRFIELD DEVELOPMENT PROJECTS FUNDED UNDER THE AIRPORT IMPROVEMENT PROGRAM

- Preparation of a Component Cost Calculation Table is not necessary for equipment listed on the FAA national listing:
http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls
- Bidder shall submit a listing of equipment it proposes to install on the project that is included on the current National Buy American conformance list.

Equipment Type	Name of Manufacturer	Product Number

Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.

Certification Signature:

Bidder hereby certifies that the above listed equipment, which we propose for installation on the subject project, are on the current National Buy America Conformance list on the website listed above.

I hereby certify the above information is accurate and complete.

Bidder's Firm Name

Date

Signature

SECTION 00413 – DBE UTILIZATION STATEMENT

Disadvantage Business Enterprise

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner.
(Please mark the appropriate box)

- ☐ The bidder/offeror is committed to a minimum of _____% DBE utilization on this contract.
- ☐ The bidder/offeror, while unable to meet the DBE goal of _____%, hereby commits to a minimum of _____% DBE utilization on this contract and also submits documentation, as an attachment demonstrating good faith efforts (GFE).

The undersigned hereby further assures that the information included herein is true and correct, and that the DBE firm(s) listed herein have agreed to perform a commercially useful function in the work items noted for each firm. The undersigned further understands that no changes to this statement may be made without prior approval from the Civil Right Staff of the Federal Aviation Administration.

Bidder's/Offeror's Firm Name

Signature

Date

DBE UTILIZATION SUMMARY

<u>Percentage</u>	<u>Contract Amount</u>	<u>DBE Amount</u>	<u>Contract</u>
DBE Prime Contractor	\$ _____ x 1.00 =	\$ _____	_____ %
DBE Subcontractor	\$ _____ x 1.00 =	\$ _____	_____ %
DBE Supplier	\$ _____ x 0.60 =	\$ _____	_____ %
DBE Manufacturer	\$ _____ x 1.00 =	\$ _____	_____ %
Total Amount DBE		\$ _____	_____ %
DBE Goal		\$ _____	_____ %

Note: If the total proposed DBE participation is less than the established DBE goal, Bidder must provide written documentation of the good faith efforts as required by 49 CFR Part 26.

SECTION 00413 – DBE LETTER OF INTENT

Disadvantage Business Enterprise
(This page shall be submitted for each DBE firm)

Bidder/Offer Name: _____
Address: _____
City: _____ State: _____ Zip: _____

DBE Firm: DBE Firm: _____
Address: _____
City: _____ State: _____ Zip: _____

DBE Contact Person: Name: _____ Phone: _____

DBE Certifying Agency: _____ Expiration Date: _____

Each DBE Firm shall submit evidence (such as a photocopy) of their certification status.

Classification: ☐ Prime Contractor ☐ Subcontractor ☐ Joint Venture
☐ Manufacturer ☐ Supplier

Work item(s) to be performed by DBE	Description of Work Item	Quantity	Total

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above. The estimated participation is as follows:

DBE contract amount: \$ _____ Percent of total contract: _____%

AFFIRMATION:
The above-named DBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By: _____
(Signature) (Title)

Notes: In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

SECTION 00420 - BID BOND

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal, and

_____,
as Surety, are held and firmly bound unto, City of Storm Lake as Obligee, (hereinafter referred to as "the Jurisdiction"), in the penal sum of _____

_____, dollars (\$ _____),

lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Jurisdiction a certain proposal, in a separate envelope, and hereby made a part hereof, to enter into a contract in writing, for the following described improvements:

Install Runway 17/35 Edge Lighting

The Surety hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Jurisdiction may accept such bid or execute such Contract; and said Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Buena Vista County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of the bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all damages, costs, and attorney fees incurred by enforcing any of the provisions of this Bond. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers, and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against Surety for any amount guaranteed hereunder whether action is brought against Principal or whether Principal is joined in any such action or actions or not.

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

Signed and sealed this _____ day of _____, 2023.

SURETY:

PRINCIPAL:

By

Surety Company

Signature Attorney-in-Fact/Officer

Name of Attorney-in-Fact/Officer

Company Name

Company Address

City, State, Zip Code

Company Telephone Number

By

Bidder

Signature

Name (Print/Type)

Title

Address

City, State, Zip Code

Telephone Number

NOTE: All signatures on this bid bond must be original signatures in ink; electronic, copies, or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal or official adhesive seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or official adhesive seal.

ITEMS TO BE EXECUTED AFTER AWARD OF CONTRACT

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

SECTION 00500 - CONTRACT

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

THIS CONTRACT, made and entered into at _____
_____ this _____ day of _____, by and between
the City of Storm Lake hereinafter called the "Jurisdiction", and _____
_____, hereinafter called the "Contractor".

WITNESSETH:

The Contractor hereby agrees to complete the work comprising the Install Runway 17/35 Edge Lighting as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588. This contract includes all such contract documents. All work under this contract shall be constructed in accordance with the FAA Standard Specifications and as further modified by the Special Provisions, Technical Specifications and Supplemental Specifications included in said contract documents and the Contract Attachment which is attached hereto. The Contractor further agrees to complete the work in strict accordance with said contract documents, and to guarantee the work as required by law for the time required in said contract documents after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: Bid Items and Quantities which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders and Notice of Public Hearing for the following described improvements:

Install Runway 17/35 Edge Lighting

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid amount of _____ dollars (\$ _____), which amount shall constitute the required amount of the performance bond and payment bond. The Contractor hereby agrees to commence work as stated in the written Notice to Proceed; and substantially complete the work the work in accordance with the following contract provisions:

CONTRACT PROVISIONS

A. Completion of Work

1. Completion of work is further defined in FAA General Contract Provisions, paragraph 80-08.

B. Liquidated Damage

1. Liquidated damages shall be in accordance with FAA General Contract Provisions, paragraph 80-08, and as further stated below:

Schedule	Liquidated Damages Cost	Allowed Construction Time
Base Bid and Alternate Bid A	\$400 / Calendar Day	As prescribed in the Notice to Bidders
Alternate Bid B	\$100 / Calendar Day	As prescribed in the Notice to Bidders
Project Closeout (Punchlist Items and Documentation)	\$250 / Calendar Day	Start Date is Final Inspection – 21 Calendar Days

2. In addition to the above-mentioned liquated damages, the contractor also agrees to reimburse the owner, by a reduction in the final payment due to the contractor, an amount equal to the additional charges for engineering services incurred due to the continuance of work beyond the specified allotted contract completion date, working days or calendar days.

C. Maintenance Bond & Warranty

1. To remedy any and all defects that may develop in or result from work to be performed under the Contract with the City of Storm Lake, from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of said work.
2. Shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of one (1) year from and after acceptance of the work.

D. Bid Quantity Revisions

1. All quantities are estimates and subject to revision by the Jurisdiction.
2. Quantity changes are subject to the requirements of FAA General Provisions Section 20, paragraph 20-05 and Section 40, paragraph 40-02.

CONTRACTOR'S CERTIFICATIONS

- A. The Contractor understands and agrees that all certifications made by the Contractor within the Proposal shall apply under this Agreement as if fully rewritten herein. The Contractor further certifies the following;

1. Certification of Eligibility (29 CFR Part 5.5)

- a. By Entering into this contract, the CONTRACTOR certifies that neither he or she nor any person or firm who has an interest in the CONTRACTOR'S firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1);
- b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1);
- c. The penalty for making false statements is prescribed in the U.S. Criminal Code 18 U.S.C.

2. Certification of Non-Segregated Facilities (41 CFR Part 60-1.8)

- a. The federally assisted construction CONTRACTOR, certifies that it does not maintain or provide, for its employees, any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The BIDDER certifies that it will not maintain or provide, for its employees, segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Bidder agrees that a breach of this certification is a violation of the Equal Opportunity Clause, which is to be incorporated in the contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The Bidder agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that it will retain such certifications in its files.

IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION: City of Storm Lake

CONTRACTOR:

By

Mike Porsch, Mayor

(Seal)

ATTEST:

Signature, City Clerk

Company Name:

By

Name:

Title:

Street Address

City, State, Zip Code

Telephone

CONTRACTOR PUBLIC REGISTRATION INFORMATION TO BE PROVIDED BY:

1. All Contractors: The Contractor shall enter its Public Registration No. _____ issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code.
2. Out-of-State Contractors:
 - A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the division of labor services of the department of workforce development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the Jurisdictional Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.
 - B. Prior to entering into contract, the designated low bidder, if it is a corporation organized under the laws of a state other than Iowa, shall file with the Jurisdictional Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

Bond No. _____

Name of Surety _____

NOTE: All signatures on this contract must be original signatures in ink; electronic, copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

PARTNERSHIP ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ to me personally known, who being by me duly sworn, did say that the person is one of the partners of _____, a partnership, and that the instrument was signed on behalf of the partnership by authority of the partners and the partner acknowledged the execution of the instrument to be the voluntary act and deed of the partnership by it and by the partner voluntarily executed

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

INDIVIDUAL ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known to be the identical person(s) named in and who executed the foregoing instrument, and acknowledged that (he) (she) (they) executed the instrument as (his) (her) (their) voluntary act and deed.

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me a Notary Public in and for said county, personally appeared _____, to me personally known, who being by me duly sworn did say that person is _____ of said _____, that (the seal affixed to said instrument is the seal of said OR no seal has been procured by the said) _____, and that said instrument was signed and sealed on behalf of the said _____, by authority of its managers and the said _____ acknowledged the execution of said instrument to be the voluntary act and deed of said _____, by it voluntarily executed.

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

CONTRACT ATTACHMENT: ITEM 1: GENERAL - NONE

CONTRACT ATTACHMENT: ITEM 2: BID ITEMS AND, QUANTITIES

THIS CONTRACT IS AWARDED AND EXECUTED FOR COMPLETION OF THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS FOR THE BID PRICES TABULATED BELOW AS PROPOSED BY THE CONTRACTOR IN ITS PROPOSAL SUBMITTED IN ACCORDANCE WITH NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE JURISDICTION. THE JURISDICTION RESERVES THE RIGHT TO ADJUST QUANTITIES AS NECESSARY TO MAXIMIZE FUNDS BUDGETED FOR THIS PROJECT AS NOTED IN SECTION 00500 – CONTRACT

SECTION 00610 - PERFORMANCE BOND

Bond Number

PRINCIPAL *(Legal Name and Business Address)*

STATE OF INCORPORATION

SURETY *(Legal Name and Business Address)*

CONTRACT NO.

CONTRACT DATE

PENAL SUM OF BOND *(Expressed in words and numerals)*

OBLIGATION

KNOW ALL PERSONS BY THESE PRESENTS, that the above-named PRINCIPAL, hereinafter referred to and called CONTRACTOR, and the above-named SURETY hereby bind themselves unto The City of Storm Lake, 620 Erie Street, Storm Lake, Iowa, as OBLIGEE, hereinafter referred to and called OWNER, in the penal sum stated above, in lawful money of the United States of America to be paid to OWNER. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into the written contract agreement identified hereinabove with the OWNER for the following project:

Project Name: Install Runway 17/35 Edge Lighting

Project Location: Storm Lake Municipal Airport, Storm Lake, Iowa

which said contract and associated contract documents, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

CONDITION

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly and faithfully perform all undertakings, covenants, terms, conditions and agreements of the Contract during the original term of the Contract and any extensions thereof that are granted by the OWNER, with or without notice to the SURETY, and during the period of any guarantee or warranties required under the Contract, and if CONTRACTOR shall perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of the Contract that hereafter are made, then this obligation shall be void; otherwise it shall remain in full force and effect subject to the following additional conditions:

1. SURETY, for value received, hereby stipulates and agrees that no change, extension of time, modification, omission, addition or change in or to the Contract, or the work performed thereunder or the specifications accompanying the same, shall in any way affect the SURETY'S obligation on this bond; and SURETY hereby agrees to waive notice of any and all such extensions, modifications, omissions, alterations, and additions to the terms of the Contract, work or specifications.
1. Whenever CONTRACTOR shall be and declared by the OWNER to be in default under the Contract, the Surety shall promptly and at the SURETY'S expense remedy the default by implementing one or more of the following actions:

Storm Lake Municipal Airport
0T5.128791
March 2023

PERFORMANCE BOND

PAGE 00610-1

- a. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - b. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - c. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract; arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER'S concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract; and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the penal sum of the bond. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by OWNER to CONTRACTOR under the Contract and any amendments thereto, disbursed at the rate provided in the original contract, less the amount properly paid by OWNER to CONTRACTOR.
 - d. With written consent of the OWNER, SURETY may waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness, investigate and determine the amount the SURETY is liable to the OWNER and tender payment therefor to the OWNER.
2. CONTRACTOR and SURETY agree that if in connection with the enforcement of this Bond, the OWNER is required to engage the services of an attorney, that reasonable attorney fees incurred by the OWNER, with or without suit, are in addition to the balance of the contract price.
 3. No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the successors or assigns of the OWNER.

WITNESS

In witness whereof, this instrument is executed this the _____ day of _____, 2023.

INDIVIDUAL PRINCIPAL:

Company Name: _____

Signature: _____

Name: _____

Title: _____

CORPORATE PRINCIPAL:

ATTEST:

Corporate Name: _____

Signature: _____

Signature: _____

Name: _____

Name: _____

Title: _____

Title: _____

(Affix Corporate Seal)

SURETY:

ATTEST:

Surety Name: _____

Signature: _____

Signature: _____

Name: _____

Name: _____

Title: _____

Title: _____

(Affix Seal)

(Attach Power of Attorney)

OWNER ACCEPTANCE

The OWNER approves the form of this Performance Bond.

Date: _____

Signature: _____

Name: _____

Title: _____

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Seal)

SECTION 00620 - PAYMENT BOND

Bond Number

PRINCIPAL *(Legal Name and Business Address)*

STATE OF INCORPORATION

SURETY *(Legal Name and Business Address)*

CONTRACT NO.

CONTRACT DATE

PENAL SUM OF BOND *(Expressed in words and numerals)*

OBLIGATION

KNOW ALL PERSONS BY THESE PRESENTS, that the above-named PRINCIPAL, hereinafter referred to and called CONTRACTOR, and the above-named SURETY hereby bind themselves unto The City of Storm Lake, 620 Erie Street, Storm Lake, Iowa, as OBLIGEE, hereinafter referred to and called OWNER, in the penal sum stated above, in lawful money of the United States of America to be paid to OWNER. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into the written contract agreement identified hereinabove with the OWNER for the following project:

Project Name: Install Runway 17/35 Edge Lighting

Project Location: Storm Lake Municipal Airport, Storm Lake, Iowa

which said contract and associated contract documents, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

CONDITION

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly make payment to all employees, persons, firms or corporations for all incurred indebtedness and just claims for labor, supplies, materials and services furnished for or used in connection with the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect subject to the following additional conditions:

1. CONTRACTOR and SURETY indemnify and hold harmless the OWNER for all claims, demands, liens or suits that arise from performance of the Contract
2. SURETY, for value received, hereby stipulates and agrees that no change, extension of time, modification, omission, addition or change in or to the Contract, or the work performed thereunder or the specifications accompanying the same, shall in any way affect the SURETY'S obligation on this bond; and SURETY hereby agrees to waive notice of any and all such extensions, modifications, omissions, alterations, and additions to the terms of the Contract, work or specifications.
3. No final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.
4. The amount of this bond shall be reduced by and to the extent of any payments made in good faith hereunder.

Storm Lake Municipal Airport
0T5.128791
March 2023

PAYMENT BOND

PAGE 00620-1

5. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the SURETY under this Bond, subject to the OWNER'S priority to use the funds for the completion of the project.

WITNESS

In witness whereof, this instrument is executed this the _____ day of _____, 2023.

INDIVIDUAL PRINCIPAL:

Company Name: _____

Signature: _____

Name: _____

Title: _____

CORPORATE PRINCIPAL:

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Corporate Seal)

Corporate Name: _____

Signature: _____

Name: _____

Title: _____

SURETY:

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Seal)

Surety Name: _____

Signature: _____

Name: _____

Title: _____

(Attach Power of Attorney)

OWNER ACCEPTANCE

The OWNER approves the form of this Performance Bond.

Date: _____

Signature: _____

Name: _____

Title: _____

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Seal)

SECTION 00650 - INSURANCE REQUIREMENTS

The Contractor shall provide a Certificate of Liability Insurance (Acord Form 25 or equal). The City of Storm Lake and Bolton & Menk, Inc. shall be named as additional insured on the Certificate of Liability Insurance for all required insurances. The City of Storm Lake should be named as additional insured on a primary basis for ongoing and completed operations.

The Vendor/Contractor shall obtain and maintain through the term of this Subcontract and one year beyond, insurance with terms and limits of coverage equal to or in excess of those set forth in the specifications governing the Project, but in no event are such terms and limits to be less than those set forth below:

1. *Commercial General Liability*: Including coverage for premises and operations, independent contractors, products & completed operations and contractual liability and general aggregate per project endorsement; The City Of Storm Lake and should be named as additional insured on a primary basis for ongoing and completed operations:

Bodily Injury & Property Damage – Each Occurrence	\$1,000,000
Personal Injury & Advertising Injury – Per Person	\$1,000,000
General Aggregate on the Above	\$2,000,000
Products & Completed Operations General Aggregate	\$2,000,000

2. *Business Automobile*: Including coverage for all owned, non-owned and hired automobiles:

Bodily Injury & Property Damage – Each Accident	\$1,000,000
---	-------------

3. *Workers Compensation and Employers Liability*: Including coverage for Occupational Diseases

Part 1 – Workers Compensation Benefits	Statutory
--	-----------

4. *Employers Liability*:

Bodily Injury Each Accident	\$500,000
Bodily Injury by Disease Policy Limit	\$500,000
Bodily Injury by Disease Each Employee	\$500,000

5. At the Contractor's option, the above limits may be satisfied with a combination of primary and Umbrella/Excess Insurance.
6. All responsibility for maintenance of property and insurance on the work (including but not limited to *Builders Risk* and *Installation Floater*) remains solely with the Contractor who may at his option insure against any or all perils, and such responsibility shall remain with the Contractor until such time as the work is complete and accepted in writing by the Owner. It is a condition of the Contract that the Owner and Engineer and all Contractors, subcontractors and sub-subcontractors waive all rights of recovery against each other for damages caused by fire or other perils to the extent covered by any valid and collectible insurance, and further, that any policy not including the standard waiver of subrogation clause be so endorsed as to comply with this paragraph.

FAA SUPPLEMENTARY PROVISIONS

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

SUPPLEMENTARY PROVISIONS

PART A - FEDERAL CONTRACT PROVISIONS FOR CONSTRUCTION AND EQUIPMENT CONTRACTS

APPLICATION OF REFERENCES

ALL REFERENCES MADE HEREIN TO “CONTRACTOR”, “BIDDER”, AND “OFFEROR” SHALL PERTAIN TO THE PRIME CONTRACTOR. ALL REFERENCES MADE HEREIN TO “SUBCONTRACTOR” SHALL PERTAIN TO ANY AND ALL SUBCONTRACTORS UNDER CONTRACT WITH THE PRIME CONTRACTOR OR A SUBCONTRACTOR.

ALL REFERENCES MADE HEREIN TO “CONSULTANT” SHALL PERTAIN TO ARCHITECT/ENGINEER (A/E) UNDER CONTRACT WITH THE SPONSOR. ALL REFERENCES MADE HEREIN TO “SUBCONSULTANT” SHALL PERTAIN TO ANY AND ALL SUBCONSULTANTS UNDER CONTRACT WITH THE A/E.

ALL REFERENCES MADE HEREIN TO “SPONSOR” AND “OWNER” SHALL PERTAIN TO THE STATE, CITY, AIRPORT AUTHORITY OR OTHER PUBLIC ENTITY EXECUTING CONTRACTS WITH THE PRIME CONTRACTOR AND/OR THE A/E.

PROVISIONS APPLICABLE TO ALL CONTRACTS

ACCESS TO RECORDS AND REPORTS	3
BUY AMERICAN PREFERENCE	3
CIVIL RIGHTS – GENERAL	4
CIVIL RIGHTS – TITLE VI ASSURANCE	4
PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT	6
FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)	7
OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970	7
RIGHT TO INVENTIONS	7
SEISMIC SAFETY	7
TAX DELINQUENCY AND FELONY CONVICTIONS	8
TRADE RESTRICTION CERTIFICATION	8
VETERAN’S PREFERENCE	9
DOMESTIC PREFERENCES FOR PROCUREMENTS	9

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$2,000

COPELAND “ANTI-KICKBACK” ACT	10
DAVIS-BACON REQUIREMENTS	10

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$10,000

AFFIRMATIVE ACTION REQUIREMENT	17
DISTRACTED DRIVING.....	18
EQUAL EMPLOYMENT OPPORTUNITY (EEO)	18
PROHIBITION OF SEGREGATED FACILITIES	24
PROCUREMENT OF RECOVERED MATERIALS	24
TERMINATION OF CONTRACT	25

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$25,000

DEBARMENT AND SUSPENSION	28
--------------------------------	----

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$100,000

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS	29
LOBBYING AND INFLUENCING FEDERAL EMPLOYEES.....	30

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$150,000

CLEAN AIR AND WATER POLLUTION CONTROL	31
---	----

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$250,000

BREACH OF CONTRACT TERMS	32
DISADVANTAGED BUSINESS ENTERPRISE.....	32

PROVISIONS APPLICABLE TO ALL CONTRACTS

ACCESS TO RECORDS AND REPORTS

Reference: 2 CFR § 200.334
2 CFR § 200.337
FAA Order 5100.38

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

BUY AMERICAN PREFERENCE

Reference: 49 USC § 50101
Executive Order 14005, *Ensuring the Future is Made in All of America by All of America's Workers*
Bipartisan Infrastructure Law (Pub. L. No. 117-58), Build America, Buy America (BABA)

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws,¹ U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

¹ Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

CIVIL RIGHTS – GENERAL

Reference: 49 USC § 47123

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

CIVIL RIGHTS – TITLE VI ASSURANCES

Reference: 49 USC § 47123
FAA Order 1400.11

Title VI Solicitation Notice

The Sponsor, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);

- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

Nondiscrimination Requirements / Title VI Clauses for Compliance

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including

employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Sponsor to enter into any litigation to protect the interests of the Sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Reference: 2 CFR § 200, Appendix II(K)
2 CFR § 200.216

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

Reference: 29 USC § 201, et seq
2 CFR § 200.430

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, et seq, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

Reference: 20 CFR Part 1910

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

RIGHT TO INVENTIONS

Reference: 2 CFR Part 200, Appendix II(F)
37 CFR Part 401

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR § 401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

SEISMIC SAFETY

Reference: 49 CFR Part 41

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

TAX DELINQUENCY AND FELONY CONVICTIONS

Reference: Section 8113 of the Consolidated Appropriations Act, 2022 (Public Law 117-103) and similar provisions in subsequent appropriations acts
DOT Order 4200.6 – Appropriations Act Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions

The Contractor certifies:

- 1) It is not a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) It is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months. A felony conviction is a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

The Contractor agrees to incorporate the above certification in all lower tier subcontracts.

TRADE RESTRICTION CERTIFICATION

Reference: 49 USC § 50104
49 CFR Part 30

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror:

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when

submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

VETERAN'S PREFERENCE

Reference: 49 USC § 47112(c)

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC § 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

DOMESTIC PREFERENCES FOR PROCUREMENTS

Reference: 2 CFR § 200.322
2 CFR Part 200, Appendix II(L)

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$2,000

COPELAND “ANTI-KICKBACK” ACT

Reference: 2 CFR Part 200, Appendix II(D)
29 CFR Parts 3 and 5

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

DAVIS-BACON REQUIREMENTS

Reference: 2 CFR Part 200, Appendix II(D)
29 CFR Part 5
49 USC § 47112(b)
40 USC §§ 3141-3144, 3146, and 3147

1. Minimum Wages.

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer’s payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii) (A) thru (D)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor

may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) thru (D)

(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually

identifying number for each employee (*e.g.*, the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

- (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;
 - (2) That each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
 - (C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.
 - (D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.
- (iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further

payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees.

(i) Apprentices

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees

Except as provided in 29 CFR § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be

paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors)

and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

- (i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC § 1001.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$10,000

AFFIRMATIVE ACTION REQUIREMENT

Reference: 41 CFR Part 60-4
Executive Order 11246

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables:	Goal:
Goals for minority participation for each trade:	0.4%
Goals for female participation in each trade:	6.9%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is:

State	County	City
Iowa	Buena Vista	Storm Lake

DISTRACTED DRIVING

Reference: Executive Order 13513
DOT Order 3902.10

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

EQUAL EMPLOYMENT OPPORTUNITY (EEO)

Reference: 2 CFR Part 200, Appendix II(C)
41 CFR § 60-1.4
41 CFR § 60-4.3
Executive Order 11246

Equal Opportunity Clause

During the performance of this contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other

employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

- (4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Standard Federal Equal Employment Opportunity Construction Contract Specifications

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

- d. "Minority" includes:
- (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
 3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.;

by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
 10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
 11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
 12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
 13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.
 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep

records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

PROHIBITION OF SEGREGATED FACILITIES

Reference: 2 CFR Part 200, Appendix II(C)
41 CFR Part 60-1

- (a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.
- (b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
- (c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

PROCUREMENT OF RECOVERED MATERIALS

Reference: 2 CFR § 200.323
2 CFR Part 200, Appendix II(J)
40 CFR Part 247
42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA))

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

TERMINATION OF CONTRACT

Reference: 2 CFR Part 200, Appendix II(B)
FAA Advisory Circular 150/5370-10, Section 80-09

Termination for Convenience (Construction & Equipment Contracts)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2. Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

3. Reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
4. Reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Cause (Construction)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes standard language for conditions, rights, and remedies associated with Owner termination of this contract for cause due to default of the Contractor.

Termination for Cause (Equipment)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract for cause if the Contractor:

1. Fails to begin the Work under the Contract within the time specified in the Notice- to-Proceed;
2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within ten (10) days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with

the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$25,000

DEBARMENT AND SUSPENSION

Reference: 2 CFR Part 180 (Subpart B)
2 CFR Part 200, Appendix II(H)
2 CFR Part 1200
DOT Order 4200.5
Executive Orders 12549 and 12689

Certification of Offeror/Bidder Regarding Debarment

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

Certification of Lower Tier Contractors Regarding Debarment

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must confirm each lower tier participant of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally-assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>.
2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$100,000

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

Reference: 2 CFR Part 200, Appendix II(E)
2 CFR § 5.5(b)
40 USC § 3702
40 USC § 3704

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

Reference: 31 USC § 1352 – Byrd Anti-Lobbying Amendment
2 CFR Part 200, Appendix II(I)
49 CFR Part 20, Appendix A

Certification Regarding Lobbying

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$150,000

CLEAN AIR AND WATER POLLUTION CONTROL

References: 2 CFR Part 200, Appendix II(G)
42 USC § 7401, et seq
33 USC § 1251, et seq

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 USC §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

The Contractor must include this requirement in all subcontracts that exceed \$150,000.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$250,000

BREACH OF CONTRACT TERMS

Reference: 2 CFR § 200 Appendix II(A)

Any violation or breach of terms of this contract on the part of the Contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide Contractor written notice that describes the nature of the breach and corrective actions the Contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the Contractor must correct the breach. Owner may proceed with termination of the contract if the Contractor fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

DISADVANTAGED BUSINESS ENTERPRISE

Reference: 49 CFR Part 26

Solicitation Language (Solicitations that include a Contract Goal)

Bid Information Submitted as a matter of responsiveness:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein:

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Bid Information submitted as a matter of bidder responsibility:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsibility, every Bidder or Offeror must submit the following information on the forms provided herein within five days after bid opening.

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the Owner to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

Prime Contracts (Contracts Covered by a DBE Program)

Contract Assurance (49 CFR § 26.13)

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) calendar days from the receipt of each payment the prime contractor receives from Owner. The prime contractor agrees

further to return retainage payments to each subcontractor within thirty (30) calendar days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor listed in response to the above *Solicitation Language (Solicitations that include a Contract Goal)* section (or an approved substitute DBE firm) without prior written consent of Owner. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the Owner. Unless the Owner's consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The Owner may provide such written consent only if the Owner agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to the Owner its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the Owner, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise the Owner and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Owner should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the Owner may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

SECTION WR - PREDETERMINED WAGE RATE

General Decision Number: IA20230028 01/06/2023

Superseded General Decision Number: IA20220028

State: Iowa

Construction Types: Heavy and Highway

Counties: Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Black Hawk, Boone, Bremer, Buchanan, Buena Vista, Butler, Calhoun, Carroll, Cass, Cedar, Cerro Gordo, Cherokee, Chickasaw, Clarke, Clay, Clayton, Clinton, Crawford, Dallas, Davis, Decatur, Delaware, Des Moines, Dickinson, Dubuque, Emmet, Fayette, Floyd, Franklin, Fremont, Greene, Grundy, Guthrie, Hamilton, Hancock, Hardin, Harrison, Henry, Howard, Humboldt, Ida, Iowa, Jackson, Jasper, Jefferson, Johnson, Jones, Keokuk, Kossuth, Lee, Linn, Louisa, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Mills, Mitchell, Monona, Monroe, Montgomery, Muscatine, O'Brien, Osceola, Page, Palo, Alto, Plymouth, Pocahontas, Polk, Pottawattamie, Poweshiek, Ringgold, Sac, Shelby, Sioux, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, Wayne, Webster, Winnebago, Winneshiek, Woodbury, Worth and Wright Counties in Iowa.

HIGHWAY CONSTRUCTION PROJECTS and HEAVY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	• Executive Order 14026 generally applies to the contract. • The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	• Executive Order 13658 generally applies to the contract. • The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
0 01/06/2023

SUIA2022-001 03/15/2022

Storm Lake Municipal Airport
OT5.128791
March 2023

FAA SUPPLEMENTAL PROVISIONS – WAGE RATES

PAGE WR-1

	<u>Rates</u>	<u>Fringes</u>
CARPENTER & PILEDRIVERMEN		
ZONE 1.....	\$ 30.27	15.08
ZONE 2.....	\$ 28.48	15.23
ZONE 3.....	\$ 28.63	15.23
ZONE 4.....	\$ 27.85	12.80
ZONE 5**.....	\$ 26.75	11.20
CONCRETE FINISHER		
ZONE 1.....	\$ 29.05	10.10
ZONE 2.....	\$ 29.05	10.10
ZONE 3.....	\$ 29.05	10.10
ZONE 4.....	\$ 26.95	7.95
ZONE 5.....	\$ 25.90	7.95
ELECTRICIAN (STREET AND HIGHWAY LIGHTING AND TRAFFIC SIGNALS)		
ZONE 1, 2, AND 3.....	\$ 35.40	12.80
ZONE 4.....	\$ 34.10	11.80
ZONE 5.....	\$ 30.95	10.55
IRONWORKER (SETTING OF STRUCTURAL STEEL)		
ZONE 1.....	\$ 32.25	13.10
ZONE 2.....	\$ 30.16	13.55
ZONE 3.....	\$ 30.16	13.65
ZONE 4.....	\$ 28.00	12.65
ZONE 5**.....	\$ 26.15	11.85
LABORER		
ZONE 1, 2 AND 3		
GROUP A	\$ 24.39	11.39
GROUP AA	\$ 26.77	11.39
GROUP B	\$ 22.54	11.39
GROUP C.....	\$ 19.46	11.39
ZONE 4		
GROUP A	\$ 22.37	10.57
GROUP B	\$ 20.80	10.57
GROUP C.....	\$ 18.17	10.57
ZONE 5		
GROUP A	\$ 22.77	9.12
GROUP B	\$ 20.03	9.12
GROUP C.....	\$ 19.18	9.12
POWER EQUIPMENT OPERATOR		
ZONE 1		
GROUP A	\$ 34.25	16.00
GROUP B	\$ 32.70	16.00
GROUP C	\$ 30.20	16.00
GROUP D	\$ 30.20	16.00

	<u>Rates</u>	<u>Fringes</u>
ZONE 2		
GROUP A	\$ 33.55	16.00
GROUP B	\$ 31.95	16.00
GROUP C	\$ 29.40	16.00
GROUP D	\$ 29.40	16.00
ZONE 3		
GROUP A	\$ 31.15	27.20
GROUP B	\$ 29.35	27.20
GROUP C	\$ 28.35	27.20
GROUP D	\$ 28.35	27.20
ZONE 4		
GROUP A	\$ 31.60	15.85
GROUP B	\$ 30.46	15.85
GROUP C	\$ 28.38	15.85
GROUP D	\$ 28.38	15.85
ZONE 5		
GROUP A	\$ 29.52	12.50
GROUP B	\$ 28.48	12.50
GROUP C	\$ 26.75	12.50
GROUP D	\$ 25.75	12.50
TRUCK DRIVER (AND PAVEMENT MARKING DRIVER/SWITCHPERSON)		
ZONE 1	\$ 25.56	12.19
ZONE 2	\$ 25.56	12.19
ZONE 3	\$ 25.56	12.19
ZONE 4	\$ 25.56	8.24
ZONE 5	\$ 23.80	8.24

ZONE DEFINITIONS

ZONE 1 - The Counties of Polk, Warren, and Dallas for all Crafts, and Linn County Carpenters only.

ZONE 2 - The Counties of Dubuque for all Crafts and Linn County for all Crafts except Carpenters.

ZONE 3 - The Cities of Burlington (including West Burlington), Clinton, Fort Madison, Keokuk, and Middleton (including the Iowa Army Ammunition Plant) and Muscatine (and abutting municipalities of any such cities).

ZONE 4 - Story, Black Hawk, Cedar, Jasper, Jones, Jackson, Louisa, Madison, and Marion Counties; Clinton County (except the City of Clinton), Johnson County, Muscatine County (except the City of Muscatine), the City of Council Bluffs, Lee County and Des Moines County.

ZONE 5 - All areas of the state not listed above.

LABORER CLASSIFICATIONS - ALL ZONES

GROUP AA - (Zones 1, 2, and 3) Skilled pipelayer (sewer, water, and conduits) and tunnel laborers; asbestos abatement worker.

GROUP A - Carpenter tender on bridges and box culverts; CCTV*sewer inspection operator; curb machine (without a seat); deck hand; diamond & core drills; drill operator on air tracs, wagon drills, and similar drills; form setter/stringman on paving work; gunnite nozzleman; joint sealer kettleman; laser operator; powderman tender;

powderman/blaster; sign erector; saw operator; {(Zones 4 and 5) Skilled pipelayer (sewer, water, and conduits); tunnel laborer; asbestos abatement worker}. *new labor classification (CCTV: closed circuit television)

GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400 cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on emolition; drill tender; dumpmen; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chairs; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except strippers); paving breaker; planting trees, shrubs and flowers; power broom (not self-propelled); power buggyman; rakers; rodman (tying reinforcing steel); sandblaster; seeding and mulching; sewer utility topman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline, or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint strippers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor; water carrier.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - All terrain (off road) forklift; asphalt breakdown roller (vibratory); asphalt laydown machine; asphalt plant; asphalt screed; bulldozer (finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper; directional drill (60,000 (lbs) pullback and above); dragline and power shovel; dredge engineer; excavator (over ½ cu. yd.); front end loader (4 cy and over); horizontal boring machine; master mechanic; milling machine (over 350 hp); motor grader (finish); push cat; rubber tired backhoe (over ½ cu. yd.); scraper (12 cu. yd. and over or finish); Self-propelled rotary mixer/road reclaimer; sidebroom tractor; slipform portland concrete paver; tow or push boat; trenching machine (Cleveland 80 or similar)

GROUP B - Articulated off road hauler, asphalt heater/planer; asphalt material transfer vehicle; asphalt roller; belt loader or similar loader; bulldozer (rough); churn or rotary drill; concrete curb machine; crawler tractor pulling ripper, disk or roller; deck hand/oiler; directional drill (less than 60,000 (lbs) pullback); distributor; excavator (1/2 cu. yd. and under); form riding concrete paver; front end loader (2 to less than 4 cu. yd.); group equipment greaser; mechanic; milling machine (350 hp. and less); paving breaker; portland concrete dry batch plant; rubber tired backhoe (1/2 cu. yd. and under); scraper (under 12 cu. yd.); screening, washing and crushing plant (mobile, portable or stationary); shoulder machine; skid loader (1 cu. yd. and over); subgrader or trimmer; trenching machine; water wagon on compaction.

GROUP C - Boom & winch truck; concrete spreader/belt placer; deep wells for dewatering; farm type tractor (over 75 hp.) pulling disc or roller; forklift; front end loader (under 2 cu. yd.); motor grader (rough); pile hammer power unit; pump (greater than three inch diameter); pumps on well points; safety boat; self-propelled roller (other than asphalt); self-propelled sand blaster or shot blaster, water blaster or striping grinder/remover; skid loader (under 1 cu. yd.); truck mounted post driver.

GROUP D - Boiler; compressor; cure and texture machine; dow box; farm type or utility tractor (under 75 hp.) pulling disk, roller or other attachments; group greaser tender; light plants; mechanic tender; mechanical broom; mechanical heaters; oiler; pumps (under three-inch diameter); tree chipping machine; truck crane driver/oiler.

**** CARPENTERS AND PILEDRIVERMEN, or IRONWORKERS (ZONE 5)**

Setting of structural steel; any welding incidental to bridge or culvert construction; setting concrete beams.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at: <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four-letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM 0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014. Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier. Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the "UAVG" identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier. A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- an existing published wage determination
- a survey underlying a wage determination
- a Wage and Hour Division letter setting forth a position on a wage determination matter
- a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

FAA GENERAL CONTRACT PROVISIONS

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.

Paragraph Number	Term	Definition
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

Paragraph Number	Term	Definition
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.
10-31	Intention of Terms	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

Paragraph Number	Term	Definition
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is the City of Storm Lake.
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.

Paragraph Number	Term	Definition
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.

Paragraph Number	Term	Definition
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None for this Project.

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). The Owner, or their authorized agent, shall publish the advertisement at such places and at such times as are required by local law or ordinances. The published advertisement shall state the time and place for submitting sealed proposals; a description of the proposed work; instructions to bidders as to obtaining proposal forms, plans, and specifications; proposal guaranty required; and the Owner's right to reject any and all bids. If the Owner prequalifies bidders, they shall publish the advertisement at such places and at such times as are required by local law or ordinances.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to 10 percent of the total project cost.

If a pre-bid conference is to be held for the project, the time, date and place will be stated in the Notice to Bidders and Notice of Public Hearing section of this project manual. A pre-bid conference will discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests, if performed, are available for inspection of bidders and can be found in the appendices section of the project manual. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
- f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
- c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than seven (7) calendar days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within the time specified in the Notice to Bidders and Notice of Public Hearing Section of this project manual.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the

Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Section 40 Scope of Work

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of

effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

- a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the RPR; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions.

None

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): Electronic. This shall be applicable to all survey(s) throughout these specifications.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

Various measures such as videotape or photographs may be required to document existing conditions prior to start of construction. Construction traffic should be kept off airport pavements to the extent possible.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the

Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

Section 60 Control of Materials

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “or equal,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed “or equal” is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor’s plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner’s permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

NONE AT THIS TIME

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is located in the Construction Safety and Phasing Plan located in the project manual and a Construction Safety Plan is located in project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Phasing is addressed in detail in the Construction Safety And Phasing Plan (CSPP), located as an appendix item in this specification.

The most current version of A.C. 150/5370-2, *Operational Safety On Airports During Construction*, is an appendix item in this specification.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor’s responsibility for work. Until the RPR’s final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor’s responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition,

the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

None known; however, the contractor shall notify Iowa One Call, the airport manager, and the engineer at least 48 hours prior to any excavation work.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

At this time, no known FAA facilities or cable runs exist within the limits of this project.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized

representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. Refer to the Insurance Requirements section of this project manual.

END OF SECTION 70

Section 80 Execution and Progress

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least Twenty-Five (25%) percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR fourteen (14) days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within ten (10) days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of

work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

Closed areas and limitations in any given area are addressed in detail in the Construction Safety and Phasing Plan (CSPP), located as an appendix in this specification.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner and coordinated with the FAA. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The time for completion (stated as number of working days) shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on working days. Contract time based on working days shall be calculated weekly by the Resident Project Representative (RPR). The RPR will furnish the Contractor a copy of their weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved Change Orders or Supplemental Agreements covering Extra Work).

The weekly statement of contract time charged is based on the following considerations:

(1) Time will be charged for days on which the Contractor could proceed with scheduled work under construction at the time for at least six (6) hours with the normal work force employed on such items. When normal work force is a double-shift, use 12 hours; and when the normal work force is on a triple-shift, use 18 hours. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the scheduled work items under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The RPR will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The RPR will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The RPR will not make charges against the contract time after the date of final acceptance as defined in Section 50, paragraph 50-14, *Final Acceptance*.

(5) The Contractor will be allowed one (1) week in which to file a written protest setting forth their own objections to the RPR's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the Section 20, paragraph 20-05, *Interpretation of Estimated Proposal Quantities*. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Liquated damages shall be as described in the Contract Section of this project manual.

Portions of this project are highly based on availability of equipment, so the Engineer will coordinate issuing the NTP with the Contractor to ensure they have time-sensitive equipment prior to NTP.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.

Term	Description
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials received

	subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighting (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i>.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

- a. From the total of the amount determined to be payable on a partial payment, 5% (five percent) of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:
 - (1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-03. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.
 - (2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.
- b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.
- c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any

potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

- a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.
- b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.
- d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.
- e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and

such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

The Owner and Engineer may perform a warranty inspection with the Contractor approximately three (3) months before the end of the one year warranty period.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturer's warranties specified for materials, equipment, and installations.

- b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
- c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.
- d. Complete all punch list items identified during the Final Inspection.
- e. Provide complete release of all claims for labor and material arising out of the Contract.
- f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.
- g. When applicable per state requirements, return copies of sales tax completion forms.
- h. Manufacturer's certifications for all items incorporated in the work.
- i. All required record drawings, as-built drawings, or as-constructed drawings.
- j. Project Operation and Maintenance (O&M) Manual(s).
- k. Security for Construction Warranty.
- l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

FAA TECHNICAL SPECIFICATIONS

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within twelve months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
Figure 1 1 1/2 inch (37.5 mm)	467 or 4 and 67
Figure 2 1 inch (25 mm)	57
Figure 3 ¾ inch (19 mm)	67
Figure 4 ½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking.

Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

Crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test requirements but must meet all other quality tests specified in Item P-501.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I, II or V; ASTM C595 Type IP, IS and IL.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of the types conforming to the requirements listed below .

All reinforcing and joint steel shall be epoxy coated.

Steel Reinforcement

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064, ASTM A884

610-2.11 Materials for curing concrete. Curing materials shall conform to the requirements below:

Materials for Curing

White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309
--	------------------

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi (28 MPa) in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental to which the concrete is being used and no separate measurement shall be made for concrete complete in place and accepted. Reinforcing steel used in the concrete will also be considered incidental and no measurement shall be made.

BASIS OF PAYMENT

610-6.1 No separate payment shall be made for concrete or reinforcing steel as they shall be considered incidental for other bid items which the concrete is used. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within twelve months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
Figure 1 1 1/2 inch (37.5 mm)	467 or 4 and 67
Figure 2 1 inch (25 mm)	57
Figure 3 ¾ inch (19 mm)	67
Figure 4 ½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking.

Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

Crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test requirements but must meet all other quality tests specified in Item P-501.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I, II or V; ASTM C595 Type IP, IS and IL.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of the types conforming to the requirements listed below .

All reinforcing and joint steel shall be epoxy coated.

Steel Reinforcement

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064, ASTM A884

610-2.11 Materials for curing concrete. Curing materials shall conform to the requirements below:

Materials for Curing

White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309
--	------------------

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi (28 MPa) in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental to which the concrete is being used and no separate measurement shall be made for concrete complete in place and accepted. Reinforcing steel used in the concrete will also be considered incidental and no measurement shall be made.

BASIS OF PAYMENT

610-6.1 No separate payment shall be made for concrete or reinforcing steel as they shall be considered incidental for other bid items which the concrete is used. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

Item T-901 Seeding

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, fertilizing and mulching the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as follows:

Seed Properties and Rate of Application

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb/acre (or lb/1,000 S.F.)
Creeping red fescue	98	85	25
Turf-type perennial ryegrass ¹	95	90	20
Turf-type perennial ryegrass ¹	95	90	20
Kentucky bluegrass cultivar ²	85	80	65
Kentucky bluegrass cultivar ²	85	80	65
Kentucky bluegrass cultivar ²	85	80	65

² Choose two different cultivars of turf-type perennial ryegrass, at 20 lbs/acre each.

³ Choose three different cultivars of Kentucky bluegrass, at 65 lbs/acre each.

A commercial mixture may be used if it contains a high percentage of similar bluegrasses; it may or may not contain creeping red fescue.

Seeding shall be performed during the period between March 1 and May 31 or between August 10 and September 30 inclusive, unless otherwise approved by the RPR. For this project, the Contractor may complete seeding at any time as long as the grass becomes established. A proper stand of grass is the project requirement, without regards to when seeding is actually

completed. The date ranges noted above are typical for timeframes when seeding is more likely to become established in the state, but is not a requirement.

901-2.2 Lime. Not required.

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 13-13-13 commercial fertilizer and shall be spread at the rate of 750 pounds per acre (minimum).

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Not required.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

901-3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons (190 liters) over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons (380 liters) per minute at a pressure of 100 lb / sq inches (690 kPa). The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch (16 mm) solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet (6 to 30 m). One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For ease of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet (15 m) in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches (75 mm), after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work. The cost of regrading, reseeding, mowing, watering and/or other maintenance practices needed to establish an acceptable stand of grass shall be borne by the contractor.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR.

A grass stand shall be considered adequate when bare spots are one square foot (0.01 sq m) or less, randomly dispersed, and do not exceed 3% of the area seeded.

Following rain events, the Contractor shall immediately (maximum 48 hour response time) address erosion, washout, and surface irregularities within the runway/taxiway safety area once the runway/taxiway is opened for aircraft operations. The runway/taxiway safety area grading must be met at all times when the runway/taxiway is open for aircraft operations.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding will not be measured.

BASIS OF PAYMENT

901-5.1 Payment shall be made at the lump sum price for this item. All seeding and fertilizing work shall be included in this bid item for which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item 901-5.1 Seeding, Fertilizing and Mulching per Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC JJJ-S-181, Federal Specification, Seeds, Agricultural

Storm Lake Municipal Airport

OT5.128791

March 2023

ITEM T-901 SEEDING

ITEM T-901 PAGE -4

Advisory Circulars (AC)

AC 150/5200-33

Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

Item T-908 Mulching

DESCRIPTION

908-1.1 This item shall consist of furnishing, hauling, placing, and securing mulch on surfaces indicated on the plans or designated by the RPR.

MATERIALS

908-2.1 Mulch material. Acceptable mulch shall be the materials listed below or any approved locally available material that is similar to those specified. Mulch shall be free from noxious weeds, mold, and other deleterious materials. Mulch materials, which contain matured seed of species that would volunteer and be detrimental to the proposed overseeding, or to surrounding farm land, will not be acceptable. Straw or other mulch material which is fresh and/or excessively brittle, or which is in such an advanced stage of decomposition as to smother or retard the planted grass, will not be acceptable.

a. Hay. Hay shall be native hay in an air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Hay shall be sterile, containing no fertile seed.

b. Straw. Straw shall be the stalks from threshed plant residue of oats, wheat, barley, rye, or rice from which grain has been removed. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Straw shall contain no fertile seed.

c. Hay mulch containing seed. Hay mulch shall be mature hay containing viable seed of native grasses or other desirable species stated in the special provisions or as approved by the RPR. The hay shall be cut and handled so as to preserve the maximum quantity of viable seed. Hay mulch that cannot be hauled and spread immediately after cutting shall be placed in weather-resistant stacks or baled and stored in a dry location until used.

d. Manufactured mulch. Cellulose-fiber or wood-pulp mulch shall be products commercially available for use in spray applications.

e. Asphalt binder. Asphalt binder material shall conform to the requirements of ASTM D977, Type SS-1 or RS-1.

908-2.2 Inspection. The RPR shall be notified of sources and quantities of mulch materials available and the Contractor shall furnish him with representative samples of the materials to be used 30 days before delivery to the project. These samples may be used as standards with the approval of the RPR and any materials brought on the site that do not meet these standards shall be rejected.

CONSTRUCTION METHODS

908-3.1 Mulching. Before spreading mulch, all large clods, stumps, stones, brush, roots, and other foreign material shall be removed from the area to be mulched. Mulch shall be applied immediately after seeding. The spreading of the mulch may be by hand methods, blower, or other mechanical methods, provided a uniform covering is obtained.

Mulch material shall be furnished, hauled, and evenly applied on the area shown on the plans or designated by the RPR. Straw or hay shall be spread over the surface to a uniform thickness at the rate of 2 to 3 tons per acre (1800 - 2700 kg per acre) to provide a loose depth of not less than 1-1/2 inches (38 cm) nor more than 3 inches (75 mm). Other organic material shall be spread at the rate directed by the RPR. Mulch may be blown on the slopes and the use of cutters in the equipment for this purpose will be permitted to the extent that at least 95% of the mulch in place on the slope shall be 6 inches (150 mm) or

more in length. When mulches applied by the blowing method are cut, the loose depth in place shall be not less than one inch (25 mm) nor more than 2 inches (50 mm).

908-3.2 Securing mulch. The mulch shall be held in place by light discing, a very thin covering of topsoil, pins, stakes, wire mesh, asphalt binder, or other adhesive material approved by the RPR. Where mulches have been secured by either of the asphalt binder methods, it will not be permissible to walk on the slopes after the binder has been applied. When an application of asphalt binder material is used to secure the mulch, the Contractor must take every precaution to guard against damaging or disfiguring structures or property on or adjacent to the areas worked and will be held responsible for any such damage resulting from the operation.

If the “peg and string” method is used, the mulch shall be secured by the use of stakes or wire pins driven into the ground on 5-foot (1.5-m) centers or less. Binder twine shall be strung between adjacent stakes in straight lines and crisscrossed diagonally over the mulch, after which the stakes shall be firmly driven nearly flush to the ground to draw the twine down tight onto the mulch.

908-3.3 Care and repair.

a. The Contractor shall care for the mulched areas until final acceptance of the project. Care shall consist of providing protection against traffic or other use by placing warning signs, as approved by the RPR, and erecting any barricades that may be shown on the plans before or immediately after mulching has been completed on the designated areas.

b. The Contractor shall be required to repair or replace any mulch that is defective or becomes damaged until the project is finally accepted. When, in the judgment of the RPR, such defects or damages are the result of poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement shall be borne by the Contractor.

c. If the “asphalt spray” method is used, all mulched surfaces shall be sprayed with asphalt binder material so that the surface has a uniform appearance. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m), or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it. Asphalt binder material may be sprayed on the mulched slope areas from either the top or the bottom of the slope. An approved spray nozzle shall be used. The nozzle shall be operated at a distance of not less than 4 feet (1.2 m) from the surface of the mulch and uniform distribution of the asphalt material shall be required. A pump or an air compressor of adequate capacity shall be used to ensure uniform distribution of the asphalt material.

d. If the “asphalt mix” method is used, the mulch shall be applied by blowing, and the asphalt binder material shall be sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m) or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it.

METHOD OF MEASUREMENT

908-4.1 Mulching will not be measured.

BASIS OF PAYMENT

908-5.1 No separate payment will be made for mulching. It shall incidental to bid items under specification section T-901 Seeding.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D977 Standard Specification for Emulsified Asphalt

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-908

Item L-101 Airport Rotating Beacons**DESCRIPTION**

101-1.1 This item shall consist of removal of existing rotating beacon and furnishing and installing new airport rotating beacons. The existing rotating beacon tower shall be used as constructed. The work shall include mounting, leveling, wiring, painting, maintaining, and testing of the beacon. In addition, this item also includes all materials and incidentals necessary to place the beacon in a serviceable condition (as a completed unit) to the satisfaction of the RPR. This item shall include a mounting platform if specified in the plans.

EQUIPMENT AND MATERIALS**101-2.1 General.**

a. Airport lighting equipment and materials covered by advisory circulars (ACs) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials that are per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials, that are per these specifications, at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly mark each copy to identify the products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components or electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the Contract Documents plans and specifications. The Contractor's submittals shall be in an electronic pdf file format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed in this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

101-2.2 Beacon. The beacon shall be a Type L-802A (L) Class 2 beacon meeting the requirements of AC 150/5345-12, Specification for Airport and Heliport Beacons. Beacon shall be supplied with large polycarbonate resin spikes running along each beacon head to deter birds.

101-2.3 Beacon installation. Installation shall be as shown on the plans. Provide two lamp sets as spares. See AC 150/5340-30, Design and Installation Details for Airport Visual Aids, for airport beacon.

101-2.4 Panel boards and breakers. Panel boards and breakers shall conform to the requirements of Federal Specification W-P-115, Panel, Power Distribution.

101-2.5 Weatherproof cabinets. The weatherproof cabinets shall conform to National Electrical Manufacturers Association Standards (NEMA) and shall be constructed of steel not less than No. 16 United States Standard (USS) gauge.

101-2.6 Electrical wire. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be the type, size, number of conductors, and voltage shown in the plans or in the proposal.

101-2.7 Conduit. Rigid steel conduit and fittings shall be per Underwriters Laboratories Standards 6, 514B, and 1242.

101-2.8 Paint.

a. Priming paint for non-galvanized metal surfaces shall be a high solids alkyd primer compatible with the manufacturer's recommendations for the intermediate or topcoat.

b. Priming paint for galvanized metal surfaces shall be a zinc-rich epoxy primer paint per MIL-DTL-24441/19C, Formula 159, Type III. Use MIL-24441 thinner per paint manufacturer's recommendations.

c. Orange paint for the body and the finish coats on metal and wood surfaces shall consist of a ready-mixed non-fading paint meeting the requirements of Master Painter's Institute (MPI) Reference #9 (gloss). The color shall be per Federal Standard 595, International Orange Number 12197.

d. White paint for body and finish coats on metal and wood surfaces shall be ready-mixed paint per the Master Painter's Institute, Reference #9, Exterior Alkyd, Gloss, volatile organic content (VOC) Range E2.

e. Priming paint for wood surfaces shall be mixed on the job by thinning the above-specified orange or white paint with 1/2 pint (0.24 liter (l)) of raw linseed oil to each gallon (liter).

CONSTRUCTION METHODS

101-3.1. Placing the beacon. The beacon shall be mounted as shown in the plans. The beacon shall be mounted to the existing beacon tower. If needed the contractor shall provide a tower mounting kit or shall field fabricate a mounting method.

101-3.2 Hoisting and mounting. The beacon shall be hoisted to the mounting platform by using suitable slings and hoisting tackle. Before fastening the beacon to the mounting platform, the mounting holes shall be checked for correct spacing. Beacon base or mounting legs shall not be strained or forced out of position to fit incorrect spacing of mounting holes. The beacon base shall be raised first, set in position, and bolted in place. The drum shall then be raised and assembled to the base.

101-3.3 Leveling. After the beacon has been mounted, it shall be accurately leveled following the manufacturer's instructions. The leveling shall be checked in the presence of the RPR and shall be to the RPR's satisfaction.

101-3.4 Servicing. Before placing the beacon in operation, the Contractor shall check the manufacturer's manual for proper servicing requirements. Follow the manufacturer's servicing instructions for each size of beacon.

101-3.5 Beam adjustment. After the beacon has been mounted and leveled, the elevation of the beam shall be adjusted. The final beam adjustments shall be made at night so that results can be readily observed. The beams shall be adjusted to the elevation directed by the RPR or as shown in the plans. See AC 150/5340-30 for additional information about airport beacon beam adjustment.

101-3.6 Beacon mounting platform. Where the beacon is to be mounted at a location other than the beacon tower and where a special mounting platform is required, the construction of the mounting platform and any necessary lightning protection equipment shall be per the details shown in the plans.

101-3.7 Wiring. The Contractor shall furnish all necessary labor and materials and shall make complete above ground electrical connections per the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code (NEC).

If underground cable for the power feed from the transformer vault to the beacon site and duct for this cable installation is required, the cable, ground rods and duct shall be installed as shown on the plans.

If lightning protection is specified in the plans, it shall be installed per Item L-103, Airport Beacon Towers, paragraph 103-2.3.

101-3.8 Panel and cabinet. If shown on the plans, the Contractor shall furnish and install at the top of the beacon tower or mounting platform a circuit-breaker panel consisting of four 15-ampere breakers mounted in a weather-proof cabinet to provide separate protection for the circuits to the beacon lamps, motor, obstruction lights, and other equipment. The cabinet shall be located on the side of the beacon platform as shown on the plans or as directed by the RPR.

101-3.9 Conduit. All exposed wiring shall be run in not less than 3/4 inch (19 mm) galvanized rigid steel conduit. Outdoor rated, liquid-tight, flexible metal conduit may be used for final connection at the beacon equipment. No conduit shall be installed on top of a beacon platform floor. All conduits shall be installed to provide for drainage. If mounted on a steel beacon tower, the conduit shall be fastened to the tower members with Wraplock® straps (or equivalent), clamps, or approved fasteners, spaced approximately 5 feet (1.5 m) apart. The conduit shall be fastened to wooden structures with galvanized pipe straps and with galvanized wood screws not less than No. 8 or less than 1-1/4 inches (32 mm) long. There shall be at least two fastenings for each 10 feet (3 m) length.

101-3.10 Booster transformer. The installation shall be as indicated in the plans and described in the specifications, if used.

101-3.11 Photoelectric control. If shown in the plans or specified in the job specifications, the Contractor shall furnish and install an automatic control switch at the location indicated in the plans. The switch shall be a photoelectric type. It shall be a standard commercially available unit that will energize when the illumination on a vertical surface facing North decreases to 25 to 35 foot-candles (269 to 377 lux). The photoelectric switch should de-energize when the illumination rises to 50 to 60 foot-candles (538 to 646 lux). The photoelectronic switch shall be installed, connected, and adjusted per the manufacturer's instructions.

101-3.12 Obstruction lights. Unless otherwise specified, the Contractor shall install on the top of the beacon tower or mounting platform two L-810 obstruction lights on opposite corners. These lights shall be mounted on conduit extensions to a height of not less than 4 inches (100 mm) above the top of the beacon.

101-3.13 Painting. If construction of a wooden mounting platform is stipulated in the proposal as part of this item, all wooden parts of the platform shall be given one priming coat of white or aviation-orange paint after fabrication but before erection and one body and one finish coat of international-orange paint after erection. Steel mounting platforms shall be given one priming coat of corrosion-inhibiting primer before erection and one body and one finish coat of international-orange paint after erection. All equipment installed under this contract and exposed to the weather shall be given one body and one finish coat of international-orange (per Federal Standard 595, Number 12197) or white paint as required. This shall include the beacon (except glass surfaces), beacon base, breaker cabinet, all conduit, and transformer cases. It shall not include lightning protection system air terminals or obstruction light globes.

Apply the paint uniformly at the proper consistency. The finished paint shall be free from sags, holidays, and smears. Each coat of paint shall be given ample time to dry and harden before the next coat of paint is applied. A minimum of three (3) days shall be allowed for drying on wood surfaces, and a minimum of four (4) days shall be allowed for drying on metal surfaces. Painting shall not be performed in cold, damp, foggy, dusty, or frosty atmospheres, or when the air temperature is below 40°F (4°C), nor started when the weather forecast indicates such conditions for the day.

All surfaces shall be cleaned before painting. The surfaces shall be dry and free from scale, grease, rust, dust, and dirt. All knots in wood surfaces shall be covered with shellac immediately before applying the priming coat of paint. Nail holes and permissible imperfections shall be filled with putty. The ready-mixed paint shall be thinned for the priming and body coats per the manufacturer's recommendations. In the absence of such recommendations, the following shall apply:

a. Body coats (for both wood and steel surfaces) - add 1/2 pint (0.24 liter) of turpentine to each gallon (liter) of ready-mixed paint for body coats.

b. Finish coats (for both wood and steel surfaces) the ready-mixed paint shall be used as it comes from the container for finish coats.

101-3.14 Testing. The beacon installation shall be fully tested as a completed unit prior to acceptance. These tests shall include operation of the lamp-changer and performing insulation resistance and voltage readings. The insulation resistance to ground of the beacon power supply circuit shall be not less than 100 megohms when measured ungrounded. The

Contractor must furnish testing equipment. Tests shall be conducted in the presence of the RPR and shall be to the RPR's satisfaction.

METHOD OF MEASUREMENT

101-4.1 The quantity to be paid for shall be the number of beacons installed as completed units in place, accepted, and ready for operation.

BASIS OF PAYMENT

101-5.1 Payment will be made at the contract unit price for each completed and accepted job. This price shall be full compensation for removal of existing beacon; furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-101-5.1	L-802A (L) LED High Intensity Rotating Beacon, Owner Furnished, Contractor Installed, in Place - per Each
-----------------------	---

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5345-7	Specification for L-824 Underground Cable for Airport Lighting Circuits
AC 150/5345-12	Specification for Airport and Heliport Beacons
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program
AC 150/5390-2	Heliport Design

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
------------	--

Federal Specification (FED SPEC)

FED SPEC W-P-115	Panel, Power Distribution
------------------	---------------------------

Federal Standard (FED STD)

FED STD 595	Colors Used in Government Procurement
-------------	---------------------------------------

Master Painter Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)
------------------	--

Mil Spec

MIL-DTL-24441C/19C Paint, Epoxy-Polyamide, Zinc Primer, Formula 159, Type III

National Fire Protection Association (NFPA)

NFPA-70 National Electric Code (NEC)

NFPA-780 Standard for the Installation of Lightning Protection Systems

Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit – Steel

UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 1242 Electrical Intermediate Metal Conduit - Steel

END OF ITEM L-101

Item L-107 Airport Wind Cones

DESCRIPTION

107-1.1 This item shall consist of removal of existing airport wind cones; furnishing and installing an airport wind cone per these specifications and per the dimensions, design, and details shown in the plans.

The work shall include the furnishing and installation of a support for mounting the wind cone, the specified interconnecting wire, and a concrete foundation. The item shall also include all cable connections, conduit and conduit fittings, the furnishing and installation of all lamps, ground rod and ground connection, the testing of the installation, and all incidentals necessary to place the wind cone in operation (as a completed unit) to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

107-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (ACs) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications, at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications in electronic pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures, that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics." Obstruction lighting warranty is set by the individual manufacturer.

107-2.2 Wind cones. The wind cones shall be as follows:

Primary wind cone assembly shall be Type L-807 (L) LED, Style I-B, Size 2.

107-2.3 Electrical wire and cable. Cable rated up to 5,000 volts in conduit shall conform to AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

107-2.4 Conduit. Rigid steel conduit and fittings shall conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242.

107-2.5 Plastic conduit (for use below grade only). Plastic conduit and fittings shall be per the following:

- UL 514B covers W-C-1094 - Conduit fittings all types, Classes 1 thru 3 and 6 thru 10
- UL 514C covers W-C-1094 - all types, Class 5 junction box and cover in plastic (polyvinyl chloride (PVC))
- UL 651 covers W-C-1094 - Rigid PVC Conduit, types I and II, Class 4
- UL 651A covers W-C-1094 - Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4

Underwriters Laboratories Standard UL-651 shall be one of the following, as shown in the plans:

- a. Type I—Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II—Schedule 40 PVC suitable for either above ground or underground use.

Plastic conduit adhesive shall be a solvent cement manufactured specifically for the purpose of gluing the type of plastic conduit and fitting.

107-2.6 Concrete. The concrete for foundations shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If Item P-610 is not included in the project manual, then the concrete foundations shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 25% Type F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

107-2.7 Paint.

a. Priming paint for non-galvanized metal surfaces shall be a high solids alkyd primer compatible with the manufacturer's recommendations for the intermediate or topcoat.

b. Priming paint for galvanized metal surfaces shall be zinc dust-zinc oxide primer paint conforming to MIL-DTL-24441C/19B. Use MIL-24441 thinner per paint manufacturer's recommendations.

c. Orange paint for the body and the finish coats on metal and wood surfaces shall consist of a ready-mixed non-fading paint per Master Painter's Institute (MPI) Reference #9 (gloss). The color shall be per Federal Standards 595, International Orange, Number 12197.

d. White paint for body and finish coats on metal and wood surfaces shall be ready-mixed paint conforming to the MPI, Reference #9, Exterior Alkyd, Gloss.

e. Priming paint for wood surfaces shall be mixed on the job by thinning the above specified aviation-orange or white paint by adding 1/2 pint (0.24 liter) of raw linseed oil to each gallon (liter).

CONSTRUCTION METHODS

107-3.1 Installation. The hinged support or hinged pole shall be installed on a concrete foundation per the plans.

107-3.2 Support pole erection. The Contractor shall erect the pole on the foundation following the manufacturer's requirements and erection details. The pole shall be level and secure.

107-3.3 Electrical connection. The Contractor shall furnish all labor and materials and shall make complete electrical connections per the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electric Code (NEC).

Underground cable and duct for cable installation shall be installed in accordance with Item L-108, Underground Power Cables for Airports, and Item L-110, Airport Underground Electrical Duct Banks and Conduits in locations as shown on the plans.

107-3.4 Booster transformer. The installation shall be as indicated in the plans and described in the specifications, if required.

107-3.5 Ground connection and ground rod. The Contractor shall furnish and install a ground rod, grounding cable, and ground clamps for grounding the "A" frame of the 12-foot (3.7-m) assembly or pipe support of the 8-foot (2.4-m) support near the base. The ground rod shall be of the type, diameter and length specified in Item L-108, Underground Power Cable for Airports. The ground rod shall be driven into the ground adjacent to the concrete foundation (minimum distance from foundation of 2 feet (60 cm)) so that the top is at least 6 inches (150 mm) below grade. The grounding cable shall consist of No. 6 American wire gauge (AWG) minimum stranded copper wire or larger and shall be firmly attached to the ground rod by exothermic welding. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. The other end of the grounding cable shall be securely attached to a leg of the frame or to the base of the pipe support with non-corrosive metal and shall be of substantial construction. The resistance to ground shall not exceed 25 ohms. If a single rod grounding electrode has a resistance to earth of over 25 ohms, then install one supplemental rod not less than 10 feet from the first rod. If desired resistance to ground levels are still not achieved, see FAA-STD-019 for guidance on the application of coke breeze.

107-3.6 Painting. Three coats of paint shall be applied (one prime, one body, and one finish) to all exposed material installed under this item except the fabric cone, obstruction light globe, and lamp reflectors. The wind cone assembly, if already painted upon receipt, shall be given one finish coat of paint in lieu of the three coats specified above. The paint shall be per MPI Reference #9 (gloss). The color shall be per Federal Standard 595, International Orange, Number 12197.

107-3.7 Light sources. The Contractor shall furnish and install lamps per the manufacturer's instruction book.

107-3.8 Chain and padlock. The Contractor shall furnish and install a suitable operating chain for lowering and raising the hinged top section. The chain shall be attached to the pole support in a manner to prevent the light fixture assembly from striking the ground in the lowered position.

A padlock shall also be furnished by the Contractor on the 8-foot (2.4-m) wind cone for securing the hinged top section to the fixed lower section. Keys for the padlock shall be delivered to the RPR.

107-3.9 Segmented circle. Not Required

METHOD OF MEASUREMENT

107-4.1 The quantity to be paid shall be the number of wind cones installed as completed units in place, accepted, and ready for operation.

BASIS OF PAYMENT

107-5.1 Payment will be made at the contract unit price for each completed and accepted job. This price shall be full compensation for removal of existing airport wind cones; furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-107-5.1.1	Type L-807 (L) LED, Style I-B, Size 2, Primary Wind Cone and Foundation, In Place -- per Each
-------------------------	---

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-5	Segmented Circle Airport Marker System
AC 150/5340-30	Design and Installation Details for airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-27	Specification for Wind Cone Assemblies
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
-----------	--

Federal Standard (FED STD)

FED STD 595	Colors Used in Government Procurement
-------------	---------------------------------------

Master Painter's Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)
------------------	--

Mil Standard

MIL-DTL-24441C/19B	Paint, Epoxy-Polyamide, Zinc Primer, Formula 159, Type III
--------------------	--

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit – Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit
UL Standard 1242	Electrical Intermediate Metal Conduit - Steel

National Fire Protection Association (NFPA)

NFPA-70	National Electric Code (NEC)
---------	------------------------------

END OF ITEM L-107

Item L-108 Underground Power Cable for Airports

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

Only Third-Party certified manufacturers, listed in AC 150/5345-53, Appendix 3 Addendum (as required) and meeting the BUY AMERICAN preference requirements can provide equipment and materials specified in the Contract

Documents. Documentation certifying compliance with the BUY AMERICAN preference rules for Airport Improvement Program (AIP) cited in 49 USC §50101) shall be included with each equipment and material submittal.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C, 5,000 volts, non-shielded, with ethylene propylene insulation, cross-linked polyethylene insulation. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 Type C, 5,000 volts, non-shielded, with ethylene propylene insulation, cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type RHW-2, 75°C for for installation in conduit or for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, RHW-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of RHW-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper wire. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper or copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 8 feet (2.4 m) long and 5/8 inch (16 mm) in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal is acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and

armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If item P-610 is not provide in the project manual, then all Concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 20% Type C or F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet (1 m) of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot (30 cm) vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch (6 mm) in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches (75 mm) vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches (0.5 m) below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches (91 cm) unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches (1 m) unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches (150 mm). Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill material may alternatively be used. All such rock removal shall be performed and paid for under Item P-152 Excavation, Subgrade, and Embankment.

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables ; be 3 inches (75 mm) deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. This layer shall not be compacted. The second layer shall be 5 inches (125 mm) deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches (20 cm) of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches (100 mm) maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be in accordance with the compaction requirements listed in

under Item P-152 Excavation, Subgrade, and Embankment or backfill with controlled low strength material (CLSM) in accordance with P-153. If CLSM is used, refer to the project plans for location of use.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches (150 mm) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch (75 - 150 mm) wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches (200 mm) minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the topsoiling, fertilizing, seeding and mulching as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be in accordance with the compaction requirements listed in under Item P-152 Excavation, Subgrade, and Embankment or backfill with controlled low strength material (CLSM) in accordance with P-153. If CLSM is used, refer to the project plans for location of use. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 inch (10 - 15 cm) thick, extending approximately one inch (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (61 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches (100 mm) high and 3 inches (75 mm) wide, with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word "SPICE" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches (75 mm) on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. The manufacturer's recommendation for stretching tape during splicing shall be followed. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminants prior to application.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch (6.4 mm) beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. The counterpoise size is as shown on the plans. The equipotential method is applicable to all airfield lighting systems; i.e. runway, taxiway, apron – touchdown zone, centerline, edge, threshold and approach lighting systems. The equipotential method is also successfully applied to provide lightning protection for power, signal and communication systems. The light bases, counterpoise, etc – all components - are bonded together and bonded to the vault power system ground loop/electrode.

For raceways installed under pavement; for raceways and cables not installed adjacent to the full strength pavement edge; for fixtures installed in full strength pavement and shoulder pavement, the counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables. The counterpoise is centered over the cable/conduit/duct to be protected. If the above conditions are met the following shall apply, unless otherwise indicated in the project plans:

The counterpoise conductor shall be installed no less than 8 inches (200 mm) minimum or 12 inches (300 mm) maximum above the raceway or cable to be protected, except as permitted below:

- (1) The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.
- (2) The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to ensure that the raceway or cable is within a 45-degree area of protection, (45 degrees on each side of vertical creating a 90 degree angle).

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

All components rise and fall at the same potential; with no potential difference, no damaging arcing and no damaging current flow.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Equipotential Method of lightning protection.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

For edge light fixtures installed in turf (stabilized soils) and for raceways or cables adjacent to the full strength pavement edge, the counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable being protected. If the above mentioned conditions are met the following shall apply, unless otherwise indicated in the project plans:

The counterpoise conductor shall be installed 8 inches (203 mm) minimum below grade. The counterpoise is not connected to the light base or mounting stake. An additional grounding electrode is required at each light base or mounting stake. The grounding electrode is bonded to the light base or mounting stake with a 6 AWG solid copper conductor.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Isolation Method of lightning protection.

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet (150 m) apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 50 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Trenching shall be considered incidental to project bid items and not separate payment will be made for trenching.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall not include additional quantities required for slack. Cable and Counterpoise slack is considered incidental and shall be included in the Contractor's unit price. No separate measurement nor payment will be made for cable or counterpoise slack.

108-4.3 No separate payment will be made for ground rods. Ground rods are considered incidental to the counterpoise cable, complete and in place.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

Payment will be made under:

Item L-108-5.2.a	No. 8 AWG 5 KV, L-824, Type C Cable, Installed In Trench, Duct Bank or Conduit - per Linear Foot (meter)
Item L-108-5.2.b	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed In Trench Or Above The Duct Bank or Conduit, Including Connections/Terminations - per Linear Foot (meter)
Item L-108-5.2.c	No. 6 AWG 600V, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit - per Linear Foot (meter)
Item L-108-5.2.d	No.6 AWG, 600V, Equipment Ground, L-824, Type C Cable, Installed In Duct Bank or Conduit – per Linear Foot (meter).

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
------------------	---

Federal Aviation Administration Standard

FAA STD-019E

Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for
Facilities and Electronic Equipment

END OF ITEM L-108

Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits and removal of existing duct banks. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

- a. Type I—Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II—Schedule 40 PVC suitable for either above ground or underground use.
- c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.
- d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If item P-610 is not included in the project manual, concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 20% Type C or F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the

duct bank shall not be less than 18 inches (0.5 m) below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches (0.5 m) below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound (90 kg) test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet (1.5 m).

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill may alternatively be used.

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet (60 cm).

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (0.5 m) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (0.5 m) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (1 m) beyond the edges of the pavement or 3 feet (1 m) beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches (75 mm) apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (1.5-m) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches (75 to 150 mm) wide tape, 8 inches (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch (75-mm) wide tape only for single conduit runs. Utilize the 6-inch (150-mm) wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches (600 mm) in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6.3 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches (0.5 m) below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 inches (100 - 150 mm) thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet (61 m) along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches (100 mm) in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches (100 mm) in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet (76 m) of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include topsoiling, fertilizing, seeding, and mulching shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Ownership of removed cable. Removed cable and conduits shall become the property of the contractor and shall be disposed of properly offsite.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear foot (meter) of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1.a	Non-Encased 2" PVC/HDPE Conduit - per Linear Foot (Meter)
Item L-110-5.1.b	2" PVC/HDPE Conduit, Directionally Bored - per Linear Foot (Meter)
Item L-110-5.1.c	2 Way 2" PVC/HDPE Conduit, Directionally Bored - per Linear Foot (Meter)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit - Steel

UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers

UL Standard 1242 Electrical Intermediate Metal Conduit Steel

UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

EQUIPMENT AND MATERIALS

115-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand 60,000 min. lb aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch (9-mm) thickness for L-867 and 3/4-inch (19-mm) thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If item P-610 is not included in the project manual, concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 20% Type C or F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

115-2.7 Frames and covers. The frames shall conform to one of the following requirements:

- a. ASTM A48 Gray iron castings
- b. ASTM A47 Malleable iron castings
- c. ASTM A27 Steel castings
- d. ASTM A283, Grade D Structural steel for grates and frames
- e. ASTM A536 Ductile iron castings
- f. ASTM A897 Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of 200 psi and maximum load of 60,000 min. lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

115-2.8 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.

115-2.11 Flowable backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

115-2.12 Cable trays. Cable trays shall be of galvanized steel or aluminum. Cable trays shall be located as shown on the plans.

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 Pulling-in irons. Pulling-in irons shall be manufactured with 7/8-inch (22 mm) diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2-inch (12 mm) diameter with an ultimate strength of 270,000 psi (1862 MPa)). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.16 Ground rods. Ground rods shall be one piece, copper or copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8 feet (2.4 m) long nor less than 5/8 inch (16 mm) in diameter.

CONSTRUCTION METHODS

115-3.1 Unclassified excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

115-3.3 Precast unit installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 Installation of ladders. Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches (150 mm) in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 Connection of duct banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches (150 mm) above the floor. The ground rod shall be installed within one foot (30 cm) of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch (100 mm) diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through

bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot (30 cm) above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtailed shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

115-3.13 Manhole elevation adjustments. The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured

connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item L-115-5.1.a L-867 Electrical Hand Hole, Size B, 24" Deep - per Each

Item L-115-5.1.b L-867 Electrical Hand Hole, Size D, 24" Deep – per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7 Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits

AC 150/5345-26 Specification for L-823 Plug and Receptacle, Cable Connectors

AC 150/5345-42 Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544 Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts
--------	---------------------------------

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair
-------------	--

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
---------	--------------------------------

END OF ITEM L-115

Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures, with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics.” Obstruction lighting warranty is set by the individual manufacturer.

EQUIPMENT AND MATERIALS

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not required.

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46 (current version). Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861 T (L)	2	1	N/A	4	L-867, Class 1A, Size B	Blue`	L-830	LED
L-861 (L)	2	1	N/A	4	L-867, Class 1A, Size B	White-White and White-Yellow	L-830	LED
L-861 SE (L)	2	1	N/A	4	L-867, Class 1A, Size B	Red-Green	L-830	LED

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44 (current version).

Signs

Type	Size	Style	Class	Mode	Faces	Notes
L-858 Hold Position Sign	1	2	2	2	Double	

125-2.9 Runway End Identifier Light (REIL). Not Required.

125-2.10 Precision Approach Path Indicator (PAPI). Not Required.

125-2.11 Circuit Selector Cabinet. Not Required.

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42 (current version). Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47 (current version).

125-2.14 Spare Parts. Furnish of the following spare parts:

1. _8 each Lenses, Blue 360-degree
2. _8 each Lenses, White 180 degree and Yellow 180-degree
3. _8 each Lenses, White 360-degree
5. _8 each L-861 MIRL, LED, Edge Light Top Assembly
6. _4 each L-861 MITL, LED, Edge Light Top Assembly
7. _8 each Breakable Couplings for Edge Lights
8. _4 each Edge Light Base Mounting Plates
9. _4 each L-830 Transformers

Basis of payment for this item will be per each for the complete each delivered to the Owner and accepted as satisfactory.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-4.1 Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR.

125-4.2 Guidance signs will be measured by the number of each type and size installed as completed units, ready for operation, and accepted by the RPR.

125-4.3 Removals of runway and/or taxiway edge/threshold lights will include complete removal of each light, including the light, transformers (buried or in bases), bases (when applicable) and PCC surrounds of bases. Cable (and conduit, when present) for all removed items may be cut at the edge of each removal location and abandoned in place or completely

Storm Lake Municipal Airport

0T5.128791

March 2023

ITEM L-125 INSTALLATION OF AIRPORT LIGHTING SYSTEMS

ITEM L-125 PAGE -3

removed, but if removed, becomes the property of the Contractor. Items removed (with the exception of cable/conduit noted in this paragraph) shall be offered to the Owner for potential spares or re-use, but if not claimed by the Owner, shall be properly disposed of off-site by the Contractor. All removal and disposal costs are the responsibility of the Contractor. Measurement will not be made for removed items.

125-4.4 Removal of rotating beacon light will include complete removal of the existing rotating beacon light unit, including the light and mounting hardware needed. Existing cabling shall be salvaged and utilized for the new rotating beacon. Items removed shall be offered to the Owner for potential spare, but if not claimed by the Owner, shall be properly disposed of off-site by the Contractor. All removal and disposal costs are the responsibility of the Contractor. Measurement will not be made for removed items.

125-4.5 Removal of wind cone will include complete removal of wind cone, wind cone structure and wind cone foundation. Cable and duct shall be removed as needed for to allow for construction of the new wind cone. Existing cabling shall be salvaged and utilized for the new rotating beacon. Existing circuit shall be utilized by intercepting the circuit for use by the new wind cone. Items removed (with the exception of cable/conduit/foundation) shall be offered to the Owner for potential spare, but if not claimed by the Owner, shall be properly disposed of off-site by the Contractor. All removal and disposal costs are the responsibility of the Contractor. Measurement will not be made for removed items.

125-4.6 Spare parts will be measured as a Lump Sum Item for bidding, based on items as listed in paragraph 125-2.14. However, prior to execution of the contract, the Contractor shall submit a breakout of the bid item by the number of each type and size (as listed in paragraph 125-2.15) provided as complete units ready for operation and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light, installed by the Contractor and accepted by the Engineer. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.2 Payment will be made at the Contract unit price for each complete new guidance sign as accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.3 Payment will be made at the Contract per lump sum. This payment will be full compensation for removing and disposing of these items and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.4 Payment will be made at the Contract per lump sum. This payment will be full compensation for removing and disposing of these items and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.5 Payment will be made at the Contract per lump sum. This payment will be full compensation for removing and disposing of these items and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.6 Payment will be made at the Lump Sum price for the complete list of spare parts noted in paragraph 125-2.14, provided by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation and assembly of these materials (if applicable) and delivery to the Owner.

Payment will be made under:

125.5.1.a	L-861 (L) MIRL, 24" Tall, Base Mounted Runway Edge Light – per Each
125.5.1.b	L-861SE (L) MIRL, 24" Tall, Base Mounted Runway Threshold Light – per Each
125.5.1.c	L-861T (L) MITL, 24" Tall, Base Mounted Taxiway Edge Light – per Each
125.5.2	L-858 (L) Guidance Sign, Size 1, Double Face – per Each
125.5.3	Demolition and Removal of Existing Edge Lighting System – Per Lump Sum
125.5.4	Demolition and Removal of Existing Rotating Beacon – Per Lump Sum
125.5.5	Demolition and Removal of Existing Windcone – Per Lump Sum
125.5.6	Spare Parts, as Listed – Per Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures
-----------	---

END OF ITEM L-125

APPENDICES

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791



Real People. Real Solutions.

Storm Lake Municipal AIRPORT (SLB)

CONSTRUCTION SAFETY & PHASING PLAN (CSPP)

Install Runway 17/35 Edge Lighting

FAA AIP No. 3-19-0088-018-2023-AIP

February 28, 2023

Submitted by:

Bolton & Menk, Inc.
218 11th Street SW Plaza
Spencer, IA 51301
P: (712) 580-5075

Certification

Construction Safety & Phasing Plan (CSPP)

For

Install Runway 17/35 Edge Lighting

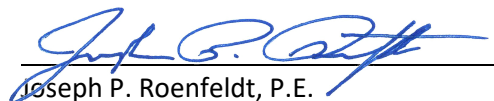
FAA AIP No. 3-19-0088-018-2023-AIP

Storm Lake Municipal Airport (SLB)
Storm Lake, Iowa

February 28, 2023

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

By:


Joseph P. Roenfeldt, P.E.
License No. 21134

Date: February 28, 2023

Table of Contents

I. Overview.....	1
II. PURPOSE.....	1
III. CONSTRUCTION SAFETY & PHASING RESPONSIBILITIES	1
A. Airport Operator.....	1
B. Construction Contractor.....	1
C. Airport Tenants.....	3
D. Project Engineer	4
IV. CONSTRUCTION SAFETY & PHASING.....	4
A. Coordination	4
B. Construction Phasing.....	4
C. Areas & Operations Affected by Construction Activities.....	6
D. Protection of Navigational Aids (NAVAIDs)	6
E. Contractor Access	7
F. Wildlife Management	8
G. Foreign Object Debris (FOD) Management	9
H. Hazardous Materials (HAZMAT) Management.....	9
I. Notification of Construction Activities	9
J. Inspection Requirements.....	10
K. Underground Utilities	10
L. Penalties	11
M. Special Conditions.....	11
N. Runway & Taxiway Visual Aids	11
O. Markings & Signs for Access Routes	12
P. Hazard Marking & Lighting	12
Q. Protection of Safety Areas.....	13
R. Other Limitations on Construction	14

Appendix

Appendix A: Construction Safety & Phasing Plan (CSPP) Sheets

Appendix B: Safety Inspection Checklist

Appendix C: Airfield Areas and Operations Affected by Construction Activity Table

I. Overview

This document presents the Construction Safety and Phasing Plan (CSPP) for the Install Runway 17/35 Edge Lighting project at the Storm Lake Municipal Airport being performed under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP).

The objective of this CSPP is to provide a general outline of the construction safety and phasing provisions for working in or near the Air Operations Area (AOA) contained in the bid documents (Project Plans and Specifications), and to explain how those provisions will be implemented during construction.

II. PURPOSE

The Plan provides single source procedural information for all key project personnel to use during construction. The CSPP defines the specific responsibilities of the Airport Operator, the Contractor, Airport tenants, and the Project Engineer.

Requirements for maintaining operational safety during construction are in conformance with FAA Advisory Circular 150/5370-2G, "Operational Safety on Airports During Construction". The project specific Construction Safety and Phasing Plan for the project is shown on the CSPP plan sheet(s) and is attached to this report as Appendix A.

III. CONSTRUCTION SAFETY & PHASING RESPONSIBILITIES

A. Airport Operator

The Airport Operator is responsible for operational safety on the Airport at all times. The City of Storm Lake is the Airport Operator. The City of Storm Lake will issue Notice to Airmen (NOTAMS) whenever construction activities occur in the AOA. The City of Storm Lake will provide oversight of all construction activities and coordinate those activities with the Airport users (pilots) and Airport tenants. The City of Storm Lake will hold weekly construction progress and safety meetings. During those meetings operational safety will be reviewed, and an action plan will be developed as needed to address any discrepancies in safety that need to be corrected. The City of Storm Lake will require and approve a Safety Plan Compliance Document (SPCD) from the Contractor prior to the Notice to Proceed.

B. Construction Contractor

The Contractor will be required to attend scheduled progress and safety meetings and to correct any discrepancies found in safety.

The Contractor shall submit a draft Safety Plan Compliance Document (SPCD) prepared in accordance with FAA Advisory Circular 150/5370-2G to detail how it intends to comply with the CSPP. The draft SPCD shall be submitted no less than seven (7) calendar days prior to the Preconstruction Conference for Owner for review. The Contractor shall address Owner review comments and submit a revised SPCD for Owner acceptance.

Safety Plan Compliance Document requirements are noted below:

The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, "I, Name of Contractor, have read the Title of Project CSPP, approved on Date, and will abide by it as written and with the following additions as noted:"). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, "No supplemental information," should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

- (1) **Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
- (2) **Phasing.** Discuss proposed construction schedule elements, including:
 - (a) Duration of each phase.
 - (b) Daily start and finish of construction, including "night only" construction.
 - (c) Duration of construction activities during:
 - (i) Normal runway operations.
 - (ii) Closed runway operations.
 - (iii) Modified runway "Aircraft Reference Code" usage.
- (3) **Areas and operations affected by the construction activity.** These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
- (4) **Protection of NAVAIDs.** Discuss specific methods proposed to protect operating NAVAIDs. Coordinate with FAA Air Traffic Organization (ATO) (local tech ops) for turning off FAA-owned NAVAIDs. That office has noted that they will also mark their own power and control cables prior to construction.
- (5) **Contractor access.** Provide the following:
 - (a) Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - (b) Listing of individuals requiring driver training (for certificated airports and as requested).
 - (c) Radio communications.
 - (i) Types of radios and backup capabilities.
 - (ii) Who will be monitoring radios.
 - (iii) Whom to contact if the ATCT cannot reach the contractor's designated person by radio.
 - (d) Details on how the contractor will escort material delivery vehicles.
- (6) **Wildlife management.** Discuss the following:
 - (a) Methods and procedures to prevent wildlife attraction.
 - (b) Wildlife reporting procedures.
- (7) **Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.

- (8) **Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.
- (9) **Notification of construction activities.** Provide the following:
 - (a) Contractor points of contact.
 - (b) Contractor emergency contact.
 - (c) Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
 - (d) Batch plant details, including 7460-1 submittal.
- (10) **Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.
- (11) **Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.
- (12) **Penalties.** Penalties should be identified in the CSPP and should not require an entry in the SPCD.
- (13) **Special conditions.** Discuss proposed actions for each special condition identified in the CSPP.
- (14) **Runway and taxiway visual aids.** Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - (a) Equipment and methods for covering signage and airfield lights.
 - (b) Equipment and methods for temporary closure markings (paint, fabric, other).
 - (c) Types of temporary Visual Guidance Slope Indicators (VGSI).
- (15) **Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.
- (16) **Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.
- (17) **Protection of runway and taxiway safety areas.** Including object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - (a) Equipment and methods for maintaining Taxiway Safety Area standards.
 - (b) Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
- (18) **Other limitations on construction** should be identified in the CSPP and should not require an entry in the SPCD.

C. Airport Tenants

The Airport will notify Airport tenants of all pending construction activities that impact them and advise the tenants of planned pavement closures and other activities in the AOA that will affect aircraft operations.

D. Project Engineer

As part of the Project Construction Management, Inspection, and Quality Assurance process, the Project Engineer will monitor construction safety on a periodic basis, utilizing the “Construction Project Daily Safety Inspection Checklist” (see Appendix B) to ensure an appropriate level of priority is given to safety. Any discrepancies in safety will be immediately brought to the Contractor’s and City of Storm Lake’s attention for corrective action implementation.

IV. CONSTRUCTION SAFETY & PHASING

A. Coordination

A preconstruction conference will be held as soon as practicable after the contract has been awarded and before issuance of the notice to proceed. The preconstruction conference participants should include, but not be limited to, the sponsor’s engineer, resident engineer, airport management, testing laboratory representative, contactor and subcontractor(s), contractor’s project superintendent, contractor’s project clerk, airport users, utility companies, federal, state, or local agencies affected by the proposed construction, and FAA representative.

Contractor progress meetings will be held weekly for the duration of construction. During paving operations, meetings shall be weekly. Operational safety will be a standing agenda item for discussion during progress meetings throughout the project. Date, time, and location of the progress meetings will be determined at the pre-construction meeting.

No changes to the CSPP shall be made without prior FAA consent. The Contractor will submit proposed CSPP changes to the Owner who will then forward them to the FAA for review. The Contractor will be required to update their SPCD to address the proposed CSPP changes and re-submit their SPCD for Owner review and acceptance.

B. Construction Phasing

The project will be constructed in multiple phases. Details of the phase is listed below:

1. Phase 1

(Runway 17/35 and Connecting Taxiway to Runway 17/35 – Closed)

(Runway 06/24 - Closed)

(Runway 13/31 and Connecting Taxiway to Runway 13/31 - Open)

- Scope of Work – The work under phase 1 consists of the following work elements:
 - Removal and Replacement of Edge Lighting along Runway 17/35
 - Installation of a new primary wind cone
 - Replacement of Beacon (if not done in Phase 2)
- Runway 17/35- Will be closed during Phase 1. “X” shall be installed over the Runway designation numbers.
- Connector Taxiway to Runway 17/35 (Taxiway C)- Will be closed, between Runway 13/31 and Runway 17/35 during Phase 1 and low-profile barricades shall be installed to not allow aircraft to enter the taxiway.

- Runway 13/31 – Shall remain open.
- Connector Taxiway to Runway 13/31 (Taxiway C)- Will remain open from the apron to Runway 13/31.
- Runway 06/24 – Will be closed during Phase 1. “X” shall be installed near the end of each end of Runway 06/24.
- Duration – As specified in the Notice of Bidder Section of the Project Manual.
- Emergency Vehicle Access Routes – No impact
- Construction Staging Area – See CSPP plan sheet(s)
- Construction Access and Haul Route – See CSPP plan sheet(s).
- Impacts to NAVAIDS – All NAVAIDS on Runway 17/35 shall be turned off for the duration of the project, except for the airport rotating beacon shall remain operation during this phase.
- Pavement Marking Changes – No Impact
- Edge Lighting Changes – Edge Lighting on Runway 17/35 will be turned off during the duration of this phase. The connecting taxiway (Taxiway C) from Runway 13/31 to Runway 17/35 the edge lights will be temporarily covered to indicated that the taxiway is not available for aircraft operations.
- Required hazard marking and lighting – Low profile barricades shall be installed on the Connecting Taxiway (Taxiway C) between Runway 13/31 and Runway 17/35. Low profile barricades shall also be installed on Runway 6/24 near the intersection with Runway 13/31. Runway closure crosses shall be installed over the Runway designation numbers on Runway 17/35 and Runway 6/24.
- NOTAM and Changes in Aircraft Operations - Lead times for required notification 72 hours. During this phase, a NOTAM shall be issued indicating that Runway 17/35 and Runway 06/24 will be closed. If rotating beacon work done as part of phase 1, notam shall be issued indicating it is inoperable.

2. Phase 2

(Runway 17/35 and Connecting Taxiway to Runway 17/35 – Closed)

(Runway 06/24 - Closed)

(Runway 13/31 and Connecting Taxiway to Runway 13/31 - Closed)

- Scope of Work – The work under phase 2 consists of the following work elements:
 - Any remaining work related to Runway 17/35 edge lighting that was in the ROFZ for Runway 13/31.
 - Installation of Guidance Signs on Taxiway C
 - Replacement of Rotating Beacon (if not done in Phase 1)
- Runway 17/35- Will be closed during Phase 2. “X” shall be installed over the Runway designation numbers.
- Connector Taxiway to Runway 17/35 (Taxiway C)- Will be closed, between Runway 13/31 and Runway 17/35 during Phase 2.

- Runway 13/31- Will be closed during Phase 2. “X” shall be installed over the Runway designation numbers.
- Connector Taxiway to Runway 13/31 (Taxiway C)- will be closed for phase 2 by placing low-profile barricades shall be at the entrance to the taxiway at the apron. The barricades shall be installed to not allow aircraft to enter the taxiway.
- Runway 06/24 – Will be closed during Phase 2. “X” shall be installed near the end of each end of Runway 06/24.
- Duration – As specified in the Notice of Bidder Section of the Project Manual.
- Emergency Vehicle Access Routes – No impact
- Construction Staging Area – See CSPP plan sheet(s)
- Construction Access and Haul Route – See CSPP plan sheet(s).
- Impacts to NAVAIDS – All NAVAIDS on Runway 17/35 shall be turned off for the duration of the project. In addition the rotating beacon will be turned off for phase 2.
- Pavement Marking Changes – No Impact
- Edge Lighting Changes – Edge Lighting on Runway 17/35 and Runway 13/31 will be turned off during the duration of this phase. No edge lights need to be covered for this phase.
- Required hazard marking and lighting – Low profile barricades shall be installed on the Connecting Taxiway (Taxiway C) at the entrance to the apron. Runway closure crosses shall be installed over the Runway designation numbers on Runway 17/35, Runway 13/31 and Runway 6/24.
- NOTAM and Changes in Aircraft Operations - Lead times for required notification 72 hours. During this phase, a NOTAM shall be issued indicating that Runway 17/35, Runway 13/31 and Runway 06/24 will be closed. In addition, a NOTAM shall be issued the airport is considered closed. If the rotating beacon is done in phase 2, a NOTAM shall be issued indicating the beacon is inoperable.

3. Construction Safety Drawings

Drawings specifically indicating construction operations and safety have been developed for each schedule and phase. These drawings have been included in Attachment A and can also be found in the contract drawing bid package.

C. Areas & Operations Affected by Construction Activities

Refer to the table in appendix C for a summary of the affected airport elements during the different phases on the project.

D. Protection of Navigational Aids (NAVAIDS)

NAVAIDS shall be protected at all times. The contractor shall not impact the PAPI or REIL on Runway 17/35. The existing power cables for all Nav aids shall be marked by the contractor during construction and shall be protected by the contractor.

E. Contractor Access

1. Location of Stockpiled Construction Materials

Stockpiles of construction materials and equipment shall be located only in the Staging Areas and are restricted to a maximum height of 20 feet.

2. Vehicle & Pedestrian Operations

a) Construction Site Parking

Employees' vehicles must be parked in the staging area shown on the plans or in the airport parking lot spaces approved by the airport manager. No employee vehicles will be allowed into the worksite beyond the staging area limits.

b) Construction Equipment Parking

When not in use, construction vehicles and equipment shall be parked outside of the Runway Safety Area (RSA), Runway Obstacle Free Zone (ROFZ) and Taxiway Object Free Areas (TOFA's). Construction vehicles shall be serviced only in Staging Area. Construction vehicles and equipment shall never be left unattended/parked on runway or taxiway.

c) Access & Haul Roads

The contractor will be restricted to use the haul route(s) shown on the drawings. Right-of-way must be given to all emergency vehicles. See paragraphs (e) and (g) in this section for requirements operating within the airfield environment.

d) Marking & Lighting of Vehicles

Only marked Contractor-owned or operated vehicles required for the proper execution of the work will be allowed in the work area. All vehicles and equipment must have an omni-directional amber flashing light and/or 3-foot by 3-foot flag having a checkered pattern of international orange and white squares at least one foot on each side. All vehicles and equipment must be equipped with an omni-directional amber flashing light for all airfield activities between sunset and sunrise or when visibility is low. Vehicles within the airfield environment must display company identification markings on both sides of the vehicle. Non-motorized equipment must have a reflective device displayed on the front, back and sides. All supervisory and survey personnel vehicles which operate within the airfield environment but outside the work area must have a company vehicle with an amber flashing light mounted on the roof of the cab and identifying markings, visible from 300 feet, mounted on both sides of the vehicle. FAA Advisory Circular (A.C.) 150/5210-5D, "Painting, Marking, and Lighting of Vehicles Used on an Airport" shall be referenced for requirements.

e) Required Escorts

If vehicular construction traffic does not have a working two-way radio and cannot maintain contact with airport operations, the Contractor shall provide an escort by a person that can maintain radio contact. The driver, through personal observation, should confirm that no aircraft are approaching the vehicle prior to entering pavement open to aircraft or crossing pavement open to aircraft.

f) Situational Awareness

While driving or working on the airfield environment, there must be no devices in or on ears other than those used to protect hearing or communicate company business. Yield right-of-way to emergency vehicles displaying rotating beacons and/or using sirens and other audible emergency signals. In the event of an emergency, be prepared to move workers, vehicles, and equipment immediately at the direction of the City of Storm Lake.

g) Two-Way Radio Communication Procedures

All activities within aircraft movement areas will require two-way radio communication. In the event the contractor needs to access a movement area, all radio communications will be performed by the City of Storm Lake using the Common Traffic Advisory Frequency (CTAF). Frequency that will be used by City of Storm Lake personnel is:

CTAF – 122.700 MHz

h) Maintenance of the Secured Area of the Airport

Access locations to the airport are not secured by an existing gate or access management, therefore the contractor shall be responsible for protecting access to the construction site or to the airport via their construction access. Contractor shall be responsible for installing barricades, snow fencing or a temporary access restriction as needed.

F. Wildlife Management

1. Trash

Receptacles must be provided by the contractor and equipped with metal, canvas, or plastic covers. Food scraps or other trash shall not be disposed on the ground and must be collected and placed in the covered receptacles as to not attract wildlife.

2. Standing Water

Staging areas, stockpile areas, and the work area must be graded to drain to avoid attracting wildlife.

3. Tall Grass & Seeds

The use of low-quality seed mixtures that contain seeds of plants (such as clover) will attract wildlife and must not be used. Grass and weeds must be managed, or cut, if necessary, within work areas to avoid attracting wildlife.

4. Disruption of Existing Wildlife Habitat

Contractor personnel should immediately notify the airport operator of wildlife sighting.

G. Foreign Object Debris (FOD) Management

The contractor will be required to ensure the airfield environment is kept continuously free of construction debris, equipment and/or materials that might endanger or be ingested by an aircraft. Take extreme care to ensure no work-related debris or other loose items can be blown by wind or aircraft engine blast. The Contractor must be responsible for any resulting damage to aircraft engines and/or other property arising from failure to secure and/or protect debris, tools, supplies, or other loose items. In areas that may result in the tracking of soil, sediments, or hazardous materials on the wheels of hauling equipment outside the area that are enclosed by erosion and silt/sediment control devices, the Contractor must provide the means and methods to remove these materials prior to the vehicle exiting the controlled area. Equipment operated on haul routes over existing pavements must always be kept free of material spillage and foreign matter. Standby equipment is always required to be onsite and operational throughout the project and must include, at a minimum, a self-propelled regenerative air sweeper and a water truck always kept loaded.

H. Hazardous Materials (HAZMAT) Management

The Contractor's SPCD shall include a section discussing its HAZMAT management procedures for hazardous materials (such as fuel and hydraulic fluid) transport, storage, and transfer procedures for re-fueling and servicing equipment as well as spill containment and cleanup methods. The hazards of chemical products brought onto airport property shall be conveyed through Safety Data Sheets (SDS) formatted in accordance with OSHA standards in an appendix of the SPCD. In preparing this section of their SPCD, the Contractor should consult Advisory Circular 150/5320-15, Management of Airport Industrial Waste, which contains the FAA's recommended guidelines for HAZMAT management on airports.

I. Notification of Construction Activities

1. Responsible representatives/points of contact

Points of Contact			
NAME	REPRESENTING	PHONE	EMAIL
Jim Bartholomew	Storm Lake Municipal Airport (Primary CSPP Contact)	(712) 732-6494	bartbfs@live.com
Tyler Gibbins	City of Storm Lake	(712) 732-8000	gibbins@stormlake.org
Joe Roenfeldt	Bolton & Menk, Inc.	(515) 240-4329	joe.roenfeldt@bolton-menk.com
Garrett Jacobs	Bolton & Menk, Inc.	(563) 349-7180	garrett.jacobs@bolton-menk.com
TBD	Contractor 24hr Contact	TBD	TBD

2. Notices to Airmen (NOTAMs)

Only the City of Storm Lake or their designated representative may initiate or cancel a NOTAM on airport conditions and is the only entity that can close or open a runway. Points of contact for issuing NOTAMS are as follows: Main Contact – Jim Bartholomew, Airport Manager @ (712) 732-6494

3. Emergency Notification Procedures

- Emergency – DIAL 911
- Airport Manager – Jim Bartholomew, Airport Manager – (712) 732-6494
- City of Storm Lake – Tyler Gibbins – (712) 732-8000
- CTAF radio emergency – 122.700 MHz
- Storm Lake Police Department – (712) 732-8010
- Storm Lake Fire Department – (712) 732-8010
- Hospital – Buena Vista Regional Medical Center – (712) 732-4030
- Buena Vista County Sheriff's Department - (712) 749-2530
- Iowa Poison Control – (800) 222-1222

4. Notification to the FAA

a) Part 77

Any equipment, (cranes, graders, other equipment) used or planned to be used by the contractor, that exceed the 15' height limitation, must also have a 7460-1 airspace evaluation done by the contractor and a favorable determination from the FAA must be received prior to use.

J. Inspection Requirements

1. Daily inspections

Inspections shall be conducted by the Contractor at least daily, but more frequently, if necessary, to ensure conformance with the CSPP. The City of Storm Lake will have the final authority in determining if the area is suitable for aircraft use. Appendix B contains a safety inspection checklist that may be used by the Contractor or City of Storm Lake. Any deficiencies, whether caused by negligence, oversight, or project scope change, are to be addressed immediately.

2. Final inspection

An inspection must be conducted by the City of Storm Lake prior to the commissioning of any newly constructed areas open to air traffic. The City of Storm Lake will have the final authority in determining if the area is suitable for aircraft use. Appendix B contains a safety inspection checklist that may be used by the Contractor or City of Storm Lake.

K. Underground Utilities

Notify Iowa One Call and owners of underground utilities within the construction area or within affected public rights-of-way or easements, via the "one-call" notification system (1-800-292-8989) in advance of the commencement of excavation activities. Notify the City of Storm Lake when the "one-call" request is being initiated. Contractor must not cross electrical or communication cables unless protected by approved means. In the event of interruption to field-located utility services as a result of the work, promptly notify the City of Storm Lake first, and then the proper authority. Cooperate with said authority in restoring service as promptly as possible. If required, the Contractor must install suitable temporary service until permanent repair is completed. Refer to General Provisions, Section 70.

L. Penalties

The Contractor is responsible for compliance with the CSPP as detailed herein. Violations will be cause for the project to be stopped and project safety procedures evaluated. Contractor working days will continue to be charged, even if the City of Storm Lake ceases construction operations. The City of Storm Lake will decide if and when work will continue. Enforcement of these regulations will be by the City of Storm Lake. Refer to General Provision Section 80-06, Temporary Suspension of the Work, for further details. Failure to comply with the CSPP is a failure on the part of the contractor to carry out orders given or perform any provisions of the contract.

M. Special Conditions

An aircraft in distress may require the Contractor to immediately move equipment. The City of Storm Lake will notify the Contractor in the unlikely event of an aircraft in distress. The Contractor will be required to comply with all City of Storm Lake and/or Air Traffic instructions, and all equipment directed to be moved shall be relocated to the Staging Area.

Various circumstances, such as an aircraft accident, security breach, or other unforeseen event may require suspension of the construction. The City of Storm Lake will notify the Contractor when suspension of the work will be required. See Section H – Emergency Notification Procedures for emergency contact information.

A VPD (vehicle/pedestrian deviation) is any entry or movement on the movement area by a vehicle or pedestrian that has not been authorized by the City of Storm Lake. In the event of a VPD, the City of Storm Lake reserves the right to suspend the work or any portion thereof and continue suspension until the completion of any investigation or evaluation by the City of Storm Lake and full compliance with any corrective measures which the City of Storm Lake may reasonably require. In addition, the City of Storm Lake may require the Contractor to provide to the City of Storm Lake a written plan, satisfactory to the City of Storm Lake, to demonstrate the Contractor's ability to prevent future violations. See Section E – Contractor Access for vehicle and pedestrian operations and two-way radio communication requirements.

N. Runway & Taxiway Visual Aids

1. General

Temporary traffic control devices must be clearly visible to pilots, not misleading, confusing, or deceptive. All temporary traffic control devices must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.

2. Markings

a) Temporarily Closed Runway

Temporarily closed runways are identified on the CSPP plan sheet(s) and identified in Section C – Areas & Operations Affected by Construction Activities. Temporarily closed runway at runway/taxiway intersections must have low-profile barricades placed outside the RSA. X's must be placed over the numbers of the closed runway for the duration of the closure as shown on the CSPP Plan sheet(s).

b) Temporary Closed Taxiway

Temporarily closed taxiways are identified on the CSPP plan sheet(s) and identified in Section C – Areas & Operations Affected by Construction Activities. Temporarily closed taxiways at runway/taxiway intersections must have low-profile barricades placed outside the RSA and the small X located 10 feet from the runway edge per Figure 2-4 in FAA A.C. 150/5370-2G when the runway is open and the taxiway is not.

3. Lighting and visual NAVAIDS

Refer to section B Construction phasing for more information regarding Lighting and NavAids during project phases.

4. Signs

There are no known guidance signs on the Storm Lake Municipal Airport.

O. Markings & Signs for Access Routes

Access for this project will be from the routes indicated in the construction safety plan sheets. This type of project will have limited personnel airside, and the Contractor is responsible for his workforce familiarity with access, so no signs for access routes will be required. If access signage is required due to workforce familiarity, the contractor shall provide signage for the project.

P. Hazard Marking & Lighting

Before starting work, the contractor must provide and have available all signs, barricades, and lights necessary for protection of the work. Install and maintain adequate warning signs and lighted barricades to protect property and personnel in the work area. Barricades must be weighted or anchored to prevent overturning from wind or aircraft engine blast.

Barricades are not permitted in any active safety area. Barricades located within a runway or taxiway object free area and/or on aprons must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights. Barricades must be spaced according to the function. For aircraft movement areas barricades must be placed at 10' on center. For vehicle movement areas barricades must be placed at 4' on center. For personnel movement area barricades must be placed with 0' spacing.

The Contractor must have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information as information included in their SPCD. Lighting must be checked for proper operation at least once per day, preferably at dusk.

Open trenches, excavations, or obstructions not being actively worked must be marked with lighted and weighted barricades which can be seen from a reasonable distance. Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the City of Storm Lake, and light them with red lights during hours of restricted visibility or darkness.

Q. Protection of Safety Areas

1. Runway Safety Area (RSA)

No construction shall occur within the existing RSA while the runway is open for aircraft operations. Open trenches or excavations are not permitted within the RSA while the runway is open. If possible, backfill trenches before the runway is opened.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft.

Grading tolerances inside the safety area must be 5% maximum grade with no humps/depressions/drop-offs greater than 3-inches. The RSA is depicted on the Construction Operations, Safety, and Phasing plan and dimensions are contained in Appendix C.

2. Runway Obstacle Free Zone (ROFZ)

Personnel, material, and/or equipment may not penetrate the OFZ while the runway is open to aircraft operations. The runway OFZ is depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

3. Runway Object Free Area (ROFA)

Construction, including excavations, may be permitted within the ROFA. However, equipment must be removed from the ROFA when not in use and material shall not be stockpiled in the ROFA. The runway OFA is depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

4. Taxiway Safety Area (TSA)

No construction may occur in the TSA while the taxiway is open to aircraft operations. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Backfill trenches before the taxiway is opened.

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft.

Grading tolerances inside the safety area must be 5% maximum grade with no humps/depressions/drop-offs greater than 3-inches. The TSA depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

5. Taxiway Object Free Area (TOFA)

No construction will be allowed within the taxiway object free area while the taxiway is open to aircraft operations. For this project, the TOFA is depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

6. Runway approach/departure surfaces

All personnel, material, and/or equipment must remain clear of approach/departure surfaces.

R. Other Limitations on Construction

1. Prohibitions
 - a) Open flame welding or torches are prohibited unless fire safety precautions are provided, and the airport has approved their use.
 - b) The use of flare pots is prohibited within the Airport Operations Area (AOA).
 - c) No smoking will be allowed within the airfield environment.

Appendix A: Construction Safety & Phasing Plan (CSPP) Sheets

Refer to the CSPP Plan Sheet(s) in the Project Plans for more information.

Appendix B: Safety Inspection Checklist

Construction Project Daily Safety Inspection Checklist

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project.

Potentially Hazardous Conditions

ITEM	ACTION REQUIRED	NONE
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		☐
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		☐
Runway resurfacing projects resulting in lips exceeding 3 in (7.6 cm) from pavement edges and ends.		☐
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		☐
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		☐
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and approach zones.		☐
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		☐
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		☐
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		☐
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		☐

Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		☐
Obliterated or faded temporary markings on active operational areas.		☐
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		☐
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		☐
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		☐
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		☐
Lack of radio communications with construction vehicles in airport movement areas.		☐
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		☐
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		☐
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		☐
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		☐
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		☐
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		☐
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring and place it in conduit or bury it.		☐
Site burning, which can cause possible obscuration.		☐
Construction work taking place outside of designated work areas and out of phase.		☐

Appendix C: Airfield Areas and Operations Affected by Construction Activity Table

Airfield Areas and Operations Affected by Construction Activity Table

	Normal Airport Operations (Prior to Project)	Phase 1	Phase 2	Normal Airport Operations (After Project)
Runway 17/35	Open	Closed	Closed	Open
Runway 17 Threshold Location	As Is	As Is	As Is	As Is
Runway 35 Threshold Location	As Is	As Is	As Is	As Is
Runway Length	5,002 ft	Unchanged	Unchanged	5,002 ft
RSA Width	150'	Unchanged	Unchanged	150'
ROFA Width	500'	Unchanged	Unchanged	500'
ROFZ Width	400'	Unchanged	Unchanged	400'
Aircraft MTOW lbs., SWG	30,000 lbs	Unchanged	Unchanged	30,000 lbs
Runway/Approach Type	Non-Precision	Unchanged	Unchanged	Non-Precision
RNAV (GPS) RWY 17	Available	N/A	N/A	Available
RNAV (GPS) RWY 35	Available	N/A	N/A	Available
VOR/DME-A	Available	Available	Available	Available
Runway 17 PAPI	On	Off	Off	On
Runway 17 REIL	On	Off	Off	On
Runway 35 PAPI	On	Off	Off	On
Runway 35 REIL	On	Off	Off	On
Runway 17 Turnaround	Open	Closed	Closed	Open
Runway 35 Turnaround	Open	Closed	Closed	Open
Connecting Taxiway to Runway 17/35	Open	Closed	Closed	Open
Runway 06/24	Open	Closed	Closed	Open
Runway 06 Threshold Location	As Is	As Is	As Is	As Is
Runway 24 Threshold Location	As Is	As Is	As Is	As Is
Runway Length	1,962 ft	Unchanged	Unchanged	1,962 ft
RSA Width	120'	Unchanged	Unchanged	120'
ROFA Width	250'	Unchanged	Unchanged	250'
ROFZ Width	250'	Unchanged	Unchanged	250'
Runway/Approach Type	Visual	Unchanged	Unchanged	Visual
Runway 13/31	Open	Open	Closed	Open
Runway 13 Threshold Location	As Is	As Is	As Is	As Is
Runway 31 Threshold Location	As Is	As Is	As Is	As Is
Runway Length	3,034 Ft	Unchanged	Unchanged	3,034 Ft
RSA Width	150'	Unchanged	Unchanged	150'
ROFA Width	500'	Unchanged	Unchanged	500'
ROFZ Width	400'	Unchanged	Unchanged	400'
Aircraft MTOW lbs., SWG	4,000 lbs	Unchanged	Unchanged	4,000 lbs
Runway/Approach Type	Visual	Unchanged	Unchanged	Visual
Runway 13 Turnaround	Open	Open	Closed	Open
Runway 31 Turnaround	Open	Open	Closed	Open
Connecting Taxiway to 13/31	Open	Open	Closed	Open
Terminal Apron	Open	Open	Open	Open
T-Hangar Taxilanes	Open	Open	Open	Open
Aircraft Self-Service Fuel	Available	Available	Closed	Available
Airport Rotating Beacon	Normal	Normal	Off	Normal
AWOS	Normal	Normal	Normal	Normal
Emergency Vehicle Access	Normal	Normal	Normal	Normal



Advisory Circular

Subject: Operational Safety on
Airports During Construction

Date: 12/13/2017

Initiated By: AAS-100

AC No: 150/5370-2G

Change:

1 **Purpose.**

This AC sets forth guidelines for operational safety on airports during construction.

2 **Cancellation.**

This AC cancels AC 150/5370-2F, *Operational Safety on Airports during Construction*, dated September 29, 2011.

3 **Application.**

This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*. For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP). See Grant Assurance No. 34, *Policies, Standards, and Specifications*. While we do not require non-certificated airports without grant agreements or airports using Passenger Facility Charge (PFC) Program funds for construction projects to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.

4 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version. Appendix A contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

5 **Principal Changes.**

The AC incorporates the following principal changes:

1. Notification about impacts to both airport owned and FAA-owned NAVAIDs was added. See paragraph 2.13.5.3, NAVAIDs.

2. Guidance for the use of orange construction signs was added. See paragraph 2.18.4.2, Temporary Signs.
3. Open trenches or excavations may be permitted in the taxiway safety area while the taxiway is open to aircraft operations, subject to restrictions. See paragraph 2.22.3.4, Excavations.
4. Guidance for temporary shortened runways and displaced thresholds has been enhanced. See Figure 2-1 and Figure 2-2.
5. Figures have been improved and a new Appendix F on the placement of orange construction signs has been added.

Hyperlinks (allowing the reader to access documents located on the internet and to maneuver within this document) are provided throughout this document and are identified with underlined text. When navigating within this document, return to the previously viewed page by pressing the “ALT” and “ ← ” keys simultaneously.

Figures in this document are schematic representations and are not to scale.

6 **Use of Metrics.**

Throughout this AC, U.S. customary units are used followed with “soft” (rounded) conversion to metric units. The U.S. customary units govern.

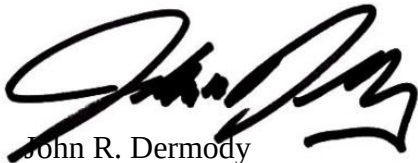
7 **Where to Find this AC.**

You can view a list of all ACs at

http://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at http://www.faa.gov/regulations_policies/faa_regulations/.

8 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody
Director of Airport Safety and Standards

CONTENTS

Paragraph	Page
Chapter 1. Planning an Airfield Construction Project	1-1
1.1 Overview.....	1-1
1.2 Plan for Safety.....	1-1
1.3 Develop a Construction Safety and Phasing Plan (CSPP).....	1-3
1.4 Who Is Responsible for Safety During Construction?.....	1-4
Chapter 2. Construction Safety and Phasing Plans	2-1
2.1 Overview.....	2-1
2.2 Assume Responsibility.....	2-1
2.3 Submit the CSPP.....	2-1
2.4 Meet CSPP Requirements.....	2-2
2.5 Coordination.	2-6
2.6 Phasing.....	2-7
2.7 Areas and Operations Affected by Construction Activity.	2-7
2.8 Navigation Aid (NAVAID) Protection.....	2-11
2.9 Contractor Access.	2-11
2.10 Wildlife Management.	2-15
2.11 Foreign Object Debris (FOD) Management.	2-16
2.12 Hazardous Materials (HAZMAT) Management.....	2-16
2.13 Notification of Construction Activities.....	2-16
2.14 Inspection Requirements.....	2-18
2.15 Underground Utilities.	2-19
2.16 Penalties.	2-19
2.17 Special Conditions.	2-19
2.18 Runway and Taxiway Visual Aids.	2-19
2.19 Marking and Signs for Access Routes.	2-29
2.20 Hazard Marking, Lighting and Signing.	2-30
2.21 Work Zone Lighting for Nighttime Construction.....	2-32
2.22 Protection of Runway and Taxiway Safety Areas.	2-33
2.23 Other Limitations on Construction.	2-37

Chapter 3. Guidelines for Writing a CSPP	3-1
3.1 General Requirements.....	3-1
3.2 Applicability of Subjects.....	3-1
3.3 Graphical Representations.	3-1
3.4 Reference Documents.	3-2
3.5 Restrictions.	3-2
3.6 Coordination.	3-2
3.7 Phasing.....	3-2
3.8 Areas and Operations Affected by Construction.	3-2
3.9 NAVAID Protection.	3-2
3.10 Contractor Access.	3-3
3.11 Wildlife Management.	3-4
3.12 FOD Management.....	3-4
3.13 HAZMAT Management.....	3-4
3.14 Notification of Construction Activities.....	3-4
3.15 Inspection Requirements.....	3-5
3.16 Underground Utilities.	3-5
3.17 Penalties.	3-5
3.18 Special Conditions.	3-5
3.19 Runway and Taxiway Visual Aids.	3-6
3.20 Marking and Signs for Access Routes.	3-6
3.21 Hazard Marking and Lighting.....	3-6
3.22 Work Zone Lighting for Nighttime Construction.	3-6
3.23 Protection of Runway and Taxiway Safety Areas.	3-7
3.24 Other Limitations on Construction.	3-7
Appendix A. Related Reading Material.....	A-1
Appendix B. Terms and Acronyms	B-1
Appendix C. Safety and Phasing Plan Checklist.....	C-1
Appendix D. Construction Project Daily Safety Inspection Checklist.....	D-1
Appendix E. Sample Operational Effects Table.....	E-1
Appendix F. Orange Construction Signs	F-1

FIGURES

Number	Page
Figure 2-1. Temporary Partially Closed Runway	2-9
Figure 2-2. Temporary Displaced Threshold.....	2-10
Figure 2-3. Markings for a Temporarily Closed Runway.....	2-21
Figure 2-4. Temporary Taxiway Closure.....	2-22
Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads	2-24
Figure 2-6. Lighted X in Daytime.....	2-26
Figure 2-7. Lighted X at Night.....	2-26
Figure 2-8. Interlocking Barricades	2-31
Figure 2-9. Low Profile Barricades	2-32
Figure E-1. Phase I Example	E-1
Figure E-2. Phase II Example	E-2
Figure E-3. Phase III Example.....	E-3
Figure F-1. Approved Sign Legends.....	F-1
Figure F-2. Orange Construction Sign Example 1.....	F-2
Figure F-3. Orange Construction Sign Example 2.....	F-3

TABLES

Number	Page
Table A-1. FAA Publications	A-1
Table A-2. Code of Federal Regulation.....	A-3
Table B-1. Terms and Acronyms.....	B-1
Table C-1. CSPP Checklist.....	C-1
Table D-1. Potentially Hazardous Conditions	D-1
Table E-1. Operational Effects Table	E-4
Table E-2. Runway and Taxiway Edge Protection.....	E-6
Table E-3. Protection Prior to Runway Threshold.....	E-7

Page Intentionally Blank

CHAPTER 1. PLANNING AN AIRFIELD CONSTRUCTION PROJECT

1.1 Overview.

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

1.2 Plan for Safety.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified and their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

1.2.1 Identify Affected Areas.

The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

1.2.2 Describe Current Operations.

Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the airplanes that operate on each runway; the ADG and Taxiway Design Group (TDG)¹ for each affected taxiway; designated approach visibility minimums;

¹ Find Taxiway Design Group information in [AC 150/5300-13, Airport Design](#).

available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System (SMGCS) plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

1.2.3 Allow for Temporary Changes to Operations.

To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways, and other changes. An example of a table showing temporary operations versus current operations is shown in Appendix E.

1.2.4 Take Required Measures to Revise Operations.

Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary widely among airports, this AC presents general guidance on those subjects.

1.2.5 Manage Safety Risk.

The FAA is committed to incorporating proactive safety risk management (SRM) tools into its decision-making processes. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*, requires the FAA to conduct a Safety Assessment for certain triggering actions. Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA determine whether a Safety Assessment is required prior to FAA approval of the CSPP. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for a Safety Risk Assessment. If the FAA requires an assessment, the airport operator must at a minimum:

1. Notify the appropriate FAA Airports Regional or District Office during the project "scope development" phase of any project requiring a CSPP.
2. Provide documents identified by the FAA as necessary to conduct SRM.
3. Participate in the SRM process for airport projects.
4. Provide a representative to participate on the SRM panel.

5. Ensure that all applicable SRM identified risks elements are recorded and mitigated within the CSPP.

1.3 **Develop a Construction Safety and Phasing Plan (CSPP).**

Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix A for a list of related reading material.

1.3.1 List Requirements.

A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. For on-airfield construction projects at Part 139 airports funded without AIP funds, the preparation of a CSPP represents an acceptable method the certificate holder may use to meet Part 139 requirements during airfield construction activity. As per FAA Order 5200.11, projects that require Safety Assessments do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA's Safety Risk Management procedures (see paragraph 1.2.5).

1.3.2 Prepare a Safety Plan Compliance Document (SPCD).

The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor's points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

1.3.3 Assume Responsibility for the CSPP.

The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

1.4 **Who Is Responsible for Safety During Construction?**

1.4.1 Establish a Safety Culture.

Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others, such as military personnel at any airport supporting military operations (e.g. national guard or a joint use facility). Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

1.4.2 Assess Airport Operator's Responsibilities.

An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

- 1.4.2.1 Develop a CSPP that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.
- 1.4.2.2 Require, review and approve the SPCD by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.
- 1.4.2.3 Convene a preconstruction meeting with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5370-12, Quality Management for Federally Funded Airport Construction Projects. (Note “FAA” refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)
- 1.4.2.4 Ensure contact information is accurate for each representative/point of contact identified in the CSPP and SPCD.
- 1.4.2.5 Hold weekly or, if necessary, daily safety meetings with all affected parties to coordinate activities.
- 1.4.2.6 Notify users, ARFF personnel, and FAA ATO personnel of construction and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.
- 1.4.2.7 Ensure construction personnel know applicable airport procedures and changes to those procedures that may affect their work.
- 1.4.2.8 Ensure that all temporary construction signs are located per the scheduled list for each phase of the project.
- 1.4.2.9 Ensure construction contractors and subcontractors undergo training required by the CSPP and SPCD.
- 1.4.2.10 Ensure vehicle and pedestrian operations addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.
- 1.4.2.11 At certificated airports, ensure each CSPP and SPCD is consistent with Part 139.

- 1.4.2.12 Conduct inspections sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
 - 1.4.2.13 Take immediate action to resolve safety deficiencies.
 - 1.4.2.14 At airports subject to 49 CFR Part 1542, *Airport Security*, ensure construction access complies with the security requirements of that regulation.
 - 1.4.2.15 Notify appropriate parties when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).
 - 1.4.2.16 Ensure prompt submittal of a Notice of Proposed Construction or Alteration (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.
 - 1.4.2.17 Ensure prompt transmission of the Airport Sponsor Strategic Event Submission, FAA Form 6000-26, located at https://oeaaa.faa.gov/oeaaa/external/content/AIRPORT_SPONSOR_STRATEGIC_EVENT_SUBMISSION_FORM.pdf, to assure proper coordination for NAS Strategic Interruption per Service Level Agreement with ATO.
 - 1.4.2.18 Promptly notify the FAA Airports Regional or District Office of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. The FAA Airports Regional or District office will determine if further coordination within the FAA is needed. Coordinate with appropriate local and other federal government agencies, such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Transportation Security Administration (TSA), and the state environmental agency.
- 1.4.3 Define Construction Contractor's Responsibilities.
- The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

- 1.4.3.1 Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supply any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor, indicating an understanding of the operational safety requirements of the CSPP and the assertion of compliance with the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.
- 1.4.3.2 Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.
- 1.4.3.3 Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Many projects will require 24-hour coverage.
- 1.4.3.4 Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
- 1.4.3.5 Conduct sufficient inspections to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
- 1.4.3.6 Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate, and as specified in the CSPP and SPCD.
- 1.4.3.7 Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.
- 1.4.3.8 Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

- 1.4.3.9 Ensure that all necessary safety mitigations are understood by all parties involved, and any special requirements of each construction phase will be fulfilled per the approved timeframe.
- 1.4.3.10 Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

1.4.4 Define Tenant's Responsibilities.

If planning construction activities on leased property, Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction are strongly encouraged to:

1. Develop, or have a consultant develop, a project specific CSPP and submit it to the airport operator. The airport operator may forgo a complete CSPP submittal and instead incorporate appropriate operational safety principles and measures addressed in the advisory circular within their tenant lease agreements.
2. In coordination with its contractor, develop an SPCD and submit it to the airport operator for approval issued prior to issuance of a Notice to Proceed.
3. Ensure that construction personnel are familiar with safety procedures and regulations on the airport during all phases of the construction.
4. Provide a point of contact of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.
5. Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
6. Ensure that no tenant or contractor employees, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.
7. Restrict movement of construction vehicles to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, as specified in the CSPP and SPCD.
8. Ensure prompt submittal through the airport operator of Form 7460-1 for conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.
9. Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

CHAPTER 2. CONSTRUCTION SAFETY AND PHASING PLANS

2.1 Overview.

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's CSPP and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard. They must provide information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

2.2 Assume Responsibility.

Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

2.3 Submit the CSPP.

Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 × 11 inch or 11 × 17 inch format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

2.3.1 Submit an Outline/Draft.

By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

2.3.2 Submit a CSPP.

The CSPP should be formally submitted for FAA approval when the project design is 80 percent to 90 percent complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

2.3.3 Submit an SPCD.

The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

2.3.4 Submit CSPP Revisions.

All revisions to a previously approved CSPP must be re-submitted to the FAA for review and approval/disapproval action.

2.4 **Meet CSPP Requirements.**

2.4.1 To the extent possible, the CSPP should address the following as outlined in Chapter 3, Guidelines for Writing a CSPP. Details that cannot be determined at this stage are to be included in the SPCD.

1. Coordination.
 - a. Contractor progress meetings.
 - b. Scope or schedule changes.
 - c. FAA ATO coordination.
2. Phasing.
 - a. Phase elements.
 - b. Construction safety drawings.
3. Areas and operations affected by the construction activity.
 - a. Identification of affected areas.
 - b. Mitigation of effects.
4. Protection of navigation aids (NAVAIDs).
5. Contractor access.
 - a. Location of stockpiled construction materials.
 - b. Vehicle and pedestrian operations.
6. Wildlife management.
 - a. Trash.
 - b. Standing water.
 - c. Tall grass and seeds.
 - d. Poorly maintained fencing and gates.
 - e. Disruption of existing wildlife habitat.
7. Foreign Object Debris (FOD) management.
8. Hazardous materials (HAZMAT) management.
9. Notification of construction activities.

- a. Maintenance of a list of responsible representatives/ points of contact.
 - b. NOTAM.
 - c. Emergency notification procedures.
 - d. Coordination with ARFF Personnel.
 - e. Notification to the FAA.
10. Inspection requirements.
- a. Daily (or more frequent) inspections.
 - b. Final inspections.
11. Underground utilities.
12. Penalties.
13. Special conditions.
14. Runway and taxiway visual aids. Marking, lighting, signs, and visual NAVAIDs.
- a. General.
 - b. Markings.
 - c. Lighting and visual NAVAIDs.
 - d. Signs, temporary, including orange construction signs, and permanent signs.
15. Marking and signs for access routes.
16. Hazard marking and lighting.
- a. Purpose.
 - b. Equipment.
17. Work zone lighting for nighttime construction (if applicable).
18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces.
- a. Runway Safety Area (RSA).
 - b. Runway Object Free Area (ROFA).
 - c. Taxiway Safety Area (TSA). Provide details for any adjustments to Taxiway Safety Area width to allow continued operation of smaller aircraft. See paragraph 2.22.3.
 - d. Taxiway Object Free Area (TOFA). Provide details for any continued aircraft operations while construction occurs within the TOFA. See paragraph 2.22.4.
 - e. Obstacle Free Zone (OFZ).
 - f. Runway approach/departure surfaces.
19. Other limitations on construction.
- a. Prohibitions.

b. Restrictions.

2.4.2 The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, “I, (Name of Contractor), have read the (Title of Project) CSPP, approved on (Date), and will abide by it as written and with the following additions as noted:”). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, “No supplemental information,” should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

1. Coordination. Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
2. Phasing. Discuss proposed construction schedule elements, including:
 - a. Duration of each phase.
 - b. Daily start and finish of construction, including “night only” construction.
 - c. Duration of construction activities during:
 - i. Normal runway operations.
 - ii. Closed runway operations.
 - iii. Modified runway “Aircraft Reference Code” usage.
3. Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
4. Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.
5. Contractor access. Provide the following:
 - a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - b. Listing of individuals requiring driver training (for certificated airports and as requested).
 - c. Radio communications.
 - i. Types of radios and backup capabilities.
 - ii. Who will be monitoring radios.
 - iii. Who to contact if the ATCT cannot reach the contractor’s designated person by radio.

- d. Details on how the contractor will escort material delivery vehicles.
- 6. Wildlife management. Discuss the following:
 - a. Methods and procedures to prevent wildlife attraction.
 - b. Wildlife reporting procedures.
- 7. Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.
- 8. Hazardous Materials (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.
- 9. Notification of construction activities. Provide the following:
 - a. Contractor points of contact.
 - b. Contractor emergency contact.
 - c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
 - d. Batch plant details, including 7460-1 submittal.
- 10. Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
- 11. Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.
- 12. Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.
- 13. Special conditions. Discuss proposed actions for each special condition identified in the CSPP.
- 14. Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - a. Equipment and methods for covering signage and airfield lights.
 - b. Equipment and methods for temporary closure markings (paint, fabric, other).
 - c. Temporary orange construction signs.
 - d. Types of temporary Visual Guidance Slope Indicators (VGSI).
- 15. Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.
- 16. Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.
- 17. Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - a. Equipment and methods for maintaining Taxiway Safety Area standards.
 - b. Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.
 - c. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
19. Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

2.5 **Coordination.**

Airport operators, or tenants responsible for design, bidding and conducting construction on their leased properties, should ensure at all project developmental stages, such as predesign, prebid, and preconstruction conferences, they capture the subject of airport operational safety during construction (see [AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects*](#)). In addition, the following should be coordinated as required:

2.5.1 Progress Meetings.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project developmental stages.

2.5.2 Scope or Schedule Changes.

Changes in the scope or duration at any of the project stages may require revisions to the CSPP and review and approval by the airport operator and the FAA (see paragraph [1.4.2.17](#)).

2.5.3 FAA ATO Coordination.

Early coordination with FAA ATO is highly recommended during the design phase and is required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. Formal agreements between the airport operator and appropriate FAA offices are recommended. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See paragraph [2.13.5.3.2](#) for required FAA notification regarding FAA-owned NAVAIDs.)

2.6 **Phasing.**

Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In this case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

2.6.1 Phase Elements.

For each phase the CSPP should detail:

- Areas closed to aircraft operations.
- Duration of closures.
- Taxi routes and/or areas of reduced TSA and TOFA to reflect reduced ADG use.
- ARFF access routes.
- Construction staging, disposal, and cleanout areas.
- Construction access and haul routes.
- Impacts to NAVAIDs.
- Lighting, marking, and signing changes.
- Available runway length and/or reduced RSA and ROFA to reflect reduced ADG use.
- Declared distances (if applicable).
- Required hazard marking, lighting, and signing.
- Work zone lighting for nighttime construction (if applicable).
- Lead times for required notifications.

2.6.2 Construction Safety Drawings.

Drawings specifically indicating operational safety procedures and methods in affected areas (i.e., construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should also be included in the contract drawing package.

2.7 **Areas and Operations Affected by Construction Activity.**

Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA ATO will support operational simulations. See Appendix E for an example of a table showing temporary operations versus current operations. The tables in Appendix E can be useful for coordination among all interested parties, including FAA Lines of Business.

2.7.1 Identification of Affected Areas.

Identifying areas and operations affected by the construction helps to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See paragraph 2.6.2.) Of particular concern are:

2.7.1.1 **Closing, or Partial Closing, of Runways, Taxiways and Aprons, and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or takeoff in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is normally available for take-off in the direction of the displacement and for landing and takeoff in the opposite direction. Misunderstanding this difference, may result in issuance of an inaccurate NOTAM, and can lead to a hazardous condition.

2.7.1.1.1 Partially Closed Runways.

The temporarily closed portion of a partially closed runway will generally extend from the threshold to a taxiway that may be used for entering and exiting the runway. If the closed portion extends to a point between taxiways, pilots will have to back-taxi on the runway, which is an undesirable operation. See Figure 2-1 for a desirable configuration.

2.7.1.1.2 Displaced Thresholds.

Since the portion of the runway pavement between the permanent threshold and a standard displaced threshold is available for takeoff and for landing in the opposite direction, the temporary displaced threshold need not be located at an entrance/exit taxiway. See Figure 2-2.

2.7.1.2 Closing of aircraft rescue and fire fighting access routes.

2.7.1.3 Closing of access routes used by airport and airline support vehicles.

2.7.1.4 Interruption of utilities, including water supplies for fire fighting.

2.7.1.5 Approach/departure surfaces affected by heights of objects.

2.7.1.6 Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.

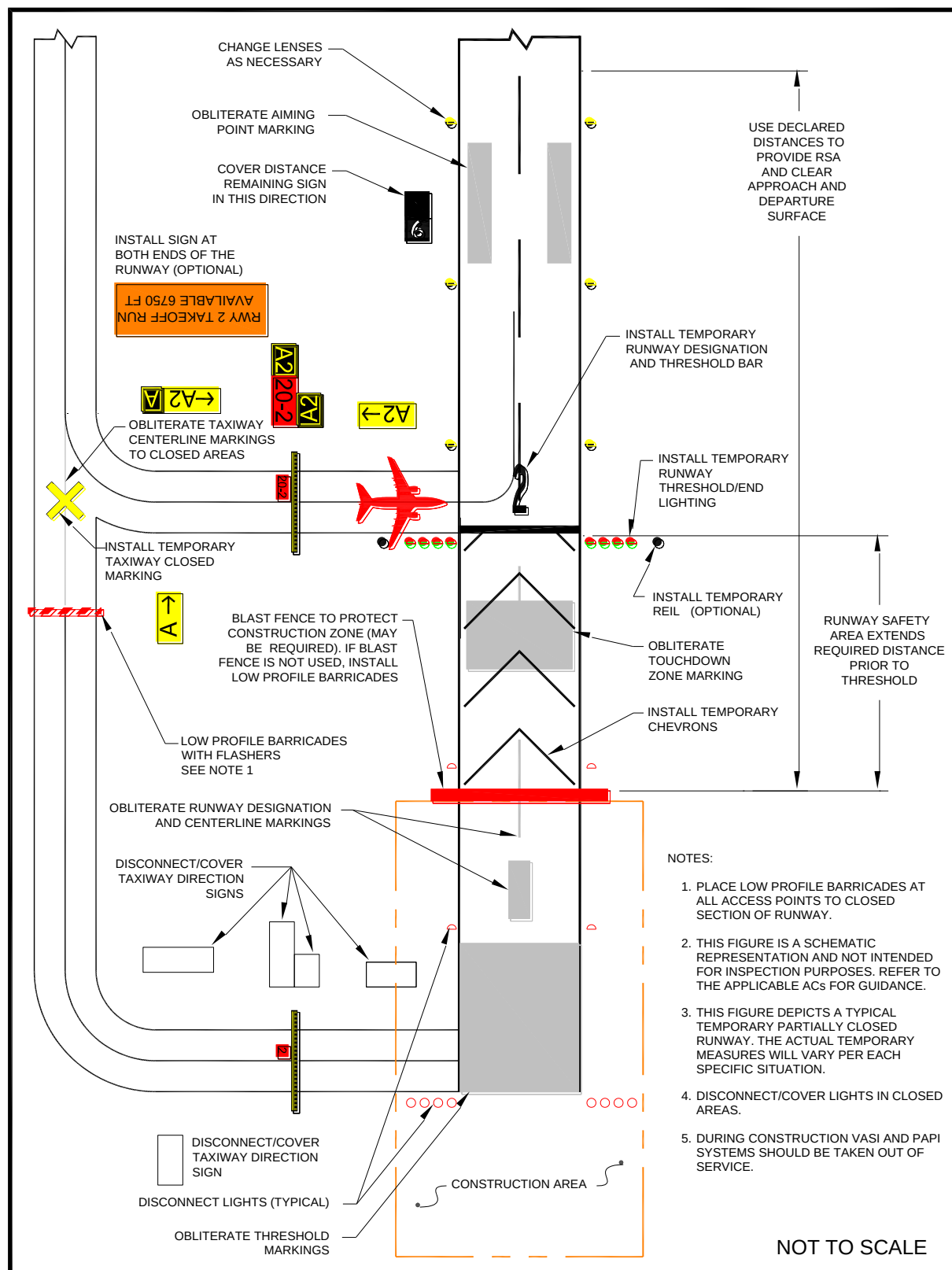
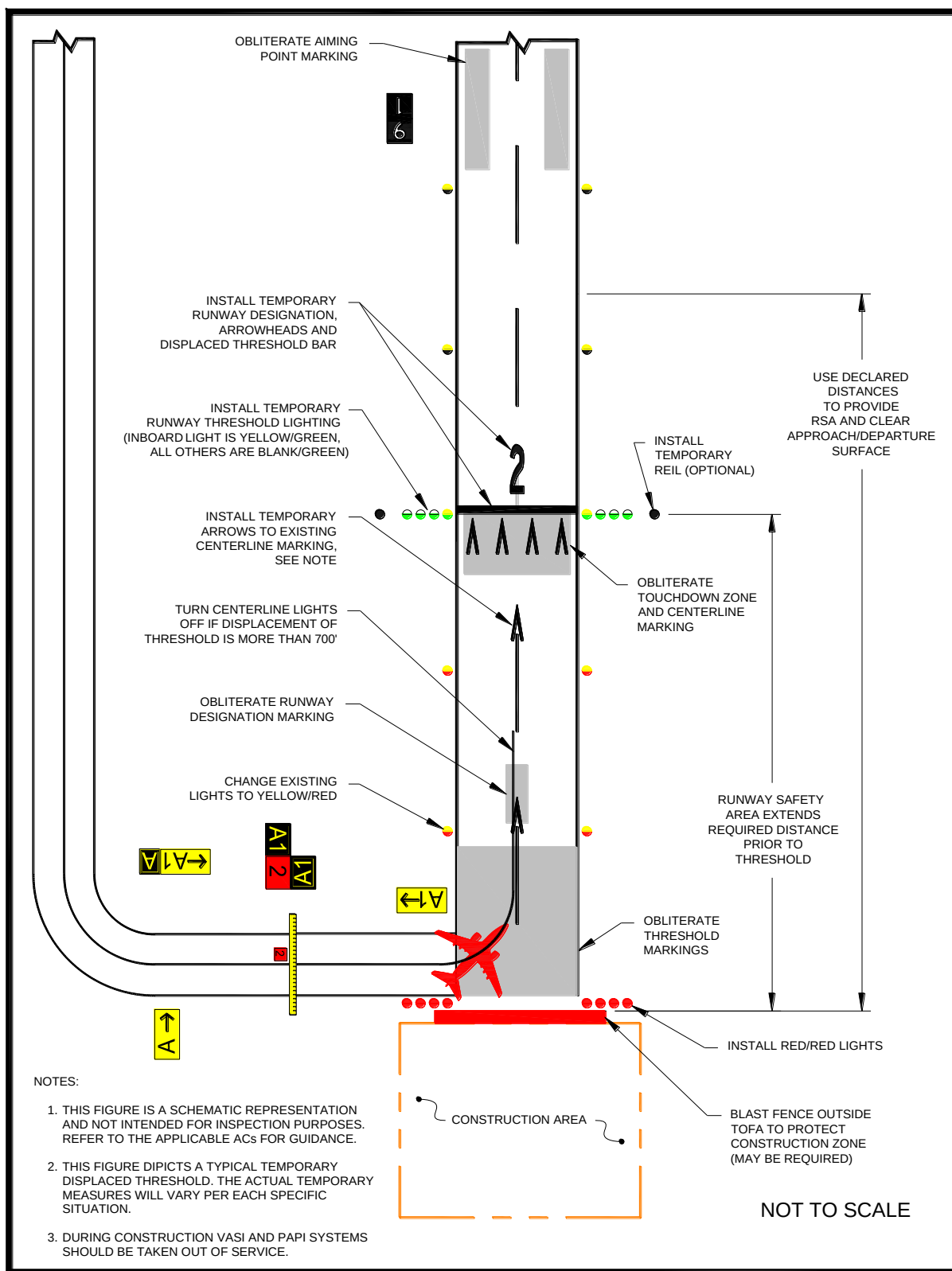
Figure 2-1. Temporary Partially Closed Runway

Figure 2-2. Temporary Displaced Threshold

Note: See paragraph 2.18.2.5.

2.7.2 Mitigation of Effects.

Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

- 2.7.2.1 Temporary changes to runway and/or taxi operations.
- 2.7.2.2 Detours for ARFF and other airport vehicles.
- 2.7.2.3 Maintenance of essential utilities.
- 2.7.2.4 Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.

2.8 **Navigation Aid (NAVAID) Protection.**

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 2.13.5.3.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the “critical area” associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 2.13.2.). Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 2.13.5.3.)

2.9 **Contractor Access.**

The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

2.9.1 Location of Stockpiled Construction Materials.

Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 2.18.2.) This includes determining and

verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material. See paragraphs 2.10 and 2.11.

2.9.2 Vehicle and Pedestrian Operations.

The CSPP should include specific vehicle and pedestrian requirements. Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, with associated training requirements:

2.9.2.1 **Construction Site Parking.**

Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.

2.9.2.2 **Construction Equipment Parking.**

Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP). See paragraph 2.13.1 for further information.

2.9.2.3 **Access and Haul Roads.**

Determine the construction contractor's access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul

roads does not interfere with NAVAIDs or approach surfaces of operational runways. Address whether access gates will be blocked or inoperative or if a rally point will be blocked or inaccessible.

- 2.9.2.4 Marking and lighting of vehicles in accordance with AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*.
- 2.9.2.5 Description of proper vehicle operations on various areas under normal, lost communications, and emergency conditions.
- 2.9.2.6 Required escorts.
- 2.9.2.7 **Training Requirements for Vehicle Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations.**

Specific training should be provided to vehicle operators, including those providing escorts. See AC 150/5210-20, *Ground Vehicle Operations on Airports*, for information on training and records maintenance requirements.
- 2.9.2.8 **Situational Awareness.**

Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for an aircraft to have radio communications. Because aircraft do not always broadcast their positions or intentions, visual checking, radio monitoring, and situational awareness of the surroundings is critical to safety.
- 2.9.2.9 **Two-Way Radio Communication Procedures.**
- 2.9.2.9.1 General.

The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:

 1. Airport operations
 2. ATCT

3. Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.
4. Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and “shortened” runways on the ATIS frequency.

2.9.2.9.2 Areas Requiring Two-Way Radio Communication with the ATCT.

Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

2.9.2.9.3 Frequencies to be Used.

The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

2.9.2.9.4 Proper radio usage, including read back requirements.

2.9.2.9.5 Proper phraseology, including the International Phonetic Alphabet.

2.9.2.9.6 Light Gun Signals.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard “Ground Vehicle Guide to Airport Signs and Markings.” This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (see “Signs & Markings Vehicle Dashboard Sticker”) or obtained from the FAA Airports Regional Office.

2.9.2.10 **Maintenance of the secured area of the airport, including:**

2.9.2.10.1 Fencing and Gates.

Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit “piggybacking” behind another person or vehicle. The Department of Transportation (DOT) document DOT/FAA/AR-

00/52, *Recommended Security Guidelines for Airport Planning and Construction*, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

2.9.2.10.2 Badging Requirements.

Airports subject to 49 CFR Part 1542, *Airport Security*, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

2.10 **Wildlife Management.**

The CSPP and SPCD must be in accordance with the airport operator's wildlife hazard management plan, if applicable. See AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*, and CertAlert 98-05, *Grasses Attractive to Hazardous Wildlife*. Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

2.10.1 Trash.

Food scraps must be collected from construction personnel activity.

2.10.2 Standing Water.

2.10.3 Tall Grass and Seeds.

Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, *Standards for Specifying Construction of Airports*, Item T-901, Seeding. Contact the local office of the United States Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

2.10.4 Poorly Maintained Fencing and Gates.

See paragraph 2.9.2.10.1.

2.10.5 Disruption of Existing Wildlife Habitat.

While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

2.11 Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, *Foreign Object Debris (FOD) Management*.

2.12 Hazardous Materials (HAZMAT) Management.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, *Management of Airport Industrial Waste*.

2.13 Notification of Construction Activities.

The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

2.13.1 List of Responsible Representatives/points of contact for all involved parties, and procedures for contacting each of them, including after hours.

2.13.2 NOTAMs.

Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must either enter the NOTAM into NOTAM Manager, or provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, *Notices to Airmen (NOTAMs) for Airport Operators*, for a sample NOTAM form. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See paragraph 2.7.1.1 about issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

2.13.3 Emergency notification procedures for medical, fire fighting, and police response.

2.13.4 Coordination with ARFF.

The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

1. The deactivation and subsequent reactivation of water lines or fire hydrants, or
2. The rerouting, blocking and restoration of emergency access routes, or
3. The use of hazardous materials on the airfield.

2.13.5 Notification to the FAA.

2.13.5.1 **Part 77.**

Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e., cranes, graders, other equipment) on airports. FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. See Appendix A to download the form. Further guidance is available on the FAA web site at oeaaa.faa.gov.

2.13.5.2 **Part 157.**

With some exceptions, Title 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, *Notice of Landing Area Proposal*, to the nearest FAA Airports Regional or District Office. See Appendix A to download the form.

2.13.5.3 **NAVAIDs.**

For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

2.13.5.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of 24 hours or greater in duration, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown, using Strategic Event Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15, *General Maintenance Handbook for National Airspace System (NAS) Facilities*.

2.13.5.3.2 FAA Owned.

1. The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs, using SEC Form 6000.26.
2. Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. Refer to active Service Level Agreement with ATO for specifics.

2.14 **Inspection Requirements.**

2.14.1 Daily Inspections.

Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix D, Construction Project Daily Safety Inspection Checklist. See also AC 150/5200-18, Airport Safety Self-Inspection. Airport operators holding a Part 139 certificate are required to conduct self-inspections during unusual conditions, such as construction activities, that may affect safe air carrier operations.

2.14.2 Interim Inspections.

Inspections should be conducted of all areas to be (re)opened to aircraft traffic to ensure the proper operation of lights and signs, for correct markings, and absence of FOD. The contractor should conduct an inspection of the work area with airport operations personnel. The contractor should ensure that all construction materials have been secured, all pavement surfaces have been swept clean, all transition ramps have been properly constructed, and that surfaces have been appropriately marked for aircraft to operate safely. Only if all items on the list meet with the airport operator's approval should the air traffic control tower be notified to open the area to aircraft operations. The contractor should be required to retain a suitable workforce and the necessary equipment at the work area for any last minute cleanup that may be requested by the airport operator prior to opening the area.

2.14.3 Final Inspections.

New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

2.15 Underground Utilities.

The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that “One Call” or “Miss Utility” services do not include FAA ATO/Technical Operations.

2.16 Penalties.

The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

2.17 Special Conditions.

The CSPP must detail any special conditions that affect the operation of the airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

2.18 Runway and Taxiway Visual Aids.

This includes marking, lighting, signs, and visual NAVAIDs. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDs that are to continue to perform their functions during construction remain in place and operational. Visual NAVAIDs that are not serving their intended function during construction must be temporarily disabled, covered, or modified as necessary. The CSPP must address the following, as appropriate:

2.18.1 General.

Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, and other wind currents and constructed of materials that will minimize damage to an aircraft in the event of inadvertent contact. Items used to secure such markings must be of a color similar to the marking.

2.18.2 Markings.

During the course of construction projects, temporary pavement markings are often required to allow for aircraft operations during or between work periods. During the design phase of the project, the designer should coordinate with the project manager,

airport operations, airport users, the FAA Airports project manager, and Airport Certification Safety Inspector for Part 139 airports to determine minimum temporary markings. The FAA Airports project manager will, wherever a runway is closed, coordinate with the appropriate FAA Flight Standards Office and disseminate findings to all parties. Where possible, the temporary markings on finish grade pavements should be placed to mirror the dimensions of the final markings. Markings must be in compliance with the standards of AC 150/5340-1, *Standards for Airport Markings*, except as noted herein. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 2.18.2.1.2.)

2.18.2.1 Closed Runways and Taxiways.

2.18.2.1.1 Permanently Closed Runways.

For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place an X at each end and at 1,000-foot (300 m) intervals. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X.

2.18.2.1.2 Temporarily Closed Runways.

For runways that have been temporarily closed, place an X at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X. See Figure 2-3. See also paragraph 2.18.3.3.

2.18.2.1.3 Partially Closed Runways and Displaced Thresholds.

When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 2.7.1.1 for the difference between partially closed runways and runways with displaced thresholds. Because of the temporary nature of threshold displacement due to construction, it is not necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach. Some of the requirements below may be waived in the cases of low-activity airports and/or short duration changes that are measured in days rather than weeks. Consider whether the presence of an airport traffic

control tower allows for the development of special procedures. Contact the appropriate FAA Airports Regional or District Office for assistance.

Figure 2-3. Markings for a Temporarily Closed Runway

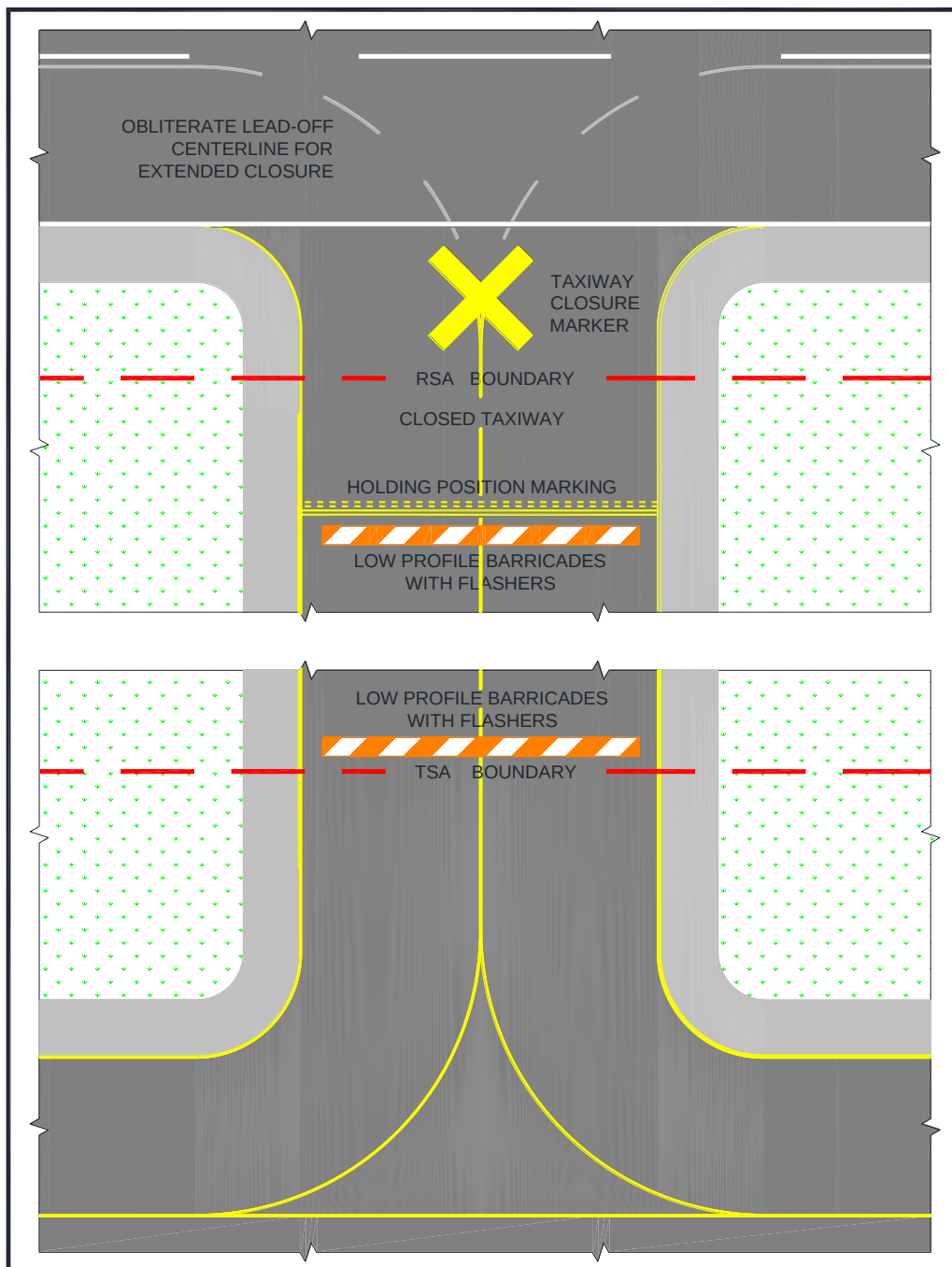


1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see [AC 150/5340-1](#)). Obliterate or cover markings prior to the moved threshold. Existing touchdown zone markings beyond the moved threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-4](#).
2. **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See [AC 150/5340-1](#). Obliterate markings prior to the displaced threshold. Existing touchdown zone markings beyond the displaced threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-2](#).

2.18.2.1.4 Taxiways.

1. **Permanently Closed Taxiways.** AC 150/5300-13 Airport Design, notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. See Figure 2-4.

Figure 2-4. Temporary Taxiway Closure



2. **Temporarily Closed Taxiways.** Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section. Always obliterate runway lead-off lines for high speed exits, regardless of the duration of the closure. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed. See Figure 2-4.

2.18.2.1.5 Temporarily Closed Airport.

When the airport is closed temporarily, mark all the runways as closed.

- 2.18.2.2 If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents. Items used to secure such markings must be of a color similar to the marking.

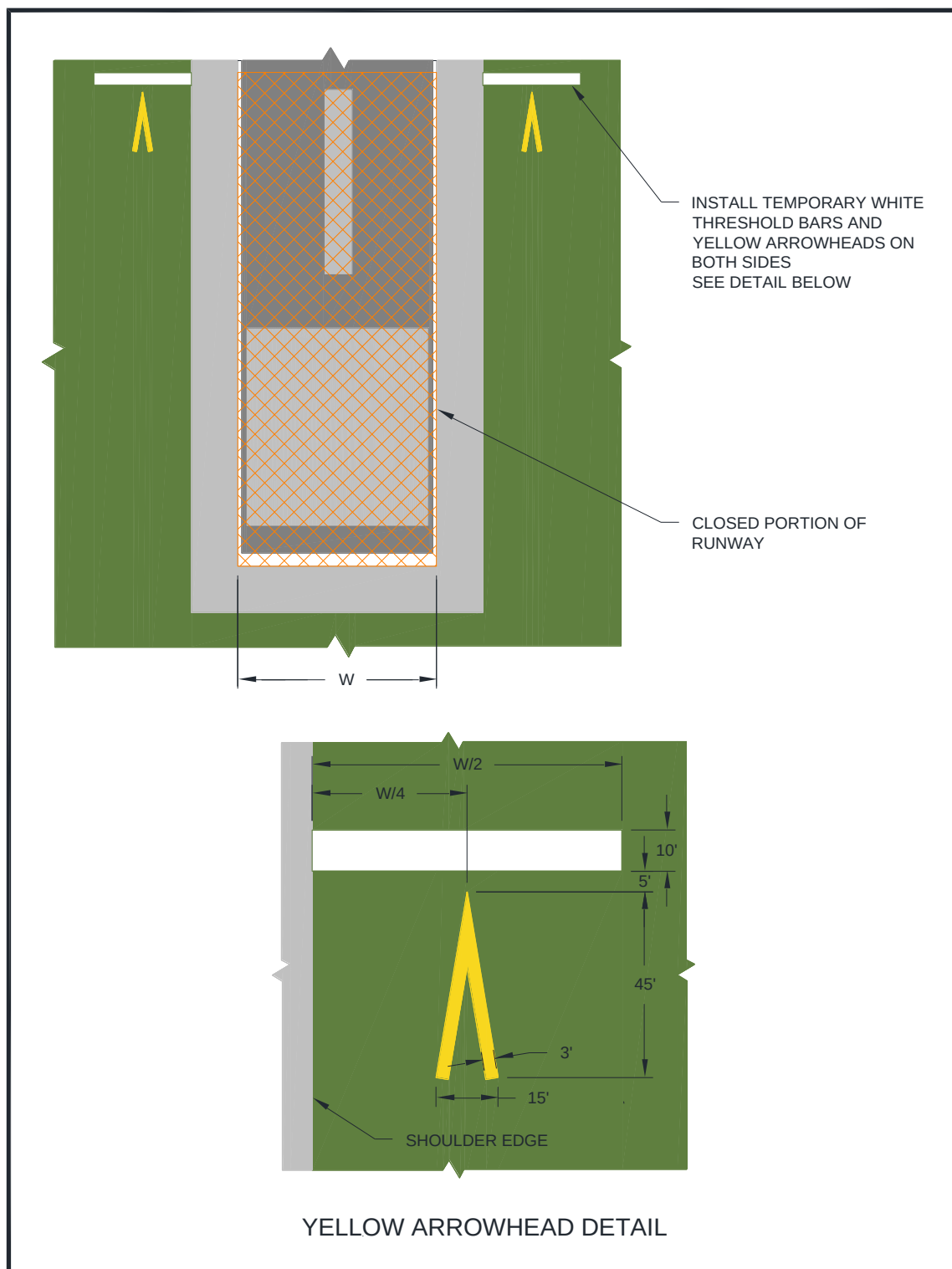
- 2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.

- 2.18.2.4 If it is not possible to install threshold bars, chevrons, and arrows on the pavement, “temporary outboard white threshold bars and yellow arrowheads”, see Figure 2-5, may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimensions must be as shown in Figure 2-5. If the markings are not discernible on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.

- 2.18.2.5 The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, “Runway and Taxiway Painting,” in AC 150/5370-10), but the dimensions must meet the existing standards. When applying temporary markings at night, it is recommended that the fast curing, Type II paint be used to help offset the higher humidity and cooler temperatures often experienced at night. Diluting the paint will substantially increase cure time and is not recommended. Glass beads are not recommended for temporary markings. Striated markings may also be used for certain temporary markings. AC

150/5340-1, Standards for Airport Markings, has additional guidance on temporary markings.

Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads



2.18.3 Lighting and Visual NAVAIDs.

This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting installation must be in conformance with AC 150/5340-30, *Design and Installation Details for Airport Visual Aids*, and fixture design in conformance with AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights*. When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. See AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*, for disconnect procedures and safety precautions. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources. Maintain mandatory hold signs to operate normally in any situation where pilots or vehicle drivers could mistakenly be in that location. At towered airports certificated under Part 139, holding position signs are required to be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, install a jumper to the taxiway circuit to provide power to the holding position sign for nighttime operations. Where it is not possible to maintain power to signs that would normally be operational, install barricades to exclude aircraft. Figure 2-1, Figure 2-2, Figure 2-3, and Figure 2-4 illustrate temporary changes to lighting and visual NAVAIDs.

2.18.3.1 **Permanently Closed Runways and Taxiways.**

For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

2.18.3.2 **Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic.**

If available, use a lighted X, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note that the lighted X must be illuminated at all times that it is on a runway.) The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*. For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-6 shows a lighted X by day. Figure 2-7 shows a lighted X at night.

Figure 2-6. Lighted X in Daytime**Figure 2-7. Lighted X at Night**

2.18.3.3 **Partially Closed Runways and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially

closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

2.18.3.3.1 Partially Closed Runways.

Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixtures in such a way as to prevent light leakage. See Figure 2-1.

2.18.3.3.2 Temporary Displaced Thresholds.

Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, blank out centerline lights in the direction of approach or place the centerline lights out of service. If the displacement is over 700 feet, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds. See Figure 2-2.

2.18.3.3.3 Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.

2.18.3.3.4 A temporary threshold on an unlighted runway may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 2.18.2.1.3. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, Specification for L-853, Runway and Taxiway Retroreflective Markers.

2.18.3.3.5 Temporary threshold lights and runway end lights and related visual NAVAIDs are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.

2.18.3.3.6 Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may

be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

- 2.18.3.3.7 When runway thresholds are temporarily displaced, reconfigure yellow lenses (caution zone), as necessary, and place the centerline lights out of service.
- 2.18.3.3.8 Relocate the Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense. See FAA JO 6850.2, *Visual Guidance Lighting Systems*, for installation criteria for FAA owned and operated NAVAIDs.
- 2.18.3.3.9 Issue a NOTAM to inform pilots of temporary lighting conditions.
- 2.18.3.4 **Temporarily Closed Taxiways.**
If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), cover the light fixture in a way as to prevent light leakage.

2.18.4 Signs.

To the extent possible, signs must be in conformance with AC 150/5345-44, *Specification for Runway and Taxiway Signs*, and AC 150/5340-18, *Standard for Airport Sign Systems*.

2.18.4.1 **Existing Signs.**

Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

2.18.4.2 Temporary Signs.

Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot “information overload,” the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, *Guidance for the Assembly and Installation of Temporary Orange Construction Signs*. Many criteria in AC 150/5345-44, *Specification for Runway and Taxiway Signs*, are referenced in the Engineering Brief. Permissible sign legends are:

1. CONSTRUCTION AHEAD,
2. CONSTRUCTION ON RAMP, and
3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.

2.18.4.2.1 Takeoff Run Available (TORA) signs.

Recommended: Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position. See EB 93 for sign size and location.

2.18.4.2.2 Sign legends are shown in Figure F-1.

Note: See Figure E-1, Figure E-2, Figure E-3, Figure F-2, and Figure F-3 for examples of orange construction sign locations.

2.19 Marking and Signs for Access Routes.

The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, *Frangible Connections*, which may require modification to size and height guidance in the MUTCD.

2.20 **Hazard Marking, Lighting and Signing.**

2.20.1 Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

2.20.2 Equipment.

2.20.2.1 **Barricades.**

Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude aircraft, gaps between barricades must be smaller than the wingspan of the smallest aircraft to be excluded; if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

2.20.2.2 **Lights.**

Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

2.20.2.3 **Supplement Barricades with Signs (for example) As Necessary.**

Examples are “No Entry” and “No Vehicles.” Be aware of the increased effects of wind and jet blast on barricades with attached signs.

2.20.2.4 **Air Operations Area – General.**

Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground. Figure 2-8 and Figure 2-9 show sample barricades with proper coloring and flags.

Figure 2-8. Interlocking Barricades



Figure 2-9. Low Profile Barricades**2.20.2.5 Air Operations Area – Runway/Taxiway Intersections.**

Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

2.20.2.6 Air Operations Area – Other.

Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

2.20.2.7 Maintenance.

The construction specifications must include a provision requiring the contractor to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

2.21 Work Zone Lighting for Nighttime Construction.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. Refer to [AC 150/5370-10](#) for minimum illumination levels for nighttime paving projects. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely

illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways.

2.22 **Protection of Runway and Taxiway Safety Areas.**

Runway and taxiway safety areas, OFZs, OFAs, and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (see paragraph 2.13.5) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

2.22.1 Runway Safety Area (RSA).

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

- 2.22.1.1 No construction may occur within the existing RSA while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (See AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published, and appropriate NOTAMs issued. See AC 150/5300-13 for guidance on the use of declared distances.
- 2.22.1.2 The airport operator must coordinate the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.
- 2.22.1.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

2.22.1.4 Excavations.

2.22.1.4.1 Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

2.22.1.4.2 Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.1.5 Erosion Control.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.2 Runway Object Free Area (ROFA).

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

2.22.3 Taxiway Safety Area (TSA).

2.22.3.1 A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Since the width of the TSA is equal to the wingspan of the design aircraft, no construction may occur within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction. Give special consideration to TSA dimensions at taxiway turns and intersections. (see AC 150/5300-13).

2.22.3.2 The airport operator must coordinate the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

2.22.3.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations.

2.22.3.4 **Excavations.**

1. Curves. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.
2. Straight Sections. Open trenches or excavations are not permitted within the TSA while the taxiway is open for unrestricted aircraft operations. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations to allow the safe passage of ARFF equipment and of the heaviest aircraft operating on the taxiway across the trench without causing damage to the equipment or aircraft. In rare circumstances where the section of taxiway is indispensable for aircraft movement, open trenches or excavations may be permitted in the TSA while the taxiway is open to aircraft operations, subject to the following restrictions:
 - a. Taxiing speed is limited to 10 mph.
 - b. Appropriate NOTAMs are issued.
 - c. Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - d. Low mass, low-profile lighted barricades are installed.
 - e. Appropriate temporary orange construction signs are installed.
3. Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.3.5 **Erosion control.**

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.4 Taxiway Object Free Area (TOFA).

Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

- 2.22.4.1 The taxiway object free area dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available. Give special consideration to TOFA dimensions at taxiway turns and intersections.
- 2.22.4.2 Offset taxiway centerline and edge pavement markings (do not use glass beads) may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting, centerline reflectors, or taxiway edge reflectors are required. Existing lighting that does not coincide with the temporary markings must be taken out of service.
- 2.22.4.3 Construction activity, including open excavations, may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:
 - 2.22.4.3.1 Taxiing speed is limited to 10 mph.
 - 2.22.4.3.2 NOTAMs issued advising taxiing pilots of hazard and recommending reduced taxiing speeds on the taxiway.
 - 2.22.4.3.3 Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - 2.22.4.3.4 If desired, appropriate orange construction signs are installed. See paragraph 2.18.4.2 and Appendix F.
 - 2.22.4.3.5 Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the usable pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.
 - 2.22.4.3.6 Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel. Flaggers must also be used to direct taxiing aircraft. Due to liability issues, the airport operator should require airlines to provide flaggers for directing taxiing aircraft.

2.22.5 Obstacle Free Zone (OFZ).

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6 Runway Approach/Departure Areas and Clearways.

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6.1 Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

2.22.6.2 **Caution About Partial Runway Closures.**

When filing a NOTAM for a partial runway closure, clearly state that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

2.22.6.3 **Caution About Displaced Thresholds.**

Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, or other work within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

2.23 **Other Limitations on Construction.**

The CSPP must specify any other limitations on construction, including but not limited to:

2.23.1 Prohibitions.

- 2.23.1.1 No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
- 2.23.1.2 No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.
- 2.23.1.3 No use of electrical blasting caps on or within 1,000 feet (300 meters) of the airport property. See AC 150/5370-10.

2.23.2 Restrictions.

- 2.23.2.1 Construction suspension required during specific airport operations.
- 2.23.2.2 Areas that cannot be worked on simultaneously.
- 2.23.2.3 Day or night construction restrictions.
- 2.23.2.4 Seasonal construction restrictions.
- 2.23.2.5 Temporary signs not approved by the airport operator.
- 2.23.2.6 Grades changes that could result in unplanned effects on NAVAIDs.

CHAPTER 3. GUIDELINES FOR WRITING A CSPP

3.1 General Requirements.

The CSPP is a standalone document written to correspond with the subjects outlined in paragraph 2.4. The CSPP is organized by numbered sections corresponding to each subject listed in paragraph 2.4, and described in detail in paragraphs 2.5 - 2.23. Each section number and title in the CSPP matches the corresponding subject outlined in paragraph 2.4 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

3.2 Applicability of Subjects.

Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA ILS cables during trenching operations could be considered FAA ATO coordination (Coordination, paragraph 2.5.3), an area and operation affected by the construction activity (Areas and Operations Affected by the Construction Activity, paragraph 2.7.1.4), a protection of a NAVAID (Protection of Navigational Aids (NAVAIDs), paragraph 2.8), or a notification to the FAA of construction activities (Notification of Construction Activities, paragraph 2.13.5.3.2). However, it is more specifically an underground utility requirement (Underground Utilities, paragraph 2.15). The procedure for protecting underground ILS cables during trenching operations should therefore be described in 2.4.2.11: “The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings.” All other applicable sections should include a reference to 2.4.2.11: “ILS cables shall be identified and protected as described in 2.4.2.11” or “See 2.4.2.11 for ILS cable identification and protection requirements.” Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

3.3 Graphical Representations.

Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

3.4 **Reference Documents.**

The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor. Where this AC recommends references (e.g. as in paragraph 3.9) the intent is to include a reference to the corresponding section in the CSPP, not to this Advisory Circular.

3.5 **Restrictions.**

The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent (“as-built”) features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

3.6 **Coordination.**

Include in this section a detailed description of conferences and meetings to be held both before and during the project. Include appropriate information from AC 150/5370-12. Discuss coordination procedures and schedules for each required FAA ATO Technical Operations shutdown and restart and all required flight inspections.

3.7 **Phasing.**

Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 3.8, as appropriate.

3.8 **Areas and Operations Affected by Construction.**

Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. See Appendix F for sample operational effects tables and figures.

3.9 **NAVAID Protection.**

List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 3.6 for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 3.14 for the

issuance of NOTAMs as required. Include a reference to paragraph 3.16 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 3.19. Attach drawings to graphically indicate the affected NAVAIDS and the corresponding critical areas.

3.10 **Contractor Access.**

This will necessarily be the most extensive section of the CSPP. Provide sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

3.10.1 Location of Stockpiled Construction Materials.

Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 3.11 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 3.12 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

3.10.2 Vehicle and Pedestrian Operations.

While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying HAZMAT vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

3.10.3 Two-Way Radio Communications.

Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor CTAF at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light

signals, telephone numbers, others) must be included. All radio frequencies should be identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

3.10.4 **Airport Security.**

Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

3.11 **Wildlife Management.**

Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 3.10 for security (wildlife) fence integrity maintenance as required.

3.12 **FOD Management.**

In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 3.15 for inspection requirements as required.

3.13 **HAZMAT Management.**

Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be identified. Include a reference to paragraph 3.10 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

3.14 **Notification of Construction Activities.**

List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to

Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. Identify the E911 address of the airport and the emergency access route via haul roads to the construction site. Require the contractor to have this information available to all workers. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 3.10. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

3.15 Inspection Requirements.

Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) or other airport operator's representative and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

3.16 Underground Utilities.

Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 3.14 for notification of utility owners of accidental utility disruption as required.

3.17 Penalties.

Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, VPD, and others.

3.18 Special Conditions.

Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 3.10 for compliance with airport safety and security measures and for radio communications as required. Include

a reference to paragraph 3.14 for emergency notification of all involved parties, including police/security, ARFF, and medical services.

3.19 Runway and Taxiway Visual Aids.

Include marking, lighting, signs, and visual NAVAIDS. Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDS required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDS that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDS such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, *Standards for Airport Markings*; AC 150/5340-18, *Standards for Airport Sign Systems*; and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDS.

3.20 Marking and Signs for Access Routes.

Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration MUTCD and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

3.21 Hazard Marking and Lighting.

Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 3.14. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

3.22 Work Zone Lighting for Nighttime Construction.

If work is to be conducted at night, specify all lighting equipment, including when and where each type of device is to be used. Indicate the direction lights are to be aimed and any directions that aiming of lights is prohibited. Specify any shielding necessary in instances where aiming is not sufficient to prevent interference with air traffic control and aircraft operations. Attach drawings to graphically indicate the placement and aiming of lighting equipment. Where the plan only indicates directions that aiming of lights is prohibited, the placement and positioning of portable lights must be proposed by the Contractor and approved by the airport operator's representative each time lights are relocated or repositioned.

3.23 Protection of Runway and Taxiway Safety Areas.

This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13, as required. Include a reference to paragraph 3.10 for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 3.10 for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide the required Runway Safety Area, include a reference to paragraphs 3.14 and 3.19. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13, as required. Include a reference to paragraph 3.24 for height (i.e., crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional “box” within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

3.24 Other Limitations on Construction.

This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e., crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 3.7 for project phasing requirements based on construction limitations as required.

Page Intentionally Blank

APPENDIX A. RELATED READING MATERIAL

Obtain the latest version of the following free publications from the FAA on its Web site at <http://www.faa.gov/airports/>.

Table A-1. FAA Publications

Number	Title and Description
<u>AC 150/5200-28</u>	<i>Notices to Airmen (NOTAMs) for Airport Operators</i> Guidance for using the NOTAM System in airport reporting.
<u>AC 150/5200-30</u>	<i>Airport Field Condition Assessments and Winter Operations Safety</i> Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
<u>AC 150/5200-33</u>	<i>Hazardous Wildlife Attractants On or Near Airports</i> Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
<u>AC 150/5210-5</u>	<i>Painting, Marking, and Lighting of Vehicles Used on an Airport</i> Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
<u>AC 150/5210-20</u>	<i>Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports</i> Guidance to airport operators on developing ground vehicle operation training programs.
<u>AC 150/5300-13</u>	<i>Airport Design</i> FAA standards and recommendations for airport design. Establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
<u>AC 150/5210-24</u>	<i>Airport Foreign Object Debris (FOD) Management</i> Guidance for developing and managing an airport foreign object debris (FOD) program

Number	Title and Description
<u>AC 150/5320-15</u>	<i>Management of Airport Industrial Waste</i> Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
<u>AC 150/5340-1</u>	<i>Standards for Airport Markings</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5340-18</u>	<i>Standards for Airport Sign Systems</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5345-28</u>	<i>Precision Approach Path Indicator (PAPI) Systems</i> FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.
<u>AC 150/5340-30</u>	<i>Design and Installation Details for Airport Visual Aids</i> Guidance and recommendations on the installation of airport visual aids.
<u>AC 150/5345-39</u>	<i>Specification for L-853, Runway and Taxiway Retroreflective Markers</i>
<u>AC 150/5345-44</u>	<i>Specification for Runway and Taxiway Signs</i> FAA specifications for unlighted and lighted signs for taxiways and runways.
<u>AC 150/5345-53</u>	<i>Airport Lighting Equipment Certification Program</i> Details on the Airport Lighting Equipment Certification Program (ALECP).
<u>AC 150/5345-50</u>	<i>Specification for Portable Runway and Taxiway Lights</i> FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
<u>AC 150/5345-55</u>	<i>Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure</i>

Number	Title and Description
<u>AC 150/5370-10</u>	<i>Standards for Specifying Construction of Airports</i> Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
<u>AC 150/5370-12</u>	<i>Quality Management for Federally Funded Airport Construction Projects</i>
EB 93	<i>Guidance for the Assembly and Installation of Temporary Orange Construction Signs</i>
FAA Order 5200.11	<u>FAA Airports (ARP) Safety Management System (SMS)</u> Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	<i>Grasses Attractive to Hazardous Wildlife</i> Guidance on grass management and seed selection.
FAA Form 7460-1	<u>Notice of Proposed Construction or Alteration</u>
FAA Form 7480-1	<u>Notice of Landing Area Proposal</u>
FAA Form 6000.26	National NAS Strategic Interruption Service Level Agreement, Strategic Events Coordination, Airport Sponsor Form

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at <http://www.ecfr.gov/>.

Table A-2. Code of Federal Regulation

Number	Title
Title 14 CFR Part 77	Safe, Efficient Use and Preservation of the Navigable Airspace
Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at <http://mutcd.fhwa.dot.gov/>.

Page Intentionally Blank

APPENDIX B. TERMS AND ACRONYMS**Table B-1. Terms and Acronyms**

Term	Definition
Form 7460-1	Notice of Proposed Construction or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, <i>Safe, Efficient Use, and Preservation of the Navigable Airspace</i> . (See guidance available on the FAA web site at https://oeaaa.faa.gov .) The form may be downloaded at http://www.faa.gov/airports/resources/forms/ , or filed electronically at: https://oeaaa.faa.gov .
Form 7480-1	Notice of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. The form may be downloaded at http://www.faa.gov/airports/resources/forms/ .
Form 6000-26	Airport Sponsor Strategic Event Submission Form
AC	Advisory Circular
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area, as defined in 14 CFR Part 107. Means a portion of an airport, specified in the airport security program, in which security measures are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. This area does not include the secured area of the airport terminal building.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
AT	Air Traffic
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under

Term	Definition
	the authority of 14 CFR Part 139, <i>Certification of Airports</i> .
CFR	Code of Federal Regulations
Construction	The presence of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety and Phasing Plan. The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FOD	Foreign Object Debris/Damage
FSS	Flight Service Station
GA	General Aviation
HAZMAT	Hazardous Materials
HMA	Hot Mix Asphalt
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.

Term	Definition
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OCC	Operations Control Center
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See <u>AC 150/5300-13</u> for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to <u>AC 150/5300-13</u> for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
OTS	Out of Service
P&R	Planning and Requirements Group
NPI	NAS Planning & Integration
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicator
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RA	Reimbursable Agreement
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with <u>AC 150/5300-13</u> .
SDS	Safety Data Sheet
SIDA	Security Identification Display Area
SMS	Safety Management System

Term	Definition
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
SSC	System Support Center
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with <u>AC 150/5300-13</u> .
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See <u>AC 150/5300-13</u> for guidance on declared distances.
TSA	Taxiway Safety Area, or Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicator
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicator (PAPI), visual approach slope indicator (VASI), and pulse light approach slope indicator (PLASI).
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>				
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>				
Scheduling of the construction phases is properly addressed.	<u>2.6</u>				
Any formal agreements are established.	<u>2.5.3</u>				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	<u>2.7.1</u>				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>				
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>				
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>				
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>				
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>				
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>				
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>				
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>				
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	<u>2.8</u>				
Protection of NAVAID facilities is addressed.	<u>2.8</u>				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>				
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>				
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>				
Construction site parking is addressed.	<u>2.9.2.1</u>				
Construction equipment parking is addressed.	<u>2.9.2.2</u>				
Access and haul roads are addressed.	<u>2.9.2.3</u>				
A requirement for marking and lighting of vehicles to comply with <u>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</u> , is included.	<u>2.9.2.4</u>				
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>				
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>				
Two-way radio communications procedures are described.	<u>2.9.2.9</u>				
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>				
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator’s FOD management procedures are addressed.	<u>2.11</u>				
Hazardous Materials Management					
The airport operator’s hazardous materials management procedures are addressed.	<u>2.12</u>				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>				
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>				
A list of ATCT managers on duty is included.	<u>2.13.1</u>				
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>				
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>				
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>				
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>				
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>				
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>				
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>				
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>				
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>				
Markings for temporary closures are specified.	<u>2.20.2.5</u>				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1</u> , <u>2.22.3.1</u>				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2</u> , <u>2.22.3.2</u>				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>				
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>				
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>				
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>				

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

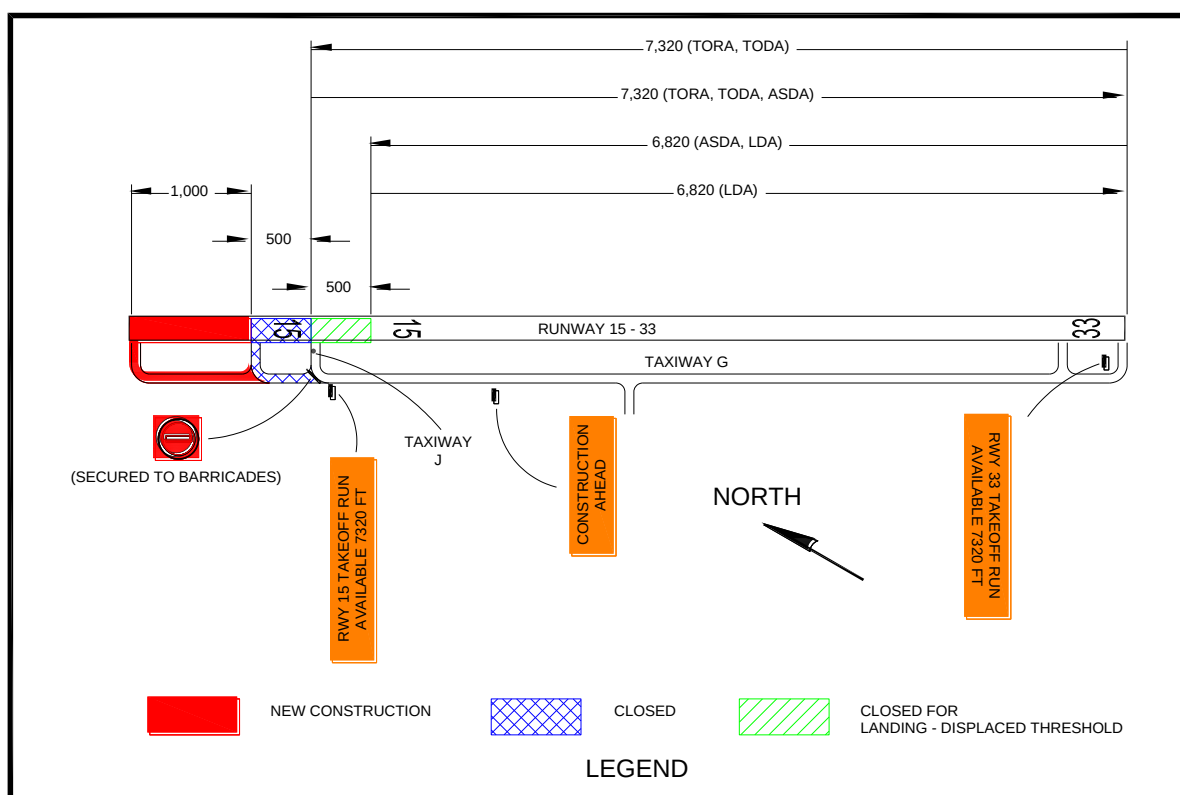
Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE**E.1 Project Description.**

Runway 15-33 is currently 7820 feet long, with a 500 foot stopway on the north end. This project will remove the stopway and extend the runway 1000 feet to the north and 500 feet to the south. Finally, the existing portion of the runway will be repaved. The runway 33 glide slope will be relocated. The new runway 33 localizer has already been installed by FAA Technical Operations and only needs to be switched on. Runway 15 is currently served only by a localizer, which will remain in operation as it will be beyond the future RSA. Appropriate NOTAMS will be issued throughout the project.

- E.1.1 During Phase I, the runway 15 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 15 takeoff and the departure end of runway 33 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 33 will be adjusted to provide the required RSA and applicable departure surface. Excavation near Taxiway G will require its ADG to be reduced from IV to III. See [Figure E-1](#).

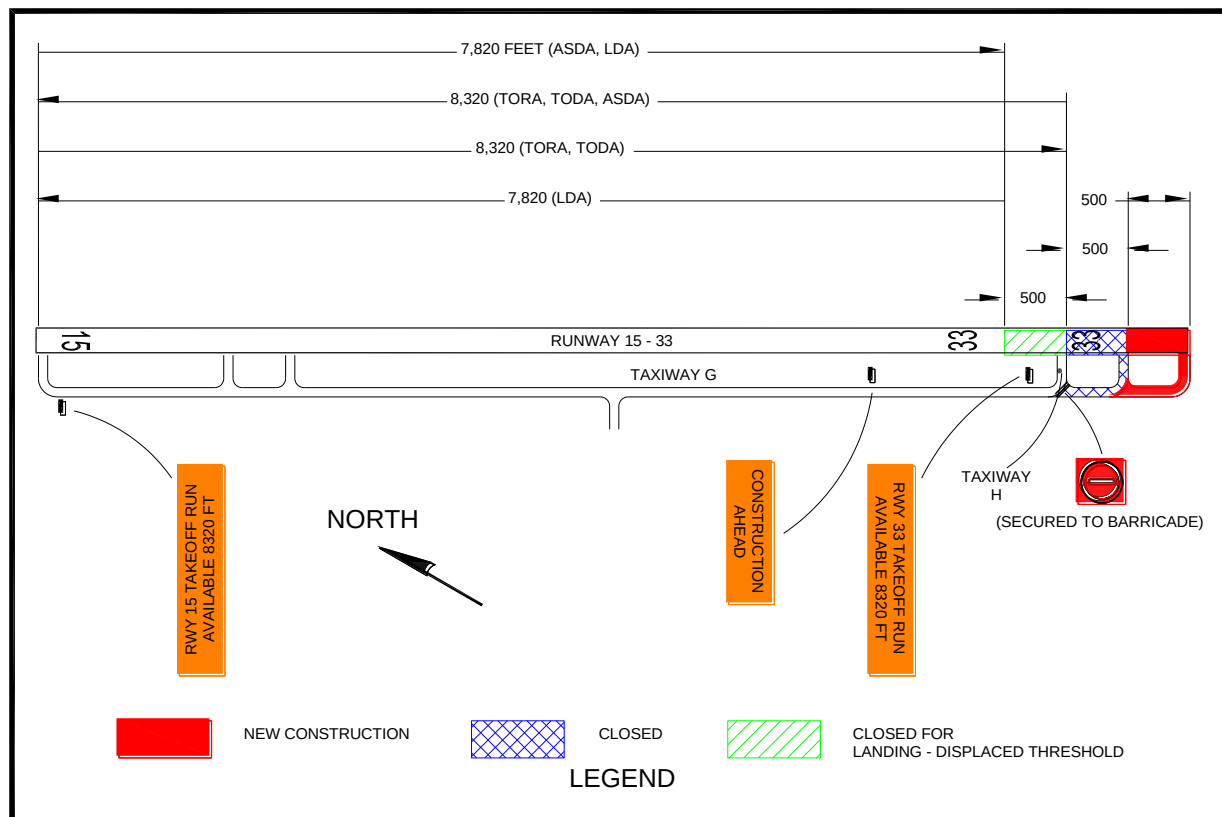
Figure E-1. Phase I Example

Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 33 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.2 During Phase II, the runway 33 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 33 takeoff and the departure end of runway 15 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 15 will be adjusted to provide the required RSA and applicable departure surface. See [Figure E-2](#).

Figure E-2. Phase II Example



Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 15 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.3 During Phase III, the existing portion of the runway will be repaved with Hot Mix Asphalt (HMA) and the runway 33 glide slope will be relocated. Construction will be accomplished between the hours of 8:00 pm and 5:00 am, during which the runway will be closed to operations.

Figure E-3. Phase III Example

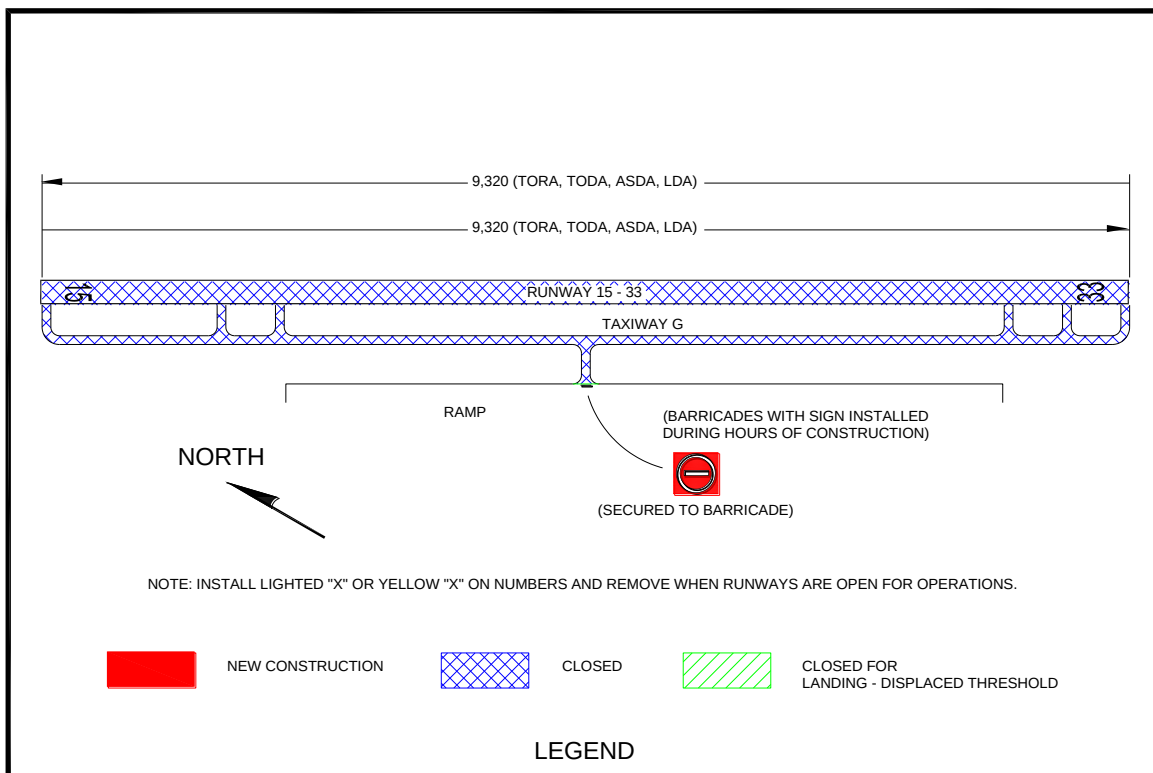


Table E-1. Operational Effects Table

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Scope of Work	N/A	Extend Runway 15-33 1,000 ft on north end with Hot Mix Asphaltic Concrete (HMA).	Extend Runway 15-33 500 ft on south end with Hot Mix Asphaltic Concrete (HMA).	Repave existing runway with HMA Relocate Runway 33 Glide Slope
Effects of Construction Operations	N/A	Existing North 500 ft closed	Existing South 500 ft closed	Runway closed between 8:00 pm and 5:00 am Edge lighting out of service
Construction Phase	N/A	Phase I (Anticipated)	Phase II (Anticipated)	Phase III (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 40 /day GA: 26 /day Military: 0 /day	Carrier: 45 /day GA: 26 /day Military: 5 /day	Carrier: 45 / day GA: 20 / day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 30 /day GA: 18 /day Military: 0 /day	Carrier: 25 /day GA: 18 /day Military: 5 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 Aircraft Category	C-IV	C-IV	C-IV	C-IV
Runway 15 Approach Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Runway 33 Approach Visibility Minimums	$\frac{3}{4}$ mile	$\frac{3}{4}$ mile	$\frac{3}{4}$ mile	1 mile

Note: Proper coordination with Flight Procedures group is necessary to maintain instrument approach procedures during construction.

Project		Runway 15-33 Extension and Repaving			
Phase		Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Runway 15 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	7,820	7,320	7,820	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 33 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	8,320	6,820	8,320	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 15 Approach Procedures		LOC only	LOC only	LOC only	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 33 Approach Procedures		ILS	ILS	ILS	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 15 NAVAIDs		LOC	LOC	LOC	LOC
Runway 33 NAVAIDs		ILS, MALSR	ILS, MALSR	ILS, MALSR	LOC, MALSR
Taxiway G ADG		IV	III	IV	IV
Taxiway G TDG		4	4	4	4
ATCT (hours open)		24 hours	24 hours	24 hours	0500 - 2000
ARFF Index		D	D	D	D

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Special Conditions	Air National Guard (ANG) military operations	All military aircraft relocated to alternate ANG Base	Some large military aircraft relocated to alternate ANG Base	All military aircraft relocated to alternate ANG Base
Information for NOTAMs		Refer above for applicable declared distances. Taxiway G limited to 118 ft wingspan	Refer above for applicable declared distances.	Refer above for applicable declared distances. Airport closed 2000 – 0500. Runway 15 glide slope OTS.

Note: This table is one example. It may be advantageous to develop a separate table for each project phase and/or to address the operational status of the associated NAVAIDs per construction phase.

Complete the following chart for each phase to determine the area that must be protected along the runway and taxiway edges:

Table E-2. Runway and Taxiway Edge Protection

Runway/Taxiway	Aircraft Approach Category* A, B, C, or D	Airplane Design Group* I, II, III, or IV	Safety Area Width in Feet Divided by 2*

*See [AC 150/5300-13](#) to complete the chart for a specific runway/taxiway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

Table E-3. Protection Prior to Runway Threshold

Runway End Number	Airplane Design Group* I, II, III, or IV	Aircraft Approach Category* A, B, C, or D	Minimum Safety Area Prior to the Threshold*	Minimum Distance to Threshold Based on Required Approach Slope*	
				ft	: 1
				ft	: 1
				ft	: 1
				ft	: 1

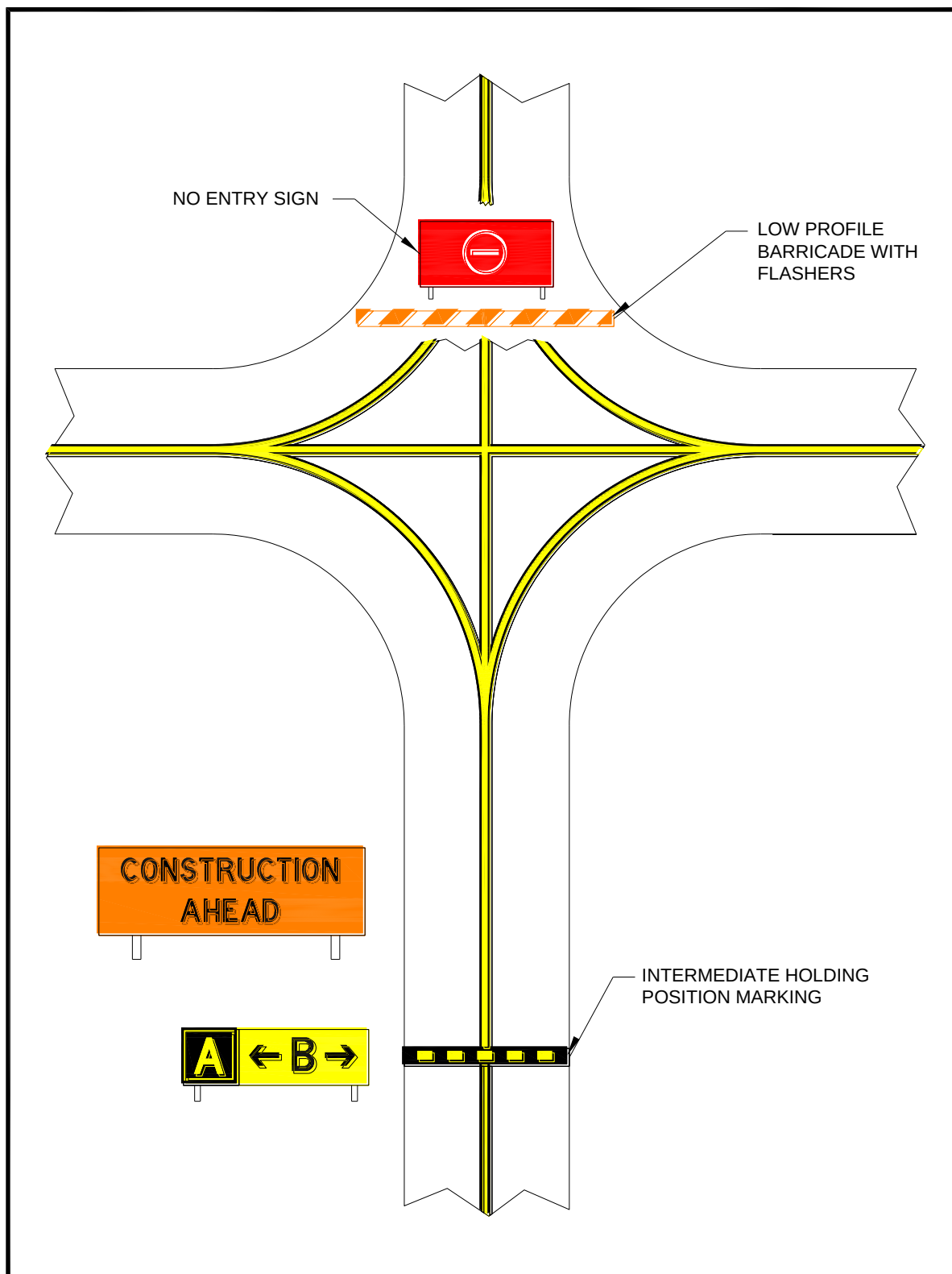
*See AC 150/5300-13 to complete the chart for a specific runway.

Page Intentionally Blank

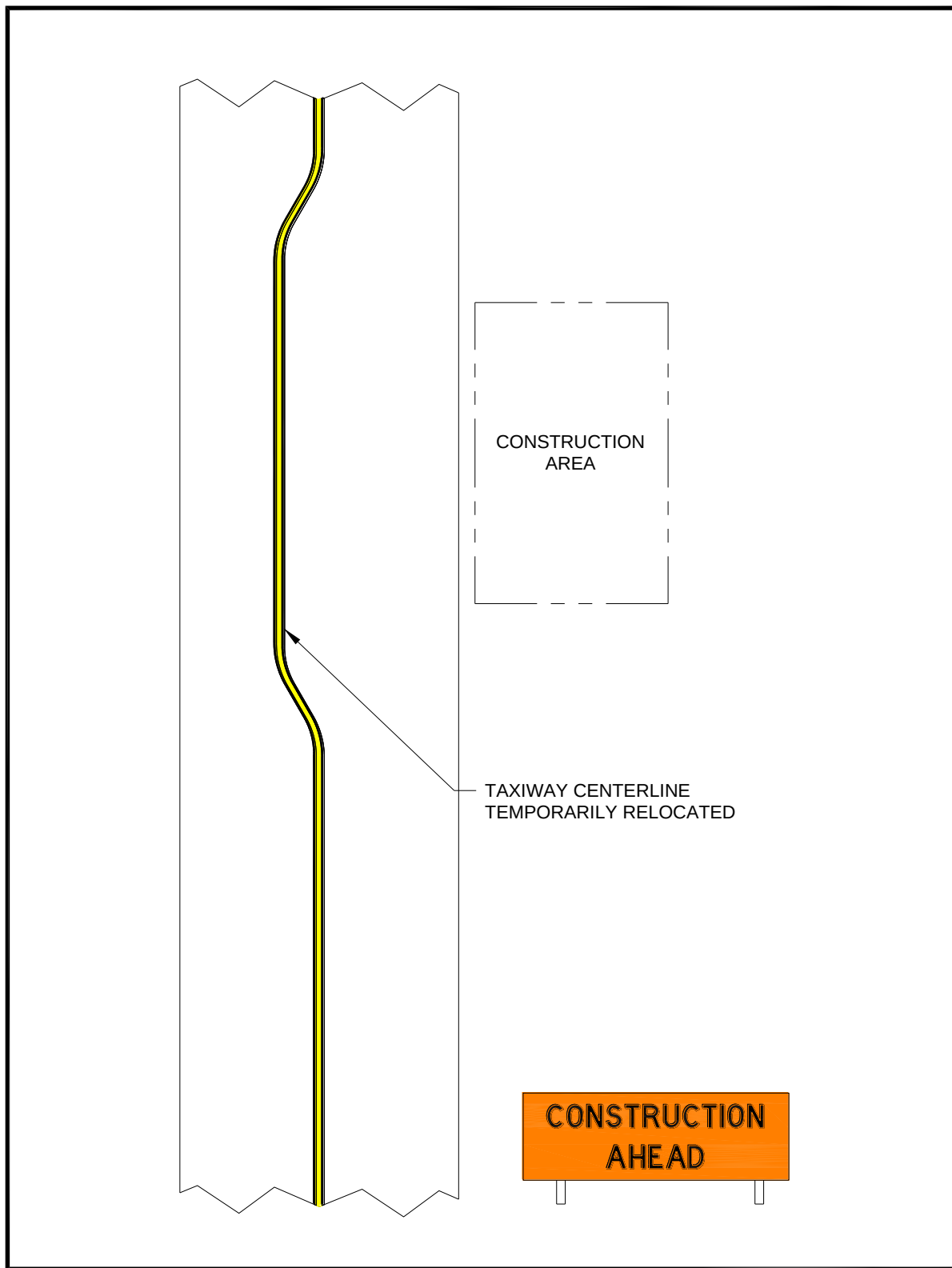
APPENDIX F. ORANGE CONSTRUCTION SIGNS

Figure F-1. Approved Sign Legends



Figure F-2. Orange Construction Sign Example 1

Note: For proper placement of signs, refer to EB 93.

Figure F-3. Orange Construction Sign Example 2

Note: For proper placement of signs, refer to EB 93.

Page Intentionally Blank

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5370-2G

Date: _____

Please check all appropriate line items:

- ☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.
- ☐ Recommend paragraph _____ on page _____ be changed as follows:
- _____
- _____
- _____
- ☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)
- _____
- _____
- _____
- ☐ Other comments:
- _____
- _____
- _____
- ☐ I would like to discuss the above. Please contact me at (phone number, email address).
- _____

Submitted by: _____

Date: _____

Page Intentionally Blank

ENGINEER'S ESTIMATE

INSTALL RUNWAY 17/35 EDGE LIGHTING

CITY OF STORM LAKE

BMI PROJECT NO. 075.128791



Real People. Real Solutions.

March 1, 2023

Item No.	Item	Unit	Quantity	Unit Price	Total Amount
1	MOBILIZATION	LS	1	\$33,550.00	\$33,550.00
2	TRAFFIC CONTROL	LS	1	\$5,000.00	\$5,000.00
3	CONSTRUCTION SURVEY	LS	1	\$5,000.00	\$5,000.00
4	SEEDING FERTILIZING AND MULCHING	LS	1	\$8,000.00	\$8,000.00
5	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15000	\$3.00	\$45,000.00
6	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	LF	11500	\$3.00	\$34,500.00
7	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12500	\$4.00	\$50,000.00
8	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$40.00	\$5,000.00
9	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$50.00	\$6,250.00
10	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	\$800.00	\$3,200.00
11	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	\$1,300.00	\$63,700.00
12	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	\$1,350.00	\$21,600.00
13	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	\$1,300.00	\$27,300.00
14	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	\$5,500.00	\$22,000.00
15	SPARE PARTS, AS LISTED	LS	1	\$5,000.00	\$5,000.00
16	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	\$15,000.00	\$15,000.00

OPINION OF PROBABLE CONSTRUCTION COST: **\$350,100.00**

ALTERNATE A

Item No.	Item	Unit	Quantity	Unit Price	Total Amount
A1	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	\$15,000.00	\$15,000.00
A2	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	\$10.00	\$500.00
A3	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	\$10.00	\$250.00
A4	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	\$10.00	\$150.00
A5	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	\$1,000.00	\$1,000.00
A6	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	\$4,100.00	\$4,100.00

ALTERNATE A - PROBABLE CONSTRUCTION COST: **\$21,000.00**

ALTERNATE B

Item No.	Item	Unit	Quantity	Unit Price	Total Amount
B1	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	\$27,500.00	\$27,500.00
B2	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	\$2,500.00	\$2,500.00

ALTERNATE B - PROBABLE CONSTRUCTION COST: **\$30,000.00**

TOTAL BASE BID PLUS ALL ALTERNATES COST: **\$401,100.00**

Staff Summary

04/03/2023

Agenda Item # F.3.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Tyler Gibbins Staff Accountant

SUBJECT: **Resolution No. 52-R-2022-2023 Approving the Plans, Specifications, Form of Contract, Engineer's Estimate, Awarding the Bid, and Submittal of the FAA Grant Application for the Runway 17/35 Edge Lighting Project**

BACKGROUND: The existing lighting on runway 17/35 were installed 30+ years ago and are in need of replacement. The existing lighting system is experiencing outages due to old lights and wire. The parts for the lights are also becoming more expensive and harder to find.

The new installation will include replacing all the edge lights along runway 17/35 with two alternates of lighting around the existing wind cone and rotating beacon.

Bids were opened on March 23rd, 2023. 2 bids were received with the apparent low bidder being Voltmer, Inc. in the amount of \$296,003.25 total for the base bid and two alternates. This is 26% under the engineer's estimate of \$401,100.

FISCAL IMPACT: The construction contract has an estimated value of \$296,003.25. A grant application will be made to the FAA for 90% of the construction cost with a 10% local match.

RECOMMENDATION: Approve Resolution No. 52-R-2022-2023 Approving the Plans, Specifications, Form of Contract, Engineer's Estimate, accepting bids, to award the construction contract to Voltmer, Inc. for the Base Bid, Alternate A, and Alternate B in the amount of \$296,003.25, and Submittal of the FAA Grant Application for the Runway 17/35 Edge Lighting Project

ATTACHMENTS:

[Resolution No. 52-R-2022-2023](#)

Notice of Public Hearing SLB-Runway 17-35 Edge Lighting.pdf
Project Plans
Project Specifications
Engineer's Estimate
Letter of Recommendation
Grant Application

RESOLUTION NO. 52-R-2022-2023

**RESOLUTION APPROVING PLANS, SPECIFICATIONS, ESTIMATED
CONSTRUCTION COST, ACCEPTING BID AND AUTHORIZING THE AWARD OF
CONTRACT, CONTINGENT UPON THE RECEIPT AND EXECUTION OF GRANT
AGREEMENT WITH THE FEDERAL AVIATION ADMINISTRATION AND
APPROVING AN APPLICATION FOR FEDERAL AVIATION FUNDING
ASSISTANCE FOR THE CONSTRUCTION OF THE INSTALL RUNWAY 17/35 EDGE
LIGHTING IMPROVEMENTS PROJECT AT THE STORM LAKE MUNICIPAL
AIRPORT IN STORM LAKE , IOWA,**

WHEREAS plans, specifications and estimated cost for construction were placed on file in the office of the City Clerk of the City of Storm Lake, Iowa for the Install Runway 17/35 Edge Lighting Improvements Project at the Storm Lake Municipal Airport in Storm Lake, Iowa; and

WHEREAS a public hearing notice on the proposed plans, specifications and estimated construction cost were duly published for a hearing now before the City Council; and

WHEREAS, written objections to the proposed plans, specifications and estimated construction cost have been called for and no such written objections have been received by the City Clerk; and

WHEREAS, oral objections to the proposed plans, specifications and estimated construction cost have been called for and no oral objections have been made in open City Council meeting; and

WHEREAS, it is now the decision of the City Council that the proposed plans, specifications and estimated construction cost should be approved.

WHEREAS, it is now necessary to submit an application for Federal Assistance from the Federal Aviation Administration for the design and construction of said improvements.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, IOWA:

Section 1. That the plans, specifications and estimated cost for construction placed on file and upon which a public notice was duly given and no objections have been made in writing or open City Council meeting, the City Council does hereby approve the plans, specifications and estimated cost for construction of the Install Runway 17/35 Edge Lighting Improvements Project at the Storm Lake Municipal Airport.

Section 2. That the following Base Bid, Alternate Bid A and Alternate Bid B of the Installation of Runway 17/35 Lighting Improvement Project, is hereby accepted and awarded subject to receipt and execution of grant agreement with Federal Aviation Administration, the same being the lowest responsible bid received for said work as follows:

Contractor: Voltmer Inc

Amount of Bid: \$296,003.25
Portion of the Project: Base, Alternate A, & Alternate B

Section 4. That the Mayor, or designee, and City Clerk of the City of Storm Lake, Iowa are hereby authorized and directed to execute the contract with Voltmer, Inc. of Decorah, Iowa subject to receipt and execution of a grant agreement with the Federal Aviation Administration.

Section 5. That the Mayor, or designee, and City Clerk are authorized and directed to sign and submit to the Federal Aviation Administration the application for Federal Assistance for the design and construction of the Install Runway 17/35 Edge Lighting Improvements Project at the Storm Lake Municipal Airport.

PASSED AND APPROVED ON THIS 3RD DAY OF APRIL 2023 BY THE STORM LAKE CITY COUNCIL.

CITY OF STORM LAKE, IOWA

Michael Porsch, Mayor

ATTEST:

Mayra Martinez, City Clerk

SECTION 00105 - NOTICE OF PUBLIC HEARING

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

Public Hearing on Proposed Contract Documents and Estimated Costs for Repair or Improvement. A public hearing will be held by the City of Storm Lake on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 5:00 P.M CDST on April 3, 2023, at City Hall, 620 Erie Street, Storm Lake, Iowa 50588.

PROJECT DESCRIPTION: Runway 17/35 Edge Lighting

At said hearing, the City Council will consider the plans, specifications, proposed form of contract, and estimated total cost for the project, the same now being on file in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said City Council will also receive and consider any objections to said plans, specifications, estimate of cost, and form of contract made by any interested party.

GOVERNING SPECIFICATIONS

FEDERAL AVIATION ADMINISTRATION AC 150/5370-10H, DATED DECEMBER 21, 2018 "STANDARDS FOR SPECIFYING CONSTRUCTION ON AIRPORTS" AND ALL SUPPLEMENTS.

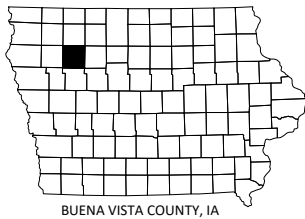
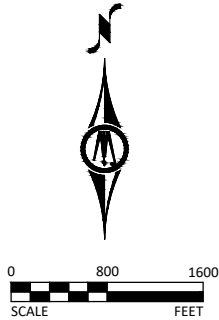
ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL, 1-800-292-8989.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



MAP OF THE CITY OF STORM LAKE
BUENA VISTA COUNTY, IA



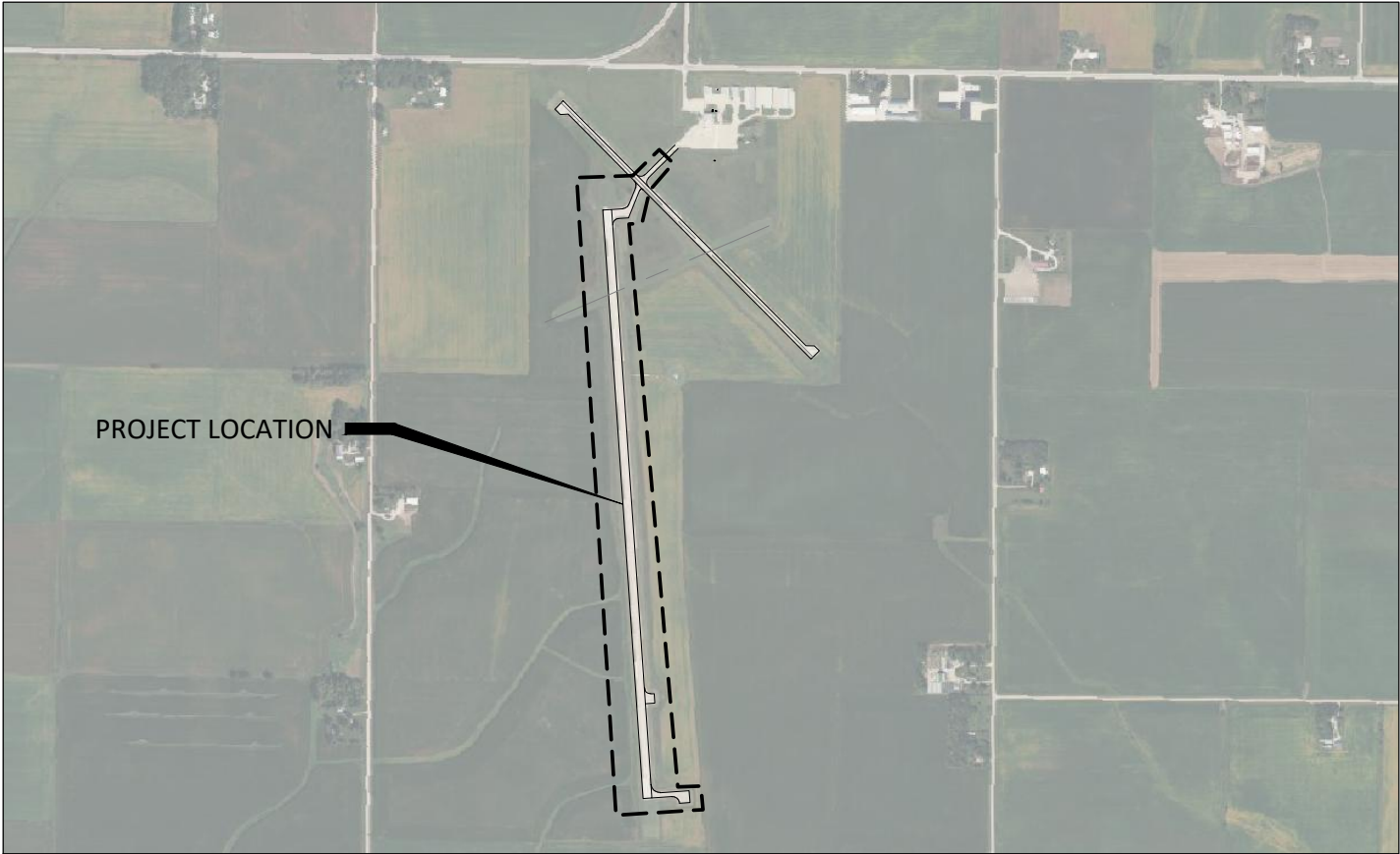
BUENA VISTA COUNTY, IA

STORM LAKE MUNICIPAL AIRPORT
CONSTRUCTION PLANS FOR
INSTALL RUNWAY 17/35 EDGE LIGHTING

STORM LAKE, IOWA
BMI PROJECT #: 0T5.128791
AIP NO. 3-19-0088-018-2023

MARCH 2023

AIRPORT REFERENCE CODE B-II
RUNWAY 17/35 (RDC) B-II-5000
RUNWAY 13/31 (RDC) B-I-VISUAL
RUNWAY 6/24 (RDC) A-I-VISUAL
TAXIWAY DESIGN GROUP (TDG) 2A



SHEET NUMBER	SHEET TITLE
A.01 - A.02	TITLE SHEET, LEGEND, SYMBOLS & GENERAL INFORMATION
B.01 - B.03	ELECTRICAL DETAILS
C.01 - C.02	QUANTITIES & ESTIMATE REFERENCE INFORMATION
E.01 - E.09	ELECTRICAL PLAN
E.10	ELECTRICAL PLAN - ALTERNATE A & B
G.01	STATIONING INFORMATION
J.01 - J.02	CONSTRUCTION SAFETY & PHASING PLAN
P.01 - P.05	LIGHTING LAYOUT
R.01 - R.03	REMOVALS & EXISTING CONDITIONS



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

JOSEPH P. ROENFELDT, P.E.

LICENSE NUMBER: 21134 DATE: March 1, 2023

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023

PAGES OR SHEETS COVERED BY THIS SEAL:

ALL SHEETS



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
0T5.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

TITLE SHEET

SHEET

A.01

397

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		SATELLITE DISH
	AIR CONDITION UNIT		SIGN TRAFFIC
	ANTENNA		SIGNAL CONTROL CABINET
	AUTO SPRINKLER CONNECTION		SOIL BORING
	BARRICADE PERMANENT		SIREN
	BASKETBALL POST		TELEPHONE BOOTH
	BENCH		TILE INLET
	BIRD FEEDER		TILE OUTLET
	BOLLARD		TILE RISER
	BUSH		TRANSFORMER-ELECTRIC
	CATCH BASIN RECTANGULAR CASTING		TREE-CONIFEROUS
	CATCH BASIN CIRCULAR CASTING		TREE-DEAD
	CURB STOP		TREE-DECIDUOUS
	CLEAN OUT		TREE STUMP
	CULVERT END		TRAFFIC ARM BARRIER
	DRINKING FOUNTAIN		TRAFFIC SIGNAL
	DOWN SPOUT		TRASH CAN
	FILL PIPE		UTILITY MARKER
	FIRE HYDRANT		VALVE
	FLAG POLE		VALVE POST INDICATOR
	FLARED END / APRON		VALVE VAULT
	FUEL PUMP		VAULT
	GRILL		VENT PIPE
	GUY WIRE ANCHOR		WATER SPIGOT
	HANDHOLE		WELL
	HANDICAP SPACE		WETLAND DELINEATED MARKER
	IRRIGATION SPRINKLER HEAD		WETLAND
	IRRIGATION VALVE BOX		WET WELL
	LIFT STATION CONTROL PANEL		YARD HYDRANT
	LIFT STATION		
	LIGHT POLE		
	MAILBOX		
	MANHOLE-COMMUNICATION		
	MANHOLE-ELECTRIC		
	MANHOLE-GAS		
	MANHOLE-HEAT		
	MANHOLE-SANITARY SEWER		
	MANHOLE-STORM SEWER		
	MANHOLE-UTILITY		
	MANHOLE-WATER		
	METER		
	ORDER MICROPHONE		
	PARKING METER		
	PAVEMENT MARKING		
	PEDESTAL-COMMUNICATION		
	PEDESTAL-ELECTRIC		
	PEDESTRIAN PUSH BUTTON		
	PICNIC TABLE		
	POLE-UTILITY		
	POST		
	RAILROAD SIGNAL POLE		
	REGULATION STATION GAS		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT		MANHOLE
	LIFT STATION		STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING		STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE		STORM SEWER OVERFLOW STRUCTURE
	CURB BOX		FIRE HYDRANT
	WATER VALVE		WATER REDUCER
	WATER BEND		WATER TEE
	WATER CROSS		WATER SLEEVE
	WATER CAP / PLUG		RIP RAP
	DRAINAGE FLOW		TRAFFIC SIGNS
	LIGHT POLE		

SURVEY SYMBOLS

	BENCHMARK LOCATION		CAST IRON MONUMENT
	CONTROL POINT		STONE MONUMENT
	MONUMENT FOUND		

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS
	BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING
	TRENCHLESS PIPE (PLAN VIEW)
	TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROJECT LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL - 1-800-292-8989

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL OTHER THAN D:

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

LEVEL D - INFORMATION COMES SOLELY FROM EXISTING UTILITY RECORDS.

LEVEL C - SURVEYING ABOVE GROUND UTILITY FACILITIES, SUCH AS MANHOLES, VALVE BOXES, ETC; AND CORRELATING THIS INFORMATION WITH EXISTING UTILITY RECORDS.

LEVEL B - THE USE OF SURFACE GEOPHYSICAL TECHNIQUES TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF UNDERGROUND UTILITIES.

LEVEL A - THE USE OF NONDESTRUCTIVE DIGGING EQUIPMENT AT HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	RT	RIGHT
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SAN	SANITARY SEWER
ALT	ALTERNATE	HH	HANDHOLE	SCH	SCHEDULE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MH	MANHOLE	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VCP	VITRIFIED CLAY PIPE
C.O.	CHANGE ORDER	MPW	MUSCATINE POWER & WATER	VERT	VERTICAL
COMM	COMMUNICATION	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
CSP	CORRUGATED STEEL PIPE	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CLVT	CULVERT	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
DIA	DIAMETER	NTS	NOT TO SCALE	WM	WATERMAIN
DIP	DUCTILE IRON PIPE	NWL	NORMAL WATER LEVEL	WS	WATER SERVICE
DWY	DRIVEWAY	OHW	ORDINARY HIGH WATER LEVEL		
E	EXTERNAL CURVE DISTANCE	PC	POINT OF CURVE		
ESMT	EASEMENT	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEV/EL	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	CY	CUBIC YARD
ER	END RADIUS	PERM	PERMANENT	EA	EACH
EX	EXISTING	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
FES	FLARED END SECTION	PL	PROPERTY LINE	LB	POUND
F-F	FACE TO FACE	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
FF	FINISHED FLOOR	PT	POINT OF TANGENT	LS	LUMP SUM
F&I	FURNISH AND INSTALL	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
FM	FORCEMAIN	PVMT	PAVEMENT	SF	SQUARE FEET
FO	FIBER OPTIC	R	RADIUS	SV	STOCKPILE VOLUME
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE	SY	SQUARE YARD
GRAN	GRANULAR	RET	RETAINING		
GRAV	GRAVEL	R/W	RIGHT-OF-WAY		
GU	GUTTER	RSC	RIGID STEEL CONDUIT		



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT

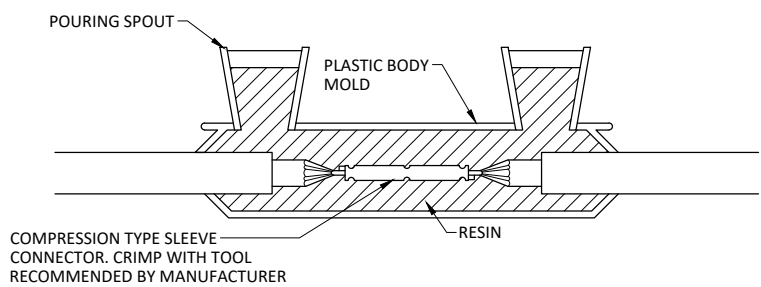
INSTALL RUNWAY 17/35 EDGE LIGHTING

LEGEND, SYMBOL & GENERAL INFORMATION

SHEET

A.02

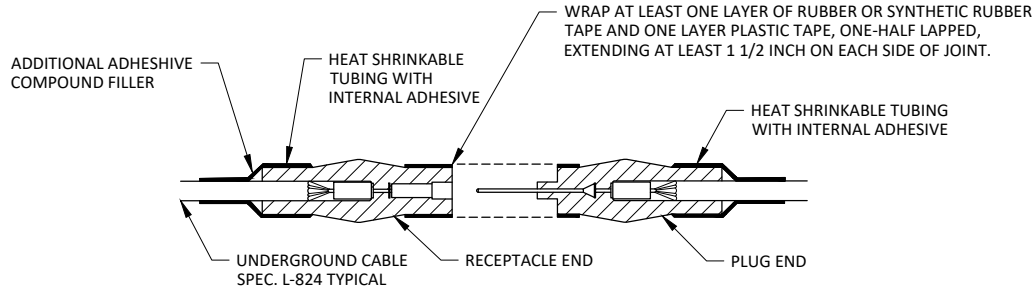
398



NOTE:
CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.

FOR SPLICES IN HOMERUNS AND EXTENSIONS TO EXISTING CABLE ONLY

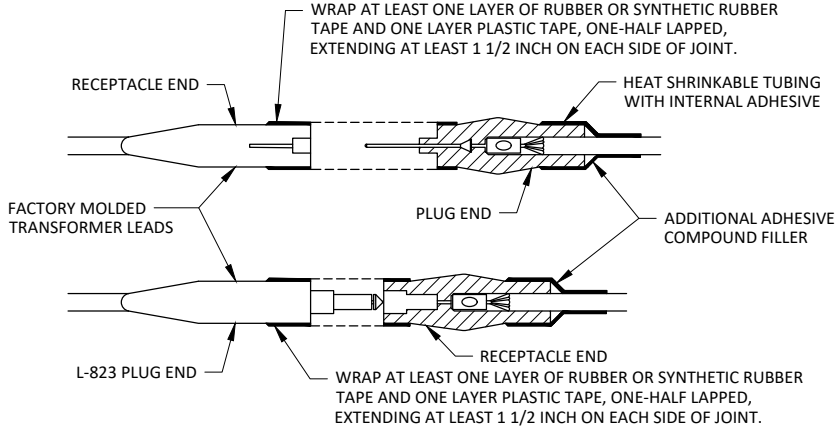
1 TYPE A CONNECTION
NOT TO SCALE



NOTE:
CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.

FOR SPLICED FOR USE AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT

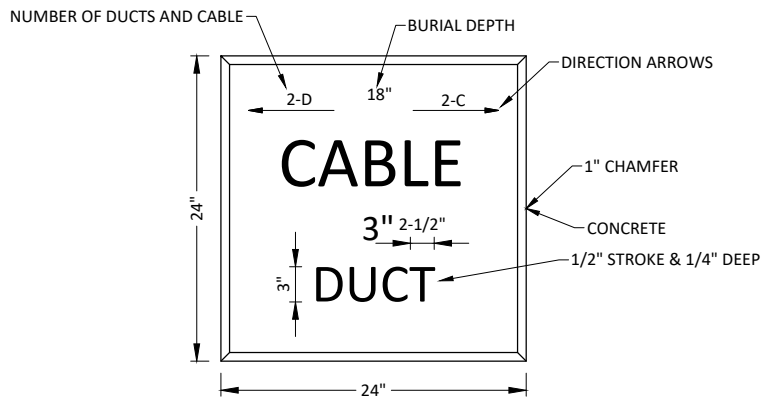
2 TYPE B CONNECTION
NOT TO SCALE



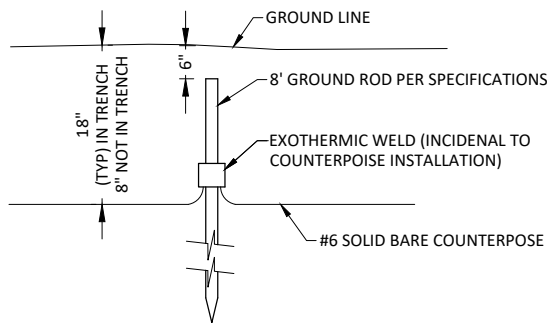
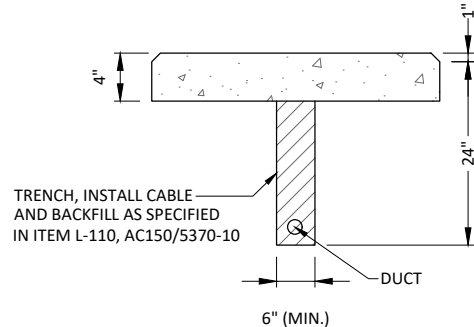
NOTE:
CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.

FOR SPLICES AT TAXIWAY/RUNWAY LIGHTS

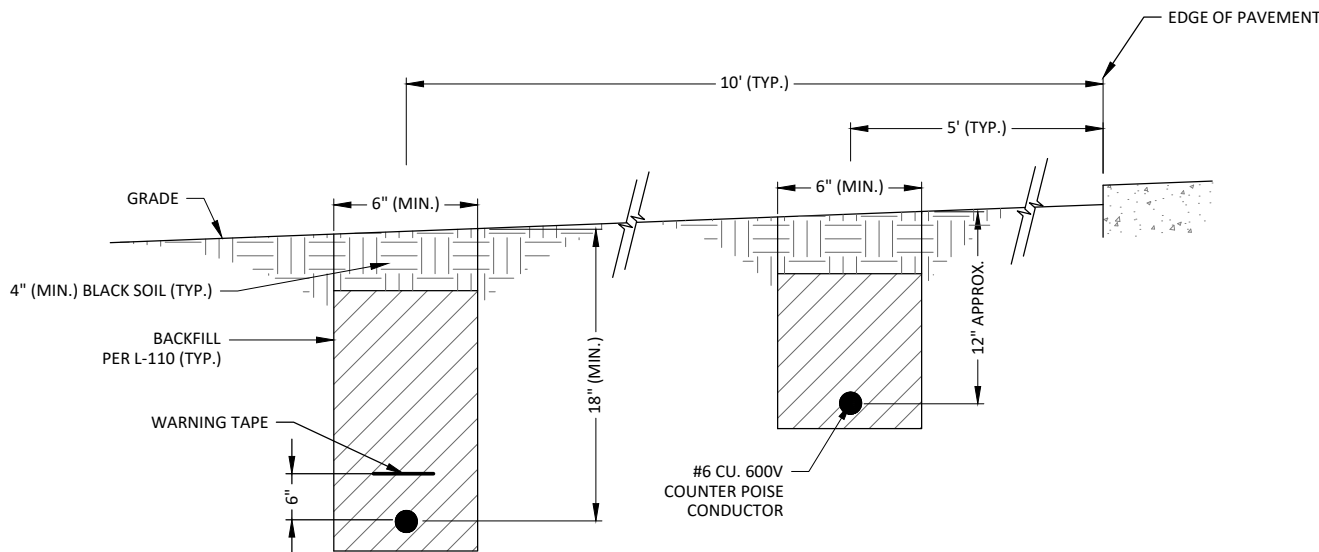
3 TYPE C CONNECTION
NOT TO SCALE



4 CONCRETE MARKER DETAIL
NOT TO SCALE



5 GROUND ROD DETAIL
NOT TO SCALE



6 TYPICAL TRENCH DETAIL
NOT TO SCALE



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

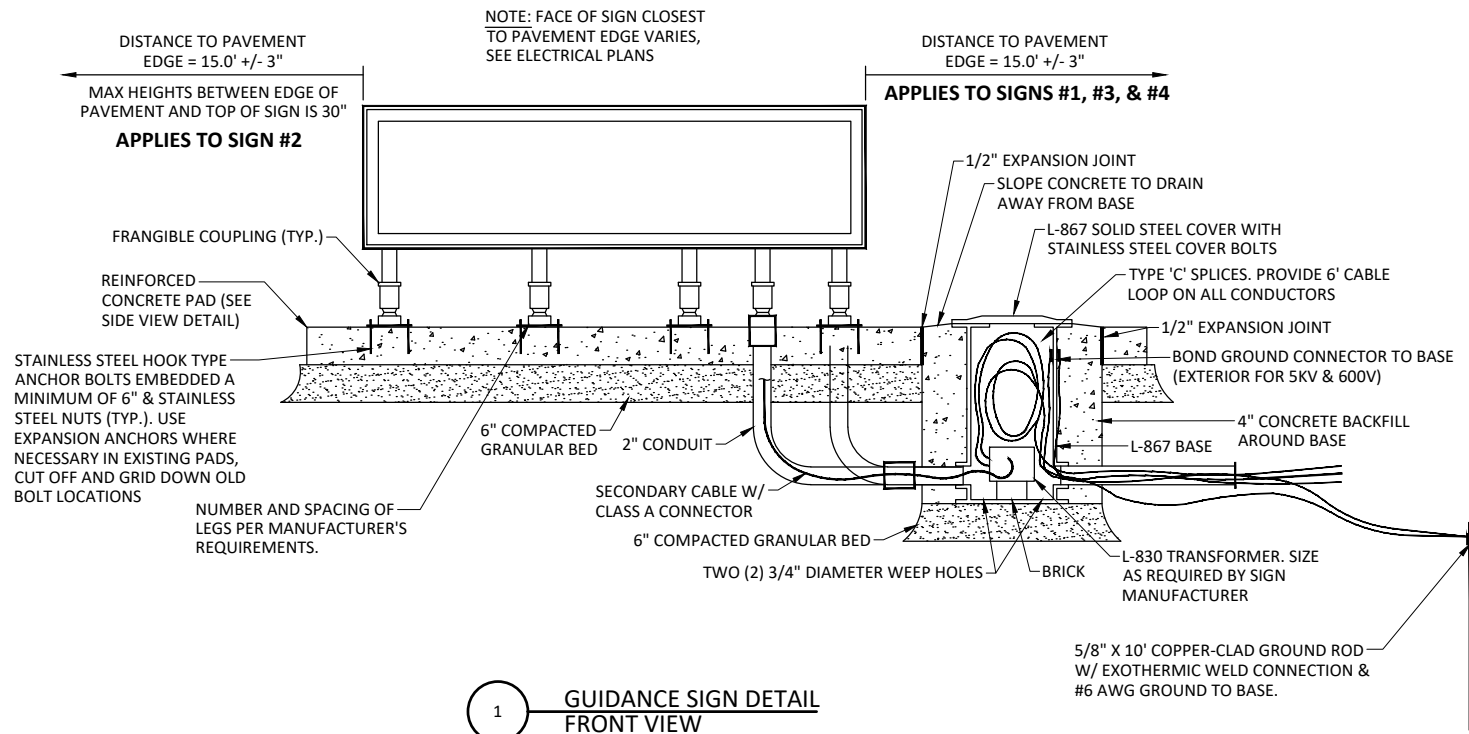
STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

ELECTRICAL DETAILS

SHEET

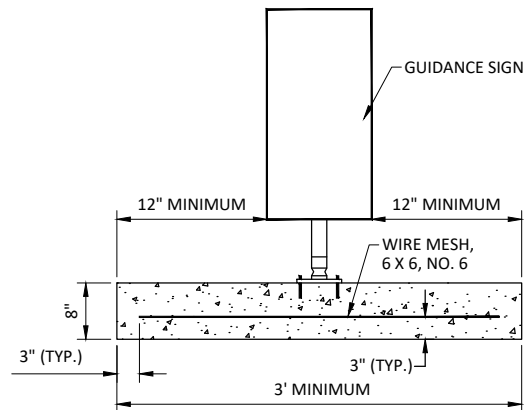
B.01

399



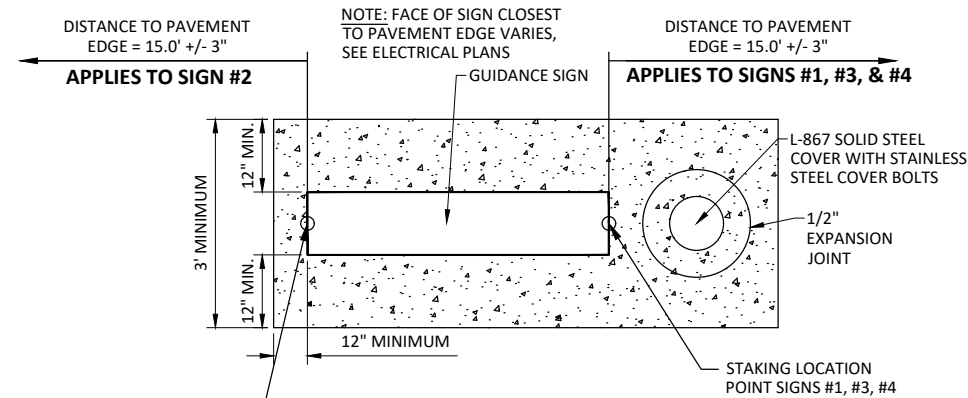
1 GUIDANCE SIGN DETAIL FRONT VIEW

NOT TO SCALE



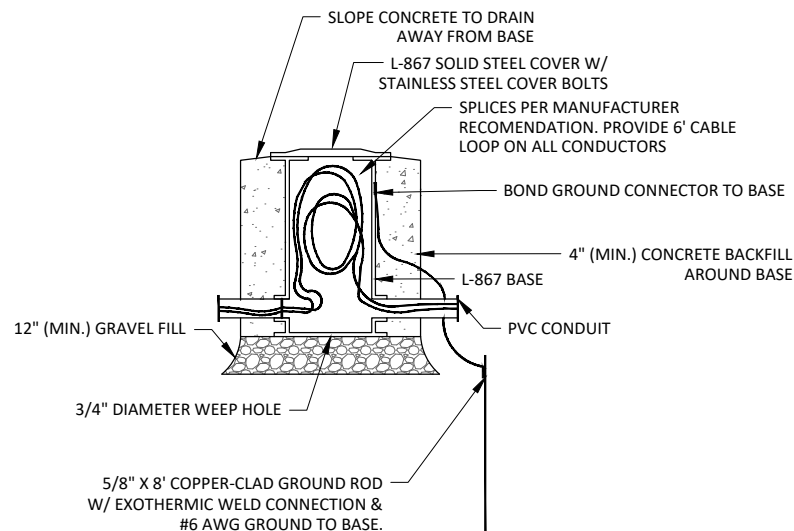
2 GUIDANCE SIGN DETAIL SIDE VIEW

NOT TO SCALE



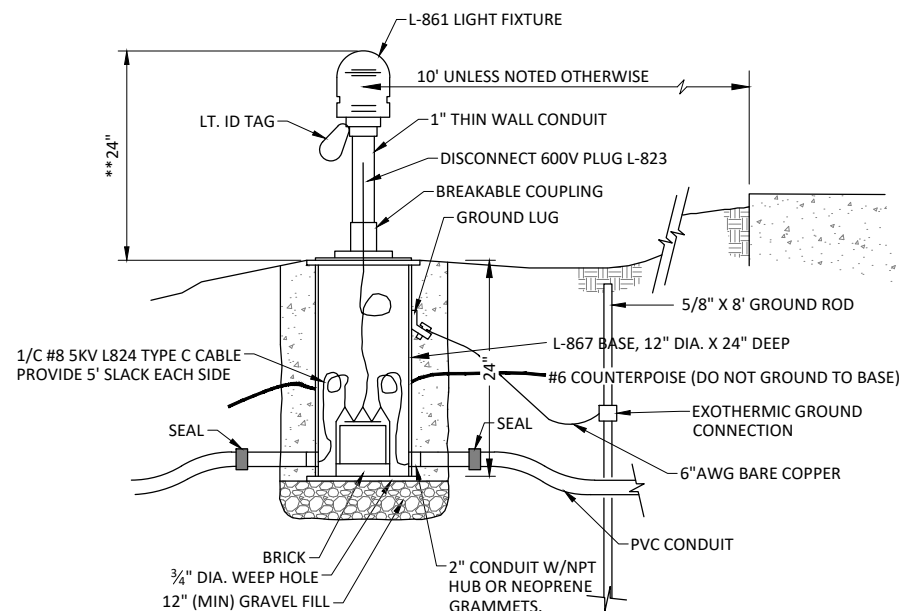
3 GUIDANCE SIGN DETAIL PLAN VIEW

NOT TO SCALE



5 HANDHOLE SIZE "B" OR "D"

NOT TO SCALE



MIRL/MITL NOTE:
LIGHT I.D. TAG TO BE NON-CORROSIVE WITH ENGRAVED PERMANENT NUMBERS. LETTERS TO BE 1 1/2" MIN. HEIGHT. NUMBERING TO BE DETERMINED BY ENGINEER AND OWNER. ATTACH TAG TO LT. WITH NON-CORROSIVE METAL WIRE TIE, SO I.D. CAN BE READ FROM PAVEMENT.

EACH LIGHT SHALL BE GROUNDED BY THE FOLLOWING METHOD. METHOD (SHOWN) IS CONNECT EACH BASE TO A 5/8" X 8' (MIN.) GROUND ROD INSTALLED NEXT TO THE BASE WITH #6 AWG BARE COPPER JUMPER. GROUNDING SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE LIGHTS.

**TOP OF LIGHT SHALL BE 24" ABOVE ADJACENT EDGE OF PAVEMENT, BUT NOT MORE THAN 30" ABOVE BASE COVER.

4 TYPICAL BASE MOUNTED FIXTURE DETAIL

NOT TO SCALE

SIGN LEGEND							
SIGN #	SIGN SIZE	FACE ON PRIMARY SIDE	FACE ON SECONDARY SIDE	COLOR (SEE SIGN ARRAY TABLE)			
				PRIMARY SIDE		SECONDARY SIDE	
				LEGEND 1	LEGEND 2	LEGEND 3	LEGEND 4
1	1	C 31-13	RAMP↑ C	Y,B	W,R	B,Y	Y,B
2	1	C 17	RAMP↑ C	Y,B	W,R	B,Y	Y,B
3	1	C 13-31	17↗ C	Y,B	W,R	B,Y	Y,B
4	1	A1 35	A1↑A1	Y,B	W,R	B,Y	Y,B

SIGN ARRAY

PRIMARY SIDE

LEGEND 1	LEGEND 2
----------	----------

SECONDARY SIDE

LEGEND 1	LEGEND 2
----------	----------

COLOR LEGEND

W,R	MANDATORY (L-858R)	WHITE LEGEND WITH A BLACK TEXT OUTLINE, ON RED BACKING
B,Y	DIRECTIONAL (L-858Y)	BLACK LEGEND ON YELLOW BACKING
Y,B	LOCATION (L-858L)	YELLOW LEGEND WITH YELLOW TEXT OUTLINE ON BLACK BACKING



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

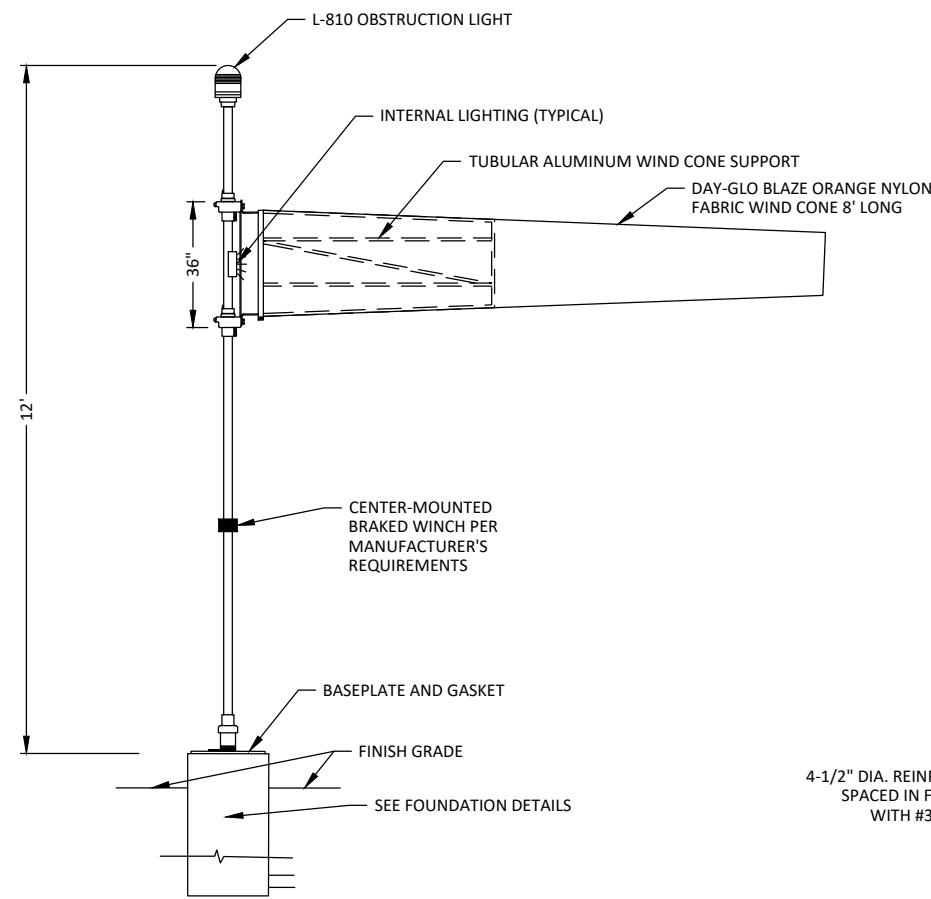
STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

ELECTRICAL DETAILS

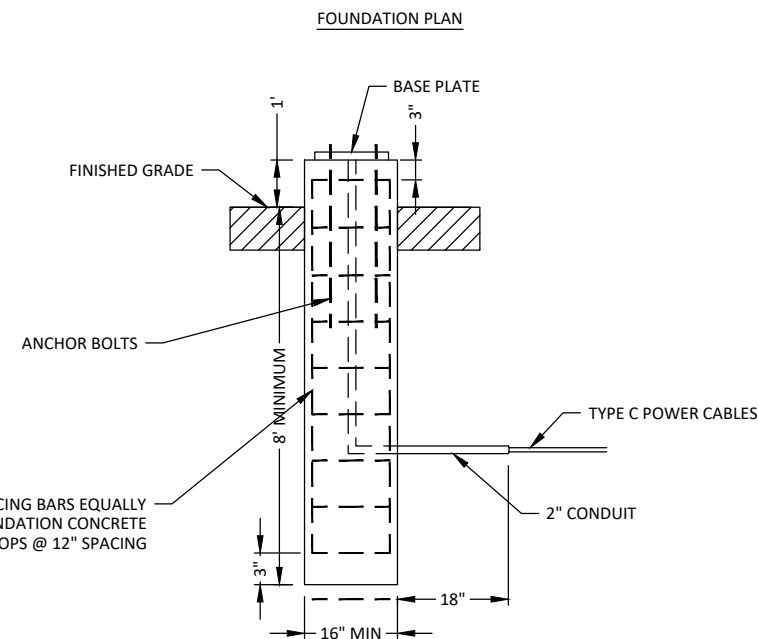
SHEET

B.02

400



STANDARD ILLUMINATED WIND CONE ASSEMBLY



FOUNDATION PROFILE

1 L-807 WIND CONE ASSEMBLY
NOT TO SCALE

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3046\03128791\CA\CSA\128791-BOL.dwg 3/7/2023 2:27:16 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

ELECTRICAL DETAILS

SHEET

B.03

401

© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\3046\03128791\CA\CA01\128791 - 001.dwg 3/7/2023 2:27:22 PM

ESTIMATED PROJECT QUANTITIES (BASE BID)					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
1	C-105	MOBILIZATION	LS	1	
2	C-105	TRAFFIC CONTROL	LS	1	
3	C-105	CONSTRUCTION SURVEY	LS	1	
4	T-901	SEEDING FERTILIZING AND MULCHING	LS	1	
5	L-108	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15000	
6	L-108	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	LF	11500	
7	L-110	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12500	
8	L-110	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	
9	L-110	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	
10	L-115	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	
11	L-125	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	
12	L-125	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	
13	L-125	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	
14	L-125	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	
15	L-125	SPARE PARTS, AS LISTED	LS	1	
16	L-125	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	

ESTIMATED PROJECT QUANTITIES (ALTERNATE A)					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
A1	L-107	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	
A2	L-108	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	
A3	L-108	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	
A4	L-110	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	
A5	L-115	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	
A6	L-125	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	

ESTIMATED PROJECT QUANTITIES (ALTERNATE B)					
ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
B1	L-101	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	
B2	L-125	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

STORM LAKE MUNICIPAL AIRPORT

INSTALL RUNWAY 17/35 EDGE LIGHTING

QUANTITIES & ESTIMATE REFERENCE INFORMATION

SHEET

C.01

402

ESTIMATE REFERENCE INFORMATION (BASE BID)		
ITEM NO.	ITEM CODE	DESCRIPTION
1	C-105	<u>MOBILIZATION</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION C-105 AND THE PLANS. A SAFETY COMPLIANCE DOCUMENT (SPCD) SHALL BE WRITTEN IN ACCORDANCE WITH AC 150/5370-2G SECTION 4.2.2. BASIS OF PAYMENT SHALL BE LUMP SUM AND SHALL INCLUDE ALL PREPARATORY WORK COSTS INCURRED INCLUDING BUT NOT LIMITED TO COSTS OF BONDS, INSURANCE, AND OTHER MISCELLANEOUS ITEMS THAT DO NOT HAVE THEIR OWN SEPARATE BID ITEMS BUT ARE REQUIRED TO COMPLETE THE PROJECT, SHALL BE INCLUDED IN THIS BID ITEM. CONSTRUCTION ENTRANCES SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM. METHOD OF PAYMENT SHALL BE A LUMP SUM.
2	C-105	<u>TRAFFIC CONTROL</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION C-105 AND THE PLANS. BASIS OF PAYMENT SHALL BE LUMP SUM AND SHALL INCLUDE ALL TRAFFIC CONTROL NECESSARY PER THE PLANS AND CSPP. METHOD OF PAYMENT SHALL BE A LUMP SUM.
3	C-105	<u>CONSTRUCTION SURVEY</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION C-105 AND THE PLANS. THIS ITEM SHALL INCLUDE ALL SURVEY NECESSARY FOR THE LAYOUT AND STAKING OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE FIELD NOTES AND VERIFICATION CHECKS AS PROVIDED IN THE FAA GENERAL PROVISION SECTIONS AND SHALL PROVIDE ADDITIONAL SURVEYING REQUIREMENTS THAT ARE ALSO LISTED IN THE REFERENCE SPECIFICATIONS FOR THE PROJECT. BASIS OF PAYMENT SHALL BE LUMP SUM.
4	T-901	<u>SEEDING FERTILIZING AND MULCHING</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION T-901 AND THE PLANS. THIS ITEM SHALL PROVIDE FOR SEEDBED PREPARATION, SEEDING, FERTILIZING AND MULCHING OF ALL AREAS DISTURBED BY CONSTRUCTION. THIS BID ITEM WILL BE ACCEPTED WHEN A STAND OF GRASS HAS BEEN ESTABLISHED IN ACCORDANCE WITH REFERENCE SPECIFICATION SECTION T-901. BASIS OF PAYMENT SHALL BE A LUMP SUM. ANY SEEDING CORRECTION, RESEEDING, WEEDY AREAS, ERODED AREAS, BARE SPOTS AND AFFECTED AREAS BE THE REMEDIED AT THE EXPENSE OF THE CONTRACTOR.
5	L-108	<u>NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. CABLE MARKERS, DUCT MARKERS, VERTICAL LENGTHS OF WIRE, AND SLACK SHALL BE CONSIDERED INCIDENTAL. VOLTAGESENSE CABLE, CONNECTIONS AND ANY OTHER MATERIALS NEEDED FOR REILS SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
6	L-108	<u>NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
7	L-110	<u>NON-ENCASED 2" PVC/HDPE CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
8	L-110	<u>2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. ANY ADDITIONAL TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
9	L-110	<u>2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. ANY ADDITIONAL TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
10	L-115	<u>L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-115 AND THE PLANS. HANDHOLES SHALL INCLUDE 3/4" DRAIN NIPPLE, EXTERNAL GROUNDING LUG, PROVISIONS FOR CONDUIT PENETRATIONS AND SHALL HAVE A 3/8" MINIMUM THICK LID. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. SIZE B HANDHOLES REQUIRED NEAR GUIDANCE SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE GUIDANCE SIGN BID ITEM. BASIS OF PAYMENT SHALL BE PER EACH.

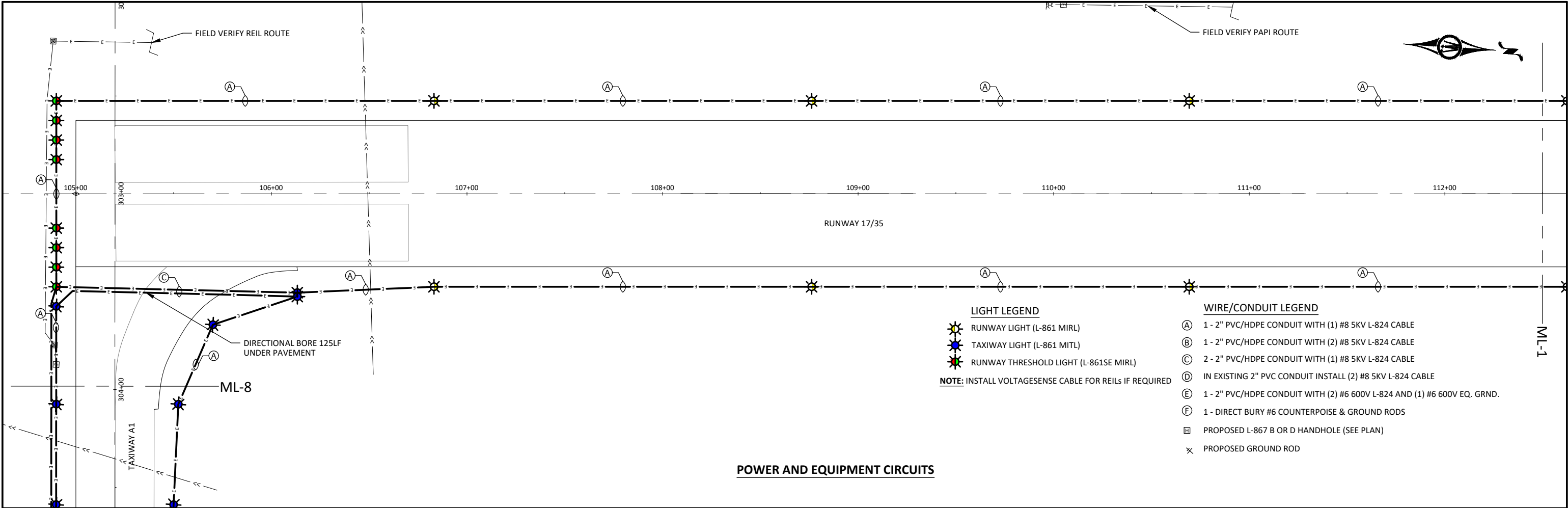
11	L-125	<u>L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
12	L-125	<u>L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
13	L-125	<u>L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
14	L-125	<u>L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. HANDHOLE LOCATED NEAR EDGE OF SIGN SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM. BASIS OF PAYMENT SHALL BE PER EACH.
15	L-125	<u>SPARE PARTS, AS LISTED</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER EACH.
16	L-125	<u>DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ALL FOUNDATION BASES, HAND HOLES, CONDUCTORS, AND RELATED MATERIALS FROM THE EXISTING RUNWAY AND TAXIWAY EDGE LIGHTING SYSTEM SHALL BE REMOVED AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ALL EXISTING EDGE LIGHTS SHALL BE SALVAGED TO THE AIRPORT. IF AIRPORT DOES NOT WANT THE ITEMS THEY SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY. BASIS OF PAYMENT SHALL BE LUMP SUM.

ESTIMATE REFERENCE INFORMATION (ALTERNATE A)		
ITEM NO.	ITEM CODE	DESCRIPTION
A1	L-107	<u>L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-107 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER EACH WIND CONE INSTALLED. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE A LUMP SUM.
A2	L-108	<u>NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. CABLE MARKERS, DUCT MARKERS, VERTICAL LENGTHS OF WIRE, AND SLACK SHALL BE CONSIDERED INCIDENTAL. WIRE SIZE ASSUMED FOR BIDDING. IF AFTER FIELD INVESTIGATION, WIRE SIZE IS LARGER, CONTRACTOR SHALL UPGRADE WIRE SIZE TO MATCH EXISTING. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
A3	L-108	<u>NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-108 AND THE PLANS. CABLE MARKERS, DUCT MARKERS, VERTICAL LENGTHS OF WIRE, AND SLACK SHALL BE CONSIDERED INCIDENTAL. WIRE SIZE ASSUMED FOR BIDDING. IF AFTER FIELD INVESTIGATION, WIRE SIZE IS LARGER, CONTRACTOR SHALL UPGRADE WIRE SIZE TO MATCH EXISTING. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT OF WIRE INSTALLED.
A4	L-110	<u>NON-ENCASED 2" PVC/HDPE CONDUIT</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-110 AND THE PLANS. BASIS OF PAYMENT SHALL BE PER LINEAR FOOT. TRENCHING SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.
A5	L-115	<u>L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-115 AND THE PLANS. HANDHOLES SHALL INCLUDE 3/4" DRAIN NIPPLE, EXTERNAL GROUNDING LUG, INTERNAL GROUNDING LUG, PROVISIONS FOR CONDUIT PENETRATIONS AND SHALL HAVE A 3/8" MINIMUM THICK LID. ASR TESTING PER REFERENCE SPECIFICATION P-610-2.1 IS NOT REQUIRED. BASIS OF PAYMENT SHALL BE PER EACH.
A6	L-125	<u>DEMOLITION AND REMOVAL OF EXISTING WINDCONE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION L-125 AND THE PLANS. ALL FOUNDATION BASES, HAND HOLES, CONDUCTORS, AND OTHER MATERIALS RELATED TO THE REMOVAL OF WIND CONE SHALL BE REMOVED SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY. BACKFILL DIRT SHALL BE CONSIDERED INCIDENTAL. BASIS OF PAYMENT SHALL BE LUMP SUM.

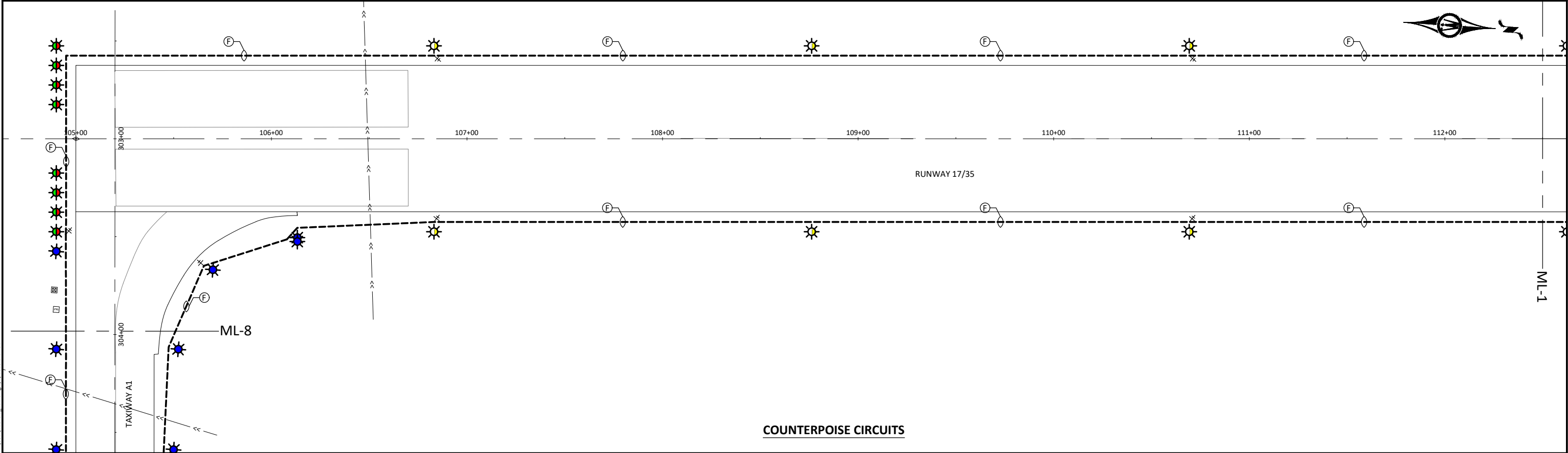
ESTIMATE REFERENCE INFORMATION (ALTERNATE B)		
ITEM NO.	ITEM CODE	DESCRIPTION
B1	L-101	<u>L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATIONS L-101 AND THE PLANS. REMOVAL OF EXISTING ROTATING BEACON HEAD SHALL BE PAID FOR UNDER ITS OWN BID ITEM. CONDUIT AND WIRE SHALL REMAIN IN PLACE TO BE RE-UTILIZED. CONTRACTOR SHALL REPLACE WITH NEW L-802 A LED ROTATING BEACON HEAD SUPPLIED BY OWNER. ANY ADDITIONAL WIRE, SUPPLIES OR CUSTOM FABRICATION NEEDED TO PRVIDE AN OPERATIONAL UNIT SHALL BE CONSIDERED INCIDENTAL. BASIS OF PAYMENT SHALL BE A LUMP SUM.
B2	L-125	<u>DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON</u> WORK UNDER THIS BID ITEM SHALL BE IN ACCORDANCE WITH REFERENCE SPECIFICATION SECTION L-125 AND THE PLANS. BEACON TOWER, BEACON FOUNDATION, BEACON CONDUITS, AND BEACON WIRING SHALL BE RE-UTILIZED IN THE CONSTRUCTION OF THE NEW ROTATING BEACON AND INCIDENTAL TO THE RESPECTIVE BID ITEM . ALL REMOVED MATERIALS SHALL BE SALVAGED TO THE AIRPORT. IF AIRPORT DOES NOT WANT THE ITEMS THEY SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY. BASIS OF PAYMENT SHALL BE LUMP SUM.



DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
0T5.128791			

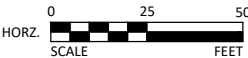


POWER AND EQUIPMENT CIRCUITS



COUNTERPOISE CIRCUITS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3150\103128971\CA\CSA\128971_E01.dwg 3/7/2023 2:27:31 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

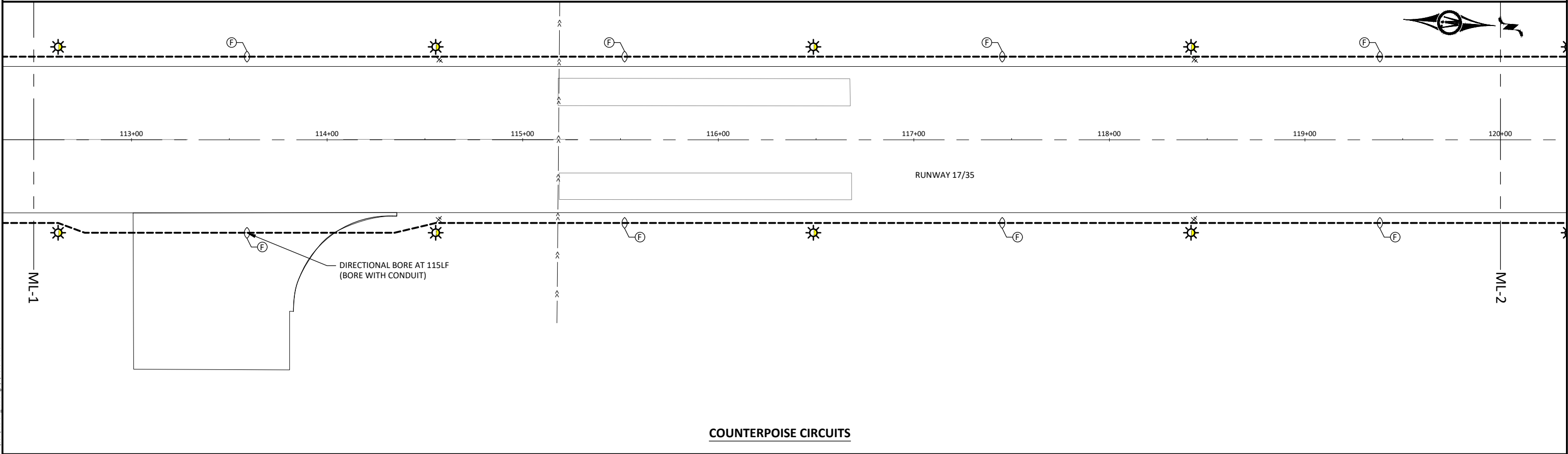
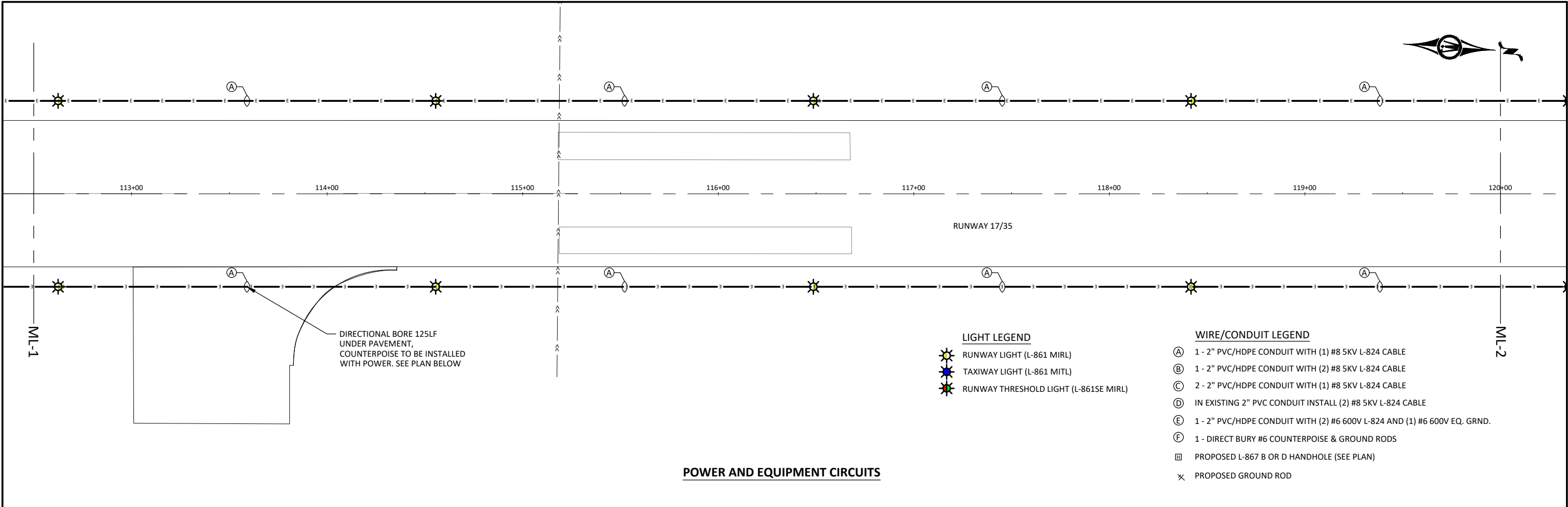
DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.01

404



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3040\013128971\CA\CA\CA\128971_01.dwg 3/7/2023 2:27:31 PM

HORZ. SCALE 0 25 50 FEET

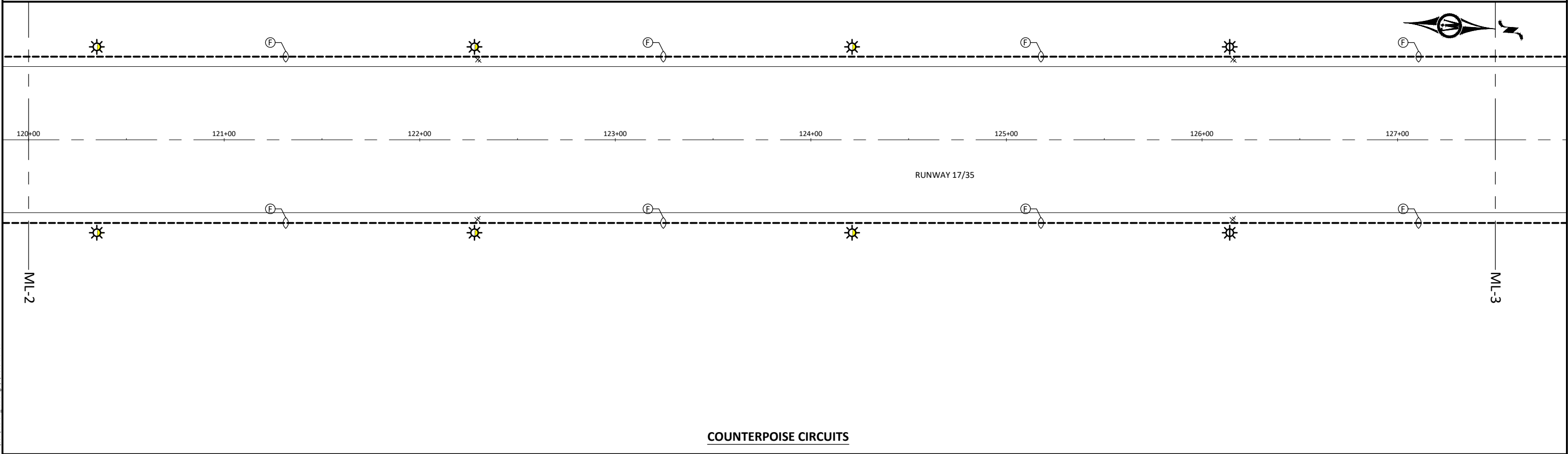
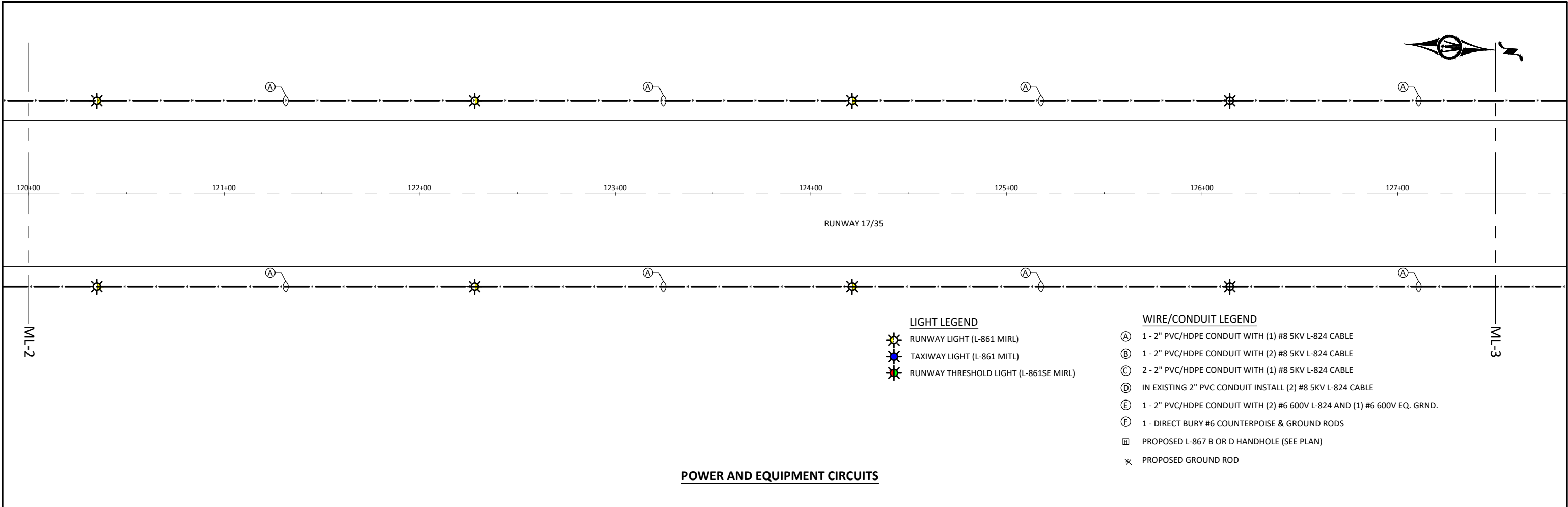


1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

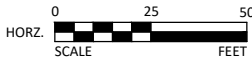
DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET
E.02
405



© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\Storm\03128971\CA\CA\CA\128971_01.dwg 3/7/2023 2:27:32 PM



BOLTON & MENK

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

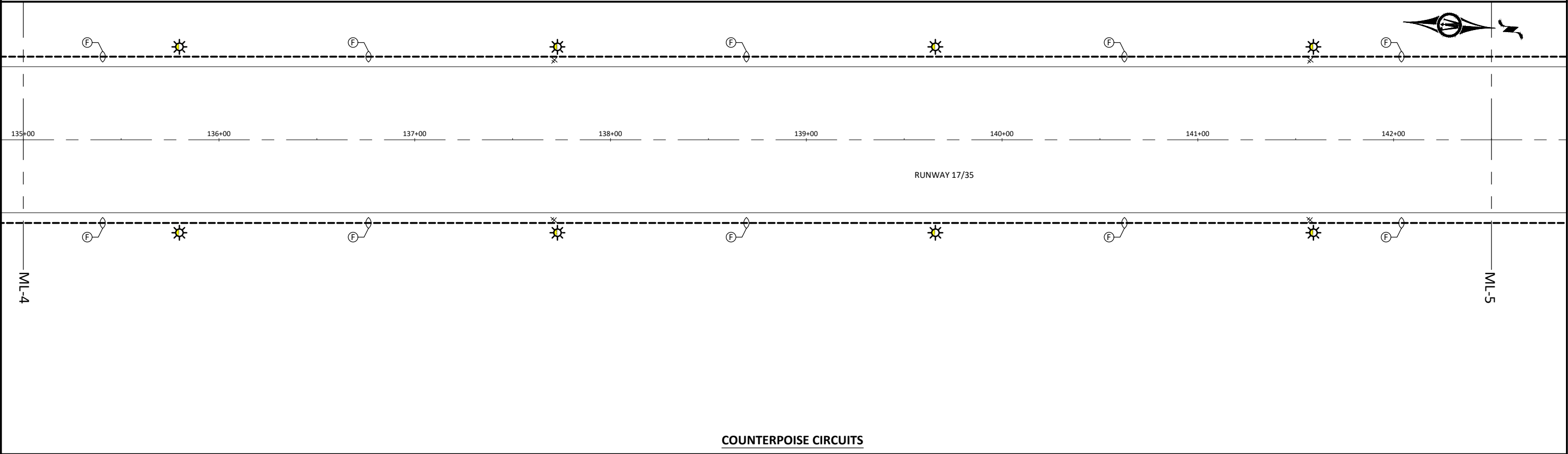
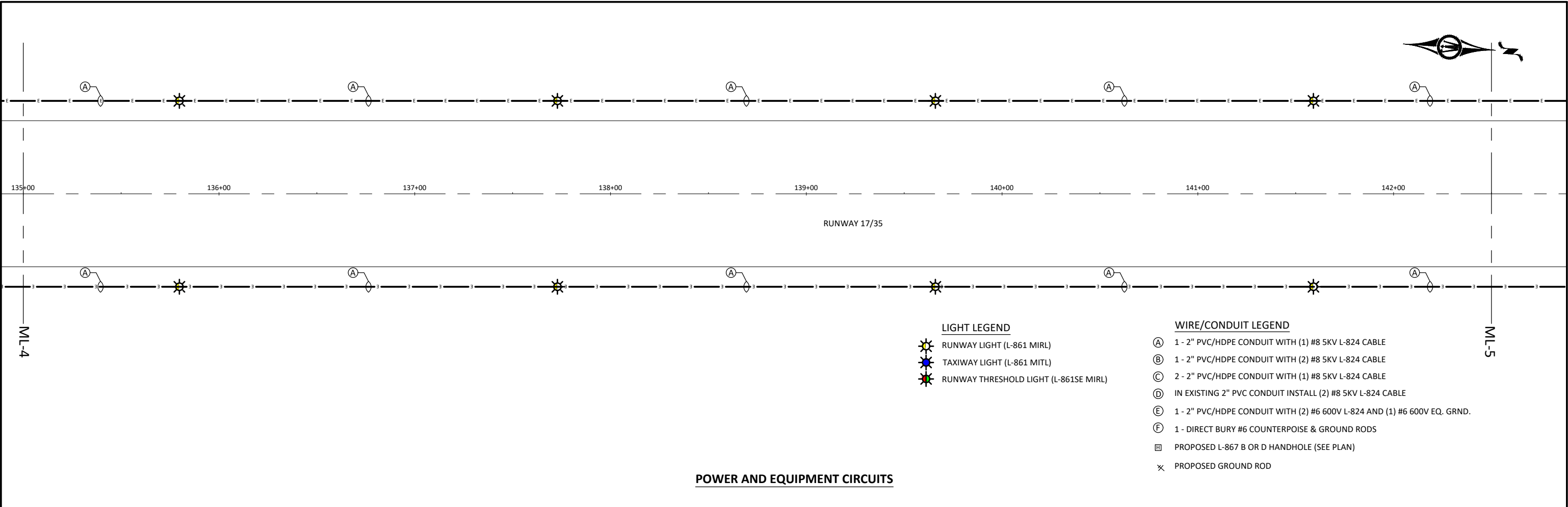
DESIGNED	GTJ	NO.	ISSUED FOR	DATE
DRAWN	GTJ			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

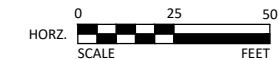
SHEET

E.03

406



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\31501\0312871\CA\CSA\12871_01.dwg 3/7/2023 2:27:34 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

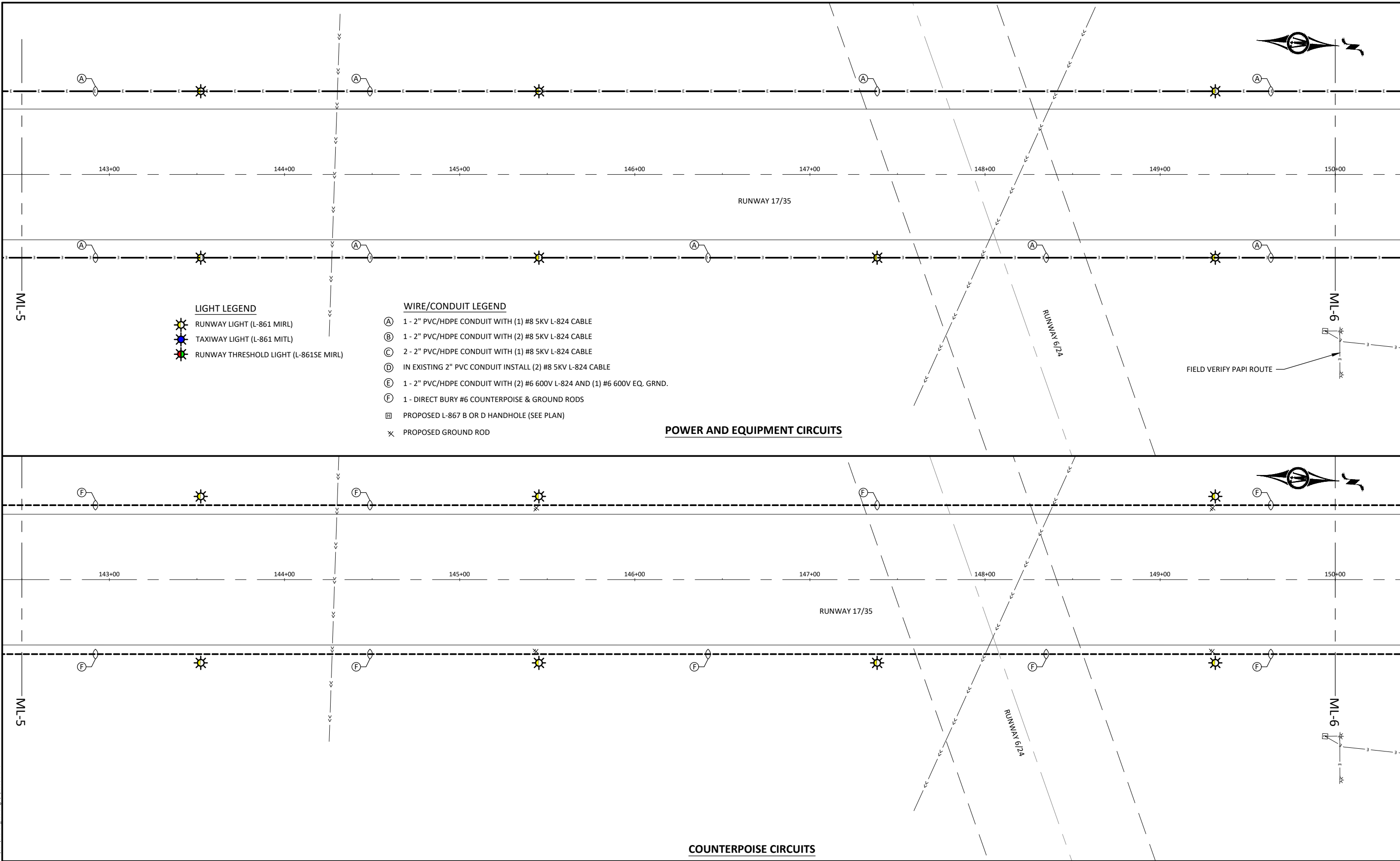
DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128971			

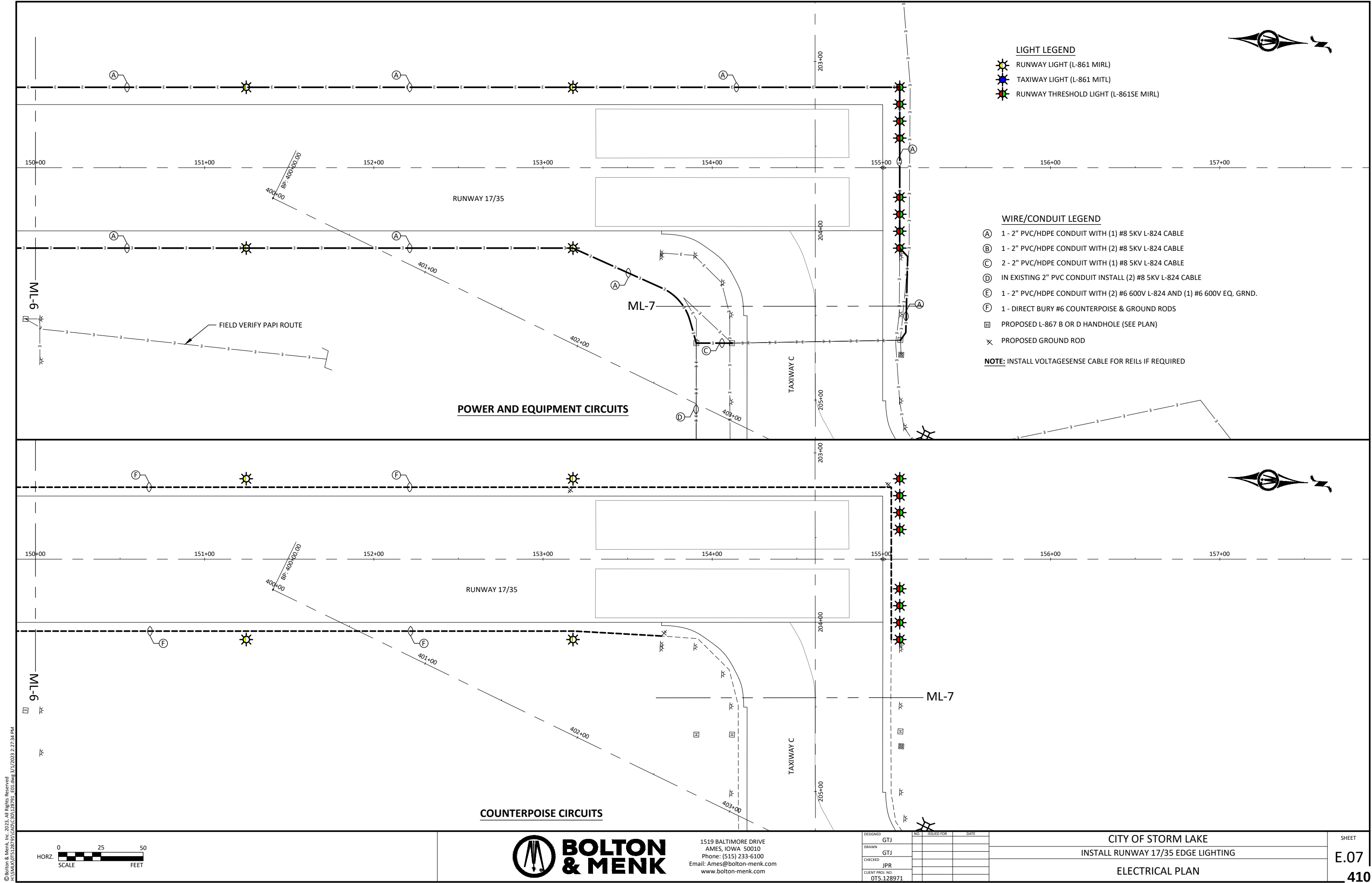
CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

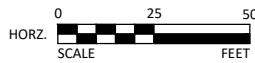
E.06

409





© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128971\3128971.dwg 3/1/2023 2:27:34 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

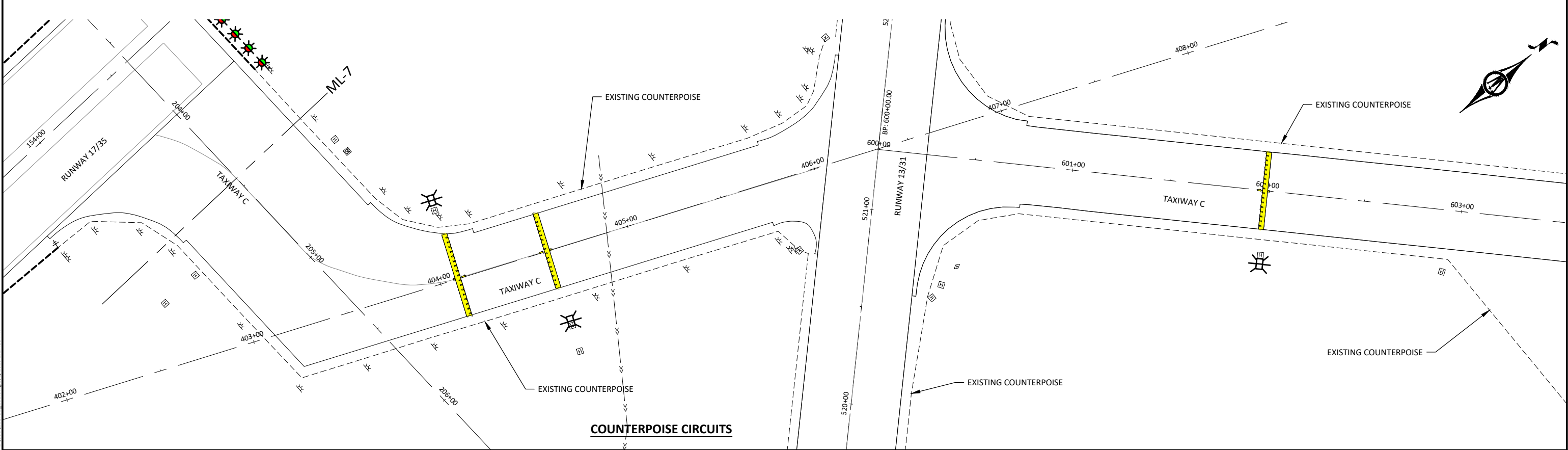
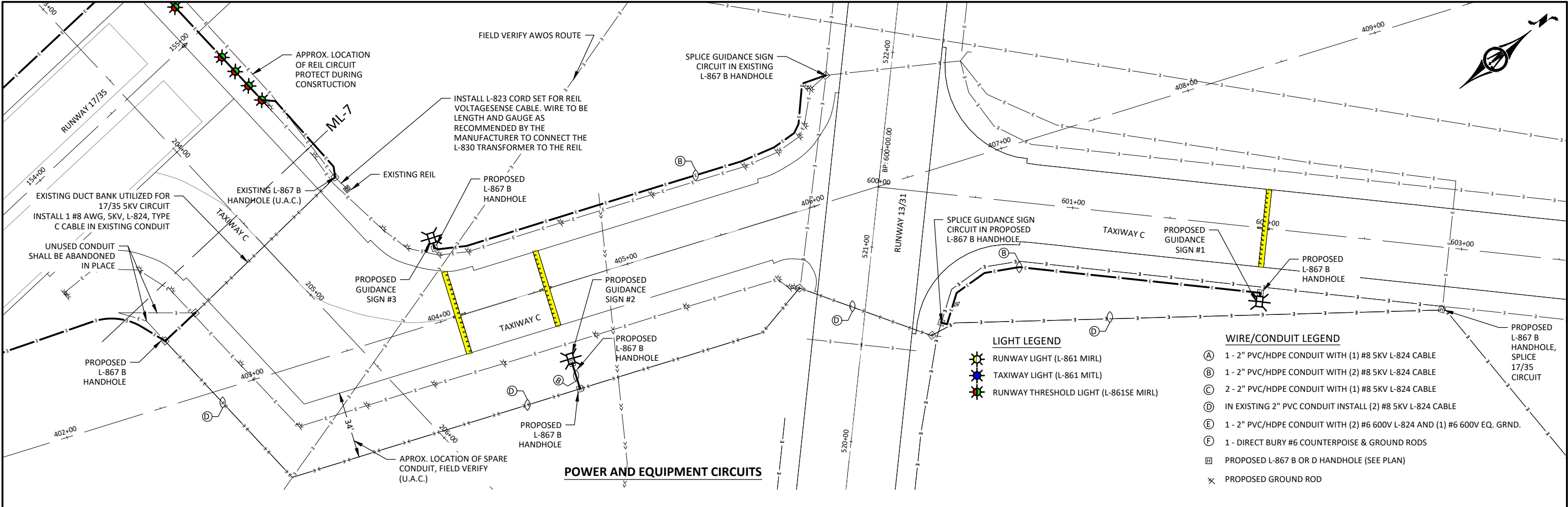
DESIGNED	GTJ	NO.	ISSUED FOR	DATE
DRAWN	GTJ			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.07

410



© Bolton & Menk, Inc. 2023. All Rights Reserved
1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

HORZ. SCALE
0 25 50
FEET



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128971			

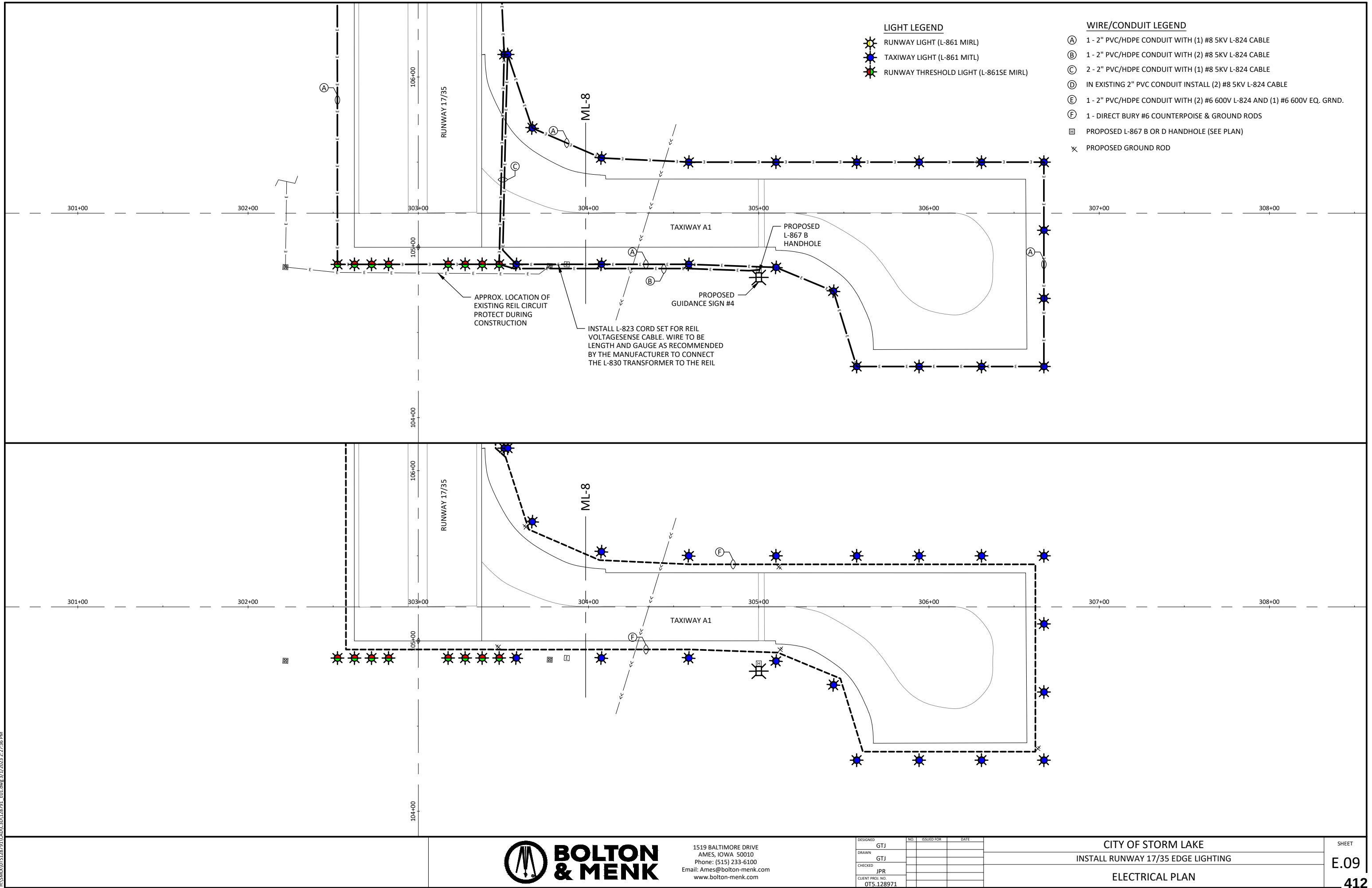
CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET

E.08

411

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\315128971\315128971.dwg 3/1/2023 2:27:36 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN

SHEET
E.09
412



LOCATION OF EXISTING
PRIMARY WINDCONE



FIELD VERIFY PRIMARY
WINDCONE POWER ROUTE

PROPOSED L-867 D HANDHOLE
CONTRACTOR SHALL INTERCEPT
EXISTING PRIMARY WINDCONE
CIRCUIT SO THE EXISTING
WINDCONE MAY REMAIN ONLINE
DURING CONSTRUCTION

PROPOSED PRIMARY WINDCONE
LOCATION TO BE DETERMINED IN
FIELD AND SHALL BE DEPENDANT ON
EXISTING CIRCUIT LOCATION

EXISTING
PRIMARY
WINDCONE

FIELD VERIFY AWOS
POWER ROUTE

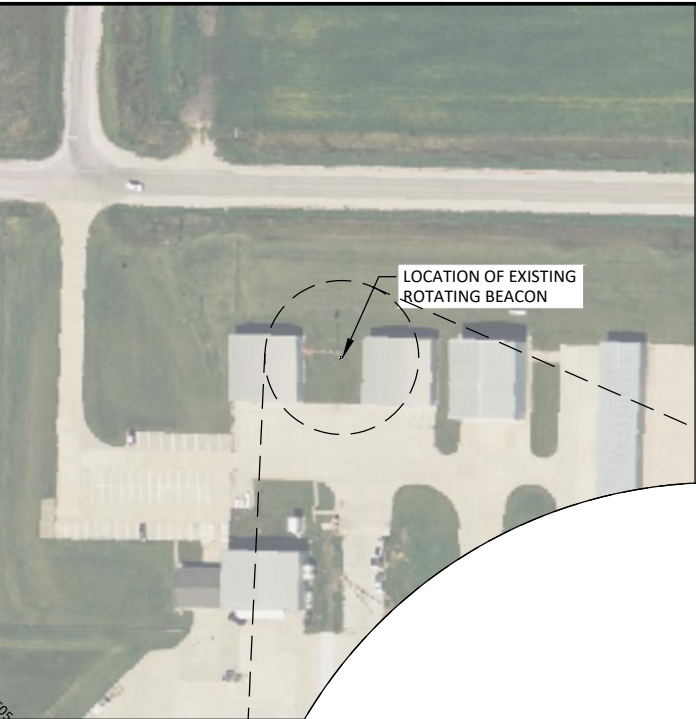
LIGHT LEGEND

-  RUNWAY LIGHT (L-861 MIRL)
-  TAXIWAY LIGHT (L-861 MITL)
-  RUNWAY THRESHOLD LIGHT (L-861SE MIRL)

WIRE/CONDUIT LEGEND

- (A) 1 - 2" PVC/HDPE CONDUIT WITH (1) #8 5KV L-824 CABLE
- (B) 1 - 2" PVC/HDPE CONDUIT WITH (2) #8 5KV L-824 CABLE
- (C) 2 - 2" PVC/HDPE CONDUIT WITH (1) #8 5KV L-824 CABLE
- (D) IN EXISTING 2" PVC CONDUIT INSTALL (2) #8 5KV L-824 CABLE
- (E) 1 - 2" PVC/HDPE CONDUIT WITH (2) #6 600V L-824 AND (1) #6 600V EQ. GRND.
- (F) 1 - DIRECT BURY #6 COUNTERPOISE & GROUND RODS
-  PROPOSED L-867 B OR D HANDHOLE (SEE PLAN)
-  PROPOSED GROUND ROD

PRIMARY WINDCONE REPLACEMENT - ALTERNATE BID A



LOCATION OF EXISTING
ROTATING BEACON



EXISTING ROTATING BEACON
TOWER TO BE REPLACED

EXISTING
HANGAR

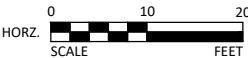
EXISTING
HANGAR

APRON

ROTATING BEACON IMPROVEMENTS - ALTERNATE BID B

- NOTES:
- CONTRACTOR SHALL RE-UTILIZE TOWER, FOUNDATIONS, WIRING, CONDUITS AND ALL OTHER APPURTENANCES.
 - CONTRACTOR SHALL REMOVE EXISTING ROTATING BEACON HEAD.
 - CONTRACTOR SHALL REPLACE ROTATING BEACON HEAD.
 - ANY FABRICATION REQUIRED TO MOUNT THE PROPOSED ROTATING BEACON REPLACEMENT HEAD ON EXISTING TOWER SHALL BE CONSIDERED INCIDENTAL.

© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\31512871\31512871.dwg 3/1/2023 2:27:37 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	NO.	ISSUED FOR	DATE
GTJ			
DRAWN			
GTJ			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128971			

CITY OF STORM LAKE
INSTALL RUNWAY 17/35 EDGE LIGHTING
ELECTRICAL PLAN - ALTERNATE BID A & B

SHEET
E.10
413

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128791\G01\G01.DWG 3/1/2023 2:27:45 PM

STATIONING INFORMATION

RUNWAY 17/35
BEGIN - 100+00 END - 160+00
N - 3681430.67 N - 3687416.71
E - 4452604.17 E - 4452195.21

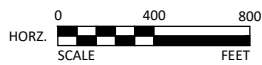
RUNWAY 13/31
BEGIN - 500+00 END - 532+00
N - 3685634.43 N - 3687907.76
E - 4454009.08 E - 4451756.97

TAXIWAY A1
BEGIN - 300+00 END - 310+00
N - 3681929.16 N - 3681996.81
E - 4452269.42 E - 4453267.13

TAXIWAY C (E-W)
BEGIN - 200+00 END - 210+00
N - 3686853.75 N - 3686922.84
E - 4451870.06 E - 4452867.67

TAXIWAY C (17/35 TO 13/31)
BEGIN - 400+00 END - 410+00
N - 3686560.33 N - 3687487.59
E - 4452271.74 E - 4452646.15

TAXIWAY C (TO APRON)
BEGIN - 600+00 END - 605+00
N - 3687148.19 N - 3687500.21
E - 4452509.45 E - 4452864.53



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

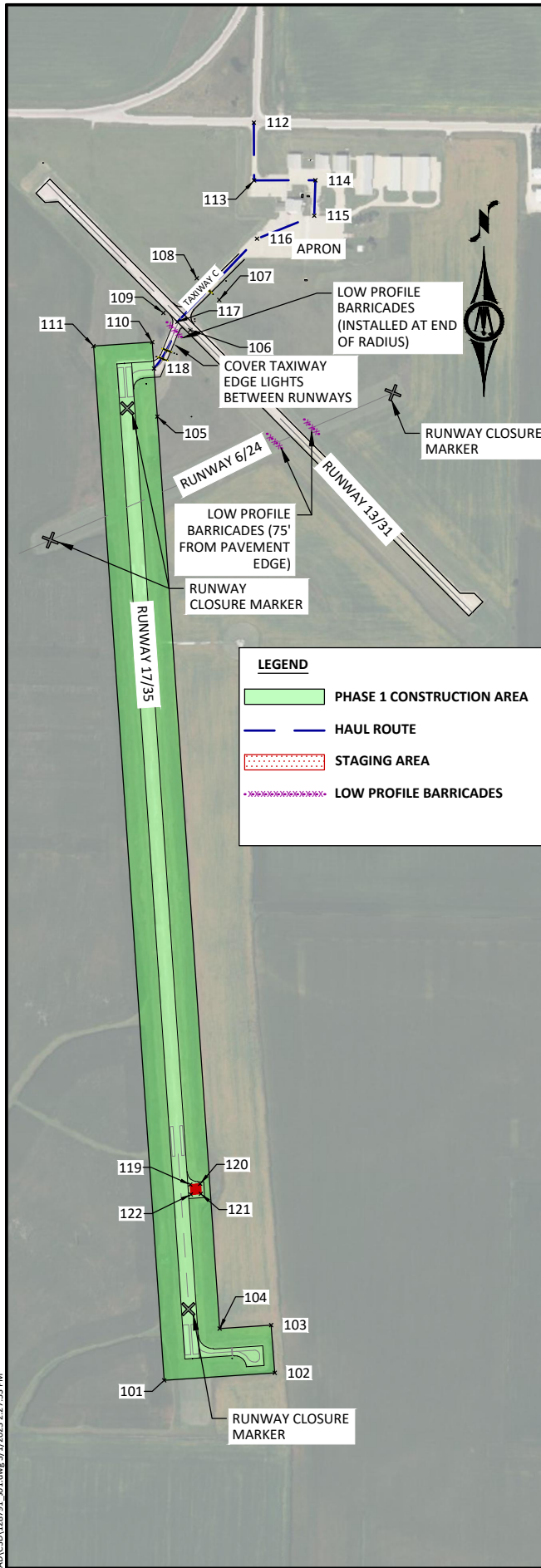
STATIONING INFORMATION

SHEET

G.01

414

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\SWD\013128791\CA\CD\128791_01.dwg 3/1/2023 2:27:53 PM



PHASE 1 CONSTRUCTION NOTES:

WORK ELEMENTS:

- ELECTRICAL REMOVALS ALONG RUNWAY 17/35.
- EDGE LIGHTING ALONG RUNWAY 17/35 AND TURNAROUND.
- INSTALLATION OF ANY CABLING OUTSIDE OF 200' FROM THE CENTERLINE OF RUNWAY 13/31.
- PRIMARY WINDCONE INSTALLATION.

ACTIVE AREAS AFFECTED:

- RUNWAY 17/35 CLOSED FOR DURATION.
- RUNWAY 6/24 CLOSED FOR DURATION.
- RUNWAY 13/31 OPEN FOR DURATION.
- TAXIWAY C TO RUNWAY 13/31 OPEN FOR DURATION.

DURATION:

- CONSTRUCTION SHALL BE COMPLETED IN TIMEFRAME PRESCRIBED WITHIN THE NOTICE OF LETTING.

NOTAMs:

- RUNWAY 17/35 CLOSED.
- RUNWAY 6/24 CLOSED.

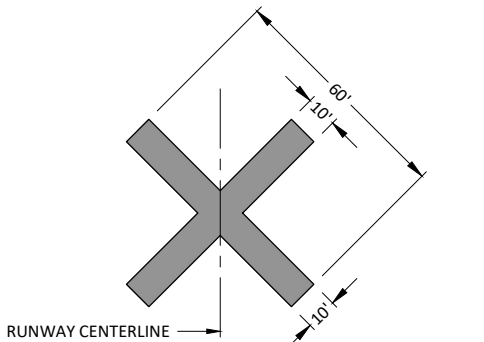
NOTES:

- CONTRACTOR SHALL REMAIN OUTSIDE OF ACTIVE AIRFIELD AREAS DURING CONSTRUCTION OF PHASE 1. CROSSING OF ACTIVE AIRFIELD AREAS SHALL BE DONE WITH THE ASSISTANCE OF PERSONNEL WITH AN AVIATION RADIO TO MONITOR AIR TRAFFIC.
- RUNWAY CLOSURE MARKERS SHALL BE PLACED OVER THE NUMERALS OF RUNWAY 17/35 AND PLACED NEAR THE END OF RUNWAY 6/24.
- DUE TO RUNWAY 17/35 BEING CLOSED FOR THE PHASE, EDGE LIGHT COVERS SHALL BE PLACED OVER THE TOP OF TAXIWAY EDGE LIGHTS BETWEEN RUNWAY 13/31 AND RUNWAY 17/35.
- SEE CSPP FOR MORE INFORMATION.

WORK AREA				
POINT NUMBER	LATITUDE	LONGITUDE	ELEVATION	EQUIPMENT AGL
101	N42°35'13.508"	W95°14'27.810"	1480.000'	20'
102	N42°35'13.993"	W95°14'20.414"	1483.000'	20'
103	N42°35'16.353"	W95°14'20.721"	1482.000'	20'
104	N42°35'16.127"	W95°14'24.166"	1479.000'	20'
105	N42°36'01.225"	W95°14'29.600"	1476.536'	20'
106	N42°36'05.544"	W95°14'27.514"	1476.536'	20'
107	N42°36'07.066"	W95°14'25.612"	1476.536'	20'
108	N42°36'08.116"	W95°14'27.150"	1476.536'	20'
109	N42°36'06.362"	W95°14'29.343"	1476.536'	20'
110	N42°36'04.911"	W95°14'30.044"	1476.536'	20'
111	N42°36'04.653"	W95°14'33.973"	0.000'	20'

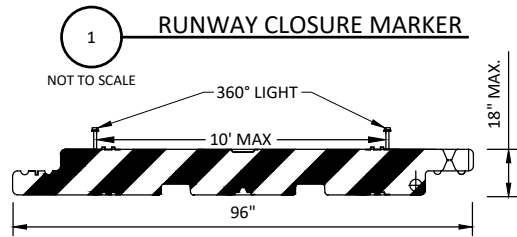
STAGING AREA				
POINT NUMBER	LATITUDE	LONGITUDE	ELEVATION	EQUIPMENT AGL
119	N42°35'23.231"	W95°14'26.337"	0.000'	20'
120	N42°35'23.275"	W95°14'25.671"	0.000'	20'
121	N42°35'22.783"	W95°14'25.614"	0.000'	20'
122	N42°35'22.739"	W95°14'26.280"	0.000'	20'

HAUL ROUTE				
POINT NUMBER	LATITUDE	LONGITUDE	ELEVATION	EQUIPMENT AGL
112	N42°36'15.879"	W95°14'23.538"	0.000'	20'
113	N42°36'13.020"	W95°14'23.443"	0.000'	20'
114	N42°36'13.089"	W95°14'19.336"	0.000'	20'
115	N42°36'11.331"	W95°14'19.364"	0.000'	20'
116	N42°36'10.135"	W95°14'23.169"	0.000'	20'
117	N42°36'05.935"	W95°14'28.390"	0.000'	20'
118	N42°36'03.601"	W95°14'29.886"	0.000'	20'



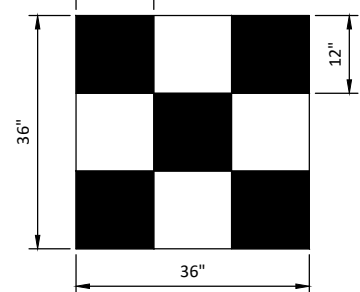
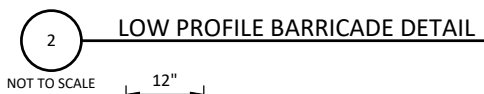
NOTES:

- CLOSURE CROSSES SHALL BE PLACED ON NUMERICAL MARKINGS.
- CLOSURE CROSSES SHALL BE MOVED OFF THE END OF EACH RUNWAY ONCE NUMERICAL MARKINGS HAVE BEEN REMOVED.
- CLOSURE CROSSES SHALL BE ADEQUATELY SECURED TO THE GROUND.



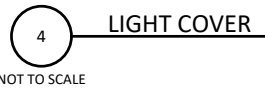
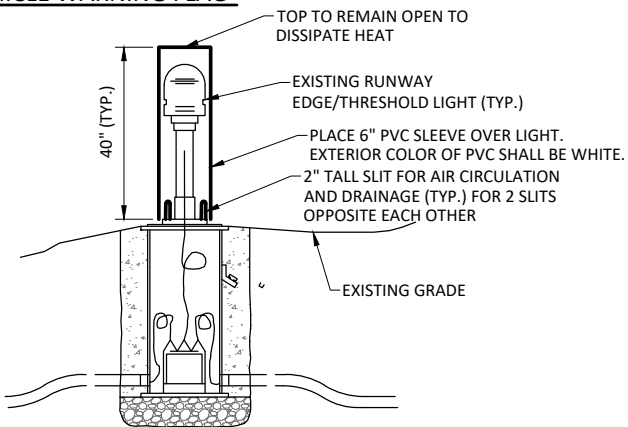
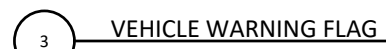
NOTES:

- GAPS BETWEEN BARRICADES SHALL BE NO MORE THAN 4 FEET.



NOTES:

- FLAG SHALL HAVE A CHECKERED PATTERN OF INTERNATIONAL ORANGE AND WHITE SQUARES



SAFETY AND CONSTRUCTION NOTES

(SEE CONSTRUCTION SAFETY AND PHASING PLAN IN SPECIFICATIONS FOR ADDITIONAL DETAIL)

GENERAL CONSTRUCTION SAFETY:

- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS SET FORTH IN FAA AC 150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION", WHICH IS INCLUDED IN THE PROJECT MANUAL APPENDIX. CONSTRUCTION SAFETY SHALL BE DISCUSSED DURING THE PRE CONSTRUCTION MEETING AND AT WEEKLY PROJECT MEETING.
- CONTRACTOR IS RESPONSIBLE FOR ALL PUBLIC AND PRIVATE UTILITY LOCATIONS DURING CONSTRUCTION.

CONSTRUCTION EQUIPMENT:

- ALL CONSTRUCTION EQUIPMENT SHALL BE PARKED IN DESIGNATED STAGING/STORAGE AREAS WHEN NOT IN USE OR OVERNIGHT. ALL BOOMS SHALL BE LOWERED WHEN NOT IN USE.
- THE EXPECTED MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT IS 20 FEET AT ANY LOCATION. THE CONTRACTOR SHALL VERIFY ANY EQUIPMENT HEIGHT MORE THAN 20 FEET AND NOTIFY THE ENGINEER AND OWNER A MINIMUM OF 72 HOURS IN ADVANCE OF ANY CONSTRUCTION THAT REQUIRES EQUIPMENT WITH HEIGHTS OF MORE THAN 20 FEET SO THAT THE APPROPRIATE NOTICE TO AIR MISSIONS (NOTAM) MAY BE ISSUED.
- ALL EQUIPMENT WORKING ON THE AIRPORT CONSTRUCTION SITE MUST HAVE AN AMBER FLASHING BEACON AND/OR WARNING FLAG. THE VEHICLE WARNING FLAGS SHALL BE AS PER DETAIL ON SHEET. THE FLAG SHALL BE SECURELY ATTACHED TO THE HIGHEST POINT ON THE CONSTRUCTION EQUIPMENT OR VEHICLE AND BE VISIBLE AT ALL TIMES. VEHICLE WARNING FLAGS ARE THE MINIMUM REQUIREMENT. AMBER FLASHING BEACONS ARE NOT REQUIRED BUT IF USED SHALL MOUNTED ON THE HIGHEST POINT OF THE CONSTRUCTION EQUIPMENT OR VEHICLE AND OPERATING WHENEVER EQUIPMENT IS IN USE.
- VEHICULAR TRAFFIC LOCATED IN OR CROSS ACTIVE MOVEMENT AREAS MUST HAVE A WORKING TWO-WAY RADIO CONTACT WITH AIRPORT OPERATIONS OR BE ESCORTED BY A PERSON IN RADIO CONTACT. THE DRIVER, THROUGH PERSONAL OBSERVATION, SHOULD CONFIRM THAT NO AIRCRAFT ARE APPROACHING THE VEHICLES POSITION. CONSTRUCTION PERSONNEL MAY OPERATE IN A MOVEMENT AREA WITHOUT TWO-WAY RADIO COMMUNICATION PROVIDED A NOTAM IS ISSUED CLOSING THE AREA AND THE AREA IS PROPERLY MARKED TO PREVENT INCURSIONS.

HAUL ROUTES, TRAFFIC CONTROL & ACCESS CONTROL

- ALL TEMPORARY ACCESS, STORAGE/STAGING AREAS AND ROADS SHALL BE RESTORED TO ORIGINAL CONDITION, INCLUDING TOPSOILING, RESEEDING, IF NECESSARY, AFTER USE BY THE CONTRACTOR. RESTORATION OF THESE AREAS SHALL BE CONSIDERED INCIDENTAL.
- THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS NECESSARY.
- THIS LAYOUT IS A MINIMUM REQUIREMENT NECESSARY TO ASSIST THE CONTRACTOR IN DETERMINING THE COST FOR PROVIDING NECESSARY TRAFFIC CONTROL. THE CONTRACTOR MAY ADD ADDITIONAL WARNING DEVICES UPON APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OWNER A MINIMUM OF 72 HOURS IN ADVANCE OF ANY PROPOSED CONSTRUCTION WITHIN THE APRON OR TAXIWAY SAFETY AREAS, RUNWAY PROTECTION ZONES, APPROACH AREAS OR REQUIRED CLOSURE AREAS SO THAT THE APPROPRIATE NOTICE TO AIR MISSIONS (NOTAM) MAY BE ISSUED. THE AIRPORT MANAGER WILL ALSO ISSUE TIMELY NOTAMS WHICH SPECIFICALLY DETAIL THE CURRENT STATUS OF THE AIRPORT DURING CONSTRUCTION, INCLUDING CLOSURE STATUS. THE NOTAM SHALL INCLUDE THE PROPOSED LOCATION, TIME AND DATE OF COMMENCEMENT OF CONSTRUCTION.
- INSPECT FOR AND REMOVE FOREIGN OBJECT DEBRIS (FOD) ON OR NEAR AIRCRAFT MOVEMENT AREAS BY SWEEPING DAILY AT TIMES OF CONCURRENT CONSTRUCTION AND AIRCRAFT OPERATIONS. WASTE AND LOOSE MATERIAL MUST NOT BE PLACED IN ACTIVE AIRCRAFT MOVEMENT AREAS. MATERIALS TRACKED ONTO THESE AREAS MUST BE REMOVED CONTINUOUSLY DURING THE PROJECT. THE CONSTRUCTION SITE, INCLUDING THE STAGING AREA, SHALL BE KEPT CLEAN OF ALL PERSONNEL DEBRIS.
- THERE SHALL BE NO UNAUTHORIZED PERSONNEL ON AIRFIELD. CONTRACTOR SHALL USE THE DESIGNATED AIRPORT ACCESS ROUTE WHEN ENTERING AIRPORT PROPERTY. NO GATES ARE TO BE LEFT OPENED AND UNATTENDED.
- AT ALL TIMES, WHILE CONSTRUCTION IS IN PROGRESS, THE CONTRACTOR SHALL HAVE A DESIGNATED PERSON MONITORING THE UNICOM OR CTAF (122.700).
- PERSONAL VEHICLES SHALL NOT BE ALLOWED ON THE AIRFIELD. ALL PERSONAL VEHICLES SHOULD BE PARKED IN A DESIGNATED STAGING/STORAGE AREA OR ANOTHER AREA AS DESIGNATED BY THE AIRPORT MANAGER.
- WHEN ACCESS POINTS ARE CREATED IN THE SECURITY FENCING TO PERMIT THE PASSAGE OF CONSTRUCTION VEHICLES OR PERSONNEL, TEMPORARY GATES SHOULD BE EQUIPPED SO THEY CAN BE SECURELY CLOSED AND LOCKED TO PREVENT ACCESS BY ANIMALS AND PEOPLE.
- LOW PROFILE BARRICADE FLASHERS, AND FLASHERS OF ANY KIND UTILIZED ON THE PROJECT SHALL BE INSPECTED AT DUSK EACH DAY TO ENSURE ALL FLASHERS ARE PROPERLY WORKING.
- PROMINENTLY MARK OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIALS AND LIGHT THESE OBSTACLES DURING HOURS OF RESTRICTED VISIBILITY AND DARKNESS. CONSTRAIN STOCKPILED MATERIAL TO PREVENT ITS MOVEMENT AS A RESULT OF THE MAXIMUM ANTICIPATED AIRCRAFT BLAST AND FORECAST WIND CONDITIONS.
- PRIOR TO OPENING OR RE-OPENING ANY CLOSED PAVEMENT AREA, THE CONTRACTOR, TOGETHER WITH THE AIRPORT MANAGER AND ENGINEER SHALL INSPECT THE PAVEMENT, SAFETY AREAS AND PRIMARY SURFACE FOR ANY OBSTRUCTION OR FOD.
- WHEN AIRFIELD IS CLOSED FOR CONSTRUCTION (RUNWAY CLOSURES IN PLACE), THE BEACON SHALL REMAIN IN OPERATION BUT ALL OTHER AIRFIELD LIGHTING & NAVAIDS SHALL BE TURNED OFF.
- THE CONTRACTOR SHALL NOTIFY AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) PERSONNEL, MUTUAL AID PROVIDERS AND OTHER EMERGENCY SERVICES IF CONSTRUCTION REQUIRES SHUTTING OFF OR OTHERWISE DISRUPTING ANY WATER LINE OR FIRE HYDRANT ON THE AIRPORT OR ADJOINING AREAS AND IF CONTRACTORS WORK WITH HAZARDOUS MATERIAL ON THE AIRFIELD. NOTIFICATION MUST ALSO BE MADE WHEN THE WORK PERFORMED WILL CLOSE OR AFFECT ANY EMERGENCY ROUTES. ALSO MAKE NOTIFICATION WHEN SERVICES ARE RESTORED.

PROJECT NOTES:

- CONTRACTOR SHALL PROVIDE A SAFETY COMPLIANCE DOCUMENT PRIOR TO ISSUE OF NOTICE TO PROCEED.
- A REPRESENTATIVE SHALL BE PROVIDED BY THE CONTRACTOR ON-CALL 24 HOURS A DAY FOR EMERGENCY MAINTENANCE OF AIRPORT TRAFFIC CONTROL DEVICES AND LIGHTING.
- CONTRACTOR, ENGINEER AND AIRPORT MANAGER SHALL CONDUCT DAILY INSPECTIONS TO ENSURE CONFORMANCE TO CONSTRUCTION SAFETY PHASING PLAN.
- CONTRACTOR SHALL HAVE A SWEEPER ON-SITE AT ALL TIMES TO PICKUP DEBRIS FROM ACTIVE PAVEMENT AREA AS IT OCCURS.
- FOR MORE INFORMATION REGARDING CONTRACT TIME ALLOWED FOR CONSTRUCTION, REFER TO THE NOTICE OF LETTING FOR THE PROJECT.

GENERAL CONSTRUCTION SAFETY:

THE RESPONSIBILITY FOR ALL SAFETY SHALL FALL UPON THE CONTRACTOR(S) DURING CONSTRUCTION. THIS SAFETY PLAN SHALL BE REVIEWED BY THE FAA PRIOR TO CONSTRUCTION NOTICES. ANY ATTACHMENT, DEVIATIONS, OMISSIONS, OR CONTRADICTIONS TO THE FAA REGULATIONS DISCOVERED DURING REVIEW SHALL BE MADE PART OF THE SAFETY PLAN PRIOR TO CONSTRUCTION, AND HENCE BECOME PART OF THE CONTRACT CONDITIONS. THE CONTRACTOR SHALL CONFIRM PRIOR TO ENTERING INTO A CONSTRUCTION CONTRACT THAT NO MODIFICATIONS TO THIS SAFETY PLAN HAVE BEEN MADE. AT THE CONTRACTORS REQUEST, THE ENGINEER SHALL PROVIDE DOCUMENTATION THAT INDICATES NO MODIFICATIONS, REVISIONS, OR ADDITIONAL ITEMS BE INCLUDED IN THIS SAFETY PLAN.



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

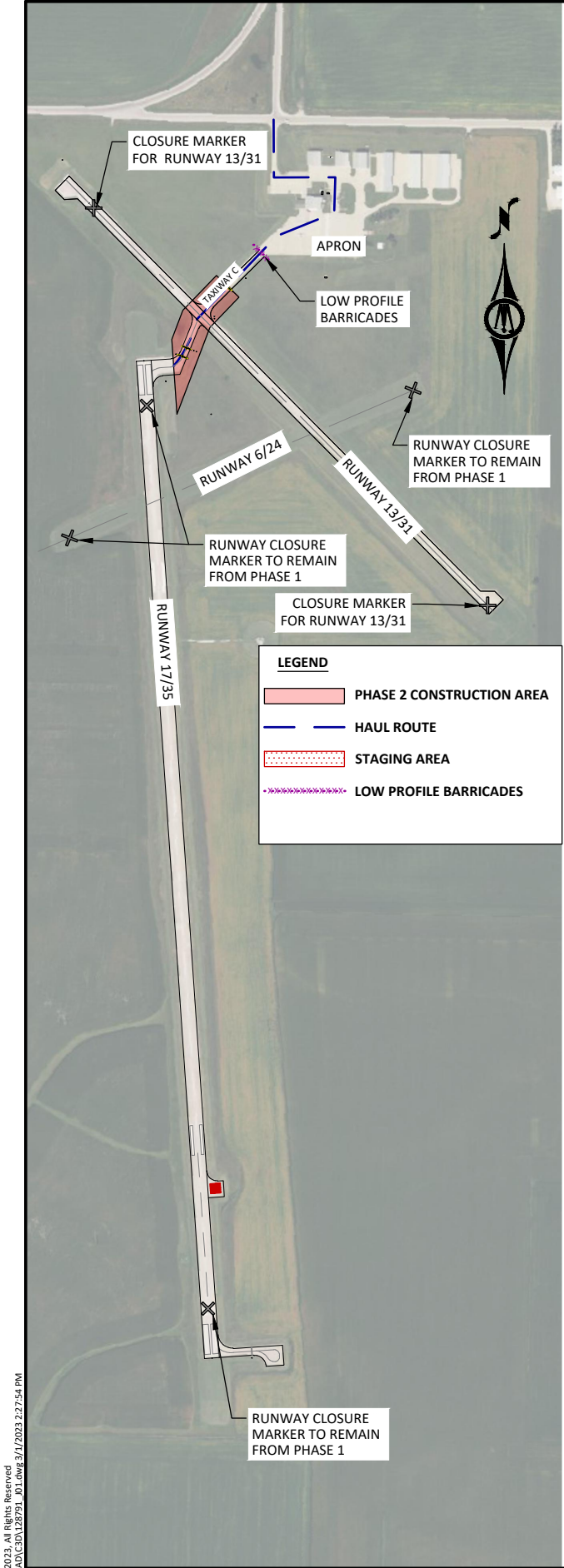
DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
0TS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
CONSTRUCTION SAFETY & PHASING PLAN

SHEET

J.01

415



PHASE 2 CONSTRUCTION NOTES:

WORK ELEMENTS:

- REMAINING WORK WITHIN THE RUNWAY 17/35 AND RUNWAY 13/31 INTERSECTION, 200' IN EITHER DIRECTION FROM RUNWAY 13/31 CL.
- ELECTRICAL INSTALLATIONS
- GUIDANCE SIGN INSTALLATIONS ALONG TAXIWAY C.
- ROTATING BEACON REPLACEMENT.

ACTIVE AREAS AFFECTED:

- RUNWAY 17/35 CLOSED FOR DURATION.
- RUNWAY 6/24 CLOSED FOR DURATION.
- RUNWAY 13/31 CLOSED FOR DURATION.
- TAXIWAY C CLOSED FOR DURATION.

DURATION:

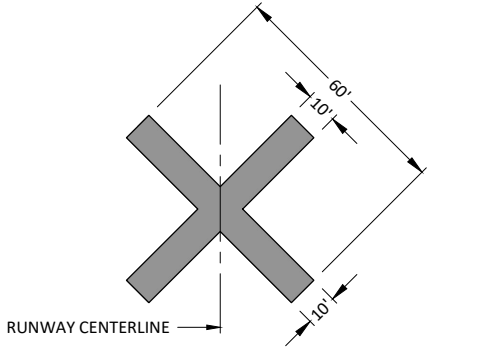
- CONSTRUCTION SHALL BE COMPLETED IN TIMEFRAME PRESCRIBED WITHIN THE NOTICE OF LETTING.

NOTAMS:

- RUNWAY 17/35 CLOSED.
- RUNWAY 13/31 CLOSED.
- RUNWAY 6/24 CLOSED.
- ROTATING BEACON INOPERABLE.

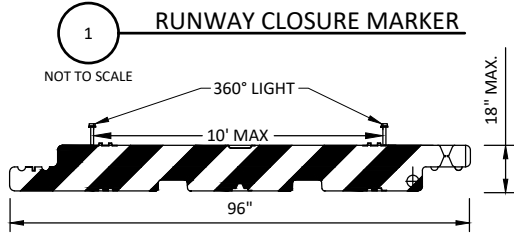
NOTES:

- LOW PROFILE BARRICADES SHALL BE PLACED AT THE APRON/CONNECTING TAXIWAY C ENTRANCE.
- RUNWAY CLOSURE MARKERS SHALL BE PLACED OVER NUMERALS OF RUNWAY 13/31.
- RUNWAY CLOSURE MARKERS FROM PHASE 1 SHALL REMAIN IN PLACE FOR RUNWAY 17/35 AND RUNWAY 6/24.
- TURN OFF ALL EDGE LIGHTING FROM RUNWAY 17/35 AND RUNWAY 13/31 FOR THE DURATION OF PHASE 2.
- SEE CSPP FOR MORE INFORMATION.



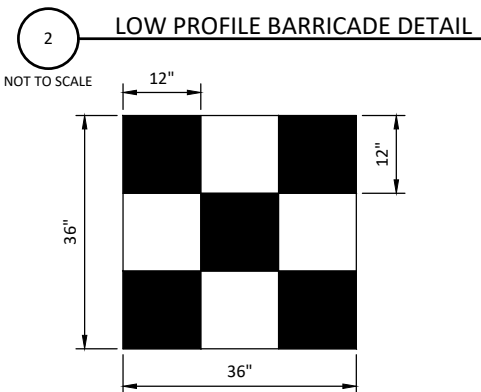
NOTES:

- CLOSURE CROSSES SHALL BE PLACED ON NUMERICAL MARKINGS.
- CLOSURE CROSSES SHALL BE MOVED OFF THE END OF EACH RUNWAY ONCE NUMERICAL MARKINGS HAVE BEEN REMOVED.
- CLOSURE CROSSES SHALL BE ADEQUATELY SECURED TO THE GROUND.



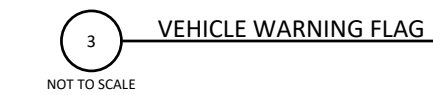
NOTES:

- GAPS BETWEEN BARRICADES SHALL BE NO MORE THAN 4 FEET.

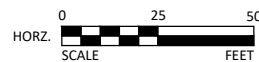


NOTES:

- FLAG SHALL HAVE A CHECKERED PATTERN OF INTERNATIONAL ORANGE AND WHITE SQUARES



© Bolton & Menk, Inc. 2023. All Rights Reserved
A:\SWD\03128791\CA\CSA\128791_P01.dwg 3/7/2023 2:28:02 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

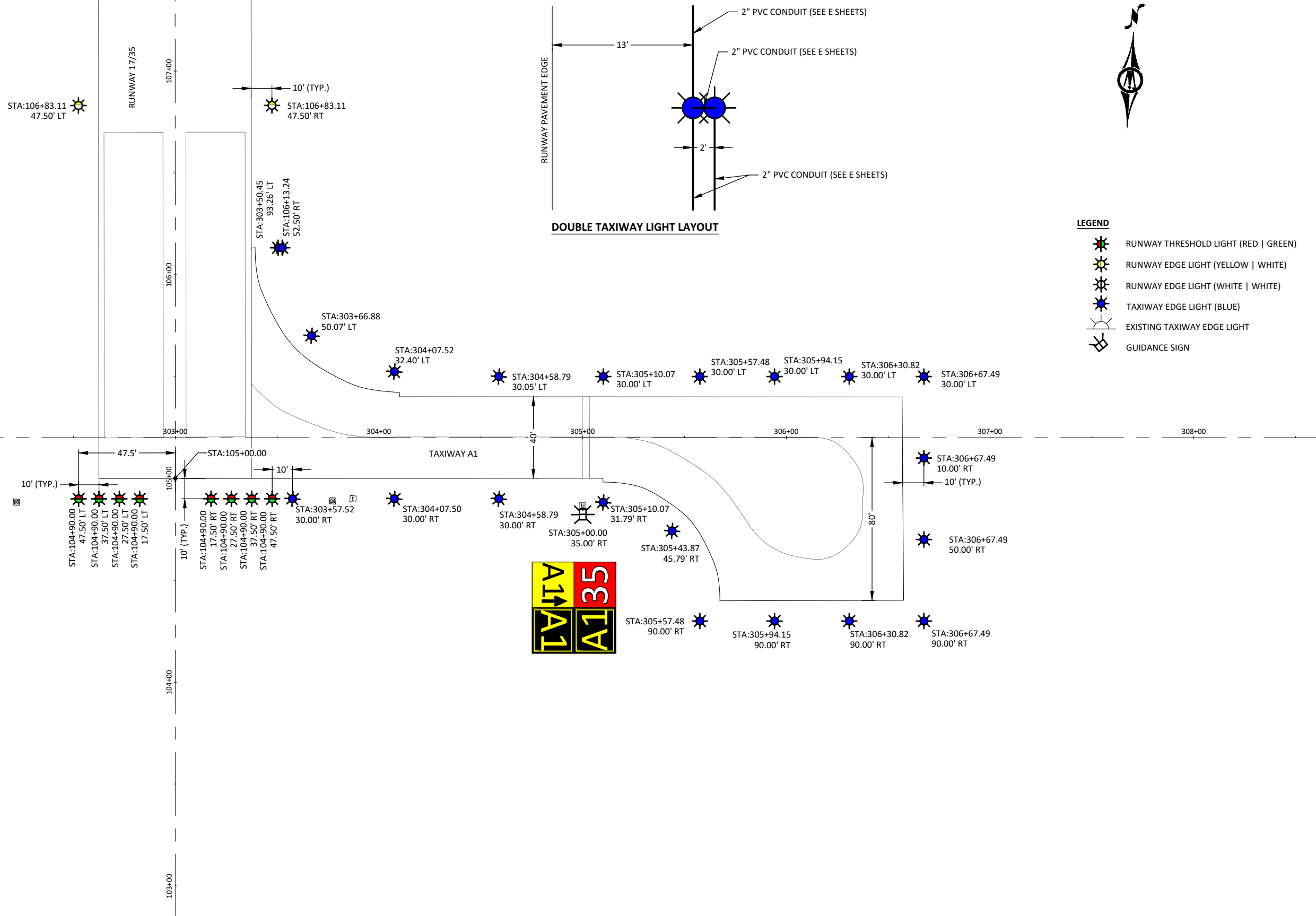
DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
LIGHTING LAYOUT PLAN

SHEET

P.01

417



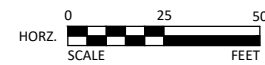
© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\31410\03128791\CA\CSA\128791_P01.dwg 3/7/2023 2:28:03 PM

MATCHLINE 2

MATCHLINE 3

MATCHLINE 3

MATCHLINE 4



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING

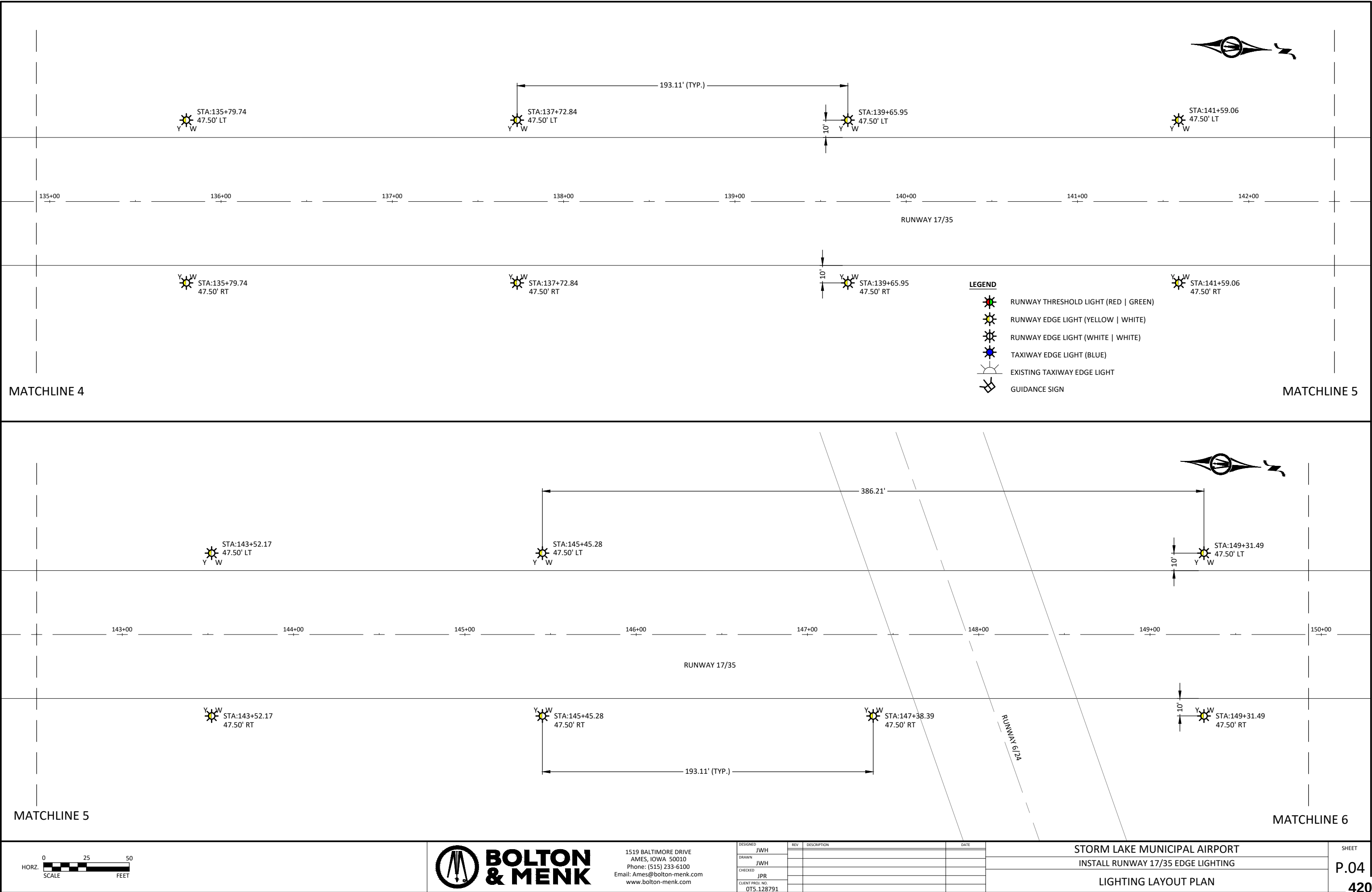
LIGHTING LAYOUT PLAN

SHEET

P.03

419

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3184\03128791\CA\CSA\128791_40110.dwg 3/7/2023 2:28:04 PM



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

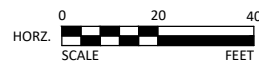
DESIGNED	JWH	REV	DESCRIPTION	DATE
DRAWN	JWH			
CHECKED	JPR			
CLIENT PROJ. NO.	075.128791			

SHEET

P.04

420

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\318791\128791\128791.dwg 3/7/2023 2:28:11 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
REMOVALS & EXISTING CONDITIONS

SHEET

R.01

422

APPROX. LOCATION OF STORM SEWER
PROTECT DURING CONSTRUCTION

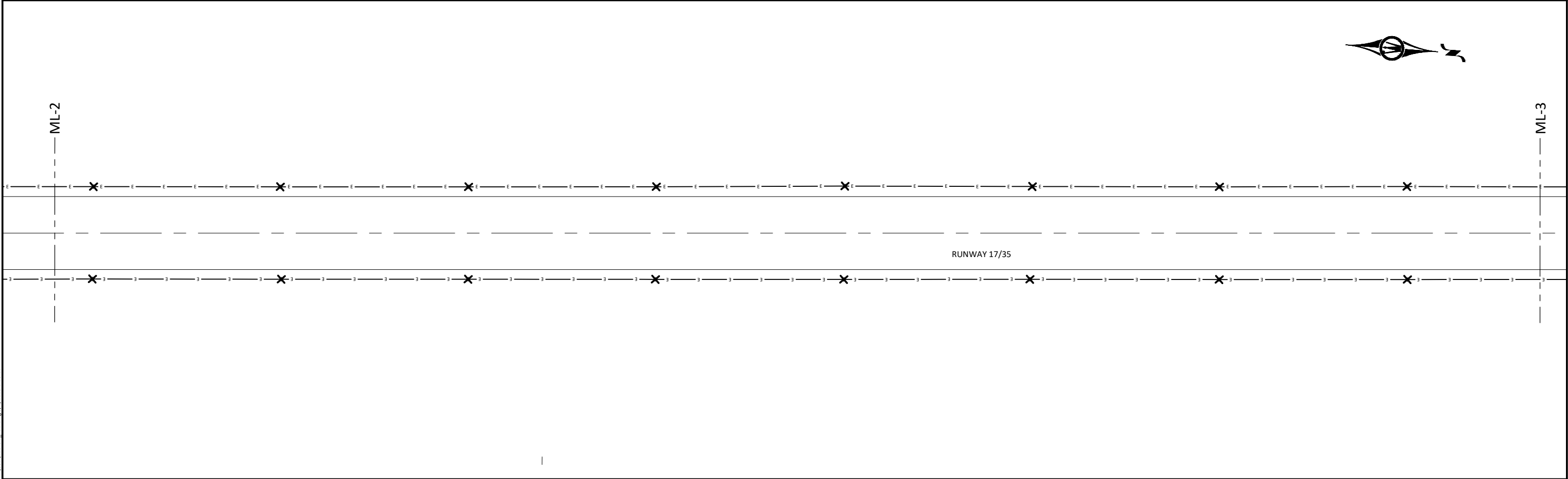
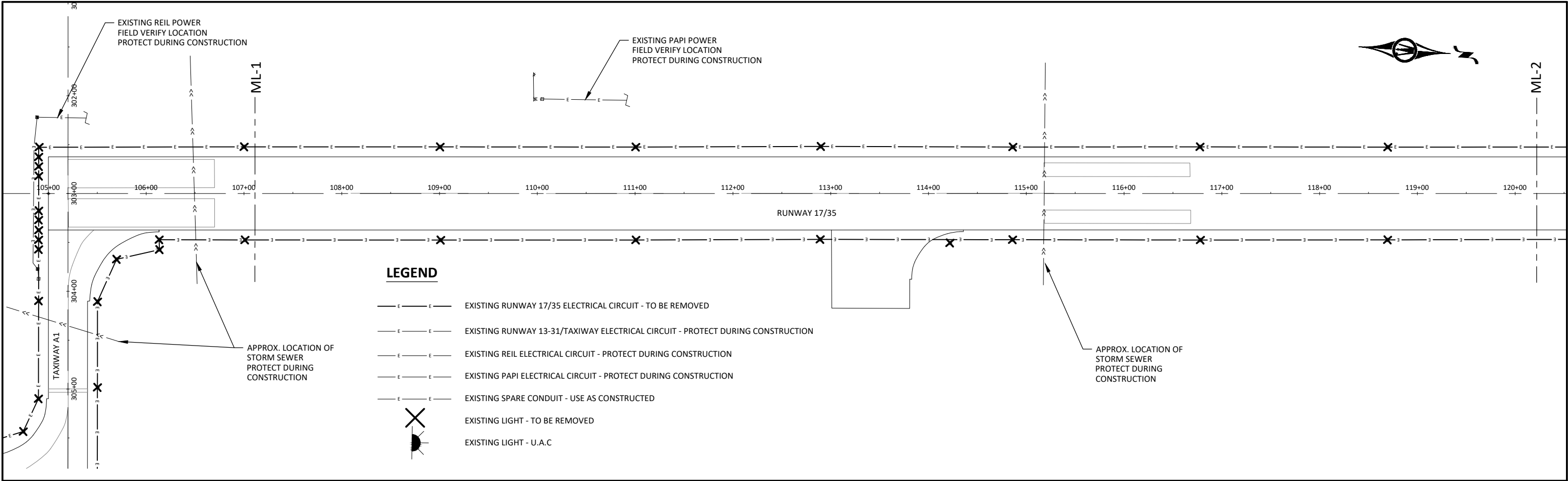
EXISTING REIL CIRCUIT
FIELD VERIFY ROUTE

EXISTING REIL
PROTECT DURING CONSTRUCTION

LEGEND

- E — E — EXISTING RUNWAY 17/35 ELECTRICAL CIRCUIT - TO BE REMOVED
- E — E — EXISTING RUNWAY 13-31/TAXIWAY ELECTRICAL CIRCUIT - PROTECT DURING CONSTRUCTION
- E — E — EXISTING REIL ELECTRICAL CIRCUIT - PROTECT DURING CONSTRUCTION
- E — E — EXISTING PAPI ELECTRICAL CIRCUIT - PROTECT DURING CONSTRUCTION
- E — E — EXISTING SPARE CONDUIT - USE AS CONSTRUCTED
-  EXISTING LIGHT - TO BE REMOVED
-  EXISTING LIGHT - U.A.C





© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3128791\128791\128791.dwg 3/7/2023 2:28:12 PM

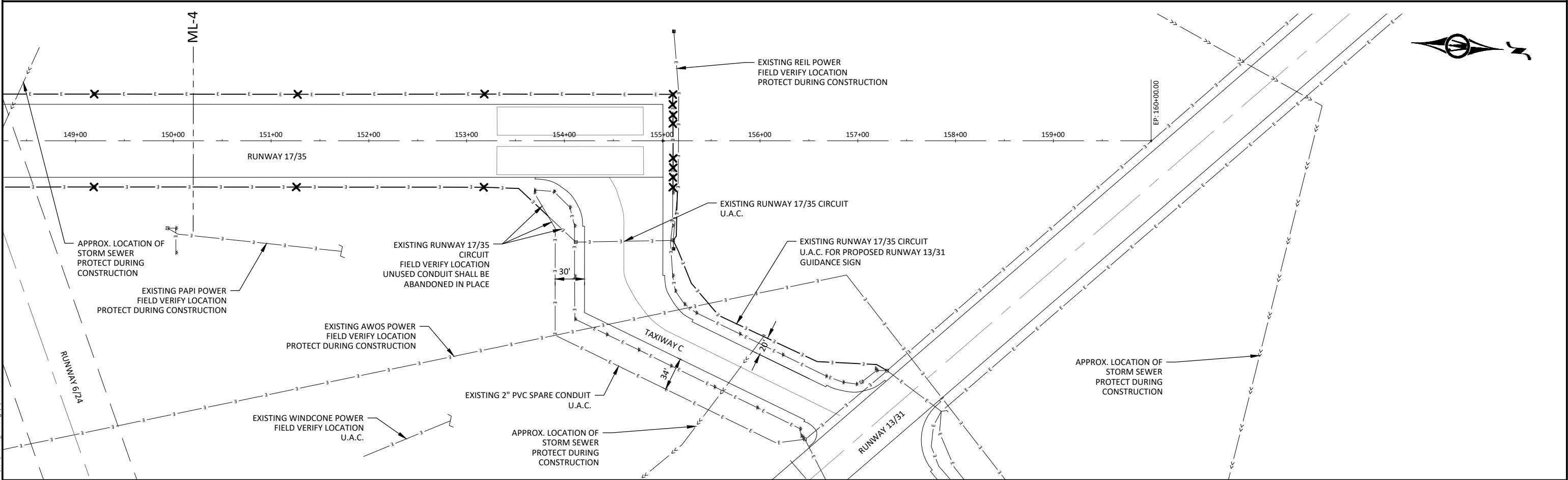
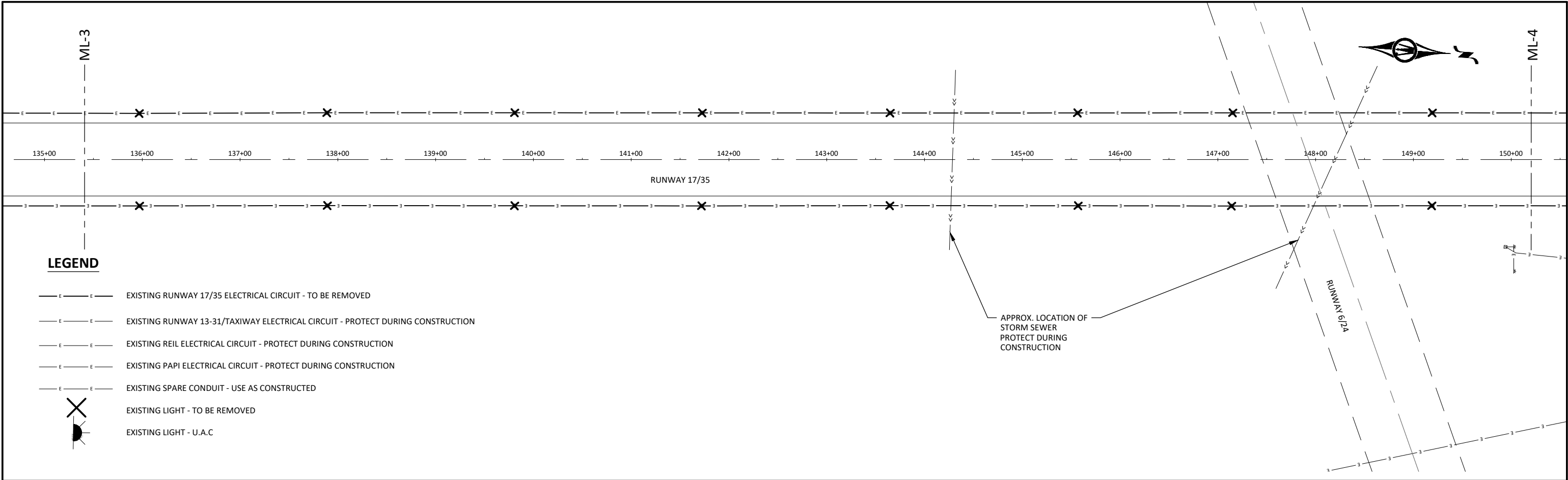


1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

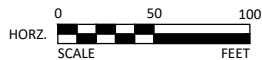
DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
075.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
REMOVALS & EXISTING CONDITIONS

SHEET
R.02
423



© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\3154\1013128791\CA\CD\128791_101.dwg 3/7/2023 2:28:13 PM



1519 BALTIMORE DRIVE
AMES, IOWA 50010
Phone: (515) 233-6100
Email: Ames@bolton-menk.com
www.bolton-menk.com

DESIGNED	REV	DESCRIPTION	DATE
JWH			
DRAWN			
JWH			
CHECKED			
JPR			
CLIENT PROJ. NO.			
OTS.128791			

STORM LAKE MUNICIPAL AIRPORT
INSTALL RUNWAY 17/35 EDGE LIGHTING
REMOVALS & EXISTING CONDITIONS

SHEET

R.03

424

PROJECT MANUAL

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791



**BOLTON
& MENK**

Real People. Real Solutions.

Bolton-Menk.com

SECTION 00005 – CERTIFICATION

PROJECT MANUAL

for

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

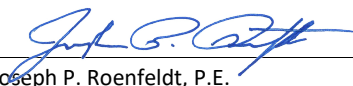
Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.



Joseph P. Roenfeldt, P.E.

License No. 21134

My renewal date is December 31, 2023

Pages or sheets covered by this seal:

ALL PAGES

Date: March 1, 2023

SECTION 00010 - TABLE OF CONTENTS

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

CONTRACT DOCUMENTS:

PROJECT MANUAL:

INTRODUCTORY INFORMATION, BIDDING REQUIREMENTS, CONTRACT FORMS AND CONDITIONS OF CONTRACT

00005 – CERTIFICATION PAGE
00010 – TABLE OF CONTENTS
00100 – NOTICE TO BIDDERS
00105 – NOTICE OF PUBLIC HEARING
00200 – INSTRUCTIONS TO BIDDERS

ITEMS TO BE SUBMITTED WITH THE BID:

00410 – PROPOSAL
00410 - C – PROPOSAL ATTACHMENT: PART C – BID ITEMS AND QUANTITIES
00411 – BIDDER STATUS FORM
00411 – WORKSHEET: AUTHORIZATION TO TRANSACT BUSINESS
00412 – BUY AMERICAN CERTIFICATION FORM FOR MANUFACTURED PRODUCTS
00412 – BUY AMERICAN WAIVER REQUEST
00412 –BUY AMERICAN PREFERENCE CONSTRUCTION PROJECT CONTENT PERCENTAGE
WORKSHEET
00412 – BUY AMERICAN CONFORMANCE LISTING
00413 – DBE UTILIZATION STATEMENT
00413 – DBE LETTER OF INTENT
00420 – BID BOND

ITEMS TO BE EXECUTED AFTER AWARD OF CONTRACT:

00500 – CONTRACT
00610 – PERFORMANCE BOND
00620 – PAYMENT BOND
00650 – INSURANCE REQUIREMENTS

FAA SUPPLEMENTARY PROVISIONS

FAA SP – FAA SUPPLEMENTARY PROVISIONS
WR - WAGE RATES

FAA GENERAL CONTRACT PROVISIONS

PART 1

10 – DEFINITION OF TERMS
20 – PROPOSAL REQUIREMENTS AND CONDITIONS
30 – AWARD AND EXECUTION OF CONTRACT
40 – SCOPE OF WORK
50 – CONTROL OF WORK
60 – CONTROL OF MATERIALS
70 – LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC
80 – EXECUTION AND PROGRESS
90 – MEASUREMENT AND PAYMENT

FAA TECHNICAL SPECIFICATIONS

PART 2 - GENERAL CONSTRUCTION ITEMS

C-105 - MOBILIZATION

PART 3 - SITEWORK

NOT USED FOR THIS PROJECT

PART 4 - BASE COURSES

NOT USED FOR THIS PROJECT

PART 5 - STABILIZED BASE COURSES

NOT USED FOR THIS PROJECT

PART 6 - FLEXIBLE PAVEMENTS

NOT USED FOR THIS PROJECT

PART 7 -RIGID PAVEMENTS

NOT USED FOR THIS PROJECT

PART 8 - SURFACE TREATMENTS

NOT USED FOR THIS PROJECT

PART 9 - MISCELLANEOUS

P-610 - CONCRETE FOR MISCELLANEOUS STRUCTURES

PART 10 - FENCING

NOT USED FOR THIS PROJECT

PART 11 - DRAINAGE

NOT USED FOR THIS PROJECT

PART 12 - TURFING

T-901 - SEEDING

T-908 – MULCH

PART 13 - LIGHTING INSTALLATION

L-101 - AIRPORT ROTATING BEACONS

L-107 - AIRPORT WIND CONES

L-108 - UNDERGROUND POWER CABLE FOR AIRPORTS

L-110 - AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

L-115 - ELECTRICAL MANHOLES AND JUNCTION STRUCTURES

L-125 - INSTALLATION OF AIRPORT LIGHTING SYSTEMS

SUPPLEMENTAL SPECIFICATIONS

NOT USED FOR THIS PROJECT

DRAWINGS (UNDER SEPARATE COVER):

Sheets numbered A.01 through R.03, inclusive, dated March 2023, and with each sheet bearing the following general title:

**Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport**

APPENDICES

- CONSTRUCT SAFETY AND PHASING PLAN (CSPP)
- FAA AC 150/5370-2G – OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION

******END OF SECTION******

SECTION 00100 - NOTICE TO BIDDERS

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising the repair & improvement as stated below must be **filed before 2:00 P.M. CDST on March 23, 2023**, in the office of the City Clerk, City Hall, 620 Erie Street, Storm Lake, Iowa 50588.

Time and Place Sealed Proposals Will be Opened and Considered. Sealed proposals will be opened and bids tabulated at 2:00 P.M. on March 23, 2023, in the office of the City Clerk, City Hall, 620 Erie Street, Storm Lake, Iowa 50588 for consideration by the City of Storm Lake at its meeting at 5:00 P.M CDST on April 3, 2023, City Hall, 620 Erie Street, Storm Lake, Iowa 50588. The City of Storm Lake reserves the right to reject any and all bids, to waive informalities or technicalities in any bid, and to enter into such contract, or contracts, as it shall deem to be to the best interest of the City of Storm Lake.

Time for Commencement and Completion of Work. Work on the improvement shall commence upon approval of the contract by the City Council and as stated in the Notice to Proceed. All work under the Contract must be substantially complete in 27 Working Days for the Base Bid Plus Alternate A. Work related to Alternate A shall be worked on concurrently with the base bid. Work related to Alternate B shall be completed in an additional 3 working days. Liquidated damages as set forth in Section 00500 – Contract.

It is understood that their might be extended lead times for receipt of materials to be incorporated into the project. The contractor shall not start the project until all materials to be incorporated into the project have been received. Pending receipt of all materials to be incorporated, construction may occur in calendar year 2023 or calendar year 2024 construction season.

Bid Security. Each bidder shall accompany its bid with bid security, as defined in Iowa Code Section 26.8, as security that the successful bidder will enter into a contract for the work bid upon. The bidder's security shall be in an amount equal to 5% percent of the total amount of the bid. The bid shall contain no condition except as provided in the specifications.

If the bidder fails to execute the contract and to furnish an acceptable performance and payment bond or provide a Certificate of Insurance within ten (10) days after acceptance of the bid by the City of Storm Lake, the bid security may be forfeited or cashed by the City of Storm Lake as liquidated damages.

Contract Documents. Copies of the project documents are available for a price of \$25.00 per set. This fee is refundable, provided the plans and specifications are returned complete and in good usable condition, and they are returned within fourteen (14) calendar days after the award of the project. Please contact Bolton & Menk, Inc at cedarrapids@bolton-menk.com to obtain a hard set of project documents. Complete digital project bidding documents are available at www.bolton-menk.com or www.questcdn.com. You may view the digital plan documents for free by entering **Quest project # 8413976** on the website's Project Search page. Documents may be downloaded for \$0.00. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, viewing, downloading, and working with this digital project information.

Preference of Products and Labor. By virtue of statutory authority, further preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes. **Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.**

Sales Tax Exemption Certificates. The bidder shall not include sales tax in the bid. The City of Storm Lake will distribute tax exemption certificates and authorization letters to the Contractor and all subcontractors who are identified. The Contractor and subcontractor may make copies of the tax exemption certificates and provide a copy to each supplier providing construction materials. These tax exemption certificates and authorization letters are applicable only for this specific project under the Contract.

Award of Contract. All proposals submitted in accordance with the instructions presented herein will be subject to evaluation. Bids may be held by the City of Storm Lake for a period not to exceed **Ninety (90) days** from the date of the bid opening for the purpose of conducting the bid evaluation.

The Owner will base the award of contract upon the lowest aggregate sum proposal submitted from those bidders the Owner confirms as being responsive and responsible. The right is reserved, as the City of Storm Lake may require, to reject any and all bids and to waive any informality in the bids received.

Prospective Bidders are hereby advised that award of contract is contingent upon the owner receiving Federal funding assistance under the Airport Improvement Program.

Federal Provisions

This project is subject to the following Federal provisions, statutes, and regulations:

Equal Employment Opportunity - Executive Order 11246 and 41 CFR Part 60: The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions. The successful Bidder shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin.

Goals for Minority and Female Participation – Executive Order 11246 and 41 CFR Part 60:

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables:

Goals for minority participation for each trade: **0.4%**

Goals for female participation in each trade: **6.9 %**

These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its Federally involved and non-federally involved construction.

Certification of Non-Segregated Facilities – 41 CFR Part 60: A certification of Non-segregated Facilities must be submitted prior to the award of a federally-assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

Contractors receiving federally assisted construction contract awards exceeding \$10,000, which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause. The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Disadvantaged Business Enterprise – 49 CFR Part 26: The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contracts. In accordance with 49 CFR Part 26.45, the sponsor has established a **contract goal of 0%** participation for small business concerns owned and controlled by certified socially and economically **Disadvantaged Business Enterprise (DBE)**. The bidder shall make and document good faith efforts, as defined in Appendix A of 49 CFR Part 26, to meet this established goal.

Davis-Bacon Act, as amended – 29 CFR Part 5: The Contractor is required to comply with wage and labor provisions and to pay minimum wages in accordance with the current schedule of wage rates established by the United States Department of Labor.

Debarment, Suspension, Ineligibility and Voluntary Exclusion – 49 CFR Part 29: The bidder certifies, by submission of a proposal or acceptance of a contract, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. Individuals or companies listed in the General Services Administration's "Excluded Parties Listing System" will not be considered for award of contract.

Foreign Trade Restriction – 49 CFR Part 30

The Bidder and Bidder's subcontractors, by submission of an offer and/or execution of a contract, is required to certify that it:

- a. Is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- b. Has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
- c. Has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Buy American Certificate – Aviation Safety and Capacity Act of 1990:

This contract is subject to the "Buy American Preferences" of the Aviation Safety and Capacity Act of 1990. Per Title 49 U.S.C. Section 50101, all steel and manufactured products installed under an AIP assisted project must be produced in the United States unless the Federal Aviation Administration has granted a formal waiver.

As a condition of bid responsiveness, Bidders must complete and submit as part of their proposal the enclosed Buy American certification. Bidder must indicate whether it intends to meet Buy America preferences by only installing steel and manufactured products produced with the United State of America; or if it intends to seek a permissible waiver to the Buy America requirements.

PROJECT DESCRIPTION: Install Runway 17/35 Edge Lighting

This Notice is given by authority of the City of Storm Lake

Mayra Martinez, City Clerk

Storm Lake Municipal Airport
0T5.128791
March 2023

NOTICE TO BIDDERS

PAGE 00100-3

SECTION 00105 - NOTICE OF PUBLIC HEARING

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

Public Hearing on Proposed Contract Documents and Estimated Costs for Repair or Improvement. A public hearing will be held by the City of Storm Lake on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 5:00 P.M CDST on April 3, 2023, at City Hall, 620 Erie Street, Storm Lake, Iowa 50588.

PROJECT DESCRIPTION: Runway 17/35 Edge Lighting

At said hearing, the City Council will consider the plans, specifications, proposed form of contract, and estimated total cost for the project, the same now being on file in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said City Council will also receive and consider any objections to said plans, specifications, estimate of cost, and form of contract made by any interested party.

SECTION 00200 - INSTRUCTIONS TO BIDDERS

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

The work comprising the above referenced project shall be constructed in accordance with the FAA Standard Specifications, and as further modified by the supplemental specifications and special provisions included in the contract documents. The terms used in the contract version of the documents are defined in said Standard Specifications. Before submitting a bid, please review the requirements in these specifications. Please be certain that all documents have been completed properly as failure to complete and sign all documents and to comply with the requirements listed below can cause a submitted bid not to be read.

ARTICLE 1 - BID SECURITY

- 1.01 The bid security must be in the minimum amount of 5% of the total bid amount including all add alternates (do not deduct the amount of deduct alternates). Bid security shall be in the form of a cashier's check, or a certified check drawn on a FDIC insured bank in Iowa; or a certified check drawn on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn **ON A CREDIT UNION IN IOWA OR CHARTERED UNDER THE LAWS OF THE UNITED STATES; OR A BID BOND EXECUTED BY** a corporation authorized to contract as a surety in Iowa or satisfactory to the City Of Storm Lake, hereinafter called the "Jurisdiction".
- 1.02 The bid bond must be submitted on the **enclosed Bid Bond form as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink;** electronic, copies, or facsimile (fax) of any signature on the bid bond is not acceptable.
- 1.03 Bid security other than said bid bond shall be in accordance with Chapter 26 of the Iowa Code.

ARTICLE 2 - SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER

- 2.01 The proposal shall be sealed in an envelope, properly identified as the Proposal with the project title and the name and address of the bidder. The bid security shall be sealed in a separate envelope identified as the "Bid Security" and attached to the outside of the bid proposal envelope. The Proposal and Bid security shall be deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see that its proposal is delivered to the Jurisdiction prior to the time for opening bids along with the appropriate bid security. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered.
- 2.02 The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if any of these documents are omitted from the Proposal envelope.
 - A. PROPOSAL – Complete each of the following parts:
 - PART B – ACKNOWLEDGMENT OF ADDENDA, IF ANY HAVE BEEN ISSUED;
 - PART C – BID ITEMS, QUANTITIES AND PRICES;
 - PART F – ADDITIONAL REQUIREMENTS;
 - PART G – IDENTITY OF BIDDER;

- B. The following documents which are part of the proposal documents must be completed and attached:
1. Bidder Status Form
 2. Worksheet: Authorization To Transact Business
 3. Buy American Waiver Request
 4. Buy American Preference Construction Project Content Percentage Worksheet
 5. Buy American Conformance Listing
 6. DBE Utilization Statement
 7. DBE Letter of Intent
 8. Sign the proposal. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature will not be accepted.
 9. Documents must be submitted as printed. No alterations, additions, or deletions are permitted. If the Bidder notes a requirement in the contract documents which the Bidder believes will require a conditioned or unsolicited alternate bid, the Bidder must immediately notify the Engineer in writing. The Engineer will issue any necessary interpretation by an addendum.

ARTICLE 3 - PROSECUTION AND PROGRESS OF THE WORK

- 3.01 The work is located at the Storm Lake Municipal Airport.

Work on the improvement shall commence upon approval of the contract by the City of Storm Lake and as stated in the Notice to Proceed. All work under the Contract must be substantially complete as stated in Section 00500-Contract. Liquidated Damages will be assessed as detailed in the stated in Section 00500 - Contract.

- 3.02 Community Events.

Successful bidder will be required to coordinate with the owner and accommodate the owner's requirements for the following list of events:

NONE

- 3.03 Each successful bidder will be required to furnish a corporate surety bond in an amount equal to 100% of its contract price. Said bond shall be issued by a responsible surety approved by City of Storm Lake and shall guarantee the faithful performance of the contract, the terms and conditions therein contained, the prompt payment of all material and labor, protect and save harmless City of Storm Lake from claims and damages of any kind caused by the operations of the contract, and shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of one (1) year from and after acceptance of the work.
- 3.04 The City of Storm Lake, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42U.S.C. 2000d to 2000d-4 and title 49 Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that with any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

ARTICLE 4 - PREFERENCE OF PRODUCTS AND LABOR

4.01 In accordance with Iowa statutes, a resident bidder shall be allowed preference against a nonresident bidder from a state or foreign country provided that state or foreign country gives or requires any preference to bidders from that state or foreign country. This includes, but is not limited to, any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state of foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

4.02 Buy America Preference

- A. As a matter of bid responsiveness, Bidder must indicate within their proposal how they intend to comply with the Buy America preferences established by Title 49 USC 50101. The bidder may choose to certify it will comply with Buy America preferences by only installing steel and manufactured products that are 100% made in the United States; or the bidder may choose to certify that they cannot fully comply with Buy America preferences and thus requests a waiver to Buy America preferences.
- B. A bidder that certifies they will meet Buy America preferences by requesting a waiver also agrees to prepare and submit a formal waiver request and the associated component cost calculation if selected by the owner as the bidder with the apparent low bid. The successful bidder must submit their formal waiver request and component cost calculation to the owner within the timeframe prescribed on the Buy America certification.

4.03 Disadvantage Business Enterprise (DBE)

- A. The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the City of Storm Lake, Iowa to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders, including those who qualify as a Disadvantaged Business Enterprise.
- B. The Owner has established a DBE contract goal for this contract. The Goal is listed in the Notice to Bidders and Notice of Public Hearing. The Bidder/Offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to subcontract the prime contract to certified DBE firms as defined in 49 CFR Part 26.
- C. All bidders shall submit the following information with their proposal on the forms provided:
 - 1. The name and addresses of DBE firms that will participate in the contract;
 - 2. A description of the work that each DBE firm will perform;
 - 3. The dollar amount of the participation of each DBE firm participating;
 - 4. Written documentation of the Bidder/Offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
 - 5. Evidence of good faith efforts undertaken by the bidder, as described in appendix A to 49 CFR Part 26.

The successful Bidder will be required to provide written confirmation from the participating DBE firms verifying their intent to participate as in the project. This written confirmation shall be submitted prior to execution of the contract.

4.04 Good Faith Efforts (DBE)

Bidder must demonstrate that they made good faith efforts to achieve participation with DBE firms. This requires that the bidder show that it took all necessary and reasonable steps to secure participation by certified DBE firms. The owner will not consider mere pro forma efforts as a good faith effort.

Actions constituting evidence of good faith efforts are described in appendix A to 49 CFR Part 26. Such actions include but are not limited to:

- A. Soliciting DBE participation through all reasonable and available means. This may include public advertisements and phone calls/faxes to known certified DBE firms.
- B. Consult State Department of Transportation office to obtain a list of certified DBE firms.
- C. Selecting portions of work that increases the likelihood that DBE firms will be available to participate
- D. Providing DBE firms with sufficient information and time to review the project plans and specifications.
- E. Documenting all contacts with DBE firms. This includes name, address, phone number, date of contact and record of conversation/negotiation.

ARTICLE 5 - TAXES

- 5.01 The City of Storm Lake will issue a sales tax exemption certificate and authorization letters to the Contractor and all subcontractors for all materials purchased on the project. Tax exemption certificates are applicable only for the specific project for which the tax exemption certificate is issued.
- 5.02 The Contractor shall provide a listing to the City of Storm Lake identifying all appropriate subcontractors qualified for use of the tax exemption certificate. The Contractor and subcontractors may make copies of the certificate and provide to each supplier providing construction materials.
- 5.03 Income Tax:
 - A. Successful Bidder is subject to payment of Iowa income tax on income from this work in amounts prescribed by law.
 - B. If successful bidder is a non-Iowa partnership, individual or association, Bidder shall furnish evidence prior to execution of contract that bond or securities have been posted with the Iowa Department of Revenue in the amount required by law.

****END OF SECTION****

ITEMS TO BE SUBMITTED WITH THE BID

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

SECTION 00410 - PROPOSAL

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

PROPOSAL: PART A – SCOPE

The City of Storm Lake, hereinafter called the "Jurisdiction", has need of a qualified contractor to complete the work comprising the below referenced repair or improvement. The undersigned Bidder hereby proposes to complete the work comprising the below referenced repair or improvement as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588, at the prices hereinafter provided in Part C of the Proposal, for the following described improvements:

PROJECT DESCRIPTION: Install Runway 17/35 Edge Lighting

PROPOSAL: PART B – ACKNOWLEDGMENT OF ADDENDA

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER _____	ADDENDUM NUMBER _____
ADDENDUM NUMBER _____	ADDENDUM NUMBER _____

and certifies that said addenda were utilized in the preparation of this bid.

PROPOSAL: PART C – BID ITEMS AND QUANTITIES

UNIT BID PRICE CONTRACTS: The Bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Prices, and the Total Construction Costs on the Proposal Attachment: Part C – Bid Items and Quantities. In case of discrepancy, the **Unit Bid Price governs**. The quantities shown on the Proposal Attachment: Part C – Bid Items and Quantities are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. **The Total Base Bid plus all bid alternates shall be used for comparison of bids.** The jurisdiction shall only use the Total Construction Cost for determining the sufficiency of the bid security.

SEE INCLUDED PROPOSAL ATTACHMENT

PROPOSAL: PART D – GENERAL

The Bidder hereby acknowledges that the Jurisdiction, in advertising for public bids for this project reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total bid only, not including any alternates; and

3. Make such alterations in the contract documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and
4. Make The BIDDER, by submission of a proposal, acknowledges that award of this contract is subject to the provisions of the Davis-Bacon Act. The BIDDER accepts the requirement to pay prevailing wages for each classification and type of worker as established in the attached wage rate determination as issued by the United States Department of Labor. The BIDDER further acknowledges and accepts their requirement to incorporate the provision to pay the established prevailing wages in every subcontract agreement entered into by the Bidder under this project.
5. The BIDDER acknowledges that the OWNER has established a contract Disadvantaged Business Enterprise goal for this project. The contract goal established is provided in the Notice to Bidders and Notice of Public Hearing. The BIDDER acknowledges and accepts the requirement to apply and document good faith efforts, as defined in Appendix A, 49 CFR Part 26, for subcontracting a portion of the prime contract to certified Disadvantaged Business Enterprises (DBE), as defined in 49 CFR Part 26 for purposes of meeting the OWNER'S established goal. The BIDDER, in complying with this requirement, proposes participation by Disadvantaged Business Enterprises as stated on the attached forms, "Utilization Statement" and "Letter of Intent"; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Jurisdiction, provide proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code, and furnish a performance and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said bond; and
3. Commence the work upon written Notice to Proceed; and
4. Substantially complete the work on or before as detailed in Section 00500 – Contract; and
5. Pay liquidated damages for noncompliance with said completion provisions at the rate detailed in Section 00500 – Contract.

PROPOSAL: PART E – NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Jurisdiction; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and
3. That no part of the bid price received by the Bidder was or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and
4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to submit a sham bid or to refrain from bidding; and

5. That the bid has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder; and
6. That all statements in this proposal are true; and
7. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

PROPOSAL: PART F – ADDITIONAL REQUIREMENTS

The Bidder hereby agrees to comply with the additional requirements listed below which are included in this proposal and identified as proposal attachments:

The following documents are attached to and made a part of this Bid:

1. Bid Guaranty in the form of a completed Bid Bond in the amount of 5% (five percent) of the amount bid.
2. Completed "Bidder Status Form," signed and dated. The Worksheet: Authorization to Transact Business is not required to be submitted with the Bid. It is intended to be used to assist the bidder in completing the Bidder Status Form.
3. Completed "Buy American Certification Form for Manufactured Products," signed and dated. **If you check the first box certifying compliance with Buy American requirements, then additional forms listed below as item 4, item 5, and item 6 are not required.**
4. Completed "Buy American Waiver Request," signed and dated, if the second box is checked on the "Buy America Certification." Otherwise, attach form and indicate "N.A." on the form. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
5. Completed "Buy American Preference Construction Project Content Percentage Worksheet," signed and dated if "Buy America Waiver Request" is completed. Otherwise, attach form and indicate "N.A." on the form. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
6. Completed "Buy America Conformance Listing," signed and dated if signed and dated if "Buy America Waiver Request" is completed. Otherwise, attach form and indicate "N.A." on the form. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
7. Completed DBE forms "Utilization Statement"
8. Completed DBE "Letter of Intent". One copy shall be submitted for each DBE subcontractor. The "Letters of Intent" do not need to be signed by the DBE firms at the time of the bid opening. However, all other information in the letter must be provided with the bid. Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.
9. Evidence of good faith efforts required by 49 CFR Part 26, Appendix A. If proposed DBE goal is met, submittal of evidence of good faith efforts is not required.
10. Evidence of BIDDER'S qualifications per the requirements of the Instructions-to-Bidders.

PROPOSAL: PART G - IDENTITY OF BIDDER

The Bidder shall indicate whether the bid is submitted by a/an:

☐ Individual,
Sole Proprietorship

Bidder

☐ Partnership

Signature

☐ Corporation

By

Name (Print/Type)

☐ Limited Liability Company

Title

☐ Joint-venture; all parties must join-in and
execute all documents

Street Address

☐ Other

City, State, Zip Code

The bidder shall enter its Public
Registration Number ____ - ____
issued by the Iowa Commissioner of Labor
Pursuant Section 91C.5 of the Iowa Code.

Telephone Number

**Type or print the name and title of the company's
owner, president, CEO, etc. if a different person
than entered above**

Failure to provide said Registration
Number shall result in the bid being read
under advisement. A contract will not be
executed until the Contractor is registered.

Name

Title

**NOTE: The signature on this proposal must be an original signature in ink; copies, facsimiles, or
electronic signatures will not be accepted.**

SECTION 00410 – C - PROPOSAL

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

PROPOSAL ATTACHMENT: PART C – BID ITEMS AND QUANTITIES

This is a UNIT BID PRICE CONTRACT. The bidder must provide the Unit Bid Price, the total Bid Price, and the Total Bid Amount; in case of discrepancy, the Unit Bid Price governs. The Quantities shown on the Proposal Attachment: Part C – Bid Items and quantities are approximate only but are considered sufficiently adequate for the purpose of comparing bids. **The Jurisdiction shall use the Total Base Bid plus all bid alternate amounts for comparison of bids.**

SEE SCHEDULE OF PRICES ON NEXT PAGE

BASE BID

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	\$	\$
2	TRAFFIC CONTROL	LS	1	\$	\$
3	CONSTRUCTION SURVEY	LS	1	\$	\$
4	SEEDING FERTILIZING AND MULCHING	LS	1	\$	\$
5	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15000	\$	\$
6	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING	LF	11500	\$	\$
7	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12500	\$	\$
8	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$	\$
9	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$	\$
10	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	\$	\$
11	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	\$	\$
12	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	\$	\$
13	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	\$	\$
14	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	\$	\$
15	SPARE PARTS, AS LISTED	LS	1	\$	\$
16	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	\$	\$
		TOTAL AMOUNT BASE BID: \$			

TOTAL - BASE BID (Written Format): _____

BID ALTERNATE A

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
A1	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	\$	\$
A2	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	\$	\$
A3	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	\$	\$
A4	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	\$	\$
A5	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	\$	\$
A6	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	\$	\$
		TOTAL AMOUNT BID ALTERNATE A: \$			

TOTAL - BID ALTERNATE A (Written Format): _____

BID ALTERNATE B

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
B1	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	\$	\$
B2	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	\$	\$
		TOTAL AMOUNT BID ALTERNATE B: \$			

TOTAL - BID ALTERNATE B (Written Format): _____

TOTAL AMOUNT OF BASE BID AND ALL ALTERNATES:

TOTAL OF BASE BID AND ALL ALTERNATES: (Written Format): _____

Note: It is understood that the above quantities are estimated for the purpose of this bid. All quantities are subject to revision by the owner as noted in section 00500 - CONTRACT.

Bidder Name

Section 00411 - Bidder Status Form

To be completed by all bidders

Part A

Please answer "Yes" or "No" for each of the following:

- ☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).
- ☐ Yes ☐ No My company has an office to transact business in Iowa.
- ☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.
- ☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.
- ☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.
If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.
If you answered "No" to one or more questions above, your company is a non-resident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders

Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ to _____ Address: _____
(mm/dd/yyyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____
(mm/dd/yyyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____
(mm/dd/yyyy) City, State, Zip: _____

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders

Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State: _____
2. Does your company's home state or foreign country offer preferences to bidders who are residents? ☐ Yes ☐ No
3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

You may attach additional sheet(s) if needed.

To be completed by all bidders

Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

SECTION 00411 - WORKSHEET: AUTHORIZATION TO TRANSACT BUSINESS

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

- ☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.
- ☐ Yes ☐ No My business is a sole proprietorship, and I am an Iowa resident for Iowa income tax purposes.
- ☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.
- ☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.
- ☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa Secretary of State, has filed its most recent biennial report with the Secretary of State, and has neither received a certificate of withdrawal from the Secretary of State nor had its authority revoked.
- ☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.
- ☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.
- ☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state and has not filed a statement of termination.
- ☐ Yes ☐ No My business is a limited partnership, or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa Secretary of State that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.
- ☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.
- ☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

SECTION 00412 - BUY AMERICAN CERTIFICATION FORM FOR MANUFACTURED PRODUCTS

(Non-building projects such as airfield/roadway construction, equipment acquisition, etc.)

As a matter of bid responsiveness, the Bidder or Offeror must complete, sign, date, and submit this certification statement with their proposal. The Bidder or Offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (☑) or the letter "X".

- ☐ The Bidder or Offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States, or;
 - b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing, or;
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the Bidder or Offeror agrees:

- 1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
- 2. To faithfully comply with providing US domestic product.
- 3. To furnish US domestic product for any waiver request that the FAA rejects.
- 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- ☐ The Bidder or Offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent Bidder or Offeror with the apparent low bid agrees:

- 1. To submit to the Owner within 5 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
- 2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
- 3. To faithfully comply with providing US domestic products at or above the approved US domestic content percentage as approved by the FAA.
- 4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver - The cost of the item components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the "item". The required documentation for a type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100% US domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

- a) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- b) Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using US domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a type 4 of waiver is:

- a) Detailed cost information for total project using US domestic product.
- b) Detailed cost information for total project using non-domestic product.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

SECTION 00412 - BUY AMERICA WAIVER REQUEST

Title 49 U.S.C Section 50101 (b)

FOR AIRFIELD DEVELOPMENT PROJECTS FUNDED UNDER THE AIRPORT IMPROVEMENT PROGRAM

Type of Waiver Request:

The bidder may request a waiver subject to the provisions of Section 50101(b)(3) or Section 50101(b)(4). The bidder may not request a waiver under Section 50101(b)(1) or Section 50101(b)(2). Bidder is hereby advised that the Owner's approval with the bidder's waiver request is contingent upon FAA approval. The bidder must select one of the following applicable waiver provisions:

☐ **Section 50101(b)(3):** Bidder hereby requests a waiver to Buy America preferences based upon Section 50101(b)(3) for the equipment identified below. The bidder certifies that _____ % of the cost of components and subcomponents comprising the equipment are produced in the United States and that final assembly occurs within the United States. *(Bidder must attach a copy of the component cost calculation table)*

Equipment: _____

☐ **Section 50101(b)(4):** Bidder hereby requests a waiver to Buy America preferences based upon Section 50101(b)(4). The bidder asserts provision of domestic material increases the cost of the overall project by more than 25%. *(Note: This type of waiver is very rare)*

Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.

Certification Signature:

In accordance with Section 50101(b), we request a waiver to the Buy America provisions based on the above certification and attached documentation.

Bidder's Firm Name

Date

Signature

1.1 Instructions for Section 50101(b)(3) Waiver:

1. "Equipment" in Section 50101 shall mean the following:
 - a) Individual type "L" items (Airfield Lighting Equipment) as listed in FAA Advisory Circular 150/5345-53.
 - b) Individual bid items as established within FAA Advisory Circular 150/5370-10. The bid item application may not be applied for the type "L" items listed in AC 150/5345-53.
 - c) A waiver request may only address one specific equipment item. Submit separate requests for each equipment item for which a waiver.
 - d) Items listed under the Nationwide Waiver do not require further review. Please refer to the following webpage: http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls
2. The bidder must base the U.S. percentage upon the value that results from completing a component cost calculation table similar to the attached format. Bidder shall avoid mere pro forma efforts to establish the waiver request percentage. The Bidder must submit the component cost calculation table as an attachment to the waiver request.
3. Components/subcomponents are the material and products composing the "equipment".
4. The final assembly of the AIP-funded "equipment" must be within the USA (*Section 50101(b)(3)(B)*). Final assembly is the substantial transformation of the components and subcomponents into the end product.
5. All steel used in the "Equipment" must be produced in the United States.
6. The Buy American requirements apply to all tier contractors and subcontractors. All contractors/subcontractors are required to provide appropriate documentation that indicates origin of manufacturer and percentage of domestic made product.
7. The bidder is hereby advised there is no implied or expressed guarantee that a requested waiver will be issued by the Federal Aviation Administration (FAA). Less than 60% USA component/subcomponent proposed for this facility CANNOT be waived. Products made with foreign steel are not eligible for a waiver.

1.2 Instructions for Section 50101(b)(4) Waiver:

1. The 25% cost increase waiver is rarely applicable. Consult Owner before making this request.

1.3 North America Free Trade Act (NAFTA)

The NAFTA **does not** apply to the AIP. Products and material made in Canada or Mexico must be considered as foreign made products.



– CONFIDENTIAL –

NOT SUBJECT TO DISCLOSURE UNDER EXEMPTION # 4 OF THE FREEDOM OF INFORMATION ACT

**FAA Buy American Preference Construction
Project Content Percentage Worksheet**

Airport Sponsor:

Date:

Airport Worksite:

Worksite LOCID:

Project Description:

Total material cost: _____

U.S. Content: _____ %

Non-U.S. Content: _____ %

Project Material Structure List (Bill of Materials)

Line	Material Level (1 or 2)	Materials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

For FAA Use Only

Storm Lake Municipal Airport
0T5.128791
March 2023

PROPOSAL ATTACHMENT – BUY AMERICAN

PAGE 00412-5

Line	Material Level (1 or 2)	Materials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials	For FAA Use Only
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
SUBTOTAL					

TOTAL MATERIAL COST

U.S. Content: _____ %

Non-U.S. Content: _____ %

The undersigned certifies that this information is true and accurate to the best of their knowledge. A false certification represents a violation of 18 U.S.C § 1001 and 49 U.S.C § 47126. Signatory has the burden of proof to establish compliance.

Signature: _____

Name:

Time:

SECTION 00412 - BUY AMERICA CONFORMANCE LISTING

Title 49 U.S.C Section 50101 (b)

FOR AIRFIELD DEVELOPMENT PROJECTS FUNDED UNDER THE AIRPORT IMPROVEMENT PROGRAM

- Preparation of a Component Cost Calculation Table is not necessary for equipment listed on the FAA national listing:
http://www.faa.gov/airports/aip/procurement/federal_contract_provisions/media/buy_american_waiver.xls
- Bidder shall submit a listing of equipment it proposes to install on the project that is included on the current National Buy American conformance list.

Equipment Type	Name of Manufacturer	Product Number

Signed copies must be provided within five (5) calendar days of the bid opening to be considered for award.

Certification Signature:

Bidder hereby certifies that the above listed equipment, which we propose for installation on the subject project, are on the current National Buy America Conformance list on the website listed above.

I hereby certify the above information is accurate and complete.

Bidder's Firm Name

Date

Signature

SECTION 00413 – DBE UTILIZATION STATEMENT

Disadvantage Business Enterprise

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner.
(Please mark the appropriate box)

- ☐ The bidder/offeror is committed to a minimum of _____% DBE utilization on this contract.
- ☐ The bidder/offeror, while unable to meet the DBE goal of _____%, hereby commits to a minimum of _____% DBE utilization on this contract and also submits documentation, as an attachment demonstrating good faith efforts (GFE).

The undersigned hereby further assures that the information included herein is true and correct, and that the DBE firm(s) listed herein have agreed to perform a commercially useful function in the work items noted for each firm. The undersigned further understands that no changes to this statement may be made without prior approval from the Civil Right Staff of the Federal Aviation Administration.

Bidder's/Offeror's Firm Name

Signature

Date

DBE UTILIZATION SUMMARY

<u>Percentage</u>	<u>Contract Amount</u>	<u>DBE Amount</u>	<u>Contract</u>
DBE Prime Contractor	\$_____ x 1.00 =	\$_____	_____%
DBE Subcontractor	\$_____ x 1.00 =	\$_____	_____%
DBE Supplier	\$_____ x 0.60 =	\$_____	_____%
DBE Manufacturer	\$_____ x 1.00 =	\$_____	_____%
Total Amount DBE		\$_____	_____%
DBE Goal		\$_____	_____%

Note: If the total proposed DBE participation is less than the established DBE goal, Bidder must provide written documentation of the good faith efforts as required by 49 CFR Part 26.

SECTION 00413 – DBE LETTER OF INTENT

Disadvantage Business Enterprise
(This page shall be submitted for each DBE firm)

Bidder/Offer Name: _____

Address: _____

City _____ State: _____ Zip: _____

DBE Firm: DBE Firm: _____

Address: _____

City: _____ State: _____ Zip: _____

DBE Contact Person: Name: _____ Phone: _____

DBE Certifying Agency: _____ Expiration Date: _____

Each DBE Firm shall submit evidence (such as a photocopy) of their certification status.

Classification: ☐ Prime Contractor ☐ Subcontractor ☐ Joint Venture
☐ Manufacturer ☐ Supplier

Work item(s) to be performed by DBE	Description of Work Item	Quantity	Total

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above. The estimated participation is as follows:

DBE contract amount: \$ _____ Percent of total contract: _____%

AFFIRMATION:

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By: _____
(Signature) (Title)

Notes: In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

SECTION 00420 - BID BOND

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal, and

_____,
as Surety, are held and firmly bound unto, City of Storm Lake as Obligee, (hereinafter referred to as "the Jurisdiction"), in the penal sum of _____

_____, dollars (\$ _____),

lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Jurisdiction a certain proposal, in a separate envelope, and hereby made a part hereof, to enter into a contract in writing, for the following described improvements:

Install Runway 17/35 Edge Lighting

The Surety hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Jurisdiction may accept such bid or execute such Contract; and said Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Buena Vista County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of the bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all damages, costs, and attorney fees incurred by enforcing any of the provisions of this Bond. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers, and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against Surety for any amount guaranteed hereunder whether action is brought against Principal or whether Principal is joined in any such action or actions or not.

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

Signed and sealed this _____ day of _____, 2023.

SURETY:

PRINCIPAL:

By

Surety Company

Signature Attorney-in-Fact/Officer

Name of Attorney-in-Fact/Officer

Company Name

Company Address

City, State, Zip Code

Company Telephone Number

By

Bidder

Signature

Name (Print/Type)

Title

Address

City, State, Zip Code

Telephone Number

NOTE: All signatures on this bid bond must be original signatures in ink; electronic, copies, or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal or official adhesive seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or official adhesive seal.

ITEMS TO BE EXECUTED AFTER AWARD OF CONTRACT

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

SECTION 00500 - CONTRACT

Install Runway 17/35 Edge Lighting
Storm Lake Municipal Airport
Storm Lake, Iowa

THIS CONTRACT, made and entered into at _____
_____ this _____ day of _____, by and between
the City of Storm Lake hereinafter called the "Jurisdiction", and _____
_____, hereinafter called the "Contractor".

WITNESSETH:

The Contractor hereby agrees to complete the work comprising the Install Runway 17/35 Edge Lighting as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Clerk, 620 Erie Street, Storm Lake, Iowa 50588. This contract includes all such contract documents. All work under this contract shall be constructed in accordance with the FAA Standard Specifications and as further modified by the Special Provisions, Technical Specifications and Supplemental Specifications included in said contract documents and the Contract Attachment which is attached hereto. The Contractor further agrees to complete the work in strict accordance with said contract documents, and to guarantee the work as required by law for the time required in said contract documents after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: Bid Items and Quantities which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders and Notice of Public Hearing for the following described improvements:

Install Runway 17/35 Edge Lighting

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid amount of _____ dollars (\$ _____), which amount shall constitute the required amount of the performance bond and payment bond. The Contractor hereby agrees to commence work as stated in the written Notice to Proceed; and substantially complete the work the work in accordance with the following contract provisions:

CONTRACT PROVISIONS

A. Completion of Work

1. Completion of work is further defined in FAA General Contract Provisions, paragraph 80-08.

B. Liquidated Damage

1. Liquidated damages shall be in accordance with FAA General Contract Provisions, paragraph 80-08, and as further stated below:

Schedule	Liquidated Damages Cost	Allowed Construction Time
Base Bid and Alternate Bid A	\$400 / Calendar Day	As prescribed in the Notice to Bidders
Alternate Bid B	\$100 / Calendar Day	As prescribed in the Notice to Bidders
Project Closeout (Punchlist Items and Documentation)	\$250 / Calendar Day	Start Date is Final Inspection – 21 Calendar Days

2. In addition to the above-mentioned liquated damages, the contractor also agrees to reimburse the owner, by a reduction in the final payment due to the contractor, an amount equal to the additional charges for engineering services incurred due to the continuance of work beyond the specified allotted contract completion date, working days or calendar days.

C. Maintenance Bond & Warranty

1. To remedy any and all defects that may develop in or result from work to be performed under the Contract with the City of Storm Lake, from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of said work.
2. Shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of one (1) year from and after acceptance of the work.

D. Bid Quantity Revisions

1. All quantities are estimates and subject to revision by the Jurisdiction.
2. Quantity changes are subject to the requirements of FAA General Provisions Section 20, paragraph 20-05 and Section 40, paragraph 40-02.

CONTRACTOR'S CERTIFICATIONS

- A. The Contractor understands and agrees that all certifications made by the Contractor within the Proposal shall apply under this Agreement as if fully rewritten herein. The Contractor further certifies the following;

1. Certification of Eligibility (29 CFR Part 5.5)

- a. By Entering into this contract, the CONTRACTOR certifies that neither he or she nor any person or firm who has an interest in the CONTRACTOR'S firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1);
- b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1);
- c. The penalty for making false statements is prescribed in the U.S. Criminal Code 18 U.S.C.

2. Certification of Non-Segregated Facilities (41 CFR Part 60-1.8)

- a. The federally assisted construction CONTRACTOR, certifies that it does not maintain or provide, for its employees, any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The BIDDER certifies that it will not maintain or provide, for its employees, segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Bidder agrees that a breach of this certification is a violation of the Equal Opportunity Clause, which is to be incorporated in the contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The Bidder agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that it will retain such certifications in its files.

IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION: City of Storm Lake

CONTRACTOR:

By

Mike Porsch, Mayor

(Seal)

ATTEST:

Signature, City Clerk

Company Name:

By

Name:

Title:

Street Address

City, State, Zip Code

Telephone

CONTRACTOR PUBLIC REGISTRATION INFORMATION TO BE PROVIDED BY:

1. All Contractors: The Contractor shall enter its Public Registration No. _____ issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code.
2. Out-of-State Contractors:
 - A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the division of labor services of the department of workforce development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the Jurisdictional Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.
 - B. Prior to entering into contract, the designated low bidder, if it is a corporation organized under the laws of a state other than Iowa, shall file with the Jurisdictional Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

Bond No. _____

Name of Surety _____

NOTE: All signatures on this contract must be original signatures in ink; electronic, copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

PARTNERSHIP ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ to me personally known, who being by me duly sworn, did say that the person is one of the partners of _____, a partnership, and that the instrument was signed on behalf of the partnership by authority of the partners and the partner acknowledged the execution of the instrument to be the voluntary act and deed of the partnership by it and by the partner voluntarily executed

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

INDIVIDUAL ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known to be the identical person(s) named in and who executed the foregoing instrument, and acknowledged that (he) (she) (they) executed the instrument as (his) (her) (their) voluntary act and deed.

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 2023, before me a Notary Public in and for said county, personally appeared _____, to me personally known, who being by me duly sworn did say that person is _____ of said _____, that (the seal affixed to said instrument is the seal of said OR no seal has been procured by the said) _____, and that said instrument was signed and sealed on behalf of the said _____, by authority of its managers and the said _____ acknowledged the execution of said instrument to be the voluntary act and deed of said _____, by it voluntarily executed.

Signature _____

Notary Public in and for the State of _____

My commission expires _____ 20, _____

CONTRACT ATTACHMENT: ITEM 1: GENERAL - NONE

CONTRACT ATTACHMENT: ITEM 2: BID ITEMS AND, QUANTITIES

THIS CONTRACT IS AWARDED AND EXECUTED FOR COMPLETION OF THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS FOR THE BID PRICES TABULATED BELOW AS PROPOSED BY THE CONTRACTOR IN ITS PROPOSAL SUBMITTED IN ACCORDANCE WITH NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE JURISDICTION. THE JURISDICTION RESERVES THE RIGHT TO ADJUST QUANTITIES AS NECESSARY TO MAXIMIZE FUNDS BUDGETED FOR THIS PROJECT AS NOTED IN SECTION 00500 – CONTRACT

SECTION 00610 - PERFORMANCE BOND

Bond Number

PRINCIPAL *(Legal Name and Business Address)*

STATE OF INCORPORATION

SURETY *(Legal Name and Business Address)*

CONTRACT NO.

CONTRACT DATE

PENAL SUM OF BOND *(Expressed in words and numerals)*

OBLIGATION

KNOW ALL PERSONS BY THESE PRESENTS, that the above-named PRINCIPAL, hereinafter referred to and called CONTRACTOR, and the above-named SURETY hereby bind themselves unto The City of Storm Lake, 620 Erie Street, Storm Lake, Iowa, as OBLIGEE, hereinafter referred to and called OWNER, in the penal sum stated above, in lawful money of the United States of America to be paid to OWNER. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into the written contract agreement identified hereinabove with the OWNER for the following project:

Project Name: Install Runway 17/35 Edge Lighting

Project Location: Storm Lake Municipal Airport, Storm Lake, Iowa

which said contract and associated contract documents, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

CONDITION

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly and faithfully perform all undertakings, covenants, terms, conditions and agreements of the Contract during the original term of the Contract and any extensions thereof that are granted by the OWNER, with or without notice to the SURETY, and during the period of any guarantee or warranties required under the Contract, and if CONTRACTOR shall perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of the Contract that hereafter are made, then this obligation shall be void; otherwise it shall remain in full force and effect subject to the following additional conditions:

1. SURETY, for value received, hereby stipulates and agrees that no change, extension of time, modification, omission, addition or change in or to the Contract, or the work performed thereunder or the specifications accompanying the same, shall in any way affect the SURETY'S obligation on this bond; and SURETY hereby agrees to waive notice of any and all such extensions, modifications, omissions, alterations, and additions to the terms of the Contract, work or specifications.
1. Whenever CONTRACTOR shall be and declared by the OWNER to be in default under the Contract, the Surety shall promptly and at the SURETY'S expense remedy the default by implementing one or more of the following actions:

Storm Lake Municipal Airport
0T5.128791
March 2023

PERFORMANCE BOND

PAGE 00610-1

- a. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - b. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - c. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract; arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER'S concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract; and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the penal sum of the bond. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by OWNER to CONTRACTOR under the Contract and any amendments thereto, disbursed at the rate provided in the original contract, less the amount properly paid by OWNER to CONTRACTOR.
 - d. With written consent of the OWNER, SURETY may waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness, investigate and determine the amount the SURETY is liable to the OWNER and tender payment therefor to the OWNER.
2. CONTRACTOR and SURETY agree that if in connection with the enforcement of this Bond, the OWNER is required to engage the services of an attorney, that reasonable attorney fees incurred by the OWNER, with or without suit, are in addition to the balance of the contract price.
 3. No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the successors or assigns of the OWNER.

WITNESS

In witness whereof, this instrument is executed this the _____ day of _____, 2023.

INDIVIDUAL PRINCIPAL:

Company Name: _____

Signature: _____

Name: _____

Title: _____

CORPORATE PRINCIPAL:

ATTEST:

Corporate Name: _____

Signature: _____

Signature: _____

Name: _____

Name: _____

Title: _____

Title: _____

(Affix Corporate Seal)

SURETY:

ATTEST:

Surety Name: _____

Signature: _____

Signature: _____

Name: _____

Name: _____

Title: _____

Title: _____

(Affix Seal)

(Attach Power of Attorney)

OWNER ACCEPTANCE

The OWNER approves the form of this Performance Bond.

Date: _____

Signature: _____

Name: _____

Title: _____

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Seal)

SECTION 00620 - PAYMENT BOND

Bond Number

PRINCIPAL *(Legal Name and Business Address)*

STATE OF INCORPORATION

SURETY *(Legal Name and Business Address)*

CONTRACT NO.

CONTRACT DATE

PENAL SUM OF BOND *(Expressed in words and numerals)*

OBLIGATION

KNOW ALL PERSONS BY THESE PRESENTS, that the above-named PRINCIPAL, hereinafter referred to and called CONTRACTOR, and the above-named SURETY hereby bind themselves unto The City of Storm Lake, 620 Erie Street, Storm Lake, Iowa, as OBLIGEE, hereinafter referred to and called OWNER, in the penal sum stated above, in lawful money of the United States of America to be paid to OWNER. For payment of the penal sum, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into the written contract agreement identified hereinabove with the OWNER for the following project:

Project Name: Install Runway 17/35 Edge Lighting

Project Location: Storm Lake Municipal Airport, Storm Lake, Iowa

which said contract and associated contract documents, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

CONDITION

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly make payment to all employees, persons, firms or corporations for all incurred indebtedness and just claims for labor, supplies, materials and services furnished for or used in connection with the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect subject to the following additional conditions:

1. CONTRACTOR and SURETY indemnify and hold harmless the OWNER for all claims, demands, liens or suits that arise from performance of the Contract
2. SURETY, for value received, hereby stipulates and agrees that no change, extension of time, modification, omission, addition or change in or to the Contract, or the work performed thereunder or the specifications accompanying the same, shall in any way affect the SURETY'S obligation on this bond; and SURETY hereby agrees to waive notice of any and all such extensions, modifications, omissions, alterations, and additions to the terms of the Contract, work or specifications.
3. No final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.
4. The amount of this bond shall be reduced by and to the extent of any payments made in good faith hereunder.

Storm Lake Municipal Airport
0T5.128791
March 2023

PAYMENT BOND

PAGE 00620-1

5. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the SURETY under this Bond, subject to the OWNER'S priority to use the funds for the completion of the project.

WITNESS

In witness whereof, this instrument is executed this the _____ day of _____, 2023.

INDIVIDUAL PRINCIPAL:

Company Name: _____

Signature: _____

Name: _____

Title: _____

CORPORATE PRINCIPAL:

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Corporate Seal)

Corporate Name: _____

Signature: _____

Name: _____

Title: _____

SURETY:

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Seal)

Surety Name: _____

Signature: _____

Name: _____

Title: _____

(Attach Power of Attorney)

OWNER ACCEPTANCE

The OWNER approves the form of this Performance Bond.

Date: _____

Signature: _____

Name: _____

Title: _____

ATTEST:

Signature: _____

Name: _____

Title: _____

(Affix Seal)

SECTION 00650 - INSURANCE REQUIREMENTS

The Contractor shall provide a Certificate of Liability Insurance (Acord Form 25 or equal). The City of Storm Lake and Bolton & Menk, Inc. shall be named as additional insured on the Certificate of Liability Insurance for all required insurances. The City of Storm Lake should be named as additional insured on a primary basis for ongoing and completed operations.

The Vendor/Contractor shall obtain and maintain through the term of this Subcontract and one year beyond, insurance with terms and limits of coverage equal to or in excess of those set forth in the specifications governing the Project, but in no event are such terms and limits to be less than those set forth below:

1. **Commercial General Liability:** Including coverage for premises and operations, independent contractors, products & completed operations and contractual liability and general aggregate per project endorsement; The City Of Storm Lake and should be named as additional insured on a primary basis for ongoing and completed operations:

Bodily Injury & Property Damage – Each Occurrence	\$1,000,000
Personal Injury & Advertising Injury – Per Person	\$1,000,000
General Aggregate on the Above	\$2,000,000
Products & Completed Operations General Aggregate	\$2,000,000

2. **Business Automobile:** Including coverage for all owned, non-owned and hired automobiles:

Bodily Injury & Property Damage – Each Accident	\$1,000,000
---	-------------

3. **Workers Compensation and Employers Liability:** Including coverage for Occupational Diseases

Part 1 – Workers Compensation Benefits	Statutory
--	-----------

4. **Employers Liability:**

Bodily Injury Each Accident	\$500,000
Bodily Injury by Disease Policy Limit	\$500,000
Bodily Injury by Disease Each Employee	\$500,000

5. At the Contractor's option, the above limits may be satisfied with a combination of primary and Umbrella/Excess Insurance.
6. All responsibility for maintenance of property and insurance on the work (including but not limited to *Builders Risk* and *Installation Floater*) remains solely with the Contractor who may at his option insure against any or all perils, and such responsibility shall remain with the Contractor until such time as the work is complete and accepted in writing by the Owner. It is a condition of the Contract that the Owner and Engineer and all Contractors, subcontractors and sub-subcontractors waive all rights of recovery against each other for damages caused by fire or other perils to the extent covered by any valid and collectible insurance, and further, that any policy not including the standard waiver of subrogation clause be so endorsed as to comply with this paragraph.

FAA SUPPLEMENTARY PROVISIONS

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

SUPPLEMENTARY PROVISIONS

PART A - FEDERAL CONTRACT PROVISIONS FOR CONSTRUCTION AND EQUIPMENT CONTRACTS

APPLICATION OF REFERENCES

ALL REFERENCES MADE HEREIN TO “CONTRACTOR”, “BIDDER”, AND “OFFEROR” SHALL PERTAIN TO THE PRIME CONTRACTOR. ALL REFERENCES MADE HEREIN TO “SUBCONTRACTOR” SHALL PERTAIN TO ANY AND ALL SUBCONTRACTORS UNDER CONTRACT WITH THE PRIME CONTRACTOR OR A SUBCONTRACTOR.

ALL REFERENCES MADE HEREIN TO “CONSULTANT” SHALL PERTAIN TO ARCHITECT/ENGINEER (A/E) UNDER CONTRACT WITH THE SPONSOR. ALL REFERENCES MADE HEREIN TO “SUBCONSULTANT” SHALL PERTAIN TO ANY AND ALL SUBCONSULTANTS UNDER CONTRACT WITH THE A/E.

ALL REFERENCES MADE HEREIN TO “SPONSOR” AND “OWNER” SHALL PERTAIN TO THE STATE, CITY, AIRPORT AUTHORITY OR OTHER PUBLIC ENTITY EXECUTING CONTRACTS WITH THE PRIME CONTRACTOR AND/OR THE A/E.

PROVISIONS APPLICABLE TO ALL CONTRACTS

ACCESS TO RECORDS AND REPORTS	3
BUY AMERICAN PREFERENCE	3
CIVIL RIGHTS – GENERAL	4
CIVIL RIGHTS – TITLE VI ASSURANCE	4
PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT	6
FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)	7
OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970	7
RIGHT TO INVENTIONS	7
SEISMIC SAFETY	7
TAX DELINQUENCY AND FELONY CONVICTIONS	8
TRADE RESTRICTION CERTIFICATION	8
VETERAN’S PREFERENCE	9
DOMESTIC PREFERENCES FOR PROCUREMENTS	9

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$2,000

COPELAND "ANTI-KICKBACK" ACT	10
DAVIS-BACON REQUIREMENTS	10

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$10,000

AFFIRMATIVE ACTION REQUIREMENT	17
DISTRACTED DRIVING.....	18
EQUAL EMPLOYMENT OPPORTUNITY (EEO)	18
PROHIBITION OF SEGREGATED FACILITIES	24
PROCUREMENT OF RECOVERED MATERIALS	24
TERMINATION OF CONTRACT	25

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$25,000

DEBARMENT AND SUSPENSION	28
--------------------------------	----

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$100,000

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS	29
LOBBYING AND INFLUENCING FEDERAL EMPLOYEES.....	30

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$150,000

CLEAN AIR AND WATER POLLUTION CONTROL	31
---	----

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$250,000

BREACH OF CONTRACT TERMS	32
DISADVANTAGED BUSINESS ENTERPRISE.....	32

PROVISIONS APPLICABLE TO ALL CONTRACTS

ACCESS TO RECORDS AND REPORTS

Reference: 2 CFR § 200.334
2 CFR § 200.337
FAA Order 5100.38

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

BUY AMERICAN PREFERENCE

Reference: 49 USC § 50101
Executive Order 14005, *Ensuring the Future is Made in All of America by All of America's Workers*
Bipartisan Infrastructure Law (Pub. L. No. 117-58), Build America, Buy America (BABA)

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws,¹ U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

¹ Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

CIVIL RIGHTS – GENERAL

Reference: 49 USC § 47123

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

The above provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

CIVIL RIGHTS – TITLE VI ASSURANCES

Reference: 49 USC § 47123
FAA Order 1400.11

Title VI Solicitation Notice

The Sponsor, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);

- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

Nondiscrimination Requirements / Title VI Clauses for Compliance

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including

employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Sponsor to enter into any litigation to protect the interests of the Sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Reference: 2 CFR § 200, Appendix II(K)
2 CFR § 200.216

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

Reference: 29 USC § 201, et seq
2 CFR § 200.430

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, et seq, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

Reference: 20 CFR Part 1910

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

RIGHT TO INVENTIONS

Reference: 2 CFR Part 200, Appendix II(F)
37 CFR Part 401

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR § 401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

SEISMIC SAFETY

Reference: 49 CFR Part 41

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

TAX DELINQUENCY AND FELONY CONVICTIONS

Reference: Section 8113 of the Consolidated Appropriations Act, 2022 (Public Law 117-103) and similar provisions in subsequent appropriations acts
DOT Order 4200.6 – Appropriations Act Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions

The Contractor certifies:

- 1) It is not a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) It is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months. A felony conviction is a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

The Contractor agrees to incorporate the above certification in all lower tier subcontracts.

TRADE RESTRICTION CERTIFICATION

Reference: 49 USC § 50104
49 CFR Part 30

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror:

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when

submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

VETERAN'S PREFERENCE

Reference: 49 USC § 47112(c)

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC § 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

DOMESTIC PREFERENCES FOR PROCUREMENTS

Reference: 2 CFR § 200.322
2 CFR Part 200, Appendix II(L)

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$2,000

COPELAND “ANTI-KICKBACK” ACT

Reference: 2 CFR Part 200, Appendix II(D)
29 CFR Parts 3 and 5

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

DAVIS-BACON REQUIREMENTS

Reference: 2 CFR Part 200, Appendix II(D)
29 CFR Part 5
49 USC § 47112(b)
40 USC §§ 3141-3144, 3146, and 3147

1. Minimum Wages.

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii) (A) thru (D)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor

may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) thru (D)

(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually

identifying number for each employee (*e.g.*, the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;
- (2) That each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further

payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees.

(i) Apprentices

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees

Except as provided in 29 CFR § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be

paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors)

and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

- (i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC § 1001.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$10,000

AFFIRMATIVE ACTION REQUIREMENT

Reference: 41 CFR Part 60-4
Executive Order 11246

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables:	Goal:
Goals for minority participation for each trade:	0.4%
Goals for female participation in each trade:	6.9%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is:

State	County	City
Iowa	Buena Vista	Storm Lake

DISTRACTED DRIVING

Reference: Executive Order 13513
DOT Order 3902.10

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

EQUAL EMPLOYMENT OPPORTUNITY (EEO)

Reference: 2 CFR Part 200, Appendix II(C)
41 CFR § 60-1.4
41 CFR § 60-4.3
Executive Order 11246

Equal Opportunity Clause

During the performance of this contract, the Contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff, or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other

employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

- (4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Standard Federal Equal Employment Opportunity Construction Contract Specifications

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

- d. "Minority" includes:
- (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
 3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.;

by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
 10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
 11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
 12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
 13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.
 14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep

records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

PROHIBITION OF SEGREGATED FACILITIES

Reference: 2 CFR Part 200, Appendix II(C)
41 CFR Part 60-1

- (a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.
- (b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
- (c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

PROCUREMENT OF RECOVERED MATERIALS

Reference: 2 CFR § 200.323
2 CFR Part 200, Appendix II(J)
40 CFR Part 247
42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA))

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

TERMINATION OF CONTRACT

Reference: 2 CFR Part 200, Appendix II(B)
FAA Advisory Circular 150/5370-10, Section 80-09

Termination for Convenience (Construction & Equipment Contracts)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2. Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

3. Reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
4. Reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Cause (Construction)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes standard language for conditions, rights, and remedies associated with Owner termination of this contract for cause due to default of the Contractor.

Termination for Cause (Equipment)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract for cause if the Contractor:

1. Fails to begin the Work under the Contract within the time specified in the Notice- to-Proceed;
2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within ten (10) days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with

the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$25,000

DEBARMENT AND SUSPENSION

Reference: 2 CFR Part 180 (Subpart B)
2 CFR Part 200, Appendix II(H)
2 CFR Part 1200
DOT Order 4200.5
Executive Orders 12549 and 12689

Certification of Offeror/Bidder Regarding Debarment

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

Certification of Lower Tier Contractors Regarding Debarment

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must confirm each lower tier participant of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally-assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>.
2. Collecting a certification statement similar to the Certification of Offeror /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$100,000

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

Reference: 2 CFR Part 200, Appendix II(E)
2 CFR § 5.5(b)
40 USC § 3702
40 USC § 3704

1. Overtime Requirements.

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

Reference: 31 USC § 1352 – Byrd Anti-Lobbying Amendment
2 CFR Part 200, Appendix II(I)
49 CFR Part 20, Appendix A

Certification Regarding Lobbying

The Bidder or Offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$150,000

CLEAN AIR AND WATER POLLUTION CONTROL

References: 2 CFR Part 200, Appendix II(G)
42 USC § 7401, et seq
33 USC § 1251, et seq

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC §§ 7401-7671q) and the Federal Water Pollution Control Act as amended (33 USC §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

The Contractor must include this requirement in all subcontracts that exceed \$150,000.

PROVISIONS APPLICABLE TO CONTRACTS EXCEEDING \$250,000

BREACH OF CONTRACT TERMS

Reference: 2 CFR § 200 Appendix II(A)

Any violation or breach of terms of this contract on the part of the Contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide Contractor written notice that describes the nature of the breach and corrective actions the Contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the Contractor must correct the breach. Owner may proceed with termination of the contract if the Contractor fails to correct the breach by the deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

DISADVANTAGED BUSINESS ENTERPRISE

Reference: 49 CFR Part 26

Solicitation Language (Solicitations that include a Contract Goal)

Bid Information Submitted as a matter of responsiveness:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein:

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Bid Information submitted as a matter of bidder responsibility:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR § 26.53.

As a condition of responsibility, every Bidder or Offeror must submit the following information on the forms provided herein within five days after bid opening.

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the Owner to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

Prime Contracts (Contracts Covered by a DBE Program)

Contract Assurance (49 CFR § 26.13)

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) calendar days from the receipt of each payment the prime contractor receives from Owner. The prime contractor agrees

further to return retainage payments to each subcontractor within thirty (30) calendar days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Owner. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor listed in response to the above *Solicitation Language (Solicitations that include a Contract Goal)* section (or an approved substitute DBE firm) without prior written consent of Owner. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the Owner. Unless the Owner's consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The Owner may provide such written consent only if the Owner agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to the Owner its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the Owner, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise the Owner and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Owner should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the Owner may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

SECTION WR - PREDETERMINED WAGE RATE

General Decision Number: IA20230028 01/06/2023

Superseded General Decision Number: IA20220028

State: Iowa

Construction Types: Heavy and Highway

Counties: Adair, Adams, Allamakee, Appanoose, Audubon, Benton, Black Hawk, Boone, Bremer, Buchanan, Buena Vista, Butler, Calhoun, Carroll, Cass, Cedar, Cerro Gordo, Cherokee, Chickasaw, Clarke, Clay, Clayton, Clinton, Crawford, Dallas, Davis, Decatur, Delaware, Des Moines, Dickinson, Dubuque, Emmet, Fayette, Floyd, Franklin, Fremont, Greene, Grundy, Guthrie, Hamilton, Hancock, Hardin, Harrison, Henry, Howard, Humboldt, Ida, Iowa, Jackson, Jasper, Jefferson, Johnson, Jones, Keokuk, Kossuth, Lee, Linn, Louisa, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Mills, Mitchell, Monona, Monroe, Montgomery, Muscatine, O'Brien, Osceola, Page, Palo, Alto, Plymouth, Pocahontas, Polk, Pottawattamie, Poweshiek, Ringgold, Sac, Shelby, Sioux, Story, Tama, Taylor, Union, Van Buren, Wapello, Warren, Washington, Wayne, Webster, Winnebago, Winneshiek, Woodbury, Worth and Wright Counties in Iowa.

HIGHWAY CONSTRUCTION PROJECTS and HEAVY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	• Executive Order 14026 generally applies to the contract. • The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	• Executive Order 13658 generally applies to the contract. • The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
0 01/06/2023

SUIA2022-001 03/15/2022

Storm Lake Municipal Airport
OT5.128791
March 2023

FAA SUPPLEMENTAL PROVISIONS – WAGE RATES

PAGE WR-1

	<u>Rates</u>	<u>Fringes</u>
CARPENTER & PILEDRIVERMEN		
ZONE 1.....	\$ 30.27	15.08
ZONE 2.....	\$ 28.48	15.23
ZONE 3.....	\$ 28.63	15.23
ZONE 4.....	\$ 27.85	12.80
ZONE 5**.....	\$ 26.75	11.20
CONCRETE FINISHER		
ZONE 1.....	\$ 29.05	10.10
ZONE 2.....	\$ 29.05	10.10
ZONE 3.....	\$ 29.05	10.10
ZONE 4.....	\$ 26.95	7.95
ZONE 5.....	\$ 25.90	7.95
ELECTRICIAN (STREET AND HIGHWAY LIGHTING AND TRAFFIC SIGNALS)		
ZONE 1, 2, AND 3.....	\$ 35.40	12.80
ZONE 4.....	\$ 34.10	11.80
ZONE 5.....	\$ 30.95	10.55
IRONWORKER (SETTING OF STRUCTURAL STEEL)		
ZONE 1.....	\$ 32.25	13.10
ZONE 2.....	\$ 30.16	13.55
ZONE 3.....	\$ 30.16	13.65
ZONE 4.....	\$ 28.00	12.65
ZONE 5**.....	\$ 26.15	11.85
LABORER		
ZONE 1, 2 AND 3		
GROUP A	\$ 24.39	11.39
GROUP AA	\$ 26.77	11.39
GROUP B	\$ 22.54	11.39
GROUP C.....	\$ 19.46	11.39
ZONE 4		
GROUP A	\$ 22.37	10.57
GROUP B	\$ 20.80	10.57
GROUP C.....	\$ 18.17	10.57
ZONE 5		
GROUP A	\$ 22.77	9.12
GROUP B	\$ 20.03	9.12
GROUP C.....	\$ 19.18	9.12
POWER EQUIPMENT OPERATOR		
ZONE 1		
GROUP A	\$ 34.25	16.00
GROUP B	\$ 32.70	16.00
GROUP C	\$ 30.20	16.00
GROUP D	\$ 30.20	16.00

		<u>Rates</u>	<u>Fringes</u>
ZONE 2			
	GROUP A	\$ 33.55	16.00
	GROUP B	\$ 31.95	16.00
	GROUP C	\$ 29.40	16.00
	GROUP D	\$ 29.40	16.00
ZONE 3			
	GROUP A	\$ 31.15	27.20
	GROUP B	\$ 29.35	27.20
	GROUP C	\$ 28.35	27.20
	GROUP D	\$ 28.35	27.20
ZONE 4			
	GROUP A	\$ 31.60	15.85
	GROUP B	\$ 30.46	15.85
	GROUP C	\$ 28.38	15.85
	GROUP D	\$ 28.38	15.85
ZONE 5			
	GROUP A	\$ 29.52	12.50
	GROUP B	\$ 28.48	12.50
	GROUP C	\$ 26.75	12.50
	GROUP D	\$ 25.75	12.50
TRUCK DRIVER (AND PAVEMENT MARKING DRIVER/SWITCHPERSON)			
	ZONE 1	\$ 25.56	12.19
	ZONE 2	\$ 25.56	12.19
	ZONE 3	\$ 25.56	12.19
	ZONE 4	\$ 25.56	8.24
	ZONE 5	\$ 23.80	8.24

ZONE DEFINITIONS

ZONE 1 - The Counties of Polk, Warren, and Dallas for all Crafts, and Linn County Carpenters only.

ZONE 2 - The Counties of Dubuque for all Crafts and Linn County for all Crafts except Carpenters.

ZONE 3 - The Cities of Burlington (including West Burlington), Clinton, Fort Madison, Keokuk, and Middleton (including the Iowa Army Ammunition Plant) and Muscatine (and abutting municipalities of any such cities).

ZONE 4 - Story, Black Hawk, Cedar, Jasper, Jones, Jackson, Louisa, Madison, and Marion Counties; Clinton County (except the City of Clinton), Johnson County, Muscatine County (except the City of Muscatine), the City of Council Bluffs, Lee County and Des Moines County.

ZONE 5 - All areas of the state not listed above.

LABORER CLASSIFICATIONS - ALL ZONES

GROUP AA - (Zones 1, 2, and 3) Skilled pipelayer (sewer, water, and conduits) and tunnel laborers; asbestos abatement worker.

GROUP A - Carpenter tender on bridges and box culverts; CCTV*sewer inspection operator; curb machine (without a seat); deck hand; diamond & core drills; drill operator on air tracs, wagon drills, and similar drills; form setter/stringman on paving work; gunnite nozzleman; joint sealer kettleman; laser operator; powderman tender;

powderman/blaster; sign erector; saw operator; {(Zones 4 and 5) Skilled pipelayer (sewer, water, and conduits); tunnel laborer; asbestos abatement worker}. *new labor classification (CCTV: closed circuit television)

GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400 cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on emolition; drill tender; dumpmen; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chairs; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except strippers); paving breaker; planting trees, shrubs and flowers; power broom (not self-propelled); power buggyman; rakers; rodman (tying reinforcing steel); sandblaster; seeding and mulching; sewer utility topman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline, or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint strippers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor; water carrier.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - All terrain (off road) forklift; asphalt breakdown roller (vibratory); asphalt laydown machine; asphalt plant; asphalt screed; bulldozer (finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper; directional drill (60,000 (lbs) pullback and above); dragline and power shovel; dredge engineer; excavator (over ½ cu. yd.); front end loader (4 cy and over); horizontal boring machine; master mechanic; milling machine (over 350 hp); motor grader (finish); push cat; rubber tired backhoe (over ½ cu. yd.); scraper (12 cu. yd. and over or finish); Self-propelled rotary mixer/road reclaimer; sidebroom tractor; slipform portland concrete paver; tow or push boat; trenching machine (Cleveland 80 or similar)

GROUP B - Articulated off road hauler, asphalt heater/planer; asphalt material transfer vehicle; asphalt roller; belt loader or similar loader; bulldozer (rough); churn or rotary drill; concrete curb machine; crawler tractor pulling ripper, disk or roller; deck hand/oiler; directional drill (less than 60,000 (lbs) pullback); distributor; excavator (1/2 cu. yd. and under); form riding concrete paver; front end loader (2 to less than 4 cu. yd.); group equipment greaser; mechanic; milling machine (350 hp. and less); paving breaker; portland concrete dry batch plant; rubber tired backhoe (1/2 cu. yd. and under); scraper (under 12 cu. yd.); screening, washing and crushing plant (mobile, portable or stationary); shoulder machine; skid loader (1 cu. yd. and over); subgrader or trimmer; trenching machine; water wagon on compaction.

GROUP C - Boom & winch truck; concrete spreader/belt placer; deep wells for dewatering; farm type tractor (over 75 hp.) pulling disc or roller; forklift; front end loader (under 2 cu. yd.); motor grader (rough); pile hammer power unit; pump (greater than three inch diameter); pumps on well points; safety boat; self-propelled roller (other than asphalt); self-propelled sand blaster or shot blaster, water blaster or striping grinder/remover; skid loader (under 1 cu. yd.); truck mounted post driver.

GROUP D - Boiler; compressor; cure and texture machine; dow box; farm type or utility tractor (under 75 hp.) pulling disk, roller or other attachments; group greaser tender; light plants; mechanic tender; mechanical broom; mechanical heaters; oiler; pumps (under three-inch diameter); tree chipping machine; truck crane driver/oiler.

**** CARPENTERS AND PILEDRIVERMEN, or IRONWORKERS (ZONE 5)**

Setting of structural steel; any welding incidental to bridge or culvert construction; setting concrete beams.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at: <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four-letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM 0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014. Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier. Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the "UAVG" identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier. A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- an existing published wage determination
- a survey underlying a wage determination
- a Wage and Hour Division letter setting forth a position on a wage determination matter
- a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

FAA GENERAL CONTRACT PROVISIONS

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-11	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.

Paragraph Number	Term	Definition
10-14	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-16	Contract	A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment. The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

Paragraph Number	Term	Definition
10-25	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.
10-31	Intention of Terms	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

Paragraph Number	Term	Definition
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is the City of Storm Lake.
10-38	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-41	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-42	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.

Paragraph Number	Term	Definition
10-48	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.

Paragraph Number	Term	Definition
10-59	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-64	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-65	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.
10-66	Owner Defined terms	None for this Project.

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). The Owner, or their authorized agent, shall publish the advertisement at such places and at such times as are required by local law or ordinances. The published advertisement shall state the time and place for submitting sealed proposals; a description of the proposed work; instructions to bidders as to obtaining proposal forms, plans, and specifications; proposal guaranty required; and the Owner's right to reject any and all bids. If the Owner prequalifies bidders, they shall publish the advertisement at such places and at such times as are required by local law or ordinances.

20-02 Qualification of bidders. Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.

Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.

Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.

Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.

20-03 Contents of proposal forms. The Owner's proposal forms state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to 10 percent of the total project cost.

If a pre-bid conference is to be held for the project, the time, date and place will be stated in the Notice to Bidders and Notice of Public Hearing section of this project manual. A pre-bid conference will discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.

- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The bidder is expected to carefully examine the site of the proposed work, the proposal, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests, if performed, are available for inspection of bidders and can be found in the appendices section of the project manual. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall correctly sign the proposal in ink. If the proposal is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

- a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
- c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
- d. If the proposal contains unit prices that are obviously unbalanced.
- e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
- f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of proposal. Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by email before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

20-14 Disqualification of bidders. A bidder shall be considered disqualified for any of the following reasons:

- a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
- b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
- c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, *Issuance of Proposal Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than seven (7) calendar days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.

b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within the time specified in the Notice to Bidders and Notice of Public Hearing Section of this project manual.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of proposal guaranty. All proposal guaranties, except those of the two lowest bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Proposals*. Proposal guaranties of the two lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the

Contractor shall constitute the Owner's approval to be bound by the successful bidder's proposal and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

Section 40 Scope of Work

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of

effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

- a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the RPR; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited advisory circulars (ACs); contract general provisions shall govern over plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions.

None

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the plans and specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the plans and specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): Electronic. This shall be applicable to all survey(s) throughout these specifications.

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

Various measures such as videotape or photographs may be required to document existing conditions prior to start of construction. Construction traffic should be kept off airport pavements to the extent possible.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the

Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

Section 60 Control of Materials

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “or equal,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed “or equal” is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor’s plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner’s permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

NONE AT THIS TIME

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is located in the Construction Safety and Phasing Plan located in the project manual and a Construction Safety Plan is located in project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

Phasing is addressed in detail in the Construction Safety And Phasing Plan (CSPP), located as an appendix item in this specification.

The most current version of A.C. 150/5370-2, *Operational Safety On Airports During Construction*, is an appendix item in this specification.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor’s responsibility for work. Until the RPR’s final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor’s responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition,

the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

None known; however, the contractor shall notify Iowa One Call, the airport manager, and the engineer at least 48 hours prior to any excavation work.

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

At this time, no known FAA facilities or cable runs exist within the limits of this project.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized

representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 Insurance Requirements. Refer to the Insurance Requirements section of this project manual.

END OF SECTION 70

Section 80 Execution and Progress

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least Twenty-Five (25%) percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

The Contractor shall provide copies of all subcontracts to the RPR fourteen (14) days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within ten (10) days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of

work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) and as listed below, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

Closed areas and limitations in any given area are addressed in detail in the Construction Safety and Phasing Plan (CSPP), located as an appendix in this specification.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner and coordinated with the FAA. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously completed work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

80-07 Determination and extension of contract time. The time for completion (stated as number of working days) shall be stated in the proposal and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on working days. Contract time based on working days shall be calculated weekly by the Resident Project Representative (RPR). The RPR will furnish the Contractor a copy of their weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved Change Orders or Supplemental Agreements covering Extra Work).

The weekly statement of contract time charged is based on the following considerations:

(1) Time will be charged for days on which the Contractor could proceed with scheduled work under construction at the time for at least six (6) hours with the normal work force employed on such items. When normal work force is a double-shift, use 12 hours; and when the normal work force is on a triple-shift, use 18 hours. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the scheduled work items under construction or temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The RPR will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The RPR will begin charges against the contract time on the first working day after the effective date of the notice to proceed.

(4) The RPR will not make charges against the contract time after the date of final acceptance as defined in Section 50, paragraph 50-14, *Final Acceptance*.

(5) The Contractor will be allowed one (1) week in which to file a written protest setting forth their own objections to the RPR's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

The contract time (stated in the proposal) is based on the originally estimated quantities as described in the Section 20, paragraph 20-05, *Interpretation of Estimated Proposal Quantities*. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Liquated damages shall be as described in the Contract Section of this project manual.

Portions of this project are highly based on availability of equipment, so the Engineer will coordinate issuing the NTP with the Contractor to ensure they have time-sensitive equipment prior to NTP.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.

Term	Description
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end. Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received

	subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighting (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i> .
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

- a. From the total of the amount determined to be payable on a partial payment, 5% (five percent) of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:
 - (1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-03. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.
 - (2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.
- b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.
- c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any

potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

- a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.
- b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.
- d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.
- e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and

such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

The Owner and Engineer may perform a warranty inspection with the Contractor approximately three (3) months before the end of the one year warranty period.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturer's warranties specified for materials, equipment, and installations.

- b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
- c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.
- d. Complete all punch list items identified during the Final Inspection.
- e. Provide complete release of all claims for labor and material arising out of the Contract.
- f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.
- g. When applicable per state requirements, return copies of sales tax completion forms.
- h. Manufacturer's certifications for all items incorporated in the work.
- i. All required record drawings, as-built drawings, or as-constructed drawings.
- j. Project Operation and Maintenance (O&M) Manual(s).
- k. Security for Construction Warranty.
- l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

FAA TECHNICAL SPECIFICATIONS

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within twelve months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
Figure 1 1 1/2 inch (37.5 mm)	467 or 4 and 67
Figure 2 1 inch (25 mm)	57
Figure 3 ¾ inch (19 mm)	67
Figure 4 ½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking.

Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

Crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test requirements but must meet all other quality tests specified in Item P-501.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I, II or V; ASTM C595 Type IP, IS and IL.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of the types conforming to the requirements listed below .

All reinforcing and joint steel shall be epoxy coated.

Steel Reinforcement

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064, ASTM A884

610-2.11 Materials for curing concrete. Curing materials shall conform to the requirements below:

Materials for Curing

White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309
--	------------------

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi (28 MPa) in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental to which the concrete is being used and no separate measurement shall be made for concrete complete in place and accepted. Reinforcing steel used in the concrete will also be considered incidental and no measurement shall be made.

BASIS OF PAYMENT

610-6.1 No separate payment shall be made for concrete or reinforcing steel as they shall be considered incidental for other bid items which the concrete is used. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within twelve months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
Figure 1 1 1/2 inch (37.5 mm)	467 or 4 and 67
Figure 2 1 inch (25 mm)	57
Figure 3 ¾ inch (19 mm)	67
Figure 4 ½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking.

Coarse aggregate may only be accepted from sources that have a 20-year service history for the same gradation to be supplied with no history of D-Cracking. Aggregates that do not have a 20-year record of service free from major repairs (less than 5% of slabs replaced) in similar conditions without D-cracking shall not be used unless the material currently being produced has a durability factor greater than or equal to 95 per ASTM C666. The Contractor shall submit a current certification and test results to verify the aggregate acceptability. Test results will only be accepted from a State Department of Transportation (DOT) materials laboratory or an accredited laboratory. Certification and test results which are not dated or which are over one (1) year old or which are for different gradations will not be accepted.

Crushed granite, calcite cemented sandstone, quartzite, basalt, diabase, rhyolite or trap rock are considered to meet the D-cracking test requirements but must meet all other quality tests specified in Item P-501.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150 Type I, II or V; ASTM C595 Type IP, IS and IL.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix, and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM D1751.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of the types conforming to the requirements listed below .

All reinforcing and joint steel shall be epoxy coated.

Steel Reinforcement

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064, ASTM A884

610-2.11 Materials for curing concrete. Curing materials shall conform to the requirements below:

Materials for Curing

White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	ASTM C309
--	------------------

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi (28 MPa) in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard (280 kg per cubic meter). The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches (100 mm) as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F (4°C) without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F (10°C) nor more than 100°F (38°C). The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet (1.5 m). Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental to which the concrete is being used and no separate measurement shall be made for concrete complete in place and accepted. Reinforcing steel used in the concrete will also be considered incidental and no measurement shall be made.

BASIS OF PAYMENT

610-6.1 No separate payment shall be made for concrete or reinforcing steel as they shall be considered incidental for other bid items which the concrete is used. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

Item T-901 Seeding

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, fertilizing and mulching the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as follows:

Seed Properties and Rate of Application

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb/acre (or lb/1,000 S.F.)
Creeping red fescue	98	85	25
Turf-type perennial ryegrass ¹	95	90	20
Turf-type perennial ryegrass ¹	95	90	20
Kentucky bluegrass cultivar ²	85	80	65
Kentucky bluegrass cultivar ²	85	80	65
Kentucky bluegrass cultivar ²	85	80	65

² Choose two different cultivars of turf-type perennial ryegrass, at 20 lbs/acre each.

³ Choose three different cultivars of Kentucky bluegrass, at 65 lbs/acre each.

A commercial mixture may be used if it contains a high percentage of similar bluegrasses; it may or may not contain creeping red fescue.

Seeding shall be performed during the period between March 1 and May 31 or between August 10 and September 30 inclusive, unless otherwise approved by the RPR. For this project, the Contractor may complete seeding at any time as long as the grass becomes established. A proper stand of grass is the project requirement, without regards to when seeding is actually

completed. The date ranges noted above are typical for timeframes when seeding is more likely to become established in the state, but is not a requirement.

901-2.2 Lime. Not required.

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 13-13-13 commercial fertilizer and shall be spread at the rate of 750 pounds per acre (minimum).

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (75 mm) of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Not required.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) of width for sandy or light soils.

901-3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons (190 liters) over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons (380 liters) per minute at a pressure of 100 lb / sq inches (690 kPa). The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipe lines shall be capable of providing clearance for 5/8 inch (16 mm) solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet (6 to 30 m). One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For ease of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet (15 m) in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches (75 mm), after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work. The cost of regrading, reseeding, mowing, watering and/or other maintenance practices needed to establish an acceptable stand of grass shall be borne by the contractor.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR.

A grass stand shall be considered adequate when bare spots are one square foot (0.01 sq m) or less, randomly dispersed, and do not exceed 3% of the area seeded.

Following rain events, the Contractor shall immediately (maximum 48 hour response time) address erosion, washout, and surface irregularities within the runway/taxiway safety area once the runway/taxiway is opened for aircraft operations. The runway/taxiway safety area grading must be met at all times when the runway/taxiway is open for aircraft operations.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding will not be measured.

BASIS OF PAYMENT

901-5.1 Payment shall be made at the lump sum price for this item. All seeding and fertilizing work shall be included in this bid item for which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item 901-5.1 Seeding, Fertilizing and Mulching per Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Federal Specifications (FED SPEC)

FED SPEC JJJ-S-181, Federal Specification, Seeds, Agricultural

Storm Lake Municipal Airport

OT5.128791

March 2023

ITEM T-901 SEEDING

ITEM T-901 PAGE -4

Advisory Circulars (AC)

AC 150/5200-33

Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

Item T-908 Mulching

DESCRIPTION

908-1.1 This item shall consist of furnishing, hauling, placing, and securing mulch on surfaces indicated on the plans or designated by the RPR.

MATERIALS

908-2.1 Mulch material. Acceptable mulch shall be the materials listed below or any approved locally available material that is similar to those specified. Mulch shall be free from noxious weeds, mold, and other deleterious materials. Mulch materials, which contain matured seed of species that would volunteer and be detrimental to the proposed overseeding, or to surrounding farm land, will not be acceptable. Straw or other mulch material which is fresh and/or excessively brittle, or which is in such an advanced stage of decomposition as to smother or retard the planted grass, will not be acceptable.

a. Hay. Hay shall be native hay in an air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Hay shall be sterile, containing no fertile seed.

b. Straw. Straw shall be the stalks from threshed plant residue of oats, wheat, barley, rye, or rice from which grain has been removed. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Straw shall contain no fertile seed.

c. Hay mulch containing seed. Hay mulch shall be mature hay containing viable seed of native grasses or other desirable species stated in the special provisions or as approved by the RPR. The hay shall be cut and handled so as to preserve the maximum quantity of viable seed. Hay mulch that cannot be hauled and spread immediately after cutting shall be placed in weather-resistant stacks or baled and stored in a dry location until used.

d. Manufactured mulch. Cellulose-fiber or wood-pulp mulch shall be products commercially available for use in spray applications.

e. Asphalt binder. Asphalt binder material shall conform to the requirements of ASTM D977, Type SS-1 or RS-1.

908-2.2 Inspection. The RPR shall be notified of sources and quantities of mulch materials available and the Contractor shall furnish him with representative samples of the materials to be used 30 days before delivery to the project. These samples may be used as standards with the approval of the RPR and any materials brought on the site that do not meet these standards shall be rejected.

CONSTRUCTION METHODS

908-3.1 Mulching. Before spreading mulch, all large clods, stumps, stones, brush, roots, and other foreign material shall be removed from the area to be mulched. Mulch shall be applied immediately after seeding. The spreading of the mulch may be by hand methods, blower, or other mechanical methods, provided a uniform covering is obtained.

Mulch material shall be furnished, hauled, and evenly applied on the area shown on the plans or designated by the RPR. Straw or hay shall be spread over the surface to a uniform thickness at the rate of 2 to 3 tons per acre (1800 - 2700 kg per acre) to provide a loose depth of not less than 1-1/2 inches (38 cm) nor more than 3 inches (75 mm). Other organic material shall be spread at the rate directed by the RPR. Mulch may be blown on the slopes and the use of cutters in the equipment for this purpose will be permitted to the extent that at least 95% of the mulch in place on the slope shall be 6 inches (150 mm) or

more in length. When mulches applied by the blowing method are cut, the loose depth in place shall be not less than one inch (25 mm) nor more than 2 inches (50 mm).

908-3.2 Securing mulch. The mulch shall be held in place by light discing, a very thin covering of topsoil, pins, stakes, wire mesh, asphalt binder, or other adhesive material approved by the RPR. Where mulches have been secured by either of the asphalt binder methods, it will not be permissible to walk on the slopes after the binder has been applied. When an application of asphalt binder material is used to secure the mulch, the Contractor must take every precaution to guard against damaging or disfiguring structures or property on or adjacent to the areas worked and will be held responsible for any such damage resulting from the operation.

If the “peg and string” method is used, the mulch shall be secured by the use of stakes or wire pins driven into the ground on 5-foot (1.5-m) centers or less. Binder twine shall be strung between adjacent stakes in straight lines and crisscrossed diagonally over the mulch, after which the stakes shall be firmly driven nearly flush to the ground to draw the twine down tight onto the mulch.

908-3.3 Care and repair.

a. The Contractor shall care for the mulched areas until final acceptance of the project. Care shall consist of providing protection against traffic or other use by placing warning signs, as approved by the RPR, and erecting any barricades that may be shown on the plans before or immediately after mulching has been completed on the designated areas.

b. The Contractor shall be required to repair or replace any mulch that is defective or becomes damaged until the project is finally accepted. When, in the judgment of the RPR, such defects or damages are the result of poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement shall be borne by the Contractor.

c. If the “asphalt spray” method is used, all mulched surfaces shall be sprayed with asphalt binder material so that the surface has a uniform appearance. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m), or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it. Asphalt binder material may be sprayed on the mulched slope areas from either the top or the bottom of the slope. An approved spray nozzle shall be used. The nozzle shall be operated at a distance of not less than 4 feet (1.2 m) from the surface of the mulch and uniform distribution of the asphalt material shall be required. A pump or an air compressor of adequate capacity shall be used to ensure uniform distribution of the asphalt material.

d. If the “asphalt mix” method is used, the mulch shall be applied by blowing, and the asphalt binder material shall be sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m) or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it.

METHOD OF MEASUREMENT

908-4.1 Mulching will not be measured.

BASIS OF PAYMENT

908-5.1 No separate payment will be made for mulching. It shall incidental to bid items under specification section T-901 Seeding.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D977

Standard Specification for Emulsified Asphalt

Advisory Circulars (AC)

AC 150/5200-33

Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-908

Item L-101 Airport Rotating Beacons**DESCRIPTION**

101-1.1 This item shall consist of removal of existing rotating beacon and furnishing and installing new airport rotating beacons. The existing rotating beacon tower shall be used as constructed. The work shall include mounting, leveling, wiring, painting, maintaining, and testing of the beacon. In addition, this item also includes all materials and incidentals necessary to place the beacon in a serviceable condition (as a completed unit) to the satisfaction of the RPR. This item shall include a mounting platform if specified in the plans.

EQUIPMENT AND MATERIALS**101-2.1 General.**

a. Airport lighting equipment and materials covered by advisory circulars (ACs) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials that are per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials, that are per these specifications, at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly mark each copy to identify the products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components or electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the Contract Documents plans and specifications. The Contractor's submittals shall be in an electronic pdf file format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed in this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

101-2.2 Beacon. The beacon shall be a Type L-802A (L) Class 2 beacon meeting the requirements of AC 150/5345-12, Specification for Airport and Heliport Beacons. Beacon shall be supplied with large polycarbonate resin spikes running along each beacon head to deter birds.

101-2.3 Beacon installation. Installation shall be as shown on the plans. Provide two lamp sets as spares. See AC 150/5340-30, Design and Installation Details for Airport Visual Aids, for airport beacon.

101-2.4 Panel boards and breakers. Panel boards and breakers shall conform to the requirements of Federal Specification W-P-115, Panel, Power Distribution.

101-2.5 Weatherproof cabinets. The weatherproof cabinets shall conform to National Electrical Manufacturers Association Standards (NEMA) and shall be constructed of steel not less than No. 16 United States Standard (USS) gauge.

101-2.6 Electrical wire. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be the type, size, number of conductors, and voltage shown in the plans or in the proposal.

101-2.7 Conduit. Rigid steel conduit and fittings shall be per Underwriters Laboratories Standards 6, 514B, and 1242.

101-2.8 Paint.

a. Priming paint for non-galvanized metal surfaces shall be a high solids alkyd primer compatible with the manufacturer's recommendations for the intermediate or topcoat.

b. Priming paint for galvanized metal surfaces shall be a zinc-rich epoxy primer paint per MIL-DTL-24441/19C, Formula 159, Type III. Use MIL-24441 thinner per paint manufacturer's recommendations.

c. Orange paint for the body and the finish coats on metal and wood surfaces shall consist of a ready-mixed non-fading paint meeting the requirements of Master Painter's Institute (MPI) Reference #9 (gloss). The color shall be per Federal Standard 595, International Orange Number 12197.

d. White paint for body and finish coats on metal and wood surfaces shall be ready-mixed paint per the Master Painter's Institute, Reference #9, Exterior Alkyd, Gloss, volatile organic content (VOC) Range E2.

e. Priming paint for wood surfaces shall be mixed on the job by thinning the above-specified orange or white paint with 1/2 pint (0.24 liter (l)) of raw linseed oil to each gallon (liter).

CONSTRUCTION METHODS

101-3.1. Placing the beacon. The beacon shall be mounted as shown in the plans. The beacon shall be mounted to the existing beacon tower. If needed the contractor shall provide a tower mounting kit or shall field fabricate a mounting method.

101-3.2 Hoisting and mounting. The beacon shall be hoisted to the mounting platform by using suitable slings and hoisting tackle. Before fastening the beacon to the mounting platform, the mounting holes shall be checked for correct spacing. Beacon base or mounting legs shall not be strained or forced out of position to fit incorrect spacing of mounting holes. The beacon base shall be raised first, set in position, and bolted in place. The drum shall then be raised and assembled to the base.

101-3.3 Leveling. After the beacon has been mounted, it shall be accurately leveled following the manufacturer's instructions. The leveling shall be checked in the presence of the RPR and shall be to the RPR's satisfaction.

101-3.4 Servicing. Before placing the beacon in operation, the Contractor shall check the manufacturer's manual for proper servicing requirements. Follow the manufacturer's servicing instructions for each size of beacon.

101-3.5 Beam adjustment. After the beacon has been mounted and leveled, the elevation of the beam shall be adjusted. The final beam adjustments shall be made at night so that results can be readily observed. The beams shall be adjusted to the elevation directed by the RPR or as shown in the plans. See AC 150/5340-30 for additional information about airport beacon beam adjustment.

101-3.6 Beacon mounting platform. Where the beacon is to be mounted at a location other than the beacon tower and where a special mounting platform is required, the construction of the mounting platform and any necessary lightning protection equipment shall be per the details shown in the plans.

101-3.7 Wiring. The Contractor shall furnish all necessary labor and materials and shall make complete above ground electrical connections per the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code (NEC).

If underground cable for the power feed from the transformer vault to the beacon site and duct for this cable installation is required, the cable, ground rods and duct shall be installed as shown on the plans.

If lightning protection is specified in the plans, it shall be installed per Item L-103, Airport Beacon Towers, paragraph 103-2.3.

101-3.8 Panel and cabinet. If shown on the plans, the Contractor shall furnish and install at the top of the beacon tower or mounting platform a circuit-breaker panel consisting of four 15-ampere breakers mounted in a weather-proof cabinet to provide separate protection for the circuits to the beacon lamps, motor, obstruction lights, and other equipment. The cabinet shall be located on the side of the beacon platform as shown on the plans or as directed by the RPR.

101-3.9 Conduit. All exposed wiring shall be run in not less than 3/4 inch (19 mm) galvanized rigid steel conduit. Outdoor rated, liquid-tight, flexible metal conduit may be used for final connection at the beacon equipment. No conduit shall be installed on top of a beacon platform floor. All conduits shall be installed to provide for drainage. If mounted on a steel beacon tower, the conduit shall be fastened to the tower members with Wraplock® straps (or equivalent), clamps, or approved fasteners, spaced approximately 5 feet (1.5 m) apart. The conduit shall be fastened to wooden structures with galvanized pipe straps and with galvanized wood screws not less than No. 8 or less than 1-1/4 inches (32 mm) long. There shall be at least two fastenings for each 10 feet (3 m) length.

101-3.10 Booster transformer. The installation shall be as indicated in the plans and described in the specifications, if used.

101-3.11 Photoelectric control. If shown in the plans or specified in the job specifications, the Contractor shall furnish and install an automatic control switch at the location indicated in the plans. The switch shall be a photoelectric type. It shall be a standard commercially available unit that will energize when the illumination on a vertical surface facing North decreases to 25 to 35 foot-candles (269 to 377 lux). The photoelectric switch should de-energize when the illumination rises to 50 to 60 foot-candles (538 to 646 lux). The photoelectronic switch shall be installed, connected, and adjusted per the manufacturer's instructions.

101-3.12 Obstruction lights. Unless otherwise specified, the Contractor shall install on the top of the beacon tower or mounting platform two L-810 obstruction lights on opposite corners. These lights shall be mounted on conduit extensions to a height of not less than 4 inches (100 mm) above the top of the beacon.

101-3.13 Painting. If construction of a wooden mounting platform is stipulated in the proposal as part of this item, all wooden parts of the platform shall be given one priming coat of white or aviation-orange paint after fabrication but before erection and one body and one finish coat of international-orange paint after erection. Steel mounting platforms shall be given one priming coat of corrosion-inhibiting primer before erection and one body and one finish coat of international-orange paint after erection. All equipment installed under this contract and exposed to the weather shall be given one body and one finish coat of international-orange (per Federal Standard 595, Number 12197) or white paint as required. This shall include the beacon (except glass surfaces), beacon base, breaker cabinet, all conduit, and transformer cases. It shall not include lightning protection system air terminals or obstruction light globes.

Apply the paint uniformly at the proper consistency. The finished paint shall be free from sags, holidays, and smears. Each coat of paint shall be given ample time to dry and harden before the next coat of paint is applied. A minimum of three (3) days shall be allowed for drying on wood surfaces, and a minimum of four (4) days shall be allowed for drying on metal surfaces. Painting shall not be performed in cold, damp, foggy, dusty, or frosty atmospheres, or when the air temperature is below 40°F (4°C), nor started when the weather forecast indicates such conditions for the day.

All surfaces shall be cleaned before painting. The surfaces shall be dry and free from scale, grease, rust, dust, and dirt. All knots in wood surfaces shall be covered with shellac immediately before applying the priming coat of paint. Nail holes and permissible imperfections shall be filled with putty. The ready-mixed paint shall be thinned for the priming and body coats per the manufacturer's recommendations. In the absence of such recommendations, the following shall apply:

a. Body coats (for both wood and steel surfaces) - add 1/2 pint (0.24 liter) of turpentine to each gallon (liter) of ready-mixed paint for body coats.

b. Finish coats (for both wood and steel surfaces) the ready-mixed paint shall be used as it comes from the container for finish coats.

101-3.14 Testing. The beacon installation shall be fully tested as a completed unit prior to acceptance. These tests shall include operation of the lamp-changer and performing insulation resistance and voltage readings. The insulation resistance to ground of the beacon power supply circuit shall be not less than 100 megohms when measured ungrounded. The

Contractor must furnish testing equipment. Tests shall be conducted in the presence of the RPR and shall be to the RPR's satisfaction.

METHOD OF MEASUREMENT

101-4.1 The quantity to be paid for shall be the number of beacons installed as completed units in place, accepted, and ready for operation.

BASIS OF PAYMENT

101-5.1 Payment will be made at the contract unit price for each completed and accepted job. This price shall be full compensation for removal of existing beacon; furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-101-5.1	L-802A (L) LED High Intensity Rotating Beacon, Owner Furnished, Contractor Installed, in Place - per Each
-----------------------	---

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5345-7	Specification for L-824 Underground Cable for Airport Lighting Circuits
AC 150/5345-12	Specification for Airport and Heliport Beacons
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-53	Airport Lighting Equipment Certification Program
AC 150/5390-2	Heliport Design

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
------------	--

Federal Specification (FED SPEC)

FED SPEC W-P-115	Panel, Power Distribution
------------------	---------------------------

Federal Standard (FED STD)

FED STD 595	Colors Used in Government Procurement
-------------	---------------------------------------

Master Painter Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)
------------------	--

Mil Spec

MIL-DTL-24441C/19C Paint, Epoxy-Polyamide, Zinc Primer, Formula 159, Type III

National Fire Protection Association (NFPA)

NFPA-70 National Electric Code (NEC)

NFPA-780 Standard for the Installation of Lightning Protection Systems

Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit – Steel

UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 1242 Electrical Intermediate Metal Conduit - Steel

END OF ITEM L-101

Item L-107 Airport Wind Cones

DESCRIPTION

107-1.1 This item shall consist of removal of existing airport wind cones; furnishing and installing an airport wind cone per these specifications and per the dimensions, design, and details shown in the plans.

The work shall include the furnishing and installation of a support for mounting the wind cone, the specified interconnecting wire, and a concrete foundation. The item shall also include all cable connections, conduit and conduit fittings, the furnishing and installation of all lamps, ground rod and ground connection, the testing of the installation, and all incidentals necessary to place the wind cone in operation (as a completed unit) to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

107-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (ACs) shall be certified in AC 150/5345-53, Airport Lighting Equipment Certification Program (ALECP) and listed in the ALECP Addendum.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications, at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications in electronic pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures, that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics." Obstruction lighting warranty is set by the individual manufacturer.

107-2.2 Wind cones. The wind cones shall be as follows:

Primary wind cone assembly shall be Type L-807 (L) LED, Style I-B, Size 2.

107-2.3 Electrical wire and cable. Cable rated up to 5,000 volts in conduit shall conform to AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits. For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

107-2.4 Conduit. Rigid steel conduit and fittings shall conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242.

107-2.5 Plastic conduit (for use below grade only). Plastic conduit and fittings shall be per the following:

- UL 514B covers W-C-1094 - Conduit fittings all types, Classes 1 thru 3 and 6 thru 10
- UL 514C covers W-C-1094 - all types, Class 5 junction box and cover in plastic (polyvinyl chloride (PVC))
- UL 651 covers W-C-1094 - Rigid PVC Conduit, types I and II, Class 4
- UL 651A covers W-C-1094 - Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4

Underwriters Laboratories Standard UL-651 shall be one of the following, as shown in the plans:

- a. Type I—Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II—Schedule 40 PVC suitable for either above ground or underground use.

Plastic conduit adhesive shall be a solvent cement manufactured specifically for the purpose of gluing the type of plastic conduit and fitting.

107-2.6 Concrete. The concrete for foundations shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If Item P-610 is not included in the project manual, then the concrete foundations shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 25% Type F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

107-2.7 Paint.

a. Priming paint for non-galvanized metal surfaces shall be a high solids alkyd primer compatible with the manufacturer's recommendations for the intermediate or topcoat.

b. Priming paint for galvanized metal surfaces shall be zinc dust-zinc oxide primer paint conforming to MIL-DTL-24441C/19B. Use MIL-24441 thinner per paint manufacturer's recommendations.

c. Orange paint for the body and the finish coats on metal and wood surfaces shall consist of a ready-mixed non-fading paint per Master Painter's Institute (MPI) Reference #9 (gloss). The color shall be per Federal Standards 595, International Orange, Number 12197.

d. White paint for body and finish coats on metal and wood surfaces shall be ready-mixed paint conforming to the MPI, Reference #9, Exterior Alkyd, Gloss.

e. Priming paint for wood surfaces shall be mixed on the job by thinning the above specified aviation-orange or white paint by adding 1/2 pint (0.24 liter) of raw linseed oil to each gallon (liter).

CONSTRUCTION METHODS

107-3.1 Installation. The hinged support or hinged pole shall be installed on a concrete foundation per the plans.

107-3.2 Support pole erection. The Contractor shall erect the pole on the foundation following the manufacturer's requirements and erection details. The pole shall be level and secure.

107-3.3 Electrical connection. The Contractor shall furnish all labor and materials and shall make complete electrical connections per the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electric Code (NEC).

Underground cable and duct for cable installation shall be installed in accordance with Item L-108, Underground Power Cables for Airports, and Item L-110, Airport Underground Electrical Duct Banks and Conduits in locations as shown on the plans.

107-3.4 Booster transformer. The installation shall be as indicated in the plans and described in the specifications, if required.

107-3.5 Ground connection and ground rod. The Contractor shall furnish and install a ground rod, grounding cable, and ground clamps for grounding the "A" frame of the 12-foot (3.7-m) assembly or pipe support of the 8-foot (2.4-m) support near the base. The ground rod shall be of the type, diameter and length specified in Item L-108, Underground Power Cable for Airports. The ground rod shall be driven into the ground adjacent to the concrete foundation (minimum distance from foundation of 2 feet (60 cm)) so that the top is at least 6 inches (150 mm) below grade. The grounding cable shall consist of No. 6 American wire gauge (AWG) minimum stranded copper wire or larger and shall be firmly attached to the ground rod by exothermic welding. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. The other end of the grounding cable shall be securely attached to a leg of the frame or to the base of the pipe support with non-corrosive metal and shall be of substantial construction. The resistance to ground shall not exceed 25 ohms. If a single rod grounding electrode has a resistance to earth of over 25 ohms, then install one supplemental rod not less than 10 feet from the first rod. If desired resistance to ground levels are still not achieved, see FAA-STD-019 for guidance on the application of coke breeze.

107-3.6 Painting. Three coats of paint shall be applied (one prime, one body, and one finish) to all exposed material installed under this item except the fabric cone, obstruction light globe, and lamp reflectors. The wind cone assembly, if already painted upon receipt, shall be given one finish coat of paint in lieu of the three coats specified above. The paint shall be per MPI Reference #9 (gloss). The color shall be per Federal Standard 595, International Orange, Number 12197.

107-3.7 Light sources. The Contractor shall furnish and install lamps per the manufacturer's instruction book.

107-3.8 Chain and padlock. The Contractor shall furnish and install a suitable operating chain for lowering and raising the hinged top section. The chain shall be attached to the pole support in a manner to prevent the light fixture assembly from striking the ground in the lowered position.

A padlock shall also be furnished by the Contractor on the 8-foot (2.4-m) wind cone for securing the hinged top section to the fixed lower section. Keys for the padlock shall be delivered to the RPR.

107-3.9 Segmented circle. Not Required

METHOD OF MEASUREMENT

107-4.1 The quantity to be paid shall be the number of wind cones installed as completed units in place, accepted, and ready for operation.

BASIS OF PAYMENT

107-5.1 Payment will be made at the contract unit price for each completed and accepted job. This price shall be full compensation for removal of existing airport wind cones; furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-107-5.1.1	Type L-807 (L) LED, Style I-B, Size 2, Primary Wind Cone and Foundation, In Place -- per Each
-------------------------	---

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-5	Segmented Circle Airport Marker System
AC 150/5340-30	Design and Installation Details for airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-27	Specification for Wind Cone Assemblies
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
-----------	--

Federal Standard (FED STD)

FED STD 595	Colors Used in Government Procurement
-------------	---------------------------------------

Master Painter's Institute (MPI)

MPI Reference #9	Alkyd, Exterior, Gloss (MPI Gloss Level 6)
------------------	--

Mil Standard

MIL-DTL-24441C/19B	Paint, Epoxy-Polyamide, Zinc Primer, Formula 159, Type III
--------------------	--

Underwriters Laboratories (UL)

UL Standard 6	Electrical Rigid Metal Conduit – Steel
UL Standard 514B	Conduit, Tubing, and Cable Fittings
UL Standard 514C	Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
UL Standard 651	Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
UL Standard 651A	Type EB and A Rigid PVC Conduit and HDPE Conduit
UL Standard 1242	Electrical Intermediate Metal Conduit - Steel

National Fire Protection Association (NFPA)

NFPA-70	National Electric Code (NEC)
---------	------------------------------

END OF ITEM L-107

Item L-108 Underground Power Cable for Airports

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

Only Third-Party certified manufacturers, listed in AC 150/5345-53, Appendix 3 Addendum (as required) and meeting the BUY AMERICAN preference requirements can provide equipment and materials specified in the Contract

Documents. Documentation certifying compliance with the BUY AMERICAN preference rules for Airport Improvement Program (AIP) cited in 49 USC §50101) shall be included with each equipment and material submittal.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C, 5,000 volts, non-shielded, with ethylene propylene insulation, cross-linked polyethylene insulation. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 Type C, 5,000 volts, non-shielded, with ethylene propylene insulation, cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type RHW-2, 75°C for for installation in conduit or for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, RHW-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of RHW-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper wire. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper or copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 8 feet (2.4 m) long and 5/8 inch (16 mm) in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3M™ Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal is acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and

armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If item P-610 is not provide in the project manual, then all Concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 20% Type C or F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet (1 m) of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot (30 cm) vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch (6 mm) in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be re-cleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches (75 mm) vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches (0.5 m) below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches (91 cm) unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches (1 m) unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches (150 mm). Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill material may alternatively be used. All such rock removal shall be performed and paid for under Item P-152 Excavation, Subgrade, and Embankment.

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables ; be 3 inches (75 mm) deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. This layer shall not be compacted. The second layer shall be 5 inches (125 mm) deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches (20 cm) of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches (100 mm) maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be in accordance with the compaction requirements listed in

under Item P-152 Excavation, Subgrade, and Embankment or backfill with controlled low strength material (CLSM) in accordance with P-153. If CLSM is used, refer to the project plans for location of use.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turving operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches (150 mm) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch (75 - 150 mm) wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches (200 mm) minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the topsoiling, fertilizing, seeding and mulching as shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be in accordance with the compaction requirements listed in under Item P-152 Excavation, Subgrade, and Embankment or backfill with controlled low strength material (CLSM) in accordance with P-153. If CLSM is used, refer to the project plans for location of use. Restoration shall be considered incidental to the pay item of which it is a component part.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 inch (10 - 15 cm) thick, extending approximately one inch (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (61 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches (100 mm) high and 3 inches (75 mm) wide, with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word "SPICE" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches (75 mm) on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. The manufacturer's recommendation for stretching tape during splicing shall be followed. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminants prior to application.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch (6.4 mm) beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. The counterpoise size is as shown on the plans. The equipotential method is applicable to all airfield lighting systems; i.e. runway, taxiway, apron – touchdown zone, centerline, edge, threshold and approach lighting systems. The equipotential method is also successfully applied to provide lightning protection for power, signal and communication systems. The light bases, counterpoise, etc – all components - are bonded together and bonded to the vault power system ground loop/electrode.

For raceways installed under pavement; for raceways and cables not installed adjacent to the full strength pavement edge; for fixtures installed in full strength pavement and shoulder pavement, the counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables. The counterpoise is centered over the cable/conduit/duct to be protected. If the above conditions are met the following shall apply, unless otherwise indicated in the project plans:

The counterpoise conductor shall be installed no less than 8 inches (200 mm) minimum or 12 inches (300 mm) maximum above the raceway or cable to be protected, except as permitted below:

- (1) The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.
- (2) The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to ensure that the raceway or cable is within a 45-degree area of protection, (45 degrees on each side of vertical creating a 90 degree angle).

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

All components rise and fall at the same potential; with no potential difference, no damaging arcing and no damaging current flow.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Equipotential Method of lightning protection.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

For edge light fixtures installed in turf (stabilized soils) and for raceways or cables adjacent to the full strength pavement edge, the counterpoise conductor shall be installed halfway between the pavement edge and the light base, mounting stake, raceway, or cable being protected. If the above mentioned conditions are met the following shall apply, unless otherwise indicated in the project plans:

The counterpoise conductor shall be installed 8 inches (203 mm) minimum below grade. The counterpoise is not connected to the light base or mounting stake. An additional grounding electrode is required at each light base or mounting stake. The grounding electrode is bonded to the light base or mounting stake with a 6 AWG solid copper conductor.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Isolation Method of lightning protection.

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet (150 m) apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of 3M™ Scotchkote™, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 50 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 Trenching shall be considered incidental to project bid items and not separate payment will be made for trenching.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall not include additional quantities required for slack. Cable and Counterpoise slack is considered incidental and shall be included in the Contractor's unit price. No separate measurement nor payment will be made for cable or counterpoise slack.

108-4.3 No separate payment will be made for ground rods. Ground rods are considered incidental to the counterpoise cable, complete and in place.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

Payment will be made under:

Item L-108-5.2.a	No. 8 AWG 5 KV, L-824, Type C Cable, Installed In Trench, Duct Bank or Conduit - per Linear Foot (meter)
Item L-108-5.2.b	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed In Trench Or Above The Duct Bank or Conduit, Including Connections/Terminations - per Linear Foot (meter)
Item L-108-5.2.c	No. 6 AWG 600V, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit - per Linear Foot (meter)
Item L-108-5.2.d	No.6 AWG, 600V, Equipment Ground, L-824, Type C Cable, Installed In Duct Bank or Conduit – per Linear Foot (meter).

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
NFPA-780	Standard for the Installation of Lightning Protection Systems

American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)

ANSI/IEEE STD 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System
------------------	---

Federal Aviation Administration Standard

FAA STD-019E

Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for
Facilities and Electronic Equipment

END OF ITEM L-108

Item L-110 Airport Underground Electrical Duct Banks and Conduits

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits and removal of existing duct banks. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

- a. Type I—Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II—Schedule 40 PVC suitable for either above ground or underground use.
- c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.
- d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If item P-610 is not included in the project manual, concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 20% Type C or F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the

duct bank shall not be less than 18 inches (0.5 m) below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches (0.5 m) below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound (90 kg) test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet (1.5 m).

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill may alternatively be used.

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet (60 cm).

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (0.5 m) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (0.5 m) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (1 m) beyond the edges of the pavement or 3 feet (1 m) beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches (75 mm) apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (1.5-m) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches (75 to 150 mm) wide tape, 8 inches (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch (75-mm) wide tape only for single conduit runs. Utilize the 6-inch (150-mm) wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches (600 mm) in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6.3 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches (0.5 m) below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 inches (100 - 150 mm) thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet (61 m) along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches (100 mm) in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches (100 mm) in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet (76 m) of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include topsoiling, fertilizing, seeding, and mulching shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

110-3.8 Ownership of removed cable. Removed cable and conduits shall become the property of the contractor and shall be disposed of properly offsite.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear foot (meter) of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1.a	Non-Encased 2" PVC/HDPE Conduit - per Linear Foot (Meter)
Item L-110-5.1.b	2" PVC/HDPE Conduit, Directionally Bored - per Linear Foot (Meter)
Item L-110-5.1.c	2 Way 2" PVC/HDPE Conduit, Directionally Bored - per Linear Foot (Meter)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circular (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit - Steel

UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers

UL Standard 1242 Electrical Intermediate Metal Conduit Steel

UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

EQUIPMENT AND MATERIALS

115-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand 60,000 min. lb aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch (9-mm) thickness for L-867 and 3/4-inch (19-mm) thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures. If item P-610 is not included in the project manual, concrete shall be proportioned, placed, and cured per state department of transportation structural concrete with minimum 20% Type C or F fly ash, and a minimum allowable compressive strength of 4,000 psi (28 MPa).

115-2.7 Frames and covers. The frames shall conform to one of the following requirements:

- a. ASTM A48 Gray iron castings
- b. ASTM A47 Malleable iron castings
- c. ASTM A27 Steel castings
- d. ASTM A283, Grade D Structural steel for grates and frames
- e. ASTM A536 Ductile iron castings
- f. ASTM A897 Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of 200 psi and maximum load of 60,000 min. lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

115-2.8 Ladders. Ladders, if specified, shall be galvanized steel or as shown on the plans.

115-2.9 Reinforcing steel. All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

115-2.10 Bedding/special backfill. Bedding or special backfill shall be as shown on the plans.

115-2.11 Flowable backfill. Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

115-2.12 Cable trays. Cable trays shall be of galvanized steel or aluminum. Cable trays shall be located as shown on the plans.

115-2.13 Plastic conduit. Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

115-2.14 Conduit terminators. Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

115-2.15 Pulling-in irons. Pulling-in irons shall be manufactured with 7/8-inch (22 mm) diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2-inch (12 mm) diameter with an ultimate strength of 270,000 psi (1862 MPa)). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

115-2.16 Ground rods. Ground rods shall be one piece, copper or copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8 feet (2.4 m) long nor less than 5/8 inch (16 mm) in diameter.

CONSTRUCTION METHODS

115-3.1 Unclassified excavation. It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

115-3.3 Precast unit installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 Installation of ladders. Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

115-3.7 Backfilling. After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches (150 mm) in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

115-3.8 Connection of duct banks. To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

115-3.9 Grounding. A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches (150 mm) above the floor. The ground rod shall be installed within one foot (30 cm) of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch (100 mm) diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through

bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot (30 cm) above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtailed shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

115-3.10 Cleanup and repair. After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

115-3.11 Restoration. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD), and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

115-3.12 Inspection. Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

115-3.13 Manhole elevation adjustments. The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

115-3.14 Duct extension to existing ducts. Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured

connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

METHOD OF MEASUREMENT

115-4.1 Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing

BASIS OF PAYMENT

115-5.1 The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item L-115-5.1.a L-867 Electrical Hand Hole, Size B, 24" Deep - per Each

Item L-115-5.1.b L-867 Electrical Hand Hole, Size D, 24" Deep – per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7 Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits

AC 150/5345-26 Specification for L-823 Plug and Receptacle, Cable Connectors

AC 150/5345-42 Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544 Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C206	Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83	In Pavement Light Fixture Bolts
--------	---------------------------------

Mil Spec

MIL-P-21035	Paint High Zinc Dust Content, Galvanizing Repair
-------------	--

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
---------	--------------------------------

END OF ITEM L-115

Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures, with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics.” Obstruction lighting warranty is set by the individual manufacturer.

EQUIPMENT AND MATERIALS

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not required.

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46 (current version). Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861 T (L)	2	1	N/A	4	L-867, Class 1A, Size B	Blue`	L-830	LED
L-861 (L)	2	1	N/A	4	L-867, Class 1A, Size B	White-White and White-Yellow	L-830	LED
L-861 SE (L)	2	1	N/A	4	L-867, Class 1A, Size B	Red-Green	L-830	LED

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44 (current version).

Signs

Type	Size	Style	Class	Mode	Faces	Notes
L-858 Hold Position Sign	1	2	2	2	Double	

125-2.9 Runway End Identifier Light (REIL). Not Required.

125-2.10 Precision Approach Path Indicator (PAPI). Not Required.

125-2.11 Circuit Selector Cabinet. Not Required.

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42 (current version). Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47 (current version).

125-2.14 Spare Parts. Furnish of the following spare parts:

1. _8 each Lenses, Blue 360-degree
2. _8 each Lenses, White 180 degree and Yellow 180-degree
3. _8 each Lenses, White 360-degree
5. _8 each L-861 MIRL, LED, Edge Light Top Assembly
6. _4 each L-861 MITL, LED, Edge Light Top Assembly
7. _8 each Breakable Couplings for Edge Lights
8. _4 each Edge Light Base Mounting Plates
9. _4 each L-830 Transformers

Basis of payment for this item will be per each for the complete each delivered to the Owner and accepted as satisfactory.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-4.1 Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR.

125-4.2 Guidance signs will be measured by the number of each type and size installed as completed units, ready for operation, and accepted by the RPR.

125-4.3 Removals of runway and/or taxiway edge/threshold lights will include complete removal of each light, including the light, transformers (buried or in bases), bases (when applicable) and PCC surrounds of bases. Cable (and conduit, when present) for all removed items may be cut at the edge of each removal location and abandoned in place or completely

Storm Lake Municipal Airport

0T5.128791

March 2023

ITEM L-125 INSTALLATION OF AIRPORT LIGHTING SYSTEMS

ITEM L-125 PAGE -3

removed, but if removed, becomes the property of the Contractor. Items removed (with the exception of cable/conduit noted in this paragraph) shall be offered to the Owner for potential spares or re-use, but if not claimed by the Owner, shall be properly disposed of off-site by the Contractor. All removal and disposal costs are the responsibility of the Contractor. Measurement will not be made for removed items.

125-4.4 Removal of rotating beacon light will include complete removal of the existing rotating beacon light unit, including the light and mounting hardware needed. Existing cabling shall be salvaged and utilized for the new rotating beacon. Items removed shall be offered to the Owner for potential spare, but if not claimed by the Owner, shall be properly disposed of off-site by the Contractor. All removal and disposal costs are the responsibility of the Contractor. Measurement will not be made for removed items.

125-4.5 Removal of wind cone will include complete removal of wind cone, wind cone structure and wind cone foundation. Cable and duct shall be removed as needed for to allow for construction of the new wind cone. Existing cabling shall be salvaged and utilized for the new rotating beacon. Existing circuit shall be utilized by intercepting the circuit for use by the new wind cone. Items removed (with the exception of cable/conduit/foundation) shall be offered to the Owner for potential spare, but if not claimed by the Owner, shall be properly disposed of off-site by the Contractor. All removal and disposal costs are the responsibility of the Contractor. Measurement will not be made for removed items.

125-4.6 Spare parts will be measured as a Lump Sum Item for bidding, based on items as listed in paragraph 125-2.14. However, prior to execution of the contract, the Contractor shall submit a breakout of the bid item by the number of each type and size (as listed in paragraph 125-2.15) provided as complete units ready for operation and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light, installed by the Contractor and accepted by the Engineer. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.2 Payment will be made at the Contract unit price for each complete new guidance sign as accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.3 Payment will be made at the Contract per lump sum. This payment will be full compensation for removing and disposing of these items and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.4 Payment will be made at the Contract per lump sum. This payment will be full compensation for removing and disposing of these items and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.5 Payment will be made at the Contract per lump sum. This payment will be full compensation for removing and disposing of these items and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.6 Payment will be made at the Lump Sum price for the complete list of spare parts noted in paragraph 125-2.14, provided by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation and assembly of these materials (if applicable) and delivery to the Owner.

Payment will be made under:

125.5.1.a	L-861 (L) MIRL, 24" Tall, Base Mounted Runway Edge Light – per Each
125.5.1.b	L-861SE (L) MIRL, 24" Tall, Base Mounted Runway Threshold Light – per Each
125.5.1.c	L-861T (L) MITL, 24" Tall, Base Mounted Taxiway Edge Light – per Each
125.5.2	L-858 (L) Guidance Sign, Size 1, Double Face – per Each
125.5.3	Demolition and Removal of Existing Edge Lighting System – Per Lump Sum
125.5.4	Demolition and Removal of Existing Rotating Beacon – Per Lump Sum
125.5.5	Demolition and Removal of Existing Windcone – Per Lump Sum
125.5.6	Spare Parts, as Listed – Per Lump Sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures
-----------	---

END OF ITEM L-125

APPENDICES

Install Runway 17/35 Edge Lighting

Storm Lake Municipal Airport

City of Storm Lake

Storm Lake, Iowa

3-19-0088-018-2023-AIP

OT5.128791



Real People. Real Solutions.

Storm Lake Municipal AIRPORT (SLB)

CONSTRUCTION SAFETY & PHASING PLAN (CSPP)

Install Runway 17/35 Edge Lighting

FAA AIP No. 3-19-0088-018-2023-AIP

February 28, 2023

Submitted by:

Bolton & Menk, Inc.
218 11th Street SW Plaza
Spencer, IA 51301
P: (712) 580-5075

Certification

Construction Safety & Phasing Plan (CSPP)

For

Install Runway 17/35 Edge Lighting

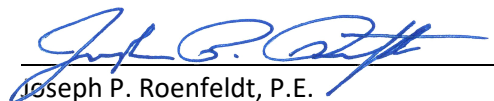
FAA AIP No. 3-19-0088-018-2023-AIP

Storm Lake Municipal Airport (SLB)
Storm Lake, Iowa

February 28, 2023

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

By:


Joseph P. Roenfeldt, P.E.
License No. 21134

Date: February 28, 2023

Table of Contents

I. Overview.....	1
II. PURPOSE.....	1
III. CONSTRUCTION SAFETY & PHASING RESPONSIBILITIES	1
A. Airport Operator.....	1
B. Construction Contractor.....	1
C. Airport Tenants.....	3
D. Project Engineer	4
IV. CONSTRUCTION SAFETY & PHASING.....	4
A. Coordination	4
B. Construction Phasing.....	4
C. Areas & Operations Affected by Construction Activities.....	6
D. Protection of Navigational Aids (NAVAIDs)	6
E. Contractor Access	7
F. Wildlife Management	8
G. Foreign Object Debris (FOD) Management	9
H. Hazardous Materials (HAZMAT) Management.....	9
I. Notification of Construction Activities	9
J. Inspection Requirements.....	10
K. Underground Utilities	10
L. Penalties	11
M. Special Conditions.....	11
N. Runway & Taxiway Visual Aids	11
O. Markings & Signs for Access Routes	12
P. Hazard Marking & Lighting	12
Q. Protection of Safety Areas.....	13
R. Other Limitations on Construction	14

Appendix

Appendix A: Construction Safety & Phasing Plan (CSPP) Sheets

Appendix B: Safety Inspection Checklist

Appendix C: Airfield Areas and Operations Affected by Construction Activity Table

I. Overview

This document presents the Construction Safety and Phasing Plan (CSPP) for the Install Runway 17/35 Edge Lighting project at the Storm Lake Municipal Airport being performed under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP).

The objective of this CSPP is to provide a general outline of the construction safety and phasing provisions for working in or near the Air Operations Area (AOA) contained in the bid documents (Project Plans and Specifications), and to explain how those provisions will be implemented during construction.

II. PURPOSE

The Plan provides single source procedural information for all key project personnel to use during construction. The CSPP defines the specific responsibilities of the Airport Operator, the Contractor, Airport tenants, and the Project Engineer.

Requirements for maintaining operational safety during construction are in conformance with FAA Advisory Circular 150/5370-2G, "Operational Safety on Airports During Construction". The project specific Construction Safety and Phasing Plan for the project is shown on the CSPP plan sheet(s) and is attached to this report as Appendix A.

III. CONSTRUCTION SAFETY & PHASING RESPONSIBILITIES

A. Airport Operator

The Airport Operator is responsible for operational safety on the Airport at all times. The City of Storm Lake is the Airport Operator. The City of Storm Lake will issue Notice to Airmen (NOTAMS) whenever construction activities occur in the AOA. The City of Storm Lake will provide oversight of all construction activities and coordinate those activities with the Airport users (pilots) and Airport tenants. The City of Storm Lake will hold weekly construction progress and safety meetings. During those meetings operational safety will be reviewed, and an action plan will be developed as needed to address any discrepancies in safety that need to be corrected. The City of Storm Lake will require and approve a Safety Plan Compliance Document (SPCD) from the Contractor prior to the Notice to Proceed.

B. Construction Contractor

The Contractor will be required to attend scheduled progress and safety meetings and to correct any discrepancies found in safety.

The Contractor shall submit a draft Safety Plan Compliance Document (SPCD) prepared in accordance with FAA Advisory Circular 150/5370-2G to detail how it intends to comply with the CSPP. The draft SPCD shall be submitted no less than seven (7) calendar days prior to the Preconstruction Conference for Owner for review. The Contractor shall address Owner review comments and submit a revised SPCD for Owner acceptance.

Safety Plan Compliance Document requirements are noted below:

The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, "I, Name of Contractor, have read the Title of Project CSPP, approved on Date, and will abide by it as written and with the following additions as noted:"). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, "No supplemental information," should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

- (1) **Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
- (2) **Phasing.** Discuss proposed construction schedule elements, including:
 - (a) Duration of each phase.
 - (b) Daily start and finish of construction, including "night only" construction.
 - (c) Duration of construction activities during:
 - (i) Normal runway operations.
 - (ii) Closed runway operations.
 - (iii) Modified runway "Aircraft Reference Code" usage.
- (3) **Areas and operations affected by the construction activity.** These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
- (4) **Protection of NAVAIDs.** Discuss specific methods proposed to protect operating NAVAIDs. Coordinate with FAA Air Traffic Organization (ATO) (local tech ops) for turning off FAA-owned NAVAIDs. That office has noted that they will also mark their own power and control cables prior to construction.
- (5) **Contractor access.** Provide the following:
 - (a) Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - (b) Listing of individuals requiring driver training (for certificated airports and as requested).
 - (c) Radio communications.
 - (i) Types of radios and backup capabilities.
 - (ii) Who will be monitoring radios.
 - (iii) Whom to contact if the ATCT cannot reach the contractor's designated person by radio.
 - (d) Details on how the contractor will escort material delivery vehicles.
- (6) **Wildlife management.** Discuss the following:
 - (a) Methods and procedures to prevent wildlife attraction.
 - (b) Wildlife reporting procedures.
- (7) **Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.

- (8) **Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.
- (9) **Notification of construction activities.** Provide the following:
 - (a) Contractor points of contact.
 - (b) Contractor emergency contact.
 - (c) Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
 - (d) Batch plant details, including 7460-1 submittal.
- (10) **Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.
- (11) **Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.
- (12) **Penalties.** Penalties should be identified in the CSPP and should not require an entry in the SPCD.
- (13) **Special conditions.** Discuss proposed actions for each special condition identified in the CSPP.
- (14) **Runway and taxiway visual aids.** Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - (a) Equipment and methods for covering signage and airfield lights.
 - (b) Equipment and methods for temporary closure markings (paint, fabric, other).
 - (c) Types of temporary Visual Guidance Slope Indicators (VGSI).
- (15) **Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.
- (16) **Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.
- (17) **Protection of runway and taxiway safety areas.** Including object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - (a) Equipment and methods for maintaining Taxiway Safety Area standards.
 - (b) Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
- (18) **Other limitations on construction** should be identified in the CSPP and should not require an entry in the SPCD.

C. Airport Tenants

The Airport will notify Airport tenants of all pending construction activities that impact them and advise the tenants of planned pavement closures and other activities in the AOA that will affect aircraft operations.

D. Project Engineer

As part of the Project Construction Management, Inspection, and Quality Assurance process, the Project Engineer will monitor construction safety on a periodic basis, utilizing the “Construction Project Daily Safety Inspection Checklist” (see Appendix B) to ensure an appropriate level of priority is given to safety. Any discrepancies in safety will be immediately brought to the Contractor’s and City of Storm Lake’s attention for corrective action implementation.

IV. CONSTRUCTION SAFETY & PHASING

A. Coordination

A preconstruction conference will be held as soon as practicable after the contract has been awarded and before issuance of the notice to proceed. The preconstruction conference participants should include, but not be limited to, the sponsor’s engineer, resident engineer, airport management, testing laboratory representative, contactor and subcontractor(s), contractor’s project superintendent, contractor’s project clerk, airport users, utility companies, federal, state, or local agencies affected by the proposed construction, and FAA representative.

Contractor progress meetings will be held weekly for the duration of construction. During paving operations, meetings shall be weekly. Operational safety will be a standing agenda item for discussion during progress meetings throughout the project. Date, time, and location of the progress meetings will be determined at the pre-construction meeting.

No changes to the CSPP shall be made without prior FAA consent. The Contractor will submit proposed CSPP changes to the Owner who will then forward them to the FAA for review. The Contractor will be required to update their SPCD to address the proposed CSPP changes and re-submit their SPCD for Owner review and acceptance.

B. Construction Phasing

The project will be constructed in multiple phases. Details of the phase is listed below:

1. Phase 1

(Runway 17/35 and Connecting Taxiway to Runway 17/35 – Closed)

(Runway 06/24 - Closed)

(Runway 13/31 and Connecting Taxiway to Runway 13/31 - Open)

- Scope of Work – The work under phase 1 consists of the following work elements:
 - Removal and Replacement of Edge Lighting along Runway 17/35
 - Installation of a new primary wind cone
 - Replacement of Beacon (if not done in Phase 2)
- Runway 17/35- Will be closed during Phase 1. “X” shall be installed over the Runway designation numbers.
- Connector Taxiway to Runway 17/35 (Taxiway C)- Will be closed, between Runway 13/31 and Runway 17/35 during Phase 1 and low-profile barricades shall be installed to not allow aircraft to enter the taxiway.

- Runway 13/31 – Shall remain open.
- Connector Taxiway to Runway 13/31 (Taxiway C)- Will remain open from the apron to Runway 13/31.
- Runway 06/24 – Will be closed during Phase 1. “X” shall be installed near the end of each end of Runway 06/24.
- Duration – As specified in the Notice of Bidder Section of the Project Manual.
- Emergency Vehicle Access Routes – No impact
- Construction Staging Area – See CSPP plan sheet(s)
- Construction Access and Haul Route – See CSPP plan sheet(s).
- Impacts to NAVAIDS – All NAVAIDS on Runway 17/35 shall be turned off for the duration of the project, except for the airport rotating beacon shall remain operation during this phase.
- Pavement Marking Changes – No Impact
- Edge Lighting Changes – Edge Lighting on Runway 17/35 will be turned off during the duration of this phase. The connecting taxiway (Taxiway C) from Runway 13/31 to Runway 17/35 the edge lights will be temporarily covered to indicated that the taxiway is not available for aircraft operations.
- Required hazard marking and lighting – Low profile barricades shall be installed on the Connecting Taxiway (Taxiway C) between Runway 13/31 and Runway 17/35. Low profile barricades shall also be installed on Runway 6/24 near the intersection with Runway 13/31. Runway closure crosses shall be installed over the Runway designation numbers on Runway 17/35 and Runway 6/24.
- NOTAM and Changes in Aircraft Operations - Lead times for required notification 72 hours. During this phase, a NOTAM shall be issued indicating that Runway 17/35 and Runway 06/24 will be closed. If rotating beacon work done as part of phase 1, notam shall be issued indicating it is inoperable.

2. Phase 2

(Runway 17/35 and Connecting Taxiway to Runway 17/35 – Closed)

(Runway 06/24 - Closed)

(Runway 13/31 and Connecting Taxiway to Runway 13/31 - Closed)

- Scope of Work – The work under phase 2 consists of the following work elements:
 - Any remaining work related to Runway 17/35 edge lighting that was in the ROFZ for Runway 13/31.
 - Installation of Guidance Signs on Taxiway C
 - Replacement of Rotating Beacon (if not done in Phase 1)
- Runway 17/35- Will be closed during Phase 2. “X” shall be installed over the Runway designation numbers.
- Connector Taxiway to Runway 17/35 (Taxiway C)- Will be closed, between Runway 13/31 and Runway 17/35 during Phase 2.

- Runway 13/31- Will be closed during Phase 2. “X” shall be installed over the Runway designation numbers.
- Connector Taxiway to Runway 13/31 (Taxiway C)- will be closed for phase 2 by placing low-profile barricades shall be at the entrance to the taxiway at the apron. The barricades shall be installed to not allow aircraft to enter the taxiway.
- Runway 06/24 – Will be closed during Phase 2. “X” shall be installed near the end of each end of Runway 06/24.
- Duration – As specified in the Notice of Bidder Section of the Project Manual.
- Emergency Vehicle Access Routes – No impact
- Construction Staging Area – See CSPP plan sheet(s)
- Construction Access and Haul Route – See CSPP plan sheet(s).
- Impacts to NAVAIDS – All NAVAIDS on Runway 17/35 shall be turned off for the duration of the project. In addition the rotating beacon will be turned off for phase 2.
- Pavement Marking Changes – No Impact
- Edge Lighting Changes – Edge Lighting on Runway 17/35 and Runway 13/31 will be turned off during the duration of this phase. No edge lights need to be covered for this phase.
- Required hazard marking and lighting – Low profile barricades shall be installed on the Connecting Taxiway (Taxiway C) at the entrance to the apron. Runway closure crosses shall be installed over the Runway designation numbers on Runway 17/35, Runway 13/31 and Runway 6/24.
- NOTAM and Changes in Aircraft Operations - Lead times for required notification 72 hours. During this phase, a NOTAM shall be issued indicating that Runway 17/35, Runway 13/31 and Runway 06/24 will be closed. In addition, a NOTAM shall be issued the airport is considered closed. If the rotating beacon is done in phase 2, a NOTAM shall be issued indicating the beacon is inoperable.

3. Construction Safety Drawings

Drawings specifically indicating construction operations and safety have been developed for each schedule and phase. These drawings have been included in Attachment A and can also be found in the contract drawing bid package.

C. Areas & Operations Affected by Construction Activities

Refer to the table in appendix C for a summary of the affected airport elements during the different phases on the project.

D. Protection of Navigational Aids (NAVAIDS)

NAVAIDS shall be protected at all times. The contractor shall not impact the PAPI or REIL on Runway 17/35. The existing power cables for all Nav aids shall be marked by the contractor during construction and shall be protected by the contractor.

E. Contractor Access

1. Location of Stockpiled Construction Materials

Stockpiles of construction materials and equipment shall be located only in the Staging Areas and are restricted to a maximum height of 20 feet.

2. Vehicle & Pedestrian Operations

a) Construction Site Parking

Employees' vehicles must be parked in the staging area shown on the plans or in the airport parking lot spaces approved by the airport manager. No employee vehicles will be allowed into the worksite beyond the staging area limits.

b) Construction Equipment Parking

When not in use, construction vehicles and equipment shall be parked outside of the Runway Safety Area (RSA), Runway Obstacle Free Zone (ROFZ) and Taxiway Object Free Areas (TOFA's). Construction vehicles shall be serviced only in Staging Area. Construction vehicles and equipment shall never be left unattended/parked on runway or taxiway.

c) Access & Haul Roads

The contractor will be restricted to use the haul route(s) shown on the drawings. Right-of-way must be given to all emergency vehicles. See paragraphs (e) and (g) in this section for requirements operating within the airfield environment.

d) Marking & Lighting of Vehicles

Only marked Contractor-owned or operated vehicles required for the proper execution of the work will be allowed in the work area. All vehicles and equipment must have an omni-directional amber flashing light and/or 3-foot by 3-foot flag having a checkered pattern of international orange and white squares at least one foot on each side. All vehicles and equipment must be equipped with an omni-directional amber flashing light for all airfield activities between sunset and sunrise or when visibility is low. Vehicles within the airfield environment must display company identification markings on both sides of the vehicle. Non-motorized equipment must have a reflective device displayed on the front, back and sides. All supervisory and survey personnel vehicles which operate within the airfield environment but outside the work area must have a company vehicle with an amber flashing light mounted on the roof of the cab and identifying markings, visible from 300 feet, mounted on both sides of the vehicle. FAA Advisory Circular (A.C.) 150/5210-5D, "Painting, Marking, and Lighting of Vehicles Used on an Airport" shall be referenced for requirements.

e) Required Escorts

If vehicular construction traffic does not have a working two-way radio and cannot maintain contact with airport operations, the Contractor shall provide an escort by a person that can maintain radio contact. The driver, through personal observation, should confirm that no aircraft are approaching the vehicle prior to entering pavement open to aircraft or crossing pavement open to aircraft.

f) Situational Awareness

While driving or working on the airfield environment, there must be no devices in or on ears other than those used to protect hearing or communicate company business. Yield right-of-way to emergency vehicles displaying rotating beacons and/or using sirens and other audible emergency signals. In the event of an emergency, be prepared to move workers, vehicles, and equipment immediately at the direction of the City of Storm Lake.

g) Two-Way Radio Communication Procedures

All activities within aircraft movement areas will require two-way radio communication. In the event the contractor needs to access a movement area, all radio communications will be performed by the City of Storm Lake using the Common Traffic Advisory Frequency (CTAF). Frequency that will be used by City of Storm Lake personnel is:

CTAF – 122.700 MHz

h) Maintenance of the Secured Area of the Airport

Access locations to the airport are not secured by an existing gate or access management, therefore the contractor shall be responsible for protecting access to the construction site or to the airport via their construction access. Contractor shall be responsible for installing barricades, snow fencing or a temporary access restriction as needed.

F. Wildlife Management

1. Trash

Receptacles must be provided by the contractor and equipped with metal, canvas, or plastic covers. Food scraps or other trash shall not be disposed on the ground and must be collected and placed in the covered receptacles as to not attract wildlife.

2. Standing Water

Staging areas, stockpile areas, and the work area must be graded to drain to avoid attracting wildlife.

3. Tall Grass & Seeds

The use of low-quality seed mixtures that contain seeds of plants (such as clover) will attract wildlife and must not be used. Grass and weeds must be managed, or cut, if necessary, within work areas to avoid attracting wildlife.

4. Disruption of Existing Wildlife Habitat

Contractor personnel should immediately notify the airport operator of wildlife sighting.

G. Foreign Object Debris (FOD) Management

The contractor will be required to ensure the airfield environment is kept continuously free of construction debris, equipment and/or materials that might endanger or be ingested by an aircraft. Take extreme care to ensure no work-related debris or other loose items can be blown by wind or aircraft engine blast. The Contractor must be responsible for any resulting damage to aircraft engines and/or other property arising from failure to secure and/or protect debris, tools, supplies, or other loose items. In areas that may result in the tracking of soil, sediments, or hazardous materials on the wheels of hauling equipment outside the area that are enclosed by erosion and silt/sediment control devices, the Contractor must provide the means and methods to remove these materials prior to the vehicle exiting the controlled area. Equipment operated on haul routes over existing pavements must always be kept free of material spillage and foreign matter. Standby equipment is always required to be onsite and operational throughout the project and must include, at a minimum, a self-propelled regenerative air sweeper and a water truck always kept loaded.

H. Hazardous Materials (HAZMAT) Management

The Contractor's SPCD shall include a section discussing its HAZMAT management procedures for hazardous materials (such as fuel and hydraulic fluid) transport, storage, and transfer procedures for re-fueling and servicing equipment as well as spill containment and cleanup methods. The hazards of chemical products brought onto airport property shall be conveyed through Safety Data Sheets (SDS) formatted in accordance with OSHA standards in an appendix of the SPCD. In preparing this section of their SPCD, the Contractor should consult Advisory Circular 150/5320-15, Management of Airport Industrial Waste, which contains the FAA's recommended guidelines for HAZMAT management on airports.

I. Notification of Construction Activities

1. Responsible representatives/points of contact

Points of Contact			
NAME	REPRESENTING	PHONE	EMAIL
Jim Bartholomew	Storm Lake Municipal Airport (Primary CSPP Contact)	(712) 732-6494	bartbfs@live.com
Tyler Gibbins	City of Storm Lake	(712) 732-8000	gibbins@stormlake.org
Joe Roenfeldt	Bolton & Menk, Inc.	(515) 240-4329	joe.roenfeldt@bolton-menk.com
Garrett Jacobs	Bolton & Menk, Inc.	(563) 349-7180	garrett.jacobs@bolton-menk.com
TBD	Contractor 24hr Contact	TBD	TBD

2. Notices to Airmen (NOTAMs)

Only the City of Storm Lake or their designated representative may initiate or cancel a NOTAM on airport conditions and is the only entity that can close or open a runway. Points of contact for issuing NOTAMS are as follows: Main Contact – Jim Bartholomew, Airport Manager @ (712) 732-6494

3. Emergency Notification Procedures

- Emergency – DIAL 911
- Airport Manager – Jim Bartholomew, Airport Manager – (712) 732-6494
- City of Storm Lake – Tyler Gibbins – (712) 732-8000
- CTAF radio emergency – 122.700 MHz
- Storm Lake Police Department – (712) 732-8010
- Storm Lake Fire Department – (712) 732-8010
- Hospital – Buena Vista Regional Medical Center – (712) 732-4030
- Buena Vista County Sheriff's Department - (712) 749-2530
- Iowa Poison Control – (800) 222-1222

4. Notification to the FAA

a) Part 77

Any equipment, (cranes, graders, other equipment) used or planned to be used by the contractor, that exceed the 15' height limitation, must also have a 7460-1 airspace evaluation done by the contractor and a favorable determination from the FAA must be received prior to use.

J. Inspection Requirements

1. Daily inspections

Inspections shall be conducted by the Contractor at least daily, but more frequently, if necessary, to ensure conformance with the CSPP. The City of Storm Lake will have the final authority in determining if the area is suitable for aircraft use. Appendix B contains a safety inspection checklist that may be used by the Contractor or City of Storm Lake. Any deficiencies, whether caused by negligence, oversight, or project scope change, are to be addressed immediately.

2. Final inspection

An inspection must be conducted by the City of Storm Lake prior to the commissioning of any newly constructed areas open to air traffic. The City of Storm Lake will have the final authority in determining if the area is suitable for aircraft use. Appendix B contains a safety inspection checklist that may be used by the Contractor or City of Storm Lake.

K. Underground Utilities

Notify Iowa One Call and owners of underground utilities within the construction area or within affected public rights-of-way or easements, via the "one-call" notification system (1-800-292-8989) in advance of the commencement of excavation activities. Notify the City of Storm Lake when the "one-call" request is being initiated. Contractor must not cross electrical or communication cables unless protected by approved means. In the event of interruption to field-located utility services as a result of the work, promptly notify the City of Storm Lake first, and then the proper authority. Cooperate with said authority in restoring service as promptly as possible. If required, the Contractor must install suitable temporary service until permanent repair is completed. Refer to General Provisions, Section 70.

L. Penalties

The Contractor is responsible for compliance with the CSPP as detailed herein. Violations will be cause for the project to be stopped and project safety procedures evaluated. Contractor working days will continue to be charged, even if the City of Storm Lake ceases construction operations. The City of Storm Lake will decide if and when work will continue. Enforcement of these regulations will be by the City of Storm Lake. Refer to General Provision Section 80-06, Temporary Suspension of the Work, for further details. Failure to comply with the CSPP is a failure on the part of the contractor to carry out orders given or perform any provisions of the contract.

M. Special Conditions

An aircraft in distress may require the Contractor to immediately move equipment. The City of Storm Lake will notify the Contractor in the unlikely event of an aircraft in distress. The Contractor will be required to comply with all City of Storm Lake and/or Air Traffic instructions, and all equipment directed to be moved shall be relocated to the Staging Area.

Various circumstances, such as an aircraft accident, security breach, or other unforeseen event may require suspension of the construction. The City of Storm Lake will notify the Contractor when suspension of the work will be required. See Section H – Emergency Notification Procedures for emergency contact information.

A VPD (vehicle/pedestrian deviation) is any entry or movement on the movement area by a vehicle or pedestrian that has not been authorized by the City of Storm Lake. In the event of a VPD, the City of Storm Lake reserves the right to suspend the work or any portion thereof and continue suspension until the completion of any investigation or evaluation by the City of Storm Lake and full compliance with any corrective measures which the City of Storm Lake may reasonably require. In addition, the City of Storm Lake may require the Contractor to provide to the City of Storm Lake a written plan, satisfactory to the City of Storm Lake, to demonstrate the Contractor's ability to prevent future violations. See Section E – Contractor Access for vehicle and pedestrian operations and two-way radio communication requirements.

N. Runway & Taxiway Visual Aids

1. General

Temporary traffic control devices must be clearly visible to pilots, not misleading, confusing, or deceptive. All temporary traffic control devices must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.

2. Markings

a) Temporarily Closed Runway

Temporarily closed runways are identified on the CSPP plan sheet(s) and identified in Section C – Areas & Operations Affected by Construction Activities. Temporarily closed runway at runway/taxiway intersections must have low-profile barricades placed outside the RSA. X's must be placed over the numbers of the closed runway for the duration of the closure as shown on the CSPP Plan sheet(s).

b) Temporary Closed Taxiway

Temporarily closed taxiways are identified on the CSPP plan sheet(s) and identified in Section C – Areas & Operations Affected by Construction Activities. Temporarily closed taxiways at runway/taxiway intersections must have low-profile barricades placed outside the RSA and the small X located 10 feet from the runway edge per Figure 2-4 in FAA A.C. 150/5370-2G when the runway is open and the taxiway is not.

3. Lighting and visual NAVAIDS

Refer to section B Construction phasing for more information regarding Lighting and Nav aids during project phases.

4. Signs

There are no known guidance signs on the Storm Lake Municipal Airport.

O. Markings & Signs for Access Routes

Access for this project will be from the routes indicated in the construction safety plan sheets. This type of project will have limited personnel airside, and the Contractor is responsible for his workforce familiarity with access, so no signs for access routes will be required. If access signage is required due to workforce familiarity, the contractor shall provide signage for the project.

P. Hazard Marking & Lighting

Before starting work, the contractor must provide and have available all signs, barricades, and lights necessary for protection of the work. Install and maintain adequate warning signs and lighted barricades to protect property and personnel in the work area. Barricades must be weighted or anchored to prevent overturning from wind or aircraft engine blast.

Barricades are not permitted in any active safety area. Barricades located within a runway or taxiway object free area and/or on aprons must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights. Barricades must be spaced according to the function. For aircraft movement areas barricades must be placed at 10' on center. For vehicle movement areas barricades must be placed at 4' on center. For personnel movement area barricades must be placed with 0' spacing.

The Contractor must have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information as information included in their SPCD. Lighting must be checked for proper operation at least once per day, preferably at dusk.

Open trenches, excavations, or obstructions not being actively worked must be marked with lighted and weighted barricades which can be seen from a reasonable distance. Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the City of Storm Lake, and light them with red lights during hours of restricted visibility or darkness.

Q. Protection of Safety Areas

1. Runway Safety Area (RSA)

No construction shall occur within the existing RSA while the runway is open for aircraft operations. Open trenches or excavations are not permitted within the RSA while the runway is open. If possible, backfill trenches before the runway is opened.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft.

Grading tolerances inside the safety area must be 5% maximum grade with no humps/depressions/drop-offs greater than 3-inches. The RSA is depicted on the Construction Operations, Safety, and Phasing plan and dimensions are contained in Appendix C.

2. Runway Obstacle Free Zone (ROFZ)

Personnel, material, and/or equipment may not penetrate the OFZ while the runway is open to aircraft operations. The runway OFZ is depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

3. Runway Object Free Area (ROFA)

Construction, including excavations, may be permitted within the ROFA. However, equipment must be removed from the ROFA when not in use and material shall not be stockpiled in the ROFA. The runway OFA is depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

4. Taxiway Safety Area (TSA)

No construction may occur in the TSA while the taxiway is open to aircraft operations. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Backfill trenches before the taxiway is opened.

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting the occasional passage of aircraft without causing structural damage to the aircraft.

Grading tolerances inside the safety area must be 5% maximum grade with no humps/depressions/drop-offs greater than 3-inches. The TSA depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

5. Taxiway Object Free Area (TOFA)

No construction will be allowed within the taxiway object free area while the taxiway is open to aircraft operations. For this project, the TOFA is depicted on the Construction Safety & Phasing Plan and dimensions are contained in Appendix C.

6. Runway approach/departure surfaces

All personnel, material, and/or equipment must remain clear of approach/departure surfaces.

R. Other Limitations on Construction

1. Prohibitions
 - a) Open flame welding or torches are prohibited unless fire safety precautions are provided, and the airport has approved their use.
 - b) The use of flare pots is prohibited within the Airport Operations Area (AOA).
 - c) No smoking will be allowed within the airfield environment.

Appendix A: Construction Safety & Phasing Plan (CSPP) Sheets

Refer to the CSPP Plan Sheet(s) in the Project Plans for more information.

Appendix B: Safety Inspection Checklist

Construction Project Daily Safety Inspection Checklist

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project.

Potentially Hazardous Conditions

ITEM	ACTION REQUIRED	NONE
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		☐
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		☐
Runway resurfacing projects resulting in lips exceeding 3 in (7.6 cm) from pavement edges and ends.		☐
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		☐
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		☐
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and approach zones.		☐
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		☐
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		☐
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		☐
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		☐

Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		☐
Obliterated or faded temporary markings on active operational areas.		☐
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		☐
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		☐
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		☐
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		☐
Lack of radio communications with construction vehicles in airport movement areas.		☐
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		☐
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		☐
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		☐
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		☐
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		☐
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		☐
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring and place it in conduit or bury it.		☐
Site burning, which can cause possible obscuration.		☐
Construction work taking place outside of designated work areas and out of phase.		☐

Appendix C: Airfield Areas and Operations Affected by Construction Activity Table

Airfield Areas and Operations Affected by Construction Activity Table

	Normal Airport Operations (Prior to Project)	Phase 1	Phase 2	Normal Airport Operations (After Project)
Runway 17/35	Open	Closed	Closed	Open
Runway 17 Threshold Location	As Is	As Is	As Is	As Is
Runway 35 Threshold Location	As Is	As Is	As Is	As Is
Runway Length	5,002 ft	Unchanged	Unchanged	5,002 ft
RSA Width	150'	Unchanged	Unchanged	150'
ROFA Width	500'	Unchanged	Unchanged	500'
ROFZ Width	400'	Unchanged	Unchanged	400'
Aircraft MTOW lbs., SWG	30,000 lbs	Unchanged	Unchanged	30,000 lbs
Runway/Approach Type	Non-Precision	Unchanged	Unchanged	Non-Precision
RNAV (GPS) RWY 17	Available	N/A	N/A	Available
RNAV (GPS) RWY 35	Available	N/A	N/A	Available
VOR/DME-A	Available	Available	Available	Available
Runway 17 PAPI	On	Off	Off	On
Runway 17 REIL	On	Off	Off	On
Runway 35 PAPI	On	Off	Off	On
Runway 35 REIL	On	Off	Off	On
Runway 17 Turnaround	Open	Closed	Closed	Open
Runway 35 Turnaround	Open	Closed	Closed	Open
Connecting Taxiway to Runway 17/35	Open	Closed	Closed	Open
Runway 06/24	Open	Closed	Closed	Open
Runway 06 Threshold Location	As Is	As Is	As Is	As Is
Runway 24Threshold Location	As Is	As Is	As Is	As Is
Runway Length	1,962 ft	Unchanged	Unchanged	1,962 ft
RSA Width	120'	Unchanged	Unchanged	120'
ROFA Width	250'	Unchanged	Unchanged	250'
ROFZ Width	250'	Unchanged	Unchanged	250'
Runway/Approach Type	Visual	Unchanged	Unchanged	Visual
Runway 13/31	Open	Open	Closed	Open
Runway 13 Threshold Location	As Is	As Is	As Is	As Is
Runway 31 Threshold Location	As Is	As Is	As Is	As Is
Runway Length	3,034 Ft	Unchanged	Unchanged	3,034 Ft
RSA Width	150'	Unchanged	Unchanged	150'
ROFA Width	500'	Unchanged	Unchanged	500'
ROFZ Width	400'	Unchanged	Unchanged	400'
Aircraft MTOW lbs., SWG	4,000 lbs	Unchanged	Unchanged	4,000 lbs
Runway/Approach Type	Visual	Unchanged	Unchanged	Visual
Runway 13 Turnaround	Open	Open	Closed	Open
Runway 31 Turnaround	Open	Open	Closed	Open
Connecting Taxiway to 13/31	Open	Open	Closed	Open
Terminal Apron	Open	Open	Open	Open
T-Hangar Taxilanes	Open	Open	Open	Open
Aircraft Self-Service Fuel	Available	Available	Closed	Available
Airport Rotating Beacon	Normal	Normal	Off	Normal
AWOS	Normal	Normal	Normal	Normal
Emergency Vehicle Access	Normal	Normal	Normal	Normal



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: Operational Safety on
Airports During Construction

Date: 12/13/2017
Initiated By: AAS-100

AC No: 150/5370-2G
Change:

1 **Purpose.**

This AC sets forth guidelines for operational safety on airports during construction.

2 **Cancellation.**

This AC cancels AC 150/5370-2F, *Operational Safety on Airports during Construction*, dated September 29, 2011.

3 **Application.**

This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*. For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP). See Grant Assurance No. 34, *Policies, Standards, and Specifications*. While we do not require non-certificated airports without grant agreements or airports using Passenger Facility Charge (PFC) Program funds for construction projects to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.

4 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version. Appendix A contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

5 **Principal Changes.**

The AC incorporates the following principal changes:

1. Notification about impacts to both airport owned and FAA-owned NAVAIDs was added. See paragraph 2.13.5.3, NAVAIDs.

2. Guidance for the use of orange construction signs was added. See paragraph 2.18.4.2, Temporary Signs.
3. Open trenches or excavations may be permitted in the taxiway safety area while the taxiway is open to aircraft operations, subject to restrictions. See paragraph 2.22.3.4, Excavations.
4. Guidance for temporary shortened runways and displaced thresholds has been enhanced. See Figure 2-1 and Figure 2-2.
5. Figures have been improved and a new Appendix F on the placement of orange construction signs has been added.

Hyperlinks (allowing the reader to access documents located on the internet and to maneuver within this document) are provided throughout this document and are identified with underlined text. When navigating within this document, return to the previously viewed page by pressing the “ALT” and “←” keys simultaneously.

Figures in this document are schematic representations and are not to scale.

6 **Use of Metrics.**

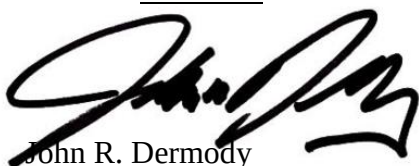
Throughout this AC, U.S. customary units are used followed with “soft” (rounded) conversion to metric units. The U.S. customary units govern.

7 **Where to Find this AC.**

You can view a list of all ACs at http://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at http://www.faa.gov/regulations_policies/faa_regulations/.

8 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody
Director of Airport Safety and Standards

CONTENTS

Paragraph	Page
Chapter 1. Planning an Airfield Construction Project	1-1
1.1 Overview.....	1-1
1.2 Plan for Safety.....	1-1
1.3 Develop a Construction Safety and Phasing Plan (CSPP).....	1-3
1.4 Who Is Responsible for Safety During Construction?.....	1-4
Chapter 2. Construction Safety and Phasing Plans	2-1
2.1 Overview.....	2-1
2.2 Assume Responsibility.....	2-1
2.3 Submit the CSPP.....	2-1
2.4 Meet CSPP Requirements.....	2-2
2.5 Coordination.	2-6
2.6 Phasing	2-7
2.7 Areas and Operations Affected by Construction Activity.	2-7
2.8 Navigation Aid (NAVAID) Protection.....	2-11
2.9 Contractor Access.	2-11
2.10 Wildlife Management.	2-15
2.11 Foreign Object Debris (FOD) Management.	2-16
2.12 Hazardous Materials (HAZMAT) Management.....	2-16
2.13 Notification of Construction Activities.....	2-16
2.14 Inspection Requirements.....	2-18
2.15 Underground Utilities.	2-19
2.16 Penalties.	2-19
2.17 Special Conditions.	2-19
2.18 Runway and Taxiway Visual Aids.	2-19
2.19 Marking and Signs for Access Routes.	2-29
2.20 Hazard Marking, Lighting and Signing.	2-30
2.21 Work Zone Lighting for Nighttime Construction.....	2-32
2.22 Protection of Runway and Taxiway Safety Areas.	2-33
2.23 Other Limitations on Construction.	2-37

Chapter 3. Guidelines for Writing a CSPP	3-1
3.1 General Requirements.....	3-1
3.2 Applicability of Subjects.....	3-1
3.3 Graphical Representations.	3-1
3.4 Reference Documents.	3-2
3.5 Restrictions.	3-2
3.6 Coordination.	3-2
3.7 Phasing.....	3-2
3.8 Areas and Operations Affected by Construction.	3-2
3.9 NAVAID Protection.	3-2
3.10 Contractor Access.	3-3
3.11 Wildlife Management.	3-4
3.12 FOD Management.....	3-4
3.13 HAZMAT Management.....	3-4
3.14 Notification of Construction Activities.....	3-4
3.15 Inspection Requirements.....	3-5
3.16 Underground Utilities.	3-5
3.17 Penalties.	3-5
3.18 Special Conditions.	3-5
3.19 Runway and Taxiway Visual Aids.	3-6
3.20 Marking and Signs for Access Routes.	3-6
3.21 Hazard Marking and Lighting.....	3-6
3.22 Work Zone Lighting for Nighttime Construction.	3-6
3.23 Protection of Runway and Taxiway Safety Areas.	3-7
3.24 Other Limitations on Construction.	3-7
Appendix A. Related Reading Material	A-1
Appendix B. Terms and Acronyms	B-1
Appendix C. Safety and Phasing Plan Checklist.....	C-1
Appendix D. Construction Project Daily Safety Inspection Checklist.....	D-1
Appendix E. Sample Operational Effects Table.....	E-1
Appendix F. Orange Construction Signs	F-1

FIGURES

Number	Page
Figure 2-1. Temporary Partially Closed Runway	2-9
Figure 2-2. Temporary Displaced Threshold.....	2-10
Figure 2-3. Markings for a Temporarily Closed Runway.....	2-21
Figure 2-4. Temporary Taxiway Closure.....	2-22
Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads	2-24
Figure 2-6. Lighted X in Daytime.....	2-26
Figure 2-7. Lighted X at Night.....	2-26
Figure 2-8. Interlocking Barricades	2-31
Figure 2-9. Low Profile Barricades	2-32
Figure E-1. Phase I Example	E-1
Figure E-2. Phase II Example	E-2
Figure E-3. Phase III Example.....	E-3
Figure F-1. Approved Sign Legends.....	F-1
Figure F-2. Orange Construction Sign Example 1.....	F-2
Figure F-3. Orange Construction Sign Example 2.....	F-3

TABLES

Number	Page
Table A-1. FAA Publications	A-1
Table A-2. Code of Federal Regulation.....	A-3
Table B-1. Terms and Acronyms.....	B-1
Table C-1. CSPP Checklist.....	C-1
Table D-1. Potentially Hazardous Conditions	D-1
Table E-1. Operational Effects Table	E-4
Table E-2. Runway and Taxiway Edge Protection.....	E-6
Table E-3. Protection Prior to Runway Threshold.....	E-7

Page Intentionally Blank

CHAPTER 1. PLANNING AN AIRFIELD CONSTRUCTION PROJECT

1.1 Overview.

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

1.2 Plan for Safety.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified and their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

1.2.1 Identify Affected Areas.

The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

1.2.2 Describe Current Operations.

Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the airplanes that operate on each runway; the ADG and Taxiway Design Group (TDG)¹ for each affected taxiway; designated approach visibility minimums;

¹ Find Taxiway Design Group information in [AC 150/5300-13, Airport Design](#).

available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System (SMGCS) plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

1.2.3 Allow for Temporary Changes to Operations.

To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways, and other changes. An example of a table showing temporary operations versus current operations is shown in Appendix E.

1.2.4 Take Required Measures to Revise Operations.

Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary widely among airports, this AC presents general guidance on those subjects.

1.2.5 Manage Safety Risk.

The FAA is committed to incorporating proactive safety risk management (SRM) tools into its decision-making processes. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*, requires the FAA to conduct a Safety Assessment for certain triggering actions. Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA determine whether a Safety Assessment is required prior to FAA approval of the CSPP. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for a Safety Risk Assessment. If the FAA requires an assessment, the airport operator must at a minimum:

1. Notify the appropriate FAA Airports Regional or District Office during the project "scope development" phase of any project requiring a CSPP.
2. Provide documents identified by the FAA as necessary to conduct SRM.
3. Participate in the SRM process for airport projects.
4. Provide a representative to participate on the SRM panel.

5. Ensure that all applicable SRM identified risks elements are recorded and mitigated within the CSPP.

1.3 **Develop a Construction Safety and Phasing Plan (CSPP).**

Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix A for a list of related reading material.

1.3.1 List Requirements.

A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. For on-airfield construction projects at Part 139 airports funded without AIP funds, the preparation of a CSPP represents an acceptable method the certificate holder may use to meet Part 139 requirements during airfield construction activity. As per FAA Order 5200.11, projects that require Safety Assessments do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA's Safety Risk Management procedures (see paragraph 1.2.5).

1.3.2 Prepare a Safety Plan Compliance Document (SPCD).

The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor's points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

1.3.3 Assume Responsibility for the CSPP.

The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

1.4 **Who Is Responsible for Safety During Construction?**

1.4.1 Establish a Safety Culture.

Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others, such as military personnel at any airport supporting military operations (e.g. national guard or a joint use facility). Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

1.4.2 Assess Airport Operator's Responsibilities.

An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

- 1.4.2.1 Develop a CSPP that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.
- 1.4.2.2 Require, review and approve the SPCD by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.
- 1.4.2.3 Convene a preconstruction meeting with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5370-12, Quality Management for Federally Funded Airport Construction Projects. (Note “FAA” refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)
- 1.4.2.4 Ensure contact information is accurate for each representative/point of contact identified in the CSPP and SPCD.
- 1.4.2.5 Hold weekly or, if necessary, daily safety meetings with all affected parties to coordinate activities.
- 1.4.2.6 Notify users, ARFF personnel, and FAA ATO personnel of construction and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.
- 1.4.2.7 Ensure construction personnel know applicable airport procedures and changes to those procedures that may affect their work.
- 1.4.2.8 Ensure that all temporary construction signs are located per the scheduled list for each phase of the project.
- 1.4.2.9 Ensure construction contractors and subcontractors undergo training required by the CSPP and SPCD.
- 1.4.2.10 Ensure vehicle and pedestrian operations addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.
- 1.4.2.11 At certificated airports, ensure each CSPP and SPCD is consistent with Part 139.

- 1.4.2.12 Conduct inspections sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
 - 1.4.2.13 Take immediate action to resolve safety deficiencies.
 - 1.4.2.14 At airports subject to 49 CFR Part 1542, *Airport Security*, ensure construction access complies with the security requirements of that regulation.
 - 1.4.2.15 Notify appropriate parties when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).
 - 1.4.2.16 Ensure prompt submittal of a Notice of Proposed Construction or Alteration (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.
 - 1.4.2.17 Ensure prompt transmission of the Airport Sponsor Strategic Event Submission, FAA Form 6000-26, located at https://oeaaa.faa.gov/oeaaa/external/content/AIRPORT_SPONSOR_STRATEGIC_EVENT_SUBMISSION_FORM.pdf, to assure proper coordination for NAS Strategic Interruption per Service Level Agreement with ATO.
 - 1.4.2.18 Promptly notify the FAA Airports Regional or District Office of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. The FAA Airports Regional or District office will determine if further coordination within the FAA is needed. Coordinate with appropriate local and other federal government agencies, such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Transportation Security Administration (TSA), and the state environmental agency.
- 1.4.3 Define Construction Contractor's Responsibilities.
- The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

- 1.4.3.1 Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supply any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor, indicating an understanding of the operational safety requirements of the CSPP and the assertion of compliance with the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.
- 1.4.3.2 Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.
- 1.4.3.3 Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Many projects will require 24-hour coverage.
- 1.4.3.4 Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
- 1.4.3.5 Conduct sufficient inspections to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
- 1.4.3.6 Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate, and as specified in the CSPP and SPCD.
- 1.4.3.7 Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.
- 1.4.3.8 Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

- 1.4.3.9 Ensure that all necessary safety mitigations are understood by all parties involved, and any special requirements of each construction phase will be fulfilled per the approved timeframe.
- 1.4.3.10 Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

1.4.4 Define Tenant's Responsibilities.

If planning construction activities on leased property, Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction are strongly encouraged to:

1. Develop, or have a consultant develop, a project specific CSPP and submit it to the airport operator. The airport operator may forgo a complete CSPP submittal and instead incorporate appropriate operational safety principles and measures addressed in the advisory circular within their tenant lease agreements.
2. In coordination with its contractor, develop an SPCD and submit it to the airport operator for approval issued prior to issuance of a Notice to Proceed.
3. Ensure that construction personnel are familiar with safety procedures and regulations on the airport during all phases of the construction.
4. Provide a point of contact of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.
5. Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
6. Ensure that no tenant or contractor employees, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.
7. Restrict movement of construction vehicles to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, as specified in the CSPP and SPCD.
8. Ensure prompt submittal through the airport operator of Form 7460-1 for conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp>.
9. Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

CHAPTER 2. CONSTRUCTION SAFETY AND PHASING PLANS

2.1 Overview.

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's CSPP and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard. They must provide information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

2.2 Assume Responsibility.

Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

2.3 Submit the CSPP.

Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 × 11 inch or 11 × 17 inch format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

2.3.1 Submit an Outline/Draft.

By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

2.3.2 Submit a CSPP.

The CSPP should be formally submitted for FAA approval when the project design is 80 percent to 90 percent complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

2.3.3 Submit an SPCD.

The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

2.3.4 Submit CSPP Revisions.

All revisions to a previously approved CSPP must be re-submitted to the FAA for review and approval/disapproval action.

2.4 **Meet CSPP Requirements.**

2.4.1 To the extent possible, the CSPP should address the following as outlined in Chapter 3, Guidelines for Writing a CSPP. Details that cannot be determined at this stage are to be included in the SPCD.

1. Coordination.
 - a. Contractor progress meetings.
 - b. Scope or schedule changes.
 - c. FAA ATO coordination.
2. Phasing.
 - a. Phase elements.
 - b. Construction safety drawings.
3. Areas and operations affected by the construction activity.
 - a. Identification of affected areas.
 - b. Mitigation of effects.
4. Protection of navigation aids (NAVAIDs).
5. Contractor access.
 - a. Location of stockpiled construction materials.
 - b. Vehicle and pedestrian operations.
6. Wildlife management.
 - a. Trash.
 - b. Standing water.
 - c. Tall grass and seeds.
 - d. Poorly maintained fencing and gates.
 - e. Disruption of existing wildlife habitat.
7. Foreign Object Debris (FOD) management.
8. Hazardous materials (HAZMAT) management.
9. Notification of construction activities.

- a. Maintenance of a list of responsible representatives/ points of contact.
 - b. NOTAM.
 - c. Emergency notification procedures.
 - d. Coordination with ARFF Personnel.
 - e. Notification to the FAA.
10. Inspection requirements.
- a. Daily (or more frequent) inspections.
 - b. Final inspections.
11. Underground utilities.
12. Penalties.
13. Special conditions.
14. Runway and taxiway visual aids. Marking, lighting, signs, and visual NAVAIDs.
- a. General.
 - b. Markings.
 - c. Lighting and visual NAVAIDs.
 - d. Signs, temporary, including orange construction signs, and permanent signs.
15. Marking and signs for access routes.
16. Hazard marking and lighting.
- a. Purpose.
 - b. Equipment.
17. Work zone lighting for nighttime construction (if applicable).
18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces.
- a. Runway Safety Area (RSA).
 - b. Runway Object Free Area (ROFA).
 - c. Taxiway Safety Area (TSA). Provide details for any adjustments to Taxiway Safety Area width to allow continued operation of smaller aircraft. See paragraph 2.22.3.
 - d. Taxiway Object Free Area (TOFA). Provide details for any continued aircraft operations while construction occurs within the TOFA. See paragraph 2.22.4.
 - e. Obstacle Free Zone (OFZ).
 - f. Runway approach/departure surfaces.
19. Other limitations on construction.
- a. Prohibitions.

b. Restrictions.

2.4.2 The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, “I, (Name of Contractor), have read the (Title of Project) CSPP, approved on (Date), and will abide by it as written and with the following additions as noted:”). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, “No supplemental information,” should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

1. Coordination. Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
2. Phasing. Discuss proposed construction schedule elements, including:
 - a. Duration of each phase.
 - b. Daily start and finish of construction, including “night only” construction.
 - c. Duration of construction activities during:
 - i. Normal runway operations.
 - ii. Closed runway operations.
 - iii. Modified runway “Aircraft Reference Code” usage.
3. Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
4. Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.
5. Contractor access. Provide the following:
 - a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
 - b. Listing of individuals requiring driver training (for certificated airports and as requested).
 - c. Radio communications.
 - i. Types of radios and backup capabilities.
 - ii. Who will be monitoring radios.
 - iii. Who to contact if the ATCT cannot reach the contractor’s designated person by radio.

- d. Details on how the contractor will escort material delivery vehicles.
- 6. Wildlife management. Discuss the following:
 - a. Methods and procedures to prevent wildlife attraction.
 - b. Wildlife reporting procedures.
- 7. Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.
- 8. Hazardous Materials (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.
- 9. Notification of construction activities. Provide the following:
 - a. Contractor points of contact.
 - b. Contractor emergency contact.
 - c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
 - d. Batch plant details, including 7460-1 submittal.
- 10. Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
- 11. Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.
- 12. Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.
- 13. Special conditions. Discuss proposed actions for each special condition identified in the CSPP.
- 14. Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
 - a. Equipment and methods for covering signage and airfield lights.
 - b. Equipment and methods for temporary closure markings (paint, fabric, other).
 - c. Temporary orange construction signs.
 - d. Types of temporary Visual Guidance Slope Indicators (VGSI).
- 15. Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.
- 16. Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.
- 17. Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - a. Equipment and methods for maintaining Taxiway Safety Area standards.
 - b. Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.
 - c. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
19. Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

2.5 **Coordination.**

Airport operators, or tenants responsible for design, bidding and conducting construction on their leased properties, should ensure at all project developmental stages, such as predesign, prebid, and preconstruction conferences, they capture the subject of airport operational safety during construction (see [AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects*](#)). In addition, the following should be coordinated as required:

2.5.1 Progress Meetings.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project developmental stages.

2.5.2 Scope or Schedule Changes.

Changes in the scope or duration at any of the project stages may require revisions to the CSPP and review and approval by the airport operator and the FAA (see paragraph [1.4.2.17](#)).

2.5.3 FAA ATO Coordination.

Early coordination with FAA ATO is highly recommended during the design phase and is required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. Formal agreements between the airport operator and appropriate FAA offices are recommended. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See paragraph [2.13.5.3.2](#) for required FAA notification regarding FAA-owned NAVAIDs.)

2.6 **Phasing.**

Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In this case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

2.6.1 Phase Elements.

For each phase the CSPP should detail:

- Areas closed to aircraft operations.
- Duration of closures.
- Taxi routes and/or areas of reduced TSA and TOFA to reflect reduced ADG use.
- ARFF access routes.
- Construction staging, disposal, and cleanout areas.
- Construction access and haul routes.
- Impacts to NAVAIDs.
- Lighting, marking, and signing changes.
- Available runway length and/or reduced RSA and ROFA to reflect reduced ADG use.
- Declared distances (if applicable).
- Required hazard marking, lighting, and signing.
- Work zone lighting for nighttime construction (if applicable).
- Lead times for required notifications.

2.6.2 Construction Safety Drawings.

Drawings specifically indicating operational safety procedures and methods in affected areas (i.e., construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should also be included in the contract drawing package.

2.7 **Areas and Operations Affected by Construction Activity.**

Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA ATO will support operational simulations. See [Appendix E](#) for an example of a table showing temporary operations versus current operations. The tables in [Appendix E](#) can be useful for coordination among all interested parties, including FAA Lines of Business.

2.7.1 Identification of Affected Areas.

Identifying areas and operations affected by the construction helps to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See paragraph 2.6.2.) Of particular concern are:

2.7.1.1 **Closing, or Partial Closing, of Runways, Taxiways and Aprons, and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or takeoff in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is normally available for take-off in the direction of the displacement and for landing and takeoff in the opposite direction. Misunderstanding this difference, may result in issuance of an inaccurate NOTAM, and can lead to a hazardous condition.

2.7.1.1.1 Partially Closed Runways.

The temporarily closed portion of a partially closed runway will generally extend from the threshold to a taxiway that may be used for entering and exiting the runway. If the closed portion extends to a point between taxiways, pilots will have to back-taxi on the runway, which is an undesirable operation. See Figure 2-1 for a desirable configuration.

2.7.1.1.2 Displaced Thresholds.

Since the portion of the runway pavement between the permanent threshold and a standard displaced threshold is available for takeoff and for landing in the opposite direction, the temporary displaced threshold need not be located at an entrance/exit taxiway. See Figure 2-2.

2.7.1.2 Closing of aircraft rescue and fire fighting access routes.

2.7.1.3 Closing of access routes used by airport and airline support vehicles.

2.7.1.4 Interruption of utilities, including water supplies for fire fighting.

2.7.1.5 Approach/departure surfaces affected by heights of objects.

2.7.1.6 Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.

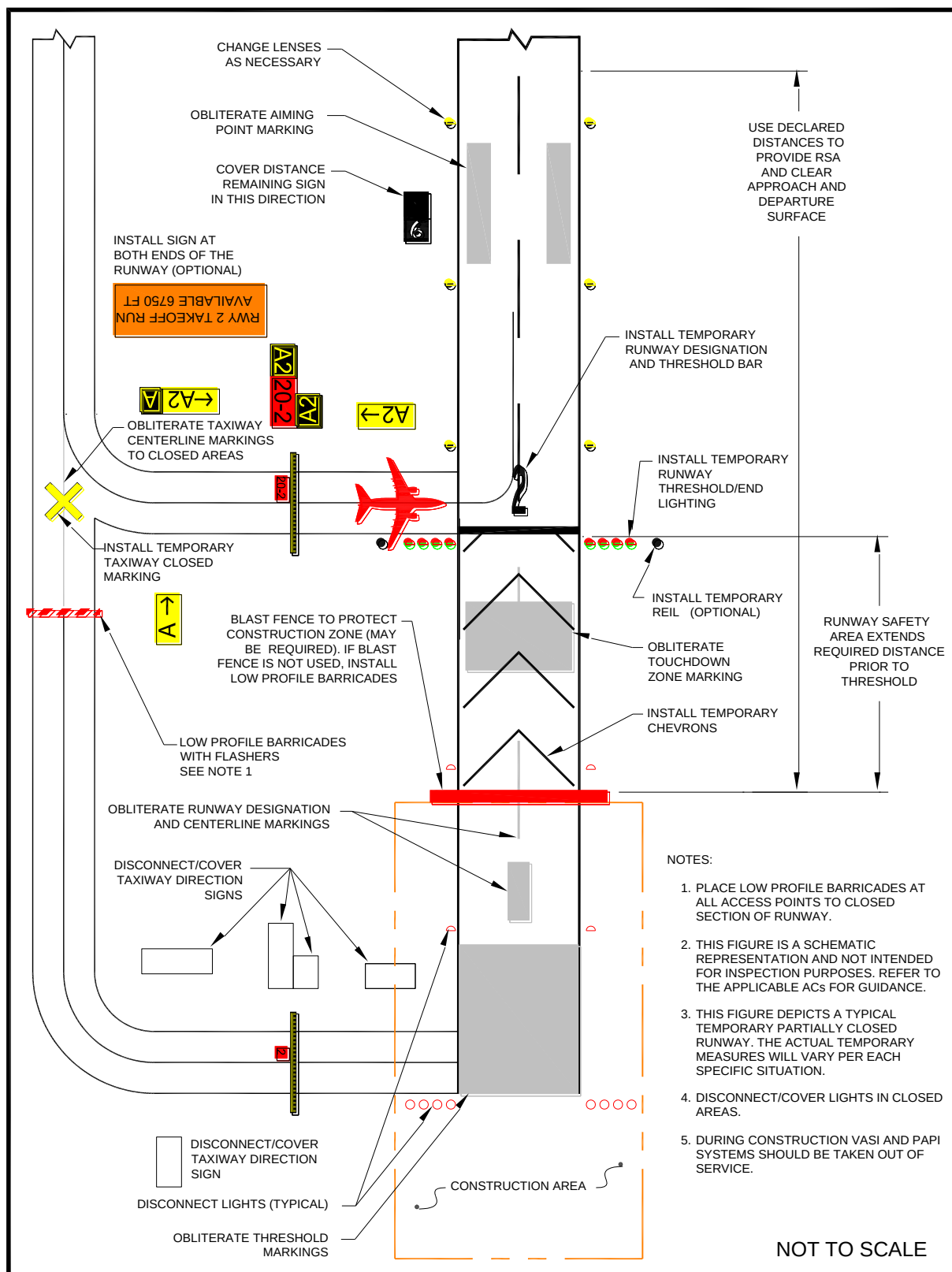
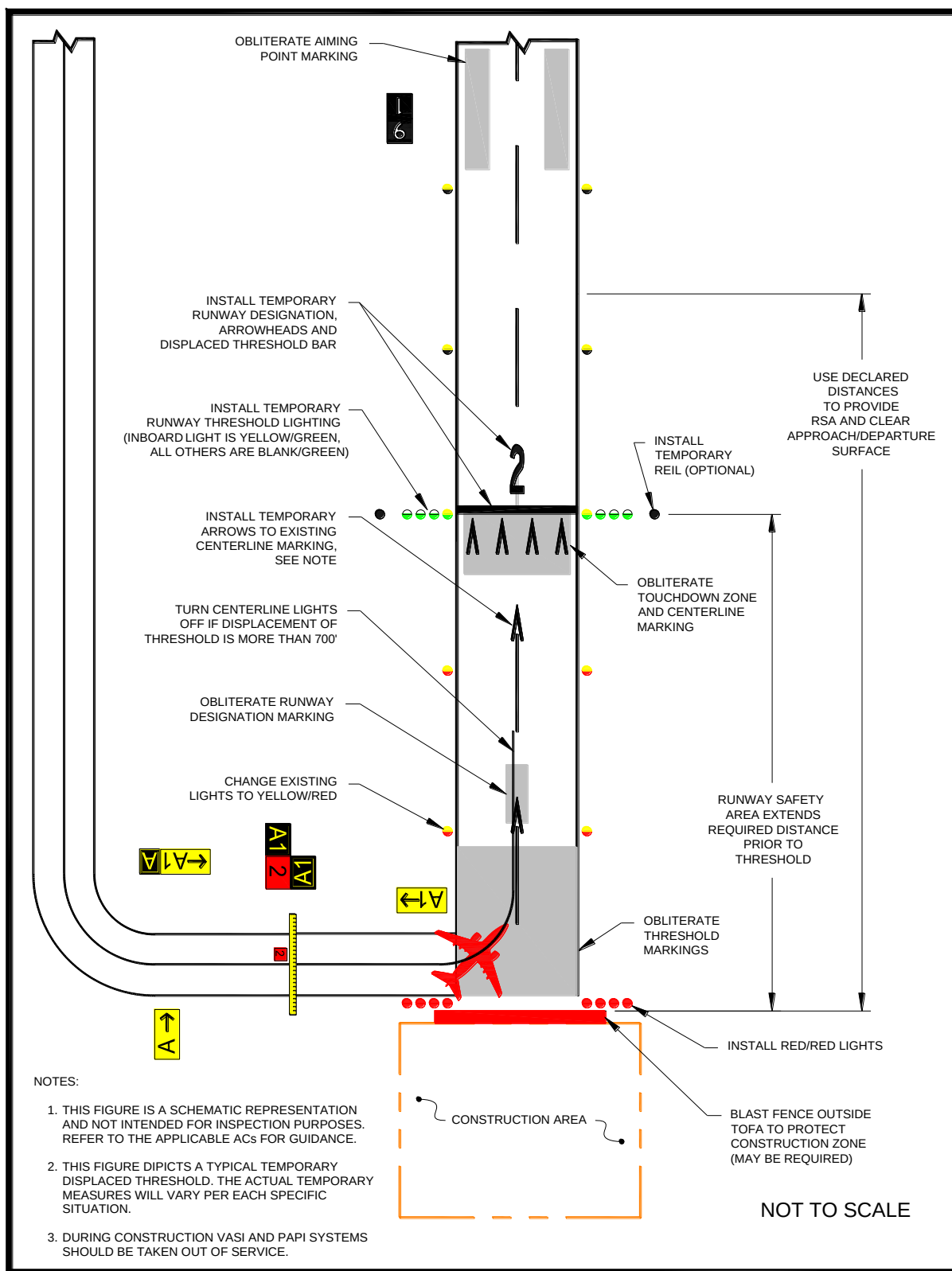
Figure 2-1. Temporary Partially Closed Runway

Figure 2-2. Temporary Displaced Threshold

Note: See paragraph 2.18.2.5.

2.7.2 Mitigation of Effects.

Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

- 2.7.2.1 Temporary changes to runway and/or taxi operations.
- 2.7.2.2 Detours for ARFF and other airport vehicles.
- 2.7.2.3 Maintenance of essential utilities.
- 2.7.2.4 Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.

2.8 **Navigation Aid (NAVAID) Protection.**

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 2.13.5.3.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the “critical area” associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 2.13.2.). Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 2.13.5.3.)

2.9 **Contractor Access.**

The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

2.9.1 Location of Stockpiled Construction Materials.

Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 2.18.2.) This includes determining and

verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material. See paragraphs 2.10 and 2.11.

2.9.2 Vehicle and Pedestrian Operations.

The CSPP should include specific vehicle and pedestrian requirements. Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, with associated training requirements:

2.9.2.1 **Construction Site Parking.**

Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.

2.9.2.2 **Construction Equipment Parking.**

Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP). See paragraph 2.13.1 for further information.

2.9.2.3 **Access and Haul Roads.**

Determine the construction contractor's access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul

roads does not interfere with NAVAIDs or approach surfaces of operational runways. Address whether access gates will be blocked or inoperative or if a rally point will be blocked or inaccessible.

- 2.9.2.4 Marking and lighting of vehicles in accordance with AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*.
- 2.9.2.5 Description of proper vehicle operations on various areas under normal, lost communications, and emergency conditions.
- 2.9.2.6 Required escorts.
- 2.9.2.7 **Training Requirements for Vehicle Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations.**

Specific training should be provided to vehicle operators, including those providing escorts. See AC 150/5210-20, *Ground Vehicle Operations on Airports*, for information on training and records maintenance requirements.
- 2.9.2.8 **Situational Awareness.**

Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for an aircraft to have radio communications. Because aircraft do not always broadcast their positions or intentions, visual checking, radio monitoring, and situational awareness of the surroundings is critical to safety.
- 2.9.2.9 **Two-Way Radio Communication Procedures.**
- 2.9.2.9.1 General.

The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:

 1. Airport operations
 2. ATCT

3. Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.
4. Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and “shortened” runways on the ATIS frequency.

2.9.2.9.2 Areas Requiring Two-Way Radio Communication with the ATCT.

Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

2.9.2.9.3 Frequencies to be Used.

The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

2.9.2.9.4 Proper radio usage, including read back requirements.

2.9.2.9.5 Proper phraseology, including the International Phonetic Alphabet.

2.9.2.9.6 Light Gun Signals.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard “Ground Vehicle Guide to Airport Signs and Markings.” This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (see “Signs & Markings Vehicle Dashboard Sticker”) or obtained from the FAA Airports Regional Office.

2.9.2.10 **Maintenance of the secured area of the airport, including:**

2.9.2.10.1 Fencing and Gates.

Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit “piggybacking” behind another person or vehicle. The Department of Transportation (DOT) document DOT/FAA/AR-

00/52, *Recommended Security Guidelines for Airport Planning and Construction*, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

2.9.2.10.2 Badging Requirements.

Airports subject to 49 CFR Part 1542, *Airport Security*, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

2.10 **Wildlife Management.**

The CSPP and SPCD must be in accordance with the airport operator's wildlife hazard management plan, if applicable. See AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*, and CertAlert 98-05, *Grasses Attractive to Hazardous Wildlife*. Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

2.10.1 Trash.

Food scraps must be collected from construction personnel activity.

2.10.2 Standing Water.

2.10.3 Tall Grass and Seeds.

Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, *Standards for Specifying Construction of Airports*, Item T-901, Seeding. Contact the local office of the United States Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

2.10.4 Poorly Maintained Fencing and Gates.

See paragraph 2.9.2.10.1.

2.10.5 Disruption of Existing Wildlife Habitat.

While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

2.11 Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, *Foreign Object Debris (FOD) Management*.

2.12 Hazardous Materials (HAZMAT) Management.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, *Management of Airport Industrial Waste*.

2.13 Notification of Construction Activities.

The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

2.13.1 List of Responsible Representatives/points of contact for all involved parties, and procedures for contacting each of them, including after hours.

2.13.2 NOTAMs.

Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must either enter the NOTAM into NOTAM Manager, or provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, *Notices to Airmen (NOTAMs) for Airport Operators*, for a sample NOTAM form. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See paragraph 2.7.1.1 about issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

2.13.3 Emergency notification procedures for medical, fire fighting, and police response.

2.13.4 Coordination with ARFF.

The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

1. The deactivation and subsequent reactivation of water lines or fire hydrants, or
2. The rerouting, blocking and restoration of emergency access routes, or
3. The use of hazardous materials on the airfield.

2.13.5 Notification to the FAA.

2.13.5.1 **Part 77.**

Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e., cranes, graders, other equipment) on airports. FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. See Appendix A to download the form. Further guidance is available on the FAA web site at oeaaa.faa.gov.

2.13.5.2 **Part 157.**

With some exceptions, Title 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, *Notice of Landing Area Proposal*, to the nearest FAA Airports Regional or District Office. See Appendix A to download the form.

2.13.5.3 **NAVAIDs.**

For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

2.13.5.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of 24 hours or greater in duration, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown, using Strategic Event Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15, *General Maintenance Handbook for National Airspace System (NAS) Facilities*.

2.13.5.3.2 FAA Owned.

1. The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs, using SEC Form 6000.26.
2. Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. Refer to active Service Level Agreement with ATO for specifics.

2.14 **Inspection Requirements.**

2.14.1 Daily Inspections.

Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix D, Construction Project Daily Safety Inspection Checklist. See also AC 150/5200-18, Airport Safety Self-Inspection. Airport operators holding a Part 139 certificate are required to conduct self-inspections during unusual conditions, such as construction activities, that may affect safe air carrier operations.

2.14.2 Interim Inspections.

Inspections should be conducted of all areas to be (re)opened to aircraft traffic to ensure the proper operation of lights and signs, for correct markings, and absence of FOD. The contractor should conduct an inspection of the work area with airport operations personnel. The contractor should ensure that all construction materials have been secured, all pavement surfaces have been swept clean, all transition ramps have been properly constructed, and that surfaces have been appropriately marked for aircraft to operate safely. Only if all items on the list meet with the airport operator's approval should the air traffic control tower be notified to open the area to aircraft operations. The contractor should be required to retain a suitable workforce and the necessary equipment at the work area for any last minute cleanup that may be requested by the airport operator prior to opening the area.

2.14.3 Final Inspections.

New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

2.15 Underground Utilities.

The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that “One Call” or “Miss Utility” services do not include FAA ATO/Technical Operations.

2.16 Penalties.

The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

2.17 Special Conditions.

The CSPP must detail any special conditions that affect the operation of the airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

2.18 Runway and Taxiway Visual Aids.

This includes marking, lighting, signs, and visual NAVAIDs. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDs that are to continue to perform their functions during construction remain in place and operational. Visual NAVAIDs that are not serving their intended function during construction must be temporarily disabled, covered, or modified as necessary. The CSPP must address the following, as appropriate:

2.18.1 General.

Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, and other wind currents and constructed of materials that will minimize damage to an aircraft in the event of inadvertent contact. Items used to secure such markings must be of a color similar to the marking.

2.18.2 Markings.

During the course of construction projects, temporary pavement markings are often required to allow for aircraft operations during or between work periods. During the design phase of the project, the designer should coordinate with the project manager,

airport operations, airport users, the FAA Airports project manager, and Airport Certification Safety Inspector for Part 139 airports to determine minimum temporary markings. The FAA Airports project manager will, wherever a runway is closed, coordinate with the appropriate FAA Flight Standards Office and disseminate findings to all parties. Where possible, the temporary markings on finish grade pavements should be placed to mirror the dimensions of the final markings. Markings must be in compliance with the standards of AC 150/5340-1, *Standards for Airport Markings*, except as noted herein. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 2.18.2.1.2.)

2.18.2.1 Closed Runways and Taxiways.

2.18.2.1.1 Permanently Closed Runways.

For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place an X at each end and at 1,000-foot (300 m) intervals. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X.

2.18.2.1.2 Temporarily Closed Runways.

For runways that have been temporarily closed, place an X at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X. See Figure 2-3. See also paragraph 2.18.3.3.

2.18.2.1.3 Partially Closed Runways and Displaced Thresholds.

When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 2.7.1.1 for the difference between partially closed runways and runways with displaced thresholds. Because of the temporary nature of threshold displacement due to construction, it is not necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach. Some of the requirements below may be waived in the cases of low-activity airports and/or short duration changes that are measured in days rather than weeks. Consider whether the presence of an airport traffic

control tower allows for the development of special procedures. Contact the appropriate FAA Airports Regional or District Office for assistance.

Figure 2-3. Markings for a Temporarily Closed Runway

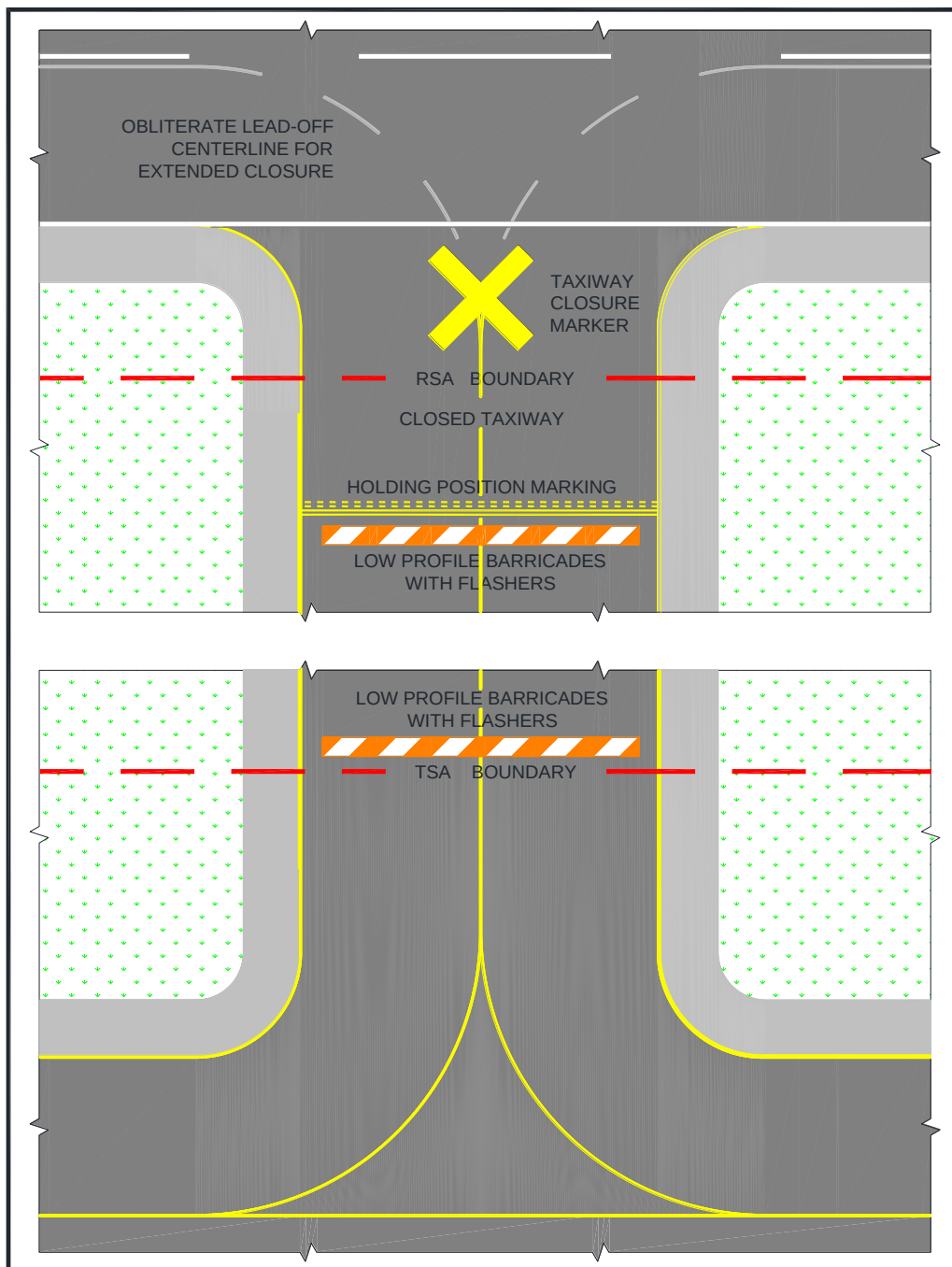


1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see [AC 150/5340-1](#)). Obliterate or cover markings prior to the moved threshold. Existing touchdown zone markings beyond the moved threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-4](#).
2. **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See [AC 150/5340-1](#). Obliterate markings prior to the displaced threshold. Existing touchdown zone markings beyond the displaced threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See [Figure 2-2](#).

2.18.2.1.4 Taxiways.

1. **Permanently Closed Taxiways.** AC 150/5300-13 Airport Design, notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. See Figure 2-4.

Figure 2-4. Temporary Taxiway Closure



2. **Temporarily Closed Taxiways.** Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section. Always obliterate runway lead-off lines for high speed exits, regardless of the duration of the closure. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed. See Figure 2-4.

2.18.2.1.5 Temporarily Closed Airport.

When the airport is closed temporarily, mark all the runways as closed.

- 2.18.2.2 If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents. Items used to secure such markings must be of a color similar to the marking.

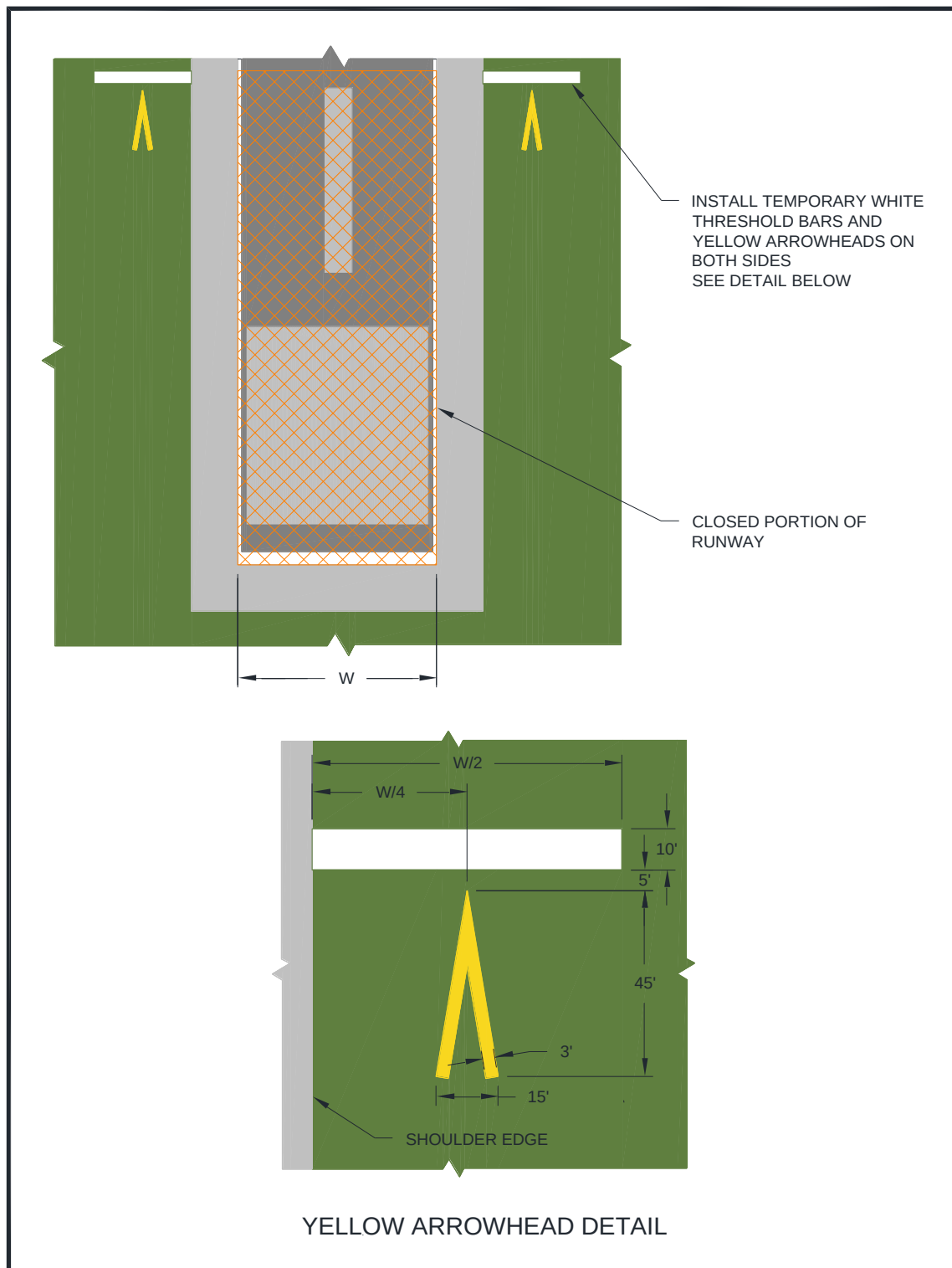
- 2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.

- 2.18.2.4 If it is not possible to install threshold bars, chevrons, and arrows on the pavement, “temporary outboard white threshold bars and yellow arrowheads”, see Figure 2-5, may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimensions must be as shown in Figure 2-5. If the markings are not discernible on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.

- 2.18.2.5 The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, “Runway and Taxiway Painting,” in AC 150/5370-10), but the dimensions must meet the existing standards. When applying temporary markings at night, it is recommended that the fast curing, Type II paint be used to help offset the higher humidity and cooler temperatures often experienced at night. Diluting the paint will substantially increase cure time and is not recommended. Glass beads are not recommended for temporary markings. Striated markings may also be used for certain temporary markings. AC

150/5340-1, Standards for Airport Markings, has additional guidance on temporary markings.

Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads



2.18.3 Lighting and Visual NAVAIDs.

This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting installation must be in conformance with AC 150/5340-30, *Design and Installation Details for Airport Visual Aids*, and fixture design in conformance with AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights*. When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. See AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*, for disconnect procedures and safety precautions. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources. Maintain mandatory hold signs to operate normally in any situation where pilots or vehicle drivers could mistakenly be in that location. At towered airports certificated under Part 139, holding position signs are required to be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, install a jumper to the taxiway circuit to provide power to the holding position sign for nighttime operations. Where it is not possible to maintain power to signs that would normally be operational, install barricades to exclude aircraft. Figure 2-1, Figure 2-2, Figure 2-3, and Figure 2-4 illustrate temporary changes to lighting and visual NAVAIDs.

2.18.3.1 **Permanently Closed Runways and Taxiways.**

For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

2.18.3.2 **Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic.**

If available, use a lighted X, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note that the lighted X must be illuminated at all times that it is on a runway.) The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*. For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-6 shows a lighted X by day. Figure 2-7 shows a lighted X at night.

Figure 2-6. Lighted X in Daytime**Figure 2-7. Lighted X at Night**

2.18.3.3 **Partially Closed Runways and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially

closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

2.18.3.3.1 Partially Closed Runways.

Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixtures in such a way as to prevent light leakage. See Figure 2-1.

2.18.3.3.2 Temporary Displaced Thresholds.

Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, blank out centerline lights in the direction of approach or place the centerline lights out of service. If the displacement is over 700 feet, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds. See Figure 2-2.

2.18.3.3.3 Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.

2.18.3.3.4 A temporary threshold on an unlighted runway may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 2.18.2.1.3. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, Specification for L-853, Runway and Taxiway Retroreflective Markers.

2.18.3.3.5 Temporary threshold lights and runway end lights and related visual NAVAIDs are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.

2.18.3.3.6 Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may

be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

- 2.18.3.3.7 When runway thresholds are temporarily displaced, reconfigure yellow lenses (caution zone), as necessary, and place the centerline lights out of service.
- 2.18.3.3.8 Relocate the Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense. See FAA JO 6850.2, *Visual Guidance Lighting Systems*, for installation criteria for FAA owned and operated NAVAIDs.
- 2.18.3.3.9 Issue a NOTAM to inform pilots of temporary lighting conditions.
- 2.18.3.4 **Temporarily Closed Taxiways.**
If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), cover the light fixture in a way as to prevent light leakage.

2.18.4 Signs.

To the extent possible, signs must be in conformance with AC 150/5345-44, *Specification for Runway and Taxiway Signs*, and AC 150/5340-18, *Standard for Airport Sign Systems*.

2.18.4.1 **Existing Signs.**

Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

2.18.4.2 Temporary Signs.

Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot “information overload,” the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, *Guidance for the Assembly and Installation of Temporary Orange Construction Signs*. Many criteria in AC 150/5345-44, *Specification for Runway and Taxiway Signs*, are referenced in the Engineering Brief. Permissible sign legends are:

1. CONSTRUCTION AHEAD,
2. CONSTRUCTION ON RAMP, and
3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.

2.18.4.2.1 Takeoff Run Available (TORA) signs.

Recommended: Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position. See EB 93 for sign size and location.

2.18.4.2.2 Sign legends are shown in Figure F-1.

Note: See Figure E-1, Figure E-2, Figure E-3, Figure F-2, and Figure F-3 for examples of orange construction sign locations.

2.19 Marking and Signs for Access Routes.

The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, *Frangible Connections*, which may require modification to size and height guidance in the MUTCD.

2.20 **Hazard Marking, Lighting and Signing.**

2.20.1 Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

2.20.2 Equipment.

2.20.2.1 **Barricades.**

Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude aircraft, gaps between barricades must be smaller than the wingspan of the smallest aircraft to be excluded; if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

2.20.2.2 **Lights.**

Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

2.20.2.3 **Supplement Barricades with Signs (for example) As Necessary.**

Examples are “No Entry” and “No Vehicles.” Be aware of the increased effects of wind and jet blast on barricades with attached signs.

2.20.2.4 Air Operations Area – General.

Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground. Figure 2-8 and Figure 2-9 show sample barricades with proper coloring and flags.

Figure 2-8. Interlocking Barricades



Figure 2-9. Low Profile Barricades**2.20.2.5 Air Operations Area – Runway/Taxiway Intersections.**

Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

2.20.2.6 Air Operations Area – Other.

Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

2.20.2.7 Maintenance.

The construction specifications must include a provision requiring the contractor to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

2.21 Work Zone Lighting for Nighttime Construction.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. Refer to [AC 150/5370-10](#) for minimum illumination levels for nighttime paving projects. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely

illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways.

2.22 **Protection of Runway and Taxiway Safety Areas.**

Runway and taxiway safety areas, OFZs, OFAs, and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (see paragraph 2.13.5) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

2.22.1 Runway Safety Area (RSA).

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

- 2.22.1.1 No construction may occur within the existing RSA while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (See AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published, and appropriate NOTAMs issued. See AC 150/5300-13 for guidance on the use of declared distances.
- 2.22.1.2 The airport operator must coordinate the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.
- 2.22.1.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

2.22.1.4 Excavations.

2.22.1.4.1 Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

2.22.1.4.2 Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.1.5 Erosion Control.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.2 Runway Object Free Area (ROFA).

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

2.22.3 Taxiway Safety Area (TSA).

2.22.3.1 A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Since the width of the TSA is equal to the wingspan of the design aircraft, no construction may occur within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction. Give special consideration to TSA dimensions at taxiway turns and intersections. (see AC 150/5300-13).

2.22.3.2 The airport operator must coordinate the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

2.22.3.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations.

2.22.3.4 **Excavations.**

1. Curves. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.
2. Straight Sections. Open trenches or excavations are not permitted within the TSA while the taxiway is open for unrestricted aircraft operations. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations to allow the safe passage of ARFF equipment and of the heaviest aircraft operating on the taxiway across the trench without causing damage to the equipment or aircraft. In rare circumstances where the section of taxiway is indispensable for aircraft movement, open trenches or excavations may be permitted in the TSA while the taxiway is open to aircraft operations, subject to the following restrictions:
 - a. Taxiing speed is limited to 10 mph.
 - b. Appropriate NOTAMs are issued.
 - c. Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - d. Low mass, low-profile lighted barricades are installed.
 - e. Appropriate temporary orange construction signs are installed.
3. Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.3.5 **Erosion control.**

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.4 Taxiway Object Free Area (TOFA).

Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

- 2.22.4.1 The taxiway object free area dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available. Give special consideration to TOFA dimensions at taxiway turns and intersections.
- 2.22.4.2 Offset taxiway centerline and edge pavement markings (do not use glass beads) may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting, centerline reflectors, or taxiway edge reflectors are required. Existing lighting that does not coincide with the temporary markings must be taken out of service.
- 2.22.4.3 Construction activity, including open excavations, may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:
 - 2.22.4.3.1 Taxiing speed is limited to 10 mph.
 - 2.22.4.3.2 NOTAMs issued advising taxiing pilots of hazard and recommending reduced taxiing speeds on the taxiway.
 - 2.22.4.3.3 Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
 - 2.22.4.3.4 If desired, appropriate orange construction signs are installed. See paragraph 2.18.4.2 and Appendix F.
 - 2.22.4.3.5 Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the usable pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.
 - 2.22.4.3.6 Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel. Flaggers must also be used to direct taxiing aircraft. Due to liability issues, the airport operator should require airlines to provide flaggers for directing taxiing aircraft.

2.22.5 Obstacle Free Zone (OFZ).

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6 Runway Approach/Departure Areas and Clearways.

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6.1 Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

2.22.6.2 **Caution About Partial Runway Closures.**

When filing a NOTAM for a partial runway closure, clearly state that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

2.22.6.3 **Caution About Displaced Thresholds.**

Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, or other work within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

2.23 **Other Limitations on Construction.**

The CSPP must specify any other limitations on construction, including but not limited to:

2.23.1 Prohibitions.

- 2.23.1.1 No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
- 2.23.1.2 No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.
- 2.23.1.3 No use of electrical blasting caps on or within 1,000 feet (300 meters) of the airport property. See AC 150/5370-10.

2.23.2 Restrictions.

- 2.23.2.1 Construction suspension required during specific airport operations.
- 2.23.2.2 Areas that cannot be worked on simultaneously.
- 2.23.2.3 Day or night construction restrictions.
- 2.23.2.4 Seasonal construction restrictions.
- 2.23.2.5 Temporary signs not approved by the airport operator.
- 2.23.2.6 Grades changes that could result in unplanned effects on NAVAIDs.

CHAPTER 3. GUIDELINES FOR WRITING A CSPP

3.1 General Requirements.

The CSPP is a standalone document written to correspond with the subjects outlined in paragraph 2.4. The CSPP is organized by numbered sections corresponding to each subject listed in paragraph 2.4, and described in detail in paragraphs 2.5 - 2.23. Each section number and title in the CSPP matches the corresponding subject outlined in paragraph 2.4 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

3.2 Applicability of Subjects.

Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA ILS cables during trenching operations could be considered FAA ATO coordination (Coordination, paragraph 2.5.3), an area and operation affected by the construction activity (Areas and Operations Affected by the Construction Activity, paragraph 2.7.1.4), a protection of a NAVAID (Protection of Navigational Aids (NAVAIDs), paragraph 2.8), or a notification to the FAA of construction activities (Notification of Construction Activities, paragraph 2.13.5.3.2). However, it is more specifically an underground utility requirement (Underground Utilities, paragraph 2.15). The procedure for protecting underground ILS cables during trenching operations should therefore be described in 2.4.2.11: “The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings.” All other applicable sections should include a reference to 2.4.2.11: “ILS cables shall be identified and protected as described in 2.4.2.11” or “See 2.4.2.11 for ILS cable identification and protection requirements.” Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

3.3 Graphical Representations.

Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

3.4 **Reference Documents.**

The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor. Where this AC recommends references (e.g. as in paragraph 3.9) the intent is to include a reference to the corresponding section in the CSPP, not to this Advisory Circular.

3.5 **Restrictions.**

The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent (“as-built”) features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

3.6 **Coordination.**

Include in this section a detailed description of conferences and meetings to be held both before and during the project. Include appropriate information from AC 150/5370-12. Discuss coordination procedures and schedules for each required FAA ATO Technical Operations shutdown and restart and all required flight inspections.

3.7 **Phasing.**

Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 3.8, as appropriate.

3.8 **Areas and Operations Affected by Construction.**

Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. See Appendix F for sample operational effects tables and figures.

3.9 **NAVAID Protection.**

List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 3.6 for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 3.14 for the

issuance of NOTAMs as required. Include a reference to paragraph 3.16 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 3.19. Attach drawings to graphically indicate the affected NAVAIDS and the corresponding critical areas.

3.10 **Contractor Access.**

This will necessarily be the most extensive section of the CSPP. Provide sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

3.10.1 Location of Stockpiled Construction Materials.

Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 3.11 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 3.12 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

3.10.2 Vehicle and Pedestrian Operations.

While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying HAZMAT vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

3.10.3 Two-Way Radio Communications.

Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor CTAF at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light

signals, telephone numbers, others) must be included. All radio frequencies should be identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

3.10.4 **Airport Security.**

Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

3.11 **Wildlife Management.**

Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 3.10 for security (wildlife) fence integrity maintenance as required.

3.12 **FOD Management.**

In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 3.15 for inspection requirements as required.

3.13 **HAZMAT Management.**

Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be identified. Include a reference to paragraph 3.10 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

3.14 **Notification of Construction Activities.**

List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to

Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. Identify the E911 address of the airport and the emergency access route via haul roads to the construction site. Require the contractor to have this information available to all workers. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 3.10. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

3.15 Inspection Requirements.

Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) or other airport operator's representative and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

3.16 Underground Utilities.

Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 3.14 for notification of utility owners of accidental utility disruption as required.

3.17 Penalties.

Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, VPD, and others.

3.18 Special Conditions.

Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 3.10 for compliance with airport safety and security measures and for radio communications as required. Include

a reference to paragraph 3.14 for emergency notification of all involved parties, including police/security, ARFF, and medical services.

3.19 Runway and Taxiway Visual Aids.

Include marking, lighting, signs, and visual NAVAIDS. Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDS required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDS that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDS such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, *Standards for Airport Markings*; AC 150/5340-18, *Standards for Airport Sign Systems*; and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDS.

3.20 Marking and Signs for Access Routes.

Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration MUTCD and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

3.21 Hazard Marking and Lighting.

Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 3.14. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

3.22 Work Zone Lighting for Nighttime Construction.

If work is to be conducted at night, specify all lighting equipment, including when and where each type of device is to be used. Indicate the direction lights are to be aimed and any directions that aiming of lights is prohibited. Specify any shielding necessary in instances where aiming is not sufficient to prevent interference with air traffic control and aircraft operations. Attach drawings to graphically indicate the placement and aiming of lighting equipment. Where the plan only indicates directions that aiming of lights is prohibited, the placement and positioning of portable lights must be proposed by the Contractor and approved by the airport operator's representative each time lights are relocated or repositioned.

3.23 Protection of Runway and Taxiway Safety Areas.

This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13, as required. Include a reference to paragraph 3.10 for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 3.10 for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide the required Runway Safety Area, include a reference to paragraphs 3.14 and 3.19. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13, as required. Include a reference to paragraph 3.24 for height (i.e., crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional “box” within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

3.24 Other Limitations on Construction.

This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e., crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 3.7 for project phasing requirements based on construction limitations as required.

Page Intentionally Blank

APPENDIX A. RELATED READING MATERIAL

Obtain the latest version of the following free publications from the FAA on its Web site at <http://www.faa.gov/airports/>.

Table A-1. FAA Publications

Number	Title and Description
<u>AC 150/5200-28</u>	<i>Notices to Airmen (NOTAMs) for Airport Operators</i> Guidance for using the NOTAM System in airport reporting.
<u>AC 150/5200-30</u>	<i>Airport Field Condition Assessments and Winter Operations Safety</i> Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
<u>AC 150/5200-33</u>	<i>Hazardous Wildlife Attractants On or Near Airports</i> Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
<u>AC 150/5210-5</u>	<i>Painting, Marking, and Lighting of Vehicles Used on an Airport</i> Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
<u>AC 150/5210-20</u>	<i>Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports</i> Guidance to airport operators on developing ground vehicle operation training programs.
<u>AC 150/5300-13</u>	<i>Airport Design</i> FAA standards and recommendations for airport design. Establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
<u>AC 150/5210-24</u>	<i>Airport Foreign Object Debris (FOD) Management</i> Guidance for developing and managing an airport foreign object debris (FOD) program

Number	Title and Description
<u>AC 150/5320-15</u>	<i>Management of Airport Industrial Waste</i> Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
<u>AC 150/5340-1</u>	<i>Standards for Airport Markings</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5340-18</u>	<i>Standards for Airport Sign Systems</i> FAA standards for the siting and installation of signs on airport runways and taxiways.
<u>AC 150/5345-28</u>	<i>Precision Approach Path Indicator (PAPI) Systems</i> FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.
<u>AC 150/5340-30</u>	<i>Design and Installation Details for Airport Visual Aids</i> Guidance and recommendations on the installation of airport visual aids.
<u>AC 150/5345-39</u>	<i>Specification for L-853, Runway and Taxiway Retroreflective Markers</i>
<u>AC 150/5345-44</u>	<i>Specification for Runway and Taxiway Signs</i> FAA specifications for unlighted and lighted signs for taxiways and runways.
<u>AC 150/5345-53</u>	<i>Airport Lighting Equipment Certification Program</i> Details on the Airport Lighting Equipment Certification Program (ALECP).
<u>AC 150/5345-50</u>	<i>Specification for Portable Runway and Taxiway Lights</i> FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
<u>AC 150/5345-55</u>	<i>Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure</i>

Number	Title and Description
<u>AC 150/5370-10</u>	<i>Standards for Specifying Construction of Airports</i> Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
<u>AC 150/5370-12</u>	<i>Quality Management for Federally Funded Airport Construction Projects</i>
EB 93	<i>Guidance for the Assembly and Installation of Temporary Orange Construction Signs</i>
FAA Order 5200.11	<u>FAA Airports (ARP) Safety Management System (SMS)</u> Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	<i>Grasses Attractive to Hazardous Wildlife</i> Guidance on grass management and seed selection.
FAA Form 7460-1	<u>Notice of Proposed Construction or Alteration</u>
FAA Form 7480-1	<u>Notice of Landing Area Proposal</u>
FAA Form 6000.26	National NAS Strategic Interruption Service Level Agreement, Strategic Events Coordination, Airport Sponsor Form

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at <http://www.ecfr.gov/>.

Table A-2. Code of Federal Regulation

Number	Title
Title 14 CFR Part 77	Safe, Efficient Use and Preservation of the Navigable Airspace
Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at <http://mutcd.fhwa.dot.gov/>.

Page Intentionally Blank

APPENDIX B. TERMS AND ACRONYMS**Table B-1. Terms and Acronyms**

Term	Definition
Form 7460-1	Notice of Proposed Construction or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, <i>Safe, Efficient Use, and Preservation of the Navigable Airspace</i> . (See guidance available on the FAA web site at https://oeaaa.faa.gov .) The form may be downloaded at http://www.faa.gov/airports/resources/forms/ , or filed electronically at: https://oeaaa.faa.gov .
Form 7480-1	Notice of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. The form may be downloaded at http://www.faa.gov/airports/resources/forms/ .
Form 6000-26	Airport Sponsor Strategic Event Submission Form
AC	Advisory Circular
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area, as defined in 14 CFR Part 107. Means a portion of an airport, specified in the airport security program, in which security measures are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. This area does not include the secured area of the airport terminal building.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
AT	Air Traffic
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under

Term	Definition
	the authority of 14 CFR Part 139, <i>Certification of Airports</i> .
CFR	Code of Federal Regulations
Construction	The presence of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety and Phasing Plan. The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FOD	Foreign Object Debris/Damage
FSS	Flight Service Station
GA	General Aviation
HAZMAT	Hazardous Materials
HMA	Hot Mix Asphalt
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.

Term	Definition
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OCC	Operations Control Center
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See <u>AC 150/5300-13</u> for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to <u>AC 150/5300-13</u> for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
OTS	Out of Service
P&R	Planning and Requirements Group
NPI	NAS Planning & Integration
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicator
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RA	Reimbursable Agreement
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with <u>AC 150/5300-13</u> .
SDS	Safety Data Sheet
SIDA	Security Identification Display Area
SMS	Safety Management System

Term	Definition
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
SSC	System Support Center
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with <u>AC 150/5300-13</u> .
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See <u>AC 150/5300-13</u> for guidance on declared distances.
TSA	Taxiway Safety Area, or Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicator
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicator (PAPI), visual approach slope indicator (VASI), and pulse light approach slope indicator (PLASI).
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>				
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>				
Scheduling of the construction phases is properly addressed.	<u>2.6</u>				
Any formal agreements are established.	<u>2.5.3</u>				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	<u>2.7.1</u>				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>				
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>				
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>				
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>				
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>				
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>				
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>				
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>				
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	<u>2.8</u>				
Protection of NAVAID facilities is addressed.	<u>2.8</u>				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>				
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>				
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>				
Construction site parking is addressed.	<u>2.9.2.1</u>				
Construction equipment parking is addressed.	<u>2.9.2.2</u>				
Access and haul roads are addressed.	<u>2.9.2.3</u>				
A requirement for marking and lighting of vehicles to comply with <u>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</u> , is included.	<u>2.9.2.4</u>				
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>				
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>				
Two-way radio communications procedures are described.	<u>2.9.2.9</u>				
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>				
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator’s FOD management procedures are addressed.	<u>2.11</u>				
Hazardous Materials Management					
The airport operator’s hazardous materials management procedures are addressed.	<u>2.12</u>				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>				
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>				
A list of ATCT managers on duty is included.	<u>2.13.1</u>				
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>				
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>				
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>				
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>				
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>				
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>				
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>				
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>				
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>				
Markings for temporary closures are specified.	<u>2.20.2.5</u>				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1</u> , <u>2.22.3.1</u>				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2</u> , <u>2.22.3.2</u>				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>				
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>				
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>				
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>				

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

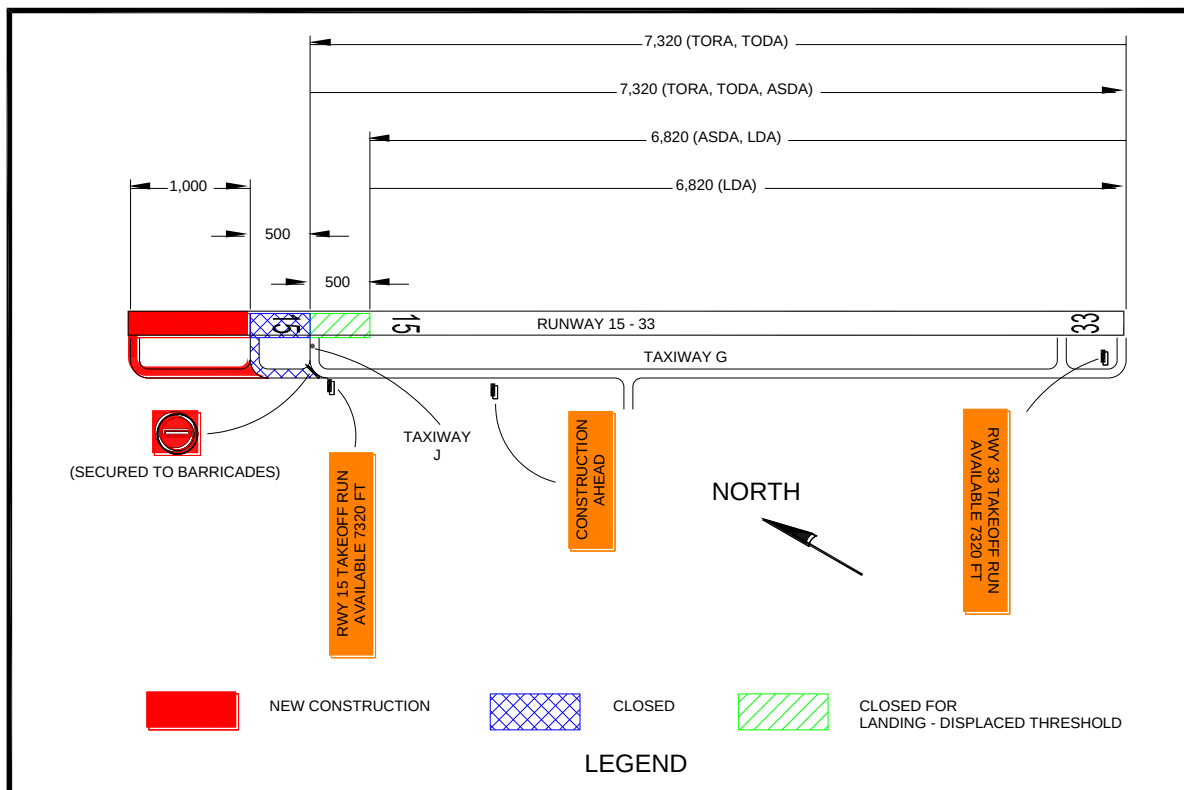
Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE**E.1 Project Description.**

Runway 15-33 is currently 7820 feet long, with a 500 foot stopway on the north end. This project will remove the stopway and extend the runway 1000 feet to the north and 500 feet to the south. Finally, the existing portion of the runway will be repaved. The runway 33 glide slope will be relocated. The new runway 33 localizer has already been installed by FAA Technical Operations and only needs to be switched on. Runway 15 is currently served only by a localizer, which will remain in operation as it will be beyond the future RSA. Appropriate NOTAMS will be issued throughout the project.

- E.1.1 During Phase I, the runway 15 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 15 takeoff and the departure end of runway 33 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 33 will be adjusted to provide the required RSA and applicable departure surface. Excavation near Taxiway G will require its ADG to be reduced from IV to III. See [Figure E-1](#).

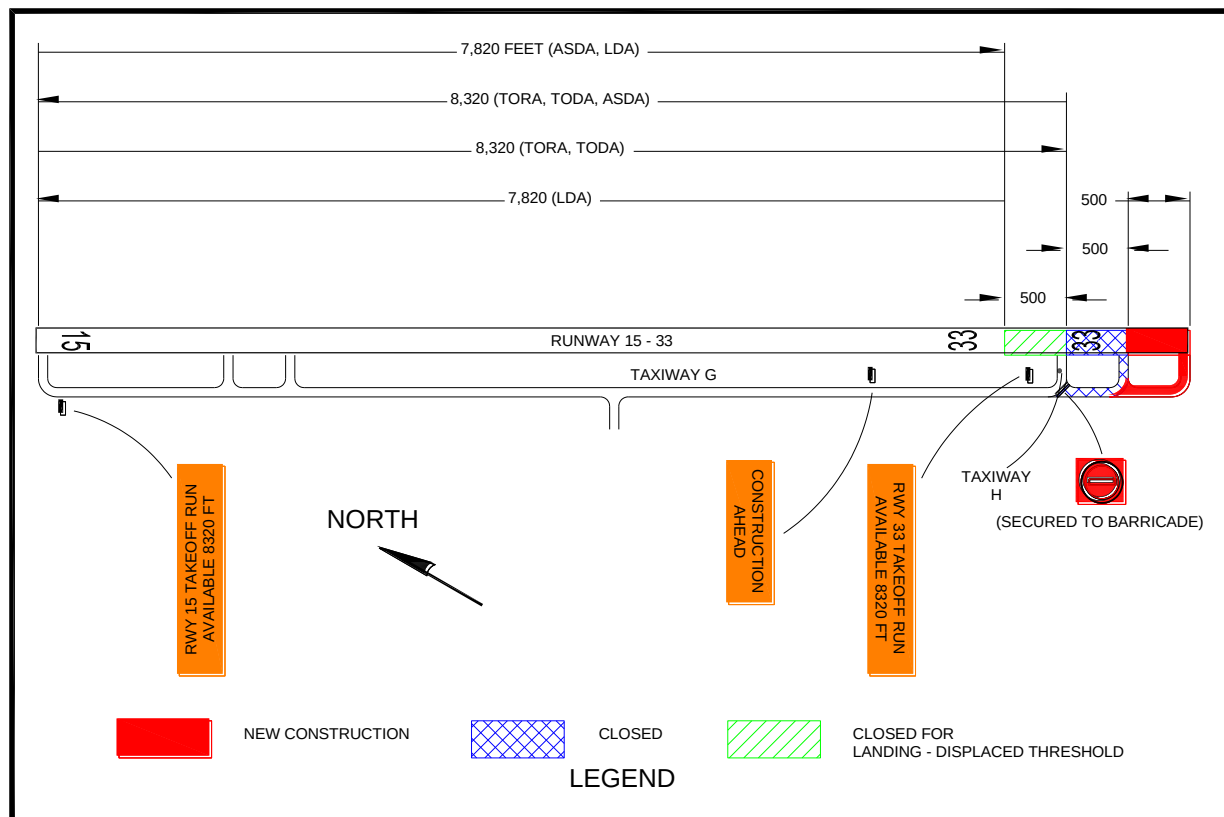
Figure E-1. Phase I Example

Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 33 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.2 During Phase II, the runway 33 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 33 takeoff and the departure end of runway 15 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 15 will be adjusted to provide the required RSA and applicable departure surface. See Figure E-2.

Figure E-2. Phase II Example



Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 15 departures, the maximum equipment height in the construction area is 12.5 feet ($500/40 = 12.5$).

- E.3 During Phase III, the existing portion of the runway will be repaved with Hot Mix Asphalt (HMA) and the runway 33 glide slope will be relocated. Construction will be accomplished between the hours of 8:00 pm and 5:00 am, during which the runway will be closed to operations.

Figure E-3. Phase III Example

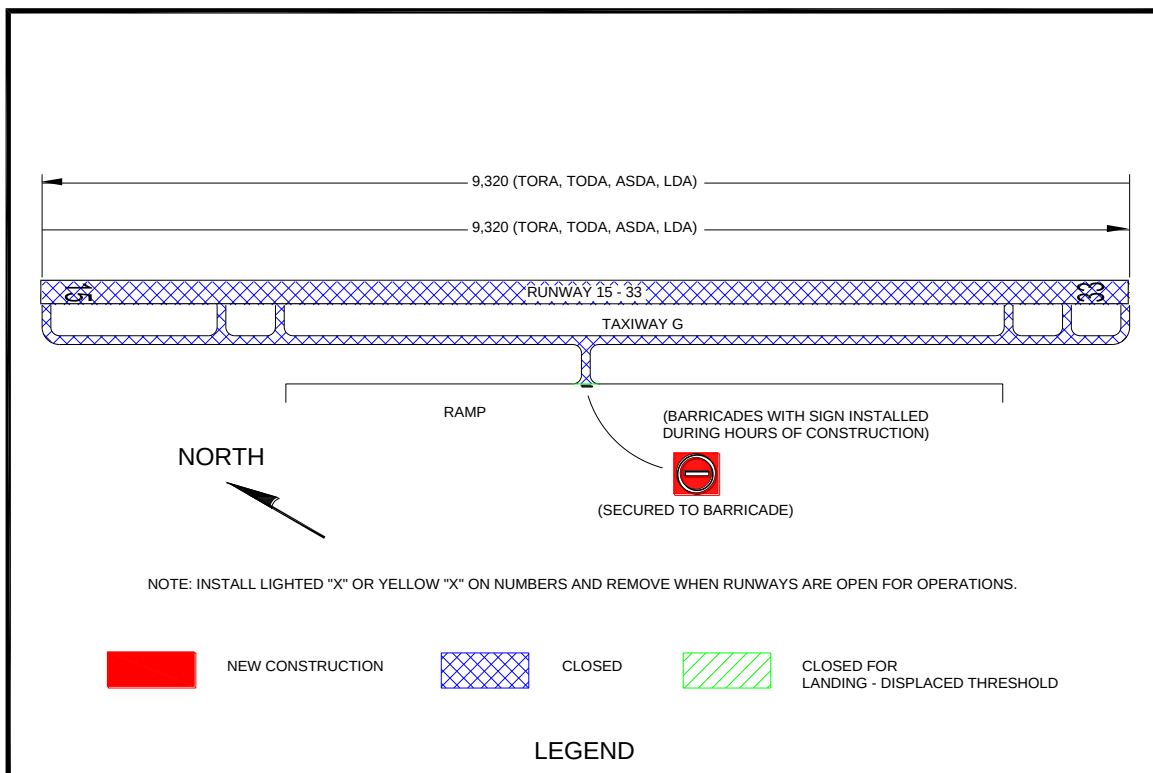


Table E-1. Operational Effects Table

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Scope of Work	N/A	Extend Runway 15-33 1,000 ft on north end with Hot Mix Asphaltic Concrete (HMA).	Extend Runway 15-33 500 ft on south end with Hot Mix Asphaltic Concrete (HMA).	Repave existing runway with HMA Relocate Runway 33 Glide Slope
Effects of Construction Operations	N/A	Existing North 500 ft closed	Existing South 500 ft closed	Runway closed between 8:00 pm and 5:00 am Edge lighting out of service
Construction Phase	N/A	Phase I (Anticipated)	Phase II (Anticipated)	Phase III (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 40 /day GA: 26 /day Military: 0 /day	Carrier: 45 /day GA: 26 /day Military: 5 /day	Carrier: 45 / day GA: 20 / day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 30 /day GA: 18 /day Military: 0 /day	Carrier: 25 /day GA: 18 /day Military: 5 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 Aircraft Category	C-IV	C-IV	C-IV	C-IV
Runway 15 Approach Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Runway 33 Approach Visibility Minimums	$\frac{3}{4}$ mile	$\frac{3}{4}$ mile	$\frac{3}{4}$ mile	1 mile

Note: Proper coordination with Flight Procedures group is necessary to maintain instrument approach procedures during construction.

Project		Runway 15-33 Extension and Repaving			
Phase		Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Runway 15 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	7,820	7,320	7,820	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 33 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	8,320	6,820	8,320	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 15 Approach Procedures		LOC only	LOC only	LOC only	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 33 Approach Procedures		ILS	ILS	ILS	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 15 NAVAIDs		LOC	LOC	LOC	LOC
Runway 33 NAVAIDs		ILS, MALSR	ILS, MALSR	ILS, MALSR	LOC, MALSR
Taxiway G ADG		IV	III	IV	IV
Taxiway G TDG		4	4	4	4
ATCT (hours open)		24 hours	24 hours	24 hours	0500 - 2000
ARFF Index		D	D	D	D

Project	Runway 15-33 Extension and Repaving			
Phase	Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Special Conditions	Air National Guard (ANG) military operations	All military aircraft relocated to alternate ANG Base	Some large military aircraft relocated to alternate ANG Base	All military aircraft relocated to alternate ANG Base
Information for NOTAMs		Refer above for applicable declared distances. Taxiway G limited to 118 ft wingspan	Refer above for applicable declared distances.	Refer above for applicable declared distances. Airport closed 2000 – 0500. Runway 15 glide slope OTS.

Note: This table is one example. It may be advantageous to develop a separate table for each project phase and/or to address the operational status of the associated NAVAIDs per construction phase.

Complete the following chart for each phase to determine the area that must be protected along the runway and taxiway edges:

Table E-2. Runway and Taxiway Edge Protection

Runway/Taxiway	Aircraft Approach Category* A, B, C, or D	Airplane Design Group* I, II, III, or IV	Safety Area Width in Feet Divided by 2*

*See AC 150/5300-13 to complete the chart for a specific runway/taxiway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

Table E-3. Protection Prior to Runway Threshold

Runway End Number	Airplane Design Group* I, II, III, or IV	Aircraft Approach Category* A, B, C, or D	Minimum Safety Area Prior to the Threshold*	Minimum Distance to Threshold Based on Required Approach Slope*	
				ft	: 1
				ft	: 1
				ft	: 1
				ft	: 1

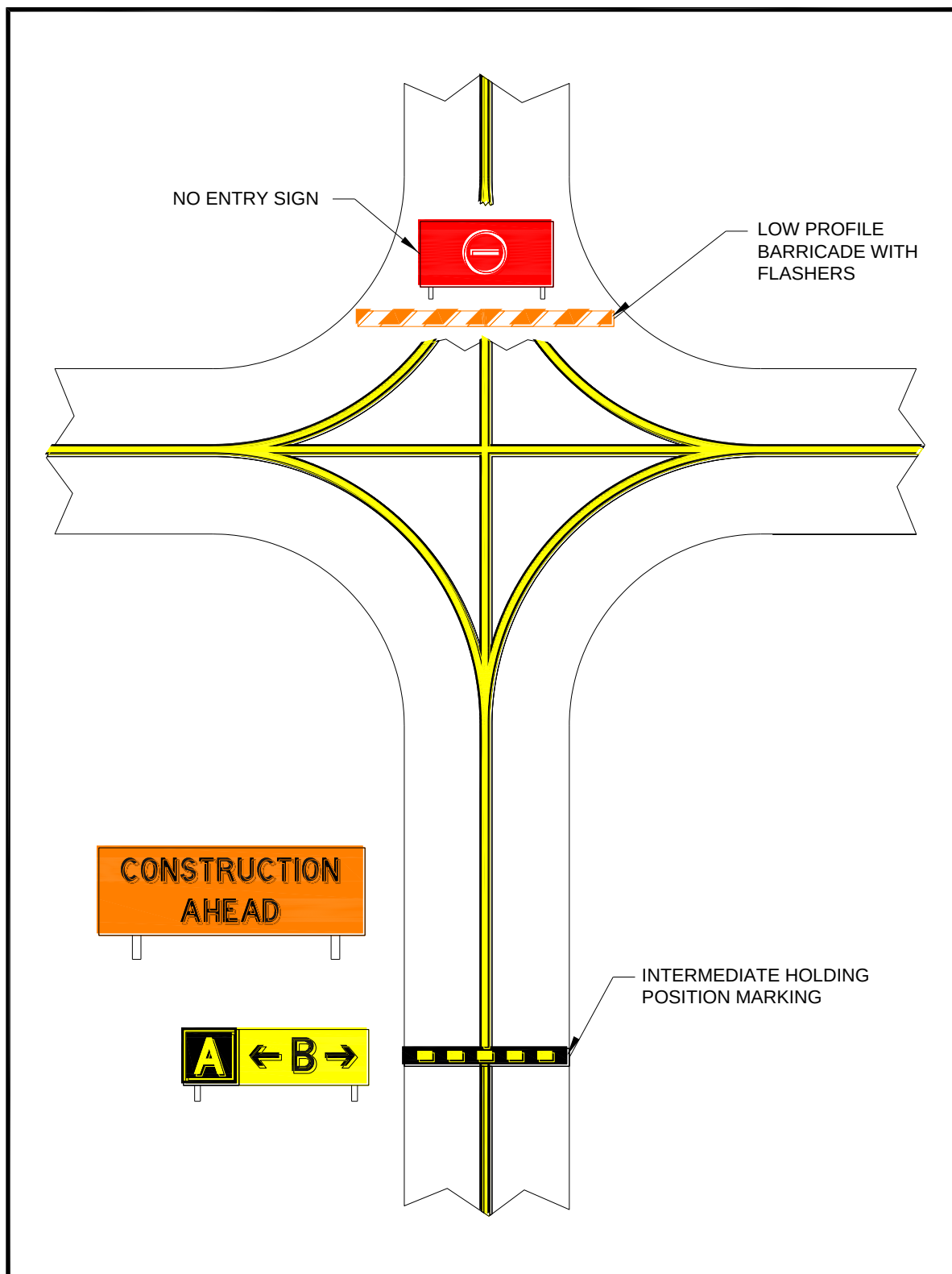
*See AC 150/5300-13 to complete the chart for a specific runway.

Page Intentionally Blank

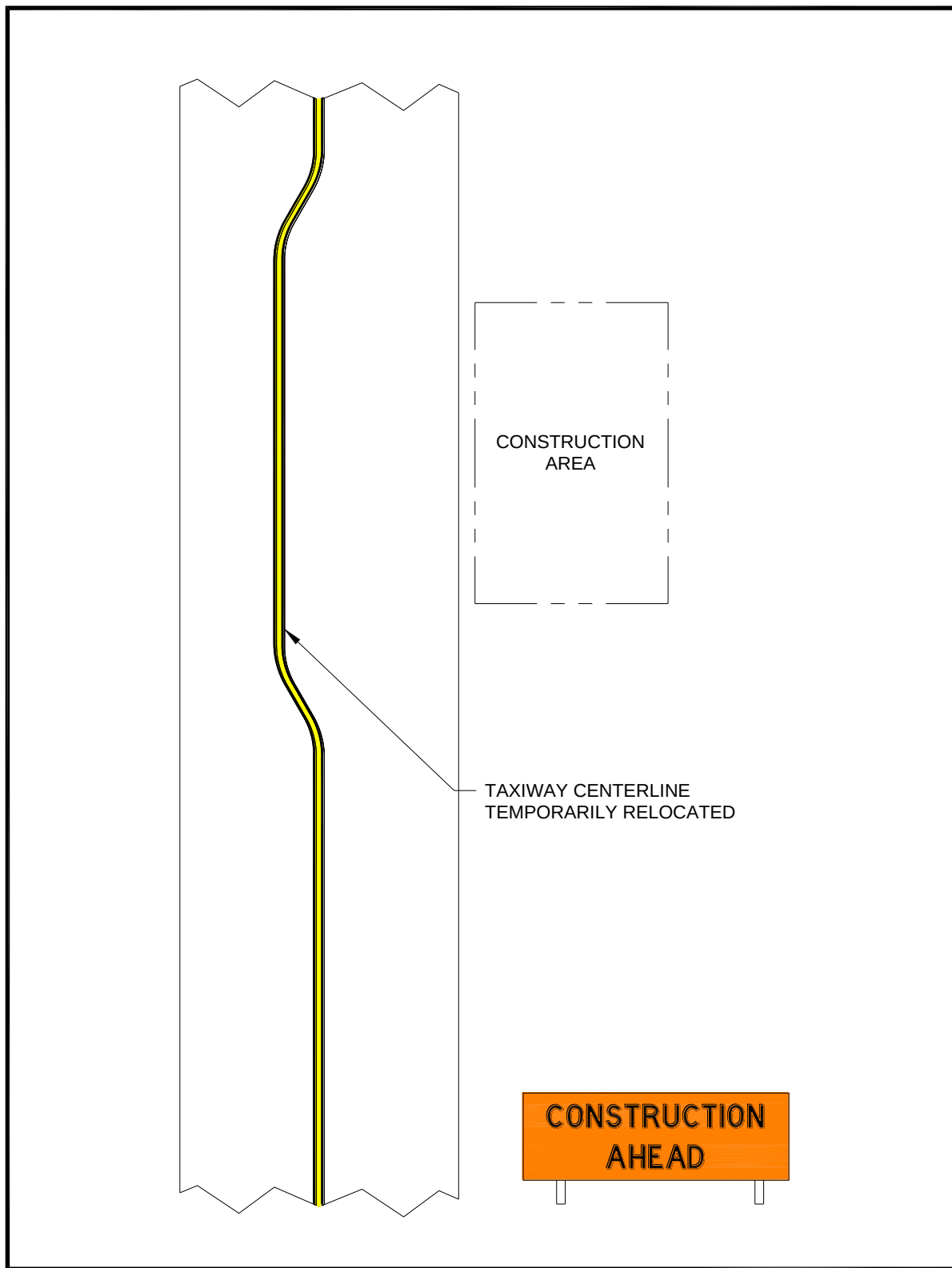
APPENDIX F. ORANGE CONSTRUCTION SIGNS

Figure F-1. Approved Sign Legends



Figure F-2. Orange Construction Sign Example 1

Note: For proper placement of signs, refer to EB 93.

Figure F-3. Orange Construction Sign Example 2

Note: For proper placement of signs, refer to EB 93.

Page Intentionally Blank

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5370-2G

Date: _____

Please check all appropriate line items:

- ☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.
- ☐ Recommend paragraph _____ on page _____ be changed as follows:
- _____
- _____
- _____
- ☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)
- _____
- _____
- _____
- ☐ Other comments:
- _____
- _____
- _____
- ☐ I would like to discuss the above. Please contact me at (phone number, email address).
- _____

Submitted by: _____

Date: _____

Page Intentionally Blank

ENGINEER'S ESTIMATE

INSTALL RUNWAY 17/35 EDGE LIGHTING

CITY OF STORM LAKE

BMI PROJECT NO. 075.128791



Real People. Real Solutions.

March 1, 2023

Item No.	Item	Unit	Quantity	Unit Price	Total Amount
1	MOBILIZATION	LS	1	\$33,550.00	\$33,550.00
2	TRAFFIC CONTROL	LS	1	\$5,000.00	\$5,000.00
3	CONSTRUCTION SURVEY	LS	1	\$5,000.00	\$5,000.00
4	SEEDING FERTILIZING AND MULCHING	LS	1	\$8,000.00	\$8,000.00
5	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15000	\$3.00	\$45,000.00
6	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	LF	11500	\$3.00	\$34,500.00
7	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12500	\$4.00	\$50,000.00
8	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$40.00	\$5,000.00
9	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$50.00	\$6,250.00
10	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	\$800.00	\$3,200.00
11	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	\$1,300.00	\$63,700.00
12	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	\$1,350.00	\$21,600.00
13	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	\$1,300.00	\$27,300.00
14	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	\$5,500.00	\$22,000.00
15	SPARE PARTS, AS LISTED	LS	1	\$5,000.00	\$5,000.00
16	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	\$15,000.00	\$15,000.00

OPINION OF PROBABLE CONSTRUCTION COST: **\$350,100.00**

ALTERNATE A

Item No.	Item	Unit	Quantity	Unit Price	Total Amount
A1	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	\$15,000.00	\$15,000.00
A2	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	\$10.00	\$500.00
A3	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	\$10.00	\$250.00
A4	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	\$10.00	\$150.00
A5	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	\$1,000.00	\$1,000.00
A6	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	\$4,100.00	\$4,100.00

ALTERNATE A - PROBABLE CONSTRUCTION COST: **\$21,000.00**

ALTERNATE B

Item No.	Item	Unit	Quantity	Unit Price	Total Amount
B1	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	\$27,500.00	\$27,500.00
B2	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	\$2,500.00	\$2,500.00

ALTERNATE B - PROBABLE CONSTRUCTION COST: **\$30,000.00**

TOTAL BASE BID PLUS ALL ALTERNATES COST: **\$401,100.00**



Real People. Real Solutions.

218 11th Street SW Plaza
Spencer, IA 51301
Ph: (712) 580-5075
Bolton-Menk.com

March 27, 2023

Mr. Tyler Gibbins, Staff Accountant
City of Storm Lake
620 Erie Street, P.O. Box 1086
Storm Lake, IA 50588

RE: Recommendation of Award
Install Runway 17/35 Edge Lighting Project
FAA AIP Project No.: 3-19-0088-018-2023-AIP
BMI Project No.: OT5.128791

Dear Mr. Gibbins,

At 2:00 p.m. local time on March 23, 2023, bids were received for the Install Runway 17/35 Edge Lighting project. The Engineer's Opinion of Probable Cost for the Base Bid of the project was \$350,100.00, Bid Alternate 'A' was \$21,000.00, and Bid Alternate 'B' was \$30,000.00 for a total of estimated cost of \$401,100. Two (2) bids were received, all bidders were responsive, and bids are summarized as follows:

Bidder	City	Base Bid	Bid Alternate 'A'	Bid Alternate 'B'	Total (Base Plus All Alternates)
Voltmer, Inc.	Decorah, IA	\$280,453.25	\$12,169.00	\$3,381.00	\$296,003.25
K & W Electric	Cedar Falls, IA	\$335,525.00	\$14,285.00	\$10,500.00	\$360,310.00

The bid received from Voltmer, Inc. for the base bid plus all alternates was 26% below the Engineer's Opinion of Probable Cost for the project and was determined to be the lowest responsive, responsible bidder. Bolton & Menk, Inc. has reviewed the bid documents submitted and checked references on this bidder and was satisfied with responses given.

Its my understanding in talking with you that Voltmer, Inc. may not have worked on an electrical project in the past at the Storm Lake Municipal Airport or for the City of Storm Lake. Since you have limited knowledge of the low bidder, I am providing you herein information regarding experience and the proficiency of the lowest responsive and responsible bidder.

Voltmer is a reputable airfield electrical lighting contractor and will suit your project needs. They have shown thru past performance on other airport projects with Bolton & Menk and through my own personal knowledge from the last 10+ years, that they can successfully complete projects. I am actively working on other projects with them at other general aviation airports across the State of Iowa. Voltmer, Inc. included in their Bid proposal a list of recently completed projects and projects they are currently working on. I have attached this list to this letter for your reference.

Bolton & Menk, Inc. recommends award of the Install Runway 17/35 Edge Lighting Project to Voltmer, Inc. of Decorah, Iowa, for the total amount of \$296,003.25 (Two Hundred Ninety-Six Thousand, Three and 25/100 Dollars), which includes for the Base Bid, Bid Alternate 'A' and Bid Alternate 'B', based on FAA concurrence and available funding.

The bid tabulation is attached for your use.

Feel free to contact me should there be any questions related to this project.

Sincerely,



Joseph P. Roenfeldt, P.E.
Aviation Project Manager

Attachment: Bid Tabulation
Voltmer, Inc. List of Current and Recently Completed Projects

Storm Lake, Iowa
Storm Lake Municipal Airport
Install Runway 17/35 Edge Lighting



**BOLTON
& MENK**

218 11th Street SW Plaza
Spencer, IA 51301
Ph: (712) 580-5075
Bolton-Menk.com

TABULATION OF BIDS

Bid Letting Date: Thursday, March 23, 2023 @ 2:00 PM CST

BASE BID

Apparent Low Bidder

Line No.	Description	Unit	Quantity	Engineer's Opinion of Probable Cost		Voltmer, Inc. Decorah, Iowa		K & W Electric Cedar Falls, Iowa	
				Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
1	MOBILIZATION	LS	1	\$33,550.00	\$ 33,550.00	\$ 22,861.00	\$ 22,861.00	\$ 15,500.00	\$ 15,500.00
2	TRAFFIC CONTROL	LS	1	\$5,000.00	\$ 5,000.00	\$ 4,320.00	\$ 4,320.00	\$ 24,000.00	\$ 24,000.00
3	CONSTRUCTION SURVEY	LS	1	\$5,000.00	\$ 5,000.00	\$ 6,059.00	\$ 6,059.00	\$ 6,000.00	\$ 6,000.00
4	SEEDING FERTILIZING AND MULCHING	LS	1	\$8,000.00	\$ 8,000.00	\$ 12,000.00	\$ 12,000.00	\$ 15,000.00	\$ 15,000.00
5	NO. 8 AWG 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	15,000	\$3.00	\$ 45,000.00	\$ 1.20	\$ 18,000.00	\$ 1.40	\$ 21,000.00
6	INSTALLED IN TRENCH OR ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	LF	11,500	\$3.00	\$ 34,500.00	\$ 1.50	\$ 17,250.00	\$ 1.50	\$ 17,250.00
7	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	12,500	\$4.00	\$ 50,000.00	\$ 3.40	\$ 42,500.00	\$ 4.25	\$ 53,125.00
8	2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$40.00	\$ 5,000.00	\$ 24.75	\$ 3,093.75	\$ 20.00	\$ 2,500.00
9	2 WAY 2" PVC/HDPE CONDUIT, DIRECTIONALLY BORED	LF	125	\$50.00	\$ 6,250.00	\$ 46.50	\$ 5,812.50	\$ 23.00	\$ 2,875.00
10	L-867 ELECTRICAL HANDHOLE, SIZE B, 24" DEEP	EA	4	\$800.00	\$ 3,200.00	\$ 776.00	\$ 3,104.00	\$ 1,000.00	\$ 4,000.00
11	L-861 (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY EDGE LIGHT	EA	49	\$1,300.00	\$ 63,700.00	\$ 1,230.00	\$ 60,270.00	\$ 1,475.00	\$ 72,275.00
12	L-861SE (L) MIRL, 24" TALL, BASE MOUNTED RUNWAY THRESHOLD LIGHT	EA	16	\$1,350.00	\$ 21,600.00	\$ 1,410.00	\$ 22,560.00	\$ 1,600.00	\$ 25,600.00
13	L-861 T (L) MITL, 24" TALL, BASE MOUNTED TAXIWAY EDGE LIGHT	EA	21	\$1,300.00	\$ 27,300.00	\$ 1,263.00	\$ 26,523.00	\$ 1,650.00	\$ 34,650.00
14	L-858 (L) GUIDANCE SIGN, SIZE 1, DOUBLE FACE	EA	4	\$5,500.00	\$ 22,000.00	\$ 5,198.00	\$ 20,792.00	\$ 5,750.00	\$ 23,000.00
15	SPARE PARTS, AS LISTED	LS	1	\$5,000.00	\$ 5,000.00	\$ 3,158.00	\$ 3,158.00	\$ 5,800.00	\$ 5,800.00
16	DEMOLITION AND REMOVAL OF EXISTING EDGE LIGHTING SYSTEM	LS	1	\$15,000.00	\$ 15,000.00	\$ 12,150.00	\$ 12,150.00	\$ 12,950.00	\$ 12,950.00
TOTAL - BASE BID				\$ 350,100.00		\$ 280,453.25		\$ 335,525.00	

ALTERNATE A

Apparent Low Bidder

Line No.	Description	Unit	Quantity	Engineer's Opinion of Probable Cost					
				Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
A1	L-807 (L) LED, STYLE I-B, SIZE 2, PRIMARY WIND CONE AND FOUNDATION, IN PLACE	EA	1	\$ 15,000.00	\$ 15,000.00	\$ 9,620.00	\$ 9,620.00	\$ 10,850.00	\$ 10,850.00
A2	NO. 6 AWG, 600V, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	50	\$ 10.00	\$ 500.00	\$ 3.86	\$ 193.00	\$ 2.40	\$ 120.00
A3	NO. 6 AWG, 600V EQUIPMENT GROUND, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	25	\$ 10.00	\$ 250.00	\$ 7.00	\$ 175.00	\$ 2.40	\$ 60.00
A4	NON-ENCASED 2" PVC/HDPE CONDUIT	LF	15	\$ 10.00	\$ 150.00	\$ 35.00	\$ 525.00	\$ 12.00	\$ 180.00
A5	L-867 ELECTRICAL HANDHOLE, SIZE D, 24" DEEP	EA	1	\$ 1,000.00	\$ 1,000.00	\$ 981.00	\$ 981.00	\$ 1,575.00	\$ 1,575.00
A6	DEMOLITION AND REMOVAL OF EXISTING WINDCONE	LS	1	\$ 4,100.00	\$ 4,100.00	\$ 675.00	\$ 675.00	\$ 1,500.00	\$ 1,500.00
TOTAL - ALTERNATE A				\$ 21,000.00		\$ 12,169.00		\$ 14,285.00	

ALTERNATE B

Apparent Low Bidder

Line No.	Description	Unit	Quantity	Engineer's Opinion of Probable Cost					
				Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
B1	L-802A (L) LED HIGH INTENSITY ROTATING BEACON, OWNER FURNISHED, CONTRACTOR INSTALLED, IN PLACE	EA	1	\$ 27,500.00	\$ 27,500.00	\$ 2,706.00	\$ 2,706.00	\$ 8,500.00	\$ 8,500.00
B2	DEMOLITION AND REMOVAL OF EXISTING ROTATING BEACON	LS	1	\$ 2,500.00	\$ 2,500.00	\$ 675.00	\$ 675.00	\$ 2,000.00	\$ 2,000.00
TOTAL - ALTERNATE B				\$ 30,000.00		\$ 3,381.00		\$ 10,500.00	

GRAND TOTAL - BASE BID and ALTERNATE A and ALTERNATE B				\$ 401,100.00		\$ 296,003.25		\$ 360,310.00	
--	--	--	--	---------------	--	---------------	--	---------------	--

I hereby certify that this is a true and correct tabulation of bids received and opened on March 23, 2023 for the "Install Runway 17/35 Edge Lighting" project at the Storm Lake Municipal Airport, Storm Lake , Iowa

Joseph P. Roenfeldt, P.E. Iowa Reg. No. 21134



1732 Old Stage Rd., PO Box 200
Decorah, IA 52101
Phone: 563-382-9214
Fax: 563-382-5923
www.voltmerelectric.com

Qualification Statement

For Storm Lake Municipal Airport Runway 17/35 Edge Lighting

Voltmer, Inc. is a specialty electrical contractor based in Northeast Iowa with 50 years of experience. We specialize installing roadway lighting, signing and traffic signals for state DOT and city projects throughout the state of Iowa. For the past 28 years, we have worked on numerous airfield lighting projects in Iowa. Currently, airfield lighting projects compose about 30% of our business.

Our airfield crews install and maintain all aspects of airfield lighting and signing systems. These include medium/high intensity runway lights, Precision Approach Path Indicators (PAPI), Runway End Indicator Lights (REIL), Automated Weather Observing Stations (AWOS), Glide Slopes, Localizers, and Medium Intensity Approach Lighting Runway Alignment Systems (MALSR).

Recently Completed Airfield Lighting Projects:

Ames Municipal Airport – Replace Runway 1/19 & Taxiway A North Lighting

Cherokee Co Regional Airport – Install MITL on Taxiway A & Replace Airfield Electrical Vault

Forest City Municipal Airport – Rehabilitate Taxiway Lighting

Ft. Dodge Municipal Airport – Reconstruct Taxiway B

Pella Municipal Airport – AWOS Replacement

Current Airfield Lighting Projects:

Boone Municipal Airport – Reconstruct Runway 15/33

Creston Municipal Airport – Reconstruct Runway 16/34

Monticello Regional Airport – Construct Connector Taxiway

Red Oak Municipal Airport – Install Runway Edge Lighting

Southeast Iowa Regional Airport – Reconstruct Taxiway B

Voltmer, Inc. has a full line of newer construction equipment of varying sizes including track loaders, excavators, trenchers, plows, digger derricks, bucket trucks and cranes.

Voltmer, Inc. is an approved contractor with the Iowa Department of Transportation, Minnesota Department of Transportation and Wisconsin Bureau of Aeronautics.

Application for Federal Assistance SF-424

*1. Type of Submission:

☐ Preapplication

☒ Application

☐ Changed/Corrected Application

*2. Type of Application

☒ New

☐ Continuation

☐ Revision

* If Revision, select appropriate letter(s):

* Other (Specify)

*3. Date Received:

4. Applicant Identifier:

5a. Federal Entity Identifier:

3-19-0088-018-2023

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

*a. Legal Name: City of Storm Lake, Iowa

*b. Employer/Taxpayer Identification Number (EIN/TIN):

42-605255

*c. UEI:

KRERQ5MYGKQ3

d. Address:

*Street 1: 620 Erie St

Street 2:

*City: Storm Lake

County/Parish:

*State: Province: IA

*Country: USA: United States

*Zip / Postal Code 50588-1850

e. Organizational Unit:

Department Name:

Storm Lake Municipal Airport

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: *First Name: Keri

Middle Name:

*Last Name: Navratil

Suffix:

Title: City Manager

Organizational Affiliation:

*Telephone Number: 712-732-8000

Fax Number: (712) 732-4114

*Email: navratil@stormlake.org

Application for Federal Assistance SF-424***9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Pick an applicant type

Type of Applicant 3: Select Applicant Type:

Pick an applicant type

*Other (Specify)

10. Name of Federal Agency:*11. Catalog of Federal Domestic Assistance Number:**

20.106

CFDA Title:

Airport Improvement Program

***12. Funding Opportunity Number:**

*Title:

Install Runway 17/35 Edge Lighting

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):***15. Descriptive Title of Applicant's Project:**

Install Runway 17/35 Edge Lighting

Attach supporting documents as specified in agency instructions.

Application for Federal Assistance (Development and Equipment Projects)

PART II – PROJECT APPROVAL INFORMATION

Part II - SECTION A	
The term "Sponsor" refers to the applicant name provided in box 8 of the associated SF-424 form.	
Item 1. Does Sponsor maintain an active registration in the System for Award Management (www.SAM.gov)?	☒ Yes ☐ No
Item 2. Can Sponsor commence the work identified in the application in the fiscal year the grant is made or within six months after the grant is made, whichever is later?	☒ Yes ☐ No ☐ N/A
Item 3. Are there any foreseeable events that would delay completion of the project? If yes, provide attachment to this form that lists the events.	☐ Yes ☒ No ☐ N/A
Item 4. Will the project(s) covered by this request have impacts or effects on the environment that require mitigating measures? If yes, attach a summary listing of mitigating measures to this application and identify the name and date of the environmental document(s).	☐ Yes ☒ No ☐ N/A
Item 5. Is the project covered by this request included in an approved Passenger Facility Charge (PFC) application or other Federal assistance program? If yes, please identify other funding sources by checking all applicable boxes. ☐ The project is included in an <i>approved</i> PFC application. If included in an approved PFC application, does the application <i>only</i> address AIP matching share? ☐ Yes ☐ No ☐ The project is included in another Federal Assistance program. Its CFDA number is below.	
Item 6. Will the requested Federal assistance include Sponsor indirect costs as described in 2 CFR Appendix VII to Part 200, States and Local Government and Indian Tribe Indirect Cost Proposals? ☐ Yes ☒ No ☐ N/A If the request for Federal assistance includes a claim for allowable indirect costs, select the applicable indirect cost rate the Sponsor proposes to apply: ☐ De Minimis rate of 10% as permitted by 2 CFR § 200.414. ☐ Negotiated Rate equal to % as approved by (the Cognizant Agency) on (Date) (2 CFR part 200, appendix VII). <i>Note: Refer to the instructions for limitations of application associated with claiming Sponsor indirect costs.</i>	

PART II - SECTION B

Certification Regarding Lobbying

The declarations made on this page are under the signature of the authorized representative as identified in box 21 of form SF-424, to which this form is attached. The term "Sponsor" refers to the applicant name provided in box 8 of the associated SF-424 form.

The Authorized Representative certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Sponsor, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the Authorized Representative shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The Authorized Representative shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

PART II – SECTION C

The Sponsor hereby represents and certifies as follows:

1. Compatible Land Use – The Sponsor has taken the following actions to assure compatible usage of land adjacent to or in the vicinity of the airport:

The Sponsor has in place zoning ordinances.

2. Defaults – The Sponsor is not in default on any obligation to the United States or any agency of the United States Government relative to the development, operation, or maintenance of any airport, except as stated herewith:

The City of Storm Lake is not in default.

3. Possible Disabilities – There are no facts or circumstances (including the existence of effective or proposed leases, use agreements or other legal instruments affecting use of the Airport or the existence of pending litigation or other legal proceedings) which in reasonable probability might make it impossible for the Sponsor to carry out and complete the Project or carry out the provisions of the Grant Assurances, either by limiting its legal or financial ability or otherwise, except as follows:

The City of Storm Lake has no disabilities.

4. Consistency with Local Plans – The project is reasonably consistent with plans existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

The project is consistent with current Airport Layout Plan (ALP).

5. Consideration of Local Interest – It has given fair consideration to the interest of communities in or near where the project may be located.

Local interest has been given consideration.

6. Consultation with Users – In making a decision to undertake an airport development project under Title 49, United States Code, it has consulted with airport users that will potentially be affected by the project (§ 47105(a)(2)).

There has been contact and consultation with the affected parties and users of the airport.

7. Public Hearings – In projects involving the location of an airport, an airport runway or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.

Public hearings are not required for this project.

8. Air and Water Quality Standards – In projects involving airport location, a major runway extension, or runway location it will provide for the Governor of the state in which the project is located to certify in writing to the Secretary that the project will be located, designed, constructed, and operated so as to comply with applicable and air and water quality standards. In any case where such standards have not been approved and where applicable air and water quality standards have been promulgated by the Administrator of the Environmental Protection Agency, certification shall be obtained from such Administrator. Notice of certification or refusal to certify shall be provided within sixty days after the project application has been received by the Secretary.

Permitting is not required for this project.

PART II – SECTION C (Continued)

9. Exclusive Rights – There is no grant of an exclusive right for the conduct of any aeronautical activity at any airport owned or controlled by the Sponsor except as follows:

No exclusive rights have been granted.

10. Land – (a) The sponsor holds the following property interest in the following areas of land, which are to be developed or used as part of or in connection with the Airport subject to the following exceptions, encumbrances, and adverse interests, all of which areas are identified on the aforementioned property map designated as Exhibit “A”. [1]

The City of Storm Lake maintains property interest as depicted on the Exhibit A property map dated 07/13/2013 that was prepared under AIP 3-19-0088-09, and is incorporated herein by reference.

The Sponsor further certifies that the above is based on a title examination by a qualified attorney or title company and that such attorney or title company has determined that the Sponsor holds the above property interests.

(b) The Sponsor will acquire within a reasonable time, but in any event prior to the start of any construction work under the Project, the following property interest in the following areas of land on which such construction work is to be performed, all of which areas are identified on the aforementioned property map designated as Exhibit “A”. [1]

No additional land is required to be acquired for the Storm Lake Municipal Airport as part of this project.

(c) The Sponsor will acquire within a reasonable time, and if feasible prior to the completion of all construction work under the Project, the following property interest in the following areas of land which are to be developed or used as part of or in connection with the Airport as it will be upon completion of the Project, all of which areas are identified on the aforementioned property map designated as Exhibit “A”. [1]

No additional land is required to be acquired for Storm Lake Municipal Airport as part of this project.

¹ State the character of property interest in each area and list and identify for each all exceptions, encumbrances, and adverse interests of every kind and nature, including liens, easements, leases, etc. The separate areas of land need only be identified here by the area numbers shown on the property map.

PART III – BUDGET INFORMATION – CONSTRUCTION

SECTION A – GENERAL	
1. Assistance Listing Number:	20.106
2. Functional or Other Breakout:	Airport Improvement Program

SECTION B – CALCULATION OF FEDERAL GRANT			
Cost Classification	Latest Approved Amount (Use only for revisions)	Adjustment + or (-) Amount (Use only for revisions)	Total Amount Required
1. Administration expense			\$ 2,097
2. Preliminary expense			
3. Land, structures, right-of-way			
4. Architectural engineering basic fees			99,900
5. Other Architectural engineering fees			
6. Project inspection fees			
7. Land development			
8. Relocation Expenses			
9. Relocation payments to Individuals and Businesses			
10. Demolition and removal			
11. Construction and project improvement			296,003
12. Equipment			
13. Miscellaneous			17,000
14. Subtotal (Lines 1 through 13)			\$ 415,000
15. Estimated Income (if applicable)			
16. Net Project Amount (Line 14 minus 15)			415,000
17. Less: Ineligible Exclusions (Section C, line 23 g.)			
18. Subtotal (Lines 16 through 17)			\$ 415,000
19. Federal Share requested of Line 18			373,500
20. Grantee share			41,500
21. Other shares			
22. TOTAL PROJECT (Lines 19, 20 & 21)			\$ 415,000

SECTION C – EXCLUSIONS	
23. Classification (Description of non-participating work)	Amount Ineligible for Participation
a.	
b.	
c.	
d.	
e.	
f.	
g. Total	\$ 0

SECTION D – PROPOSED METHOD OF FINANCING NON-FEDERAL SHARE	
24. Grantee Share – Fund Categories	Amount
a. Securities	
b. Mortgages	
c. Appropriations (by Applicant)	41,500
d. Bonds	
e. Tax Levies	
f. Non-Cash	
g. Other (Explain):	
h. TOTAL - Grantee share	\$ 41,500
25. Other Shares	Amount
a. State	
b. Other	
c. TOTAL - Other Shares	\$ 0
26. TOTAL NON-FEDERAL FINANCING	\$ 41,500

SECTION E – REMARKS (Attach sheets if additional space is required)
The following items are incorporated by reference: Plans and Specs dated: March 2023 Exhibit A dated: July 13, 2013 Miscellaneous Item listed in Part III Section B, is for a sponsor supplied rotating beacon listed in AC 150/5345-53D, Addendum Dated December 2022.

PART IV – PROGRAM NARRATIVE
(Suggested Format)

PROJECT: Install Runway 17/35 Edge Lighting

AIRPORT: Storm Lake Municipal

1. Objective:

This project will remove the existing edge lighting system on Runway 17/35. It will replace it with a new edge lighting system with base can mounted edge lights, new conduit and new wire.

2. Benefits Anticipated:

The existing edge lighting system on Runway 17/35 has exceeded its useful life and is in need of replacement. Replacement of the edge lights will reduce overall maintenance costs for the airport and provide a reliable edge lighting system for the users of the airport.

3. Approach: (See approved Scope of Work in Final Application)

Detailed drawings and project manual were developed for the project by Bolton & Menk, Inc. Competitive bids were solicited through a public bid process. Award of construction will be to the lowest responsive and responsible bidder subject to FAA concurrence.

Owner: City of Storm Lake, Iowa
Prime Consultant: Bolton & Menk, Inc.
Prime Contractor: Voltmer, Inc.

4. Geographic Location:

The Storm Lake Municipal Airport is located approximately 3.6 miles SW of the City of Storm Lake, IA.

5. If Applicable, Provide Additional Information:

None

6. Sponsor's Representative: (include address & telephone number)

Keri Navratil
620 Erie Street, Storm Lake, IA 50588
712-732-8000

Application for Federal Assistance SF-424**16. Congressional Districts Of:**

*a. Applicant: IA-004

*b. Program/Project: IA-004

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

*a. Start Date: 08/01/2023

*b. End Date: 12/31/2024

18. Estimated Funding (\$):

*a. Federal	\$ 373,500
*b. Applicant	\$ 41,500
*c. State	\$ 0
*d. Local	\$ 0
*e. Other	\$ 0
*f. Program Income	
*g. TOTAL	\$ 415,000

***19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- ☐ a. This application was made available to the State under the Executive Order 12372 Process for review on _____.
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☒ c. Program is not covered by E.O. 12372.

***20. Is the Applicant Delinquent On Any Federal Debt?**☐ Yes ☒ No

If "Yes", explain:

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U. S. Code, Title 218, Section 1001)

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: _____ *First Name: Keri _____

Middle Name: _____

*Last Name: Navratil _____

Suffix: _____

*Title: City Manager

*Telephone Number: 712-732-8000

Fax Number: 712-732-4114

* Email: navratil@stormlake.org

*Signature of Authorized Representative:

*Date Signed: 04/03/2023

Construction Project Final Acceptance Airport Improvement Program Sponsor Certification

Sponsor: City of Storm Lake

Airport: Storm Lake Municipal

Project Number: 3-19-0088-018-2023

Description of Work: Install Runway 17/35 Edge Lighting

Application

49 USC § 47105(d), authorizes the Secretary to require me certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program. General standards for final acceptance and close out of federally funded construction projects are in 2 CFR § 200.343 – Closeout and supplemented by FAA Order 5100.38. The sponsor must determine that project costs are accurate and proper in accordance with specific requirements of the grant agreement and contract documents.

Certification Statements

Except for certification statements below marked not applicable (N/A), this list includes major requirements of the construction project. Selecting “Yes” represents sponsor acknowledgment and confirmation of the certification statement. The term “will” means Sponsor action taken at appropriate time based on the certification statement focus area, but no later than the end of the project period of performance. This list is not comprehensive and does not relieve the sponsor from fully complying with all applicable statutory and administrative standards. The source of the requirement is referenced within parenthesis.

1. The personnel engaged in project administration, engineering supervision, project inspection, and acceptance testing were or will be determined to be qualified and competent to perform the work (Grant Assurance).
☒ Yes ☐ No ☐ N/A
2. Construction records, including daily logs, were or will be kept by the resident engineer/construction inspector that fully document contractor's performance in complying with:
 - a. Technical standards (Advisory Circular (AC) 150/5370-12);
 - b. Contract requirements (2 CFR part 200 and FAA Order 5100.38); and
 - c. Construction safety and phasing plan measures (AC 150/5370-2).☒ Yes ☐ No ☐ N/A
3. All acceptance tests specified in the project specifications were or will be performed and documented. (AC 150/5370-12).
☒ Yes ☐ No ☐ N/A

4. Sponsor has taken or will take appropriate corrective action for any test result outside of allowable tolerances (AC 150/5370-12).
☒ Yes ☐ No ☐ N/A
5. Pay reduction factors required by the specifications were applied or will be applied in computing final payments with a summary made available to the FAA (AC 150/5370-10).
☒ Yes ☐ No ☐ N/A
6. Sponsor has notified, or will promptly notify the Federal Aviation Administration (FAA) of the following occurrences:
- a. Violations of any federal requirements set forth or included by reference in the contract documents (2 CFR part 200);
 - b. Disputes or complaints concerning federal labor standards (29 CFR part 5); and
 - c. Violations of or complaints addressing conformance with Equal Employment Opportunity or Disadvantaged Business Enterprise requirements (41 CFR Chapter 60 and 49 CFR part 26).
- ☒ Yes ☐ No ☐ N/A
7. Weekly payroll records and statements of compliance were or will be submitted by the prime contractor and reviewed by the sponsor for conformance with federal labor and civil rights requirements as required by FAA and U.S. Department of Labor (29 CFR Part 5).
☒ Yes ☐ No ☐ N/A
8. Payments to the contractor were or will be made in conformance with federal requirements and contract provisions using sponsor internal controls that include:
- a. Retaining source documentation of payments and verifying contractor billing statements against actual performance (2 CFR § 200.302 and FAA Order 5100.38);
 - b. Prompt payment of subcontractors for satisfactory performance of work (49 CFR § 26.29);
 - c. Release of applicable retainage upon satisfactory performance of work (49 CFR § 26.29); and
 - d. Verification that payments to DBEs represent work the DBE performed by carrying out a commercially useful function (49 CFR §26.55).
- ☒ Yes ☐ No ☐ N/A
9. A final project inspection was or will be conducted with representatives of the sponsor and the contractor present that ensure:
- a. Physical completion of project work in conformance with approved plans and specifications (Order 5100.38);
 - b. Necessary actions to correct punch list items identified during final inspection are complete (Order 5100.38); and
 - c. Preparation of a record of final inspection and distribution to parties to the contract (Order 5100.38);
- ☒ Yes ☐ No ☐ N/A
10. The project was or will be accomplished without material deviations, changes, or modifications from approved plans and specifications, except as approved by the FAA (Order 5100.38).
☒ Yes ☐ No ☐ N/A

11. The construction of all buildings have complied or will comply with the seismic construction requirements of 49 CFR § 41.120.

☐ Yes ☐ No ☒ N/A

12. For development projects, sponsor has taken or will take the following close-out actions:

- a. Submit to the FAA a final test and quality assurance report summarizing acceptance test results, as applicable (Grant Condition);
- b. Complete all environmental requirements as established within the project environmental determination (Order 5100.38); and
- c. Prepare and retain as-built plans (Order 5100.38).

☒ Yes ☐ No ☐ N/A

13. Sponsor has revised or will revise their airport layout plan (ALP) that reflects improvements made and has submitted or will submit an updated ALP to the FAA no later than 90 days from the period of performance end date. (49 USC § 47107 and Order 5100.38).

☒ Yes ☐ No ☐ N/A

Attach documentation clarifying any above item marked with "No" response.

Sponsor's Certification

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and additional documentation for any item marked "no" is correct and complete.

Executed on this 3rd day of April, 2023.

Name of Sponsor: City of Storm Lake

Name of Sponsor's Authorized Official: Keri Navratil

Title of Sponsor's Authorized Official: City Manager

Signature of Sponsor's Authorized Official: _____

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Drug-Free Workplace Airport Improvement Program Sponsor Certification

Sponsor: City of Storm Lake

Airport: Storm Lake Municipal

Project Number: 3-19-0088-018-2023

Description of Work: Install Runway 17/35 Edge Lighting

Application

49 USC § 47105(d) authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General requirements on the drug-free workplace within federal grant programs are described in 2 CFR part 182. Sponsors are required to certify they will be, or will continue to provide, a drug-free workplace in accordance with the regulation. The AIP project grant agreement contains specific assurances on the Drug-Free Workplace Act of 1988.

Certification Statements

Except for certification statements below marked as not applicable (N/A), this list includes major requirements of the construction project. Selecting "Yes" represents sponsor acknowledgement and confirmation of the certification statement. The term "will" means Sponsor action taken at appropriate time based on the certification statement focus area, but no later than the end of the project period of performance. This list is not comprehensive and does not relieve the sponsor from fully complying with all applicable statutory and administrative standards. The source of the requirement is referenced within parenthesis.

1. A statement has been or will be published prior to commencement of project notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the sponsor's workplace, and specifying the actions to be taken against employees for violation of such prohibition (2 CFR § 182.205).

☒ Yes ☐ No ☐ N/A

2. An ongoing drug-free awareness program (2 CFR § 182.215) has been or will be established prior to commencement of project to inform employees about:

- a. The dangers of drug abuse in the workplace;
- b. The sponsor's policy of maintaining a drug-free workplace;
- c. Any available drug counseling, rehabilitation, and employee assistance programs; and
- d. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

☒ Yes ☐ No ☐ N/A

3. Each employee to be engaged in the performance of the work has been or will be given a copy of the statement required within item 1 above prior to commencement of project (2 CFR § 182.210).

☒ Yes ☐ No ☐ N/A

4. Employees have been or will be notified in the statement required by item 1 above that, as a condition employment under the grant (2 CFR § 182.205(c)), the employee will:

- a. Abide by the terms of the statement; and
- b. Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.

☒ Yes ☐ No ☐ N/A

5. The Federal Aviation Administration (FAA) will be notified in writing within 10 calendar days after receiving notice under item 4b above from an employee or otherwise receiving actual notice of such conviction (2 CFR § 182.225). Employers of convicted employees must provide notice, including position title of the employee, to the FAA (2 CFR § 182.300).

☒ Yes ☐ No ☐ N/A

6. One of the following actions (2 CFR § 182.225(b)) will be taken within 30 calendar days of receiving a notice under item 4b above with respect to any employee who is so convicted:

- a. Take appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; and
- b. Require such employee to participate satisfactorily in drug abuse assistance or rehabilitation programs approved for such purposes by a federal, state, or local health, law enforcement, or other appropriate agency.

☒ Yes ☐ No ☐ N/A

7. A good faith effort will be made, on a continuous basis, to maintain a drug-free workplace through implementation of items 1 through 6 above (2 CFR § 182.200).

☒ Yes ☐ No ☐ N/A

Site(s) of performance of work (2 CFR § 182.230):

Location 1

Name of Location: Storm Lake Municipal Airport

Address: 850 630th Street, Storm Lake, Iowa

Location 2 (if applicable)

Name of Location:

Address:

Location 3 (if applicable)

Name of Location:

Address:

Attach documentation clarifying any above item marked with a "No" response.

Sponsor's Certification

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and additional documentation for any item marked "no" is correct and complete.

Executed on this 3rd day of April, 2023.

Name of Sponsor: City of Storm Lake

Name of Sponsor's Authorized Official: Keri Navratil

Title of Sponsor's Authorized Official: City Manager

Signature of Sponsor's Authorized Official: _____

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Equipment and Construction Contracts Airport Improvement Sponsor Certification

Sponsor: City of Storm Lake

Airport: Storm Lake Municipal

Project Number: 3-19-0088-018-2023

Description of Work: Install Runway 17/35 Edge Lighting

Application

49 USC § 47105(d) authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General procurement standards for equipment and construction contracts within Federal grant programs are described in 2 CFR §§ 200.317-200.326. Labor and Civil Rights Standards applicable to the AIP are established by the Department of Labor (www.dol.gov) AIP Grant Assurance C.1—General Federal Requirements identifies all applicable Federal Laws, regulations, executive orders, policies, guidelines and requirements for assistance under the AIP. Sponsors may use state and local procedures provided the procurement conforms to these federal standards.

This certification applies to all equipment and construction projects. Equipment projects may or may not employ laborers and mechanics that qualify the project as a “covered contract” under requirements established by the Department of Labor requirements. Sponsor shall provide appropriate responses to the certification statements that reflect the character of the project regardless of whether the contract is for a construction project or an equipment project.

Certification Statements

Except for certification statements below marked as not applicable (N/A), this list includes major requirements of the construction project. Selecting “Yes” represents sponsor acknowledgement and confirmation of the certification statement. The term “will” means Sponsor action taken at appropriate time based on the certification statement focus area, but no later than the end of the project period of performance. This list is not comprehensive and does not relieve the sponsor from fully complying with all applicable statutory and administrative standards. The source of the requirement is referenced within parenthesis.

1. A written code or standard of conduct is or will be in effect prior to commencement of the project that governs the performance of the sponsor’s officers, employees, or agents in soliciting, awarding and administering procurement contracts (2 CFR § 200.318).

☒ Yes ☐ No ☐ N/A

2. For all contracts, qualified and competent personnel are or will be engaged to perform contract administration, engineering supervision, construction inspection, and testing (Grant Assurance C.17).
- ☒ Yes ☐ No ☐ N/A
3. Sponsors that are required to have a Disadvantage Business Enterprise (DBE) program on file with the FAA have included or will include clauses required by Title VI of the Civil Rights Act and 49 CFR Part 26 for Disadvantaged Business Enterprises in all contracts and subcontracts.
- ☒ Yes ☐ No ☐ N/A
4. Sponsors required to have a DBE program on file with the FAA have implemented or will implement monitoring and enforcement measures that:
- a. Ensure work committed to Disadvantaged Business Enterprises at contract award is actually performed by the named DBEs (49 CFR § 26.37(b));
 - b. Include written certification that the sponsor has reviewed contract records and has monitored work sites for performance by DBE firms (49 CFR § 26.37(b)); and
 - c. Provides for a running tally of payments made to DBE firms and a means for comparing actual attainments (i.e. payments) to original commitments (49 CFR § 26.37(c)).
- ☒ Yes ☐ No ☐ N/A
5. Sponsor procurement actions using the competitive sealed bid method (2 CFR § 200.320(c)). was or will be:
- a. Publicly advertised, allowing a sufficient response time to solicit an adequate number of interested contractors or vendors;
 - b. Prepared to include a complete, adequate and realistic specification that defines the items or services in sufficient detail to allow prospective bidders to respond;
 - c. Publicly opened at a time and place prescribed in the invitation for bids; and
 - d. Prepared in a manner that result in a firm fixed price contract award to the lowest responsive and responsible bidder.
- ☒ Yes ☐ No ☐ N/A
6. For projects the Sponsor proposes to use the competitive proposal procurement method (2 CFR § 200.320(d)), Sponsor has requested or will request FAA approval prior to proceeding with a competitive proposal procurement by submitting to the FAA the following:
- a. Written justification that supports use of competitive proposal method in lieu of the preferred sealed bid procurement method;
 - b. Plan for publicizing and soliciting an adequate number of qualified sources; and
 - c. Listing of evaluation factors along with relative importance of the factors.
- ☒ Yes ☐ No ☐ N/A
7. For construction and equipment installation projects, the bid solicitation includes or will include the current federal wage rate schedule(s) for the appropriate type of work classifications (2 CFR Part 200, Appendix II).
- ☒ Yes ☐ No ☐ N/A

8. Concurrence was or will be obtained from the Federal Aviation Administration (FAA) prior to contract award under any of the following circumstances (Order 5100.38D):

- a. Only one qualified person/firm submits a responsive bid;
- b. Award is to be made to other than the lowest responsible bidder; and
- c. Life cycle costing is a factor in selecting the lowest responsive bidder.

☒ Yes ☐ No ☐ N/A

9. All construction and equipment installation contracts contain or will contain provisions for:

- a. Access to Records (§ 200.336)
- b. Buy American Preferences (Title 49 U.S.C. § 50101)
- c. Civil Rights - General Provisions and Title VI Assurances(41 CFR part 60)
- d. Federal Fair Labor Standards (29 U.S.C. § 201, et seq)
- e. Occupational Safety and Health Act requirements (20 CFR part 1920)
- f. Seismic Safety – building construction (49 CFR part 41)
- g. State Energy Conservation Requirements - as applicable(2 CFR part 200, Appendix II)
- h. U.S. Trade Restriction (49 CFR part 30)
- i. Veterans Preference (49 USC § 47112(c))

☒ Yes ☐ No ☐ N/A

10. All construction and equipment installation contracts exceeding \$2,000 contain or will contain the provisions established by:

- a. Davis-Bacon and Related Acts (29 CFR part 5)
- b. Copeland “Anti-Kickback” Act (29 CFR parts 3 and 5)

☒ Yes ☐ No ☐ N/A

11. All construction and equipment installation contracts exceeding \$3,000 contain or will contain a contract provision that discourages distracted driving (E.O. 13513).

☒ Yes ☐ No ☐ N/A

12. All contracts exceeding \$10,000 contain or will contain the following provisions as applicable:

- a. Construction and equipment installation projects - Applicable clauses from 41 CFR Part 60 for compliance with Executive Orders 11246 and 11375 on Equal Employment Opportunity;
- b. Construction and equipment installation - Contract Clause prohibiting segregated facilities in accordance with 41 CFR part 60-1.8;
- c. Requirement to maximize use of products containing recovered materials in accordance with 2 CFR § 200.322 and 40 CFR part 247; and
- d. Provisions that address termination for cause and termination for convenience (2 CFR Part 200, Appendix II).

☒ Yes ☐ No ☐ N/A

13. All contracts and subcontracts exceeding \$25,000: Measures are in place or will be in place (e.g. checking the System for Award Management) that ensure contracts and subcontracts are not awarded to individuals or firms suspended, debarred, or excluded from participating in federally assisted projects (2 CFR parts 180 and 1200).

☒ Yes ☐ No ☐ N/A

14. Contracts exceeding the simplified acquisition threshold (currently \$250,000) include or will include provisions, as applicable, that address the following:

- a. Construction and equipment installation contracts - a bid guarantee of 5%, a performance bond of 100%, and a payment bond of 100% (2 CFR § 200.325);
- b. Construction and equipment installation contracts - requirements of the Contract Work Hours and Safety Standards Act (40 USC 3701-3708, Sections 103 and 107);
- c. Restrictions on Lobbying and Influencing (2 CFR part 200, Appendix II);
- d. Conditions specifying administrative, contractual and legal remedies for instances where contractor or vendor violate or breach the terms and conditions of the contract (2 CFR §200, Appendix II); and
- e. All Contracts - Applicable standards and requirements issued under Section 306 of the Clean Air Act (42 USC 7401-7671q), Section 508 of the Clean Water Act (33 USC 1251-1387, and Executive Order 11738.

☒ Yes ☐ No ☐ N/A

Attach documentation clarifying any above item marked with "No" response.

Sponsor's Certification

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and additional documentation for any item marked "no" is correct and complete.

Executed on this 3rd day of April, 2023.

Name of Sponsor: City of Storm Lake

Name of Sponsor's Authorized Official: Keri Navratil

Title of Sponsor's Authorized Official: City Manager

Signature of Sponsor's Authorized Official: _____

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Project Plans and Specifications

Airport Improvement Program Sponsor Certification

Sponsor: City of Storm Lake

Airport: Storm Lake Municipal

Project Number: 3-19-0088-018-2023

Description of Work: Install Runway 17/35 Edge Lighting

Application

49 USC § 47105(d) authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). Labor and civil rights standards applicable to AIP are established by the Department of Labor (www.dol.gov/). AIP Grant Assurance C.1—General Federal Requirements identifies applicable federal laws, regulations, executive orders, policies, guidelines and requirements for assistance under AIP. A list of current advisory circulars with specific standards for procurement, design or construction of airports, and installation of equipment and facilities is referenced in standard airport sponsor Grant Assurance 34 contained in the grant agreement.

Certification Statements

Except for certification statements below marked as not applicable (N/A), this list includes major requirements of the construction project. Selecting “Yes” represents sponsor acknowledgement and confirmation of the certification statement. The term “will” means Sponsor action taken at appropriate time based on the certification statement focus area, but no later than the end of the project period of performance. This list is not comprehensive and does not relieve the sponsor from fully complying with all applicable statutory and administrative standards. The source of the requirement is referenced within parenthesis.

1. The plans and specifications were or will be prepared in accordance with applicable federal standards and requirements, so that no deviation or modification to standards set forth in the advisory circulars, or FAA-accepted state standard, is necessary other than those explicitly approved by the Federal Aviation Administration (FAA) (14 USC § 47105).
☒ Yes ☐ No ☐ N/A

2. Specifications incorporate or will incorporate a clear and accurate description of the technical requirement for the material or product that does not contain limiting or proprietary features that unduly restrict competition (2 CFR §200.319).
☒ Yes ☐ No ☐ N/A

3. The development that is included or will be included in the plans is depicted on the current airport layout plan as approved by the FAA (14 USC § 47107).
☒ Yes ☐ No ☐ N/A
4. Development and features that are ineligible or unallowable for AIP funding have been or will be omitted from the plans and specifications (FAA Order 5100.38, par. 3-43).
☒ Yes ☐ No ☐ N/A
5. The specification does not use or will not use "brand name" or equal to convey requirements unless sponsor requests and receives approval from the FAA to use brand name (FAA Order 5100.38, Table U-5).
☒ Yes ☐ No ☐ N/A
6. The specification does not impose or will not impose geographical preference in their procurement requirements (2 CFR §200.319(b) and FAA Order 5100.38, Table U-5).
☒ Yes ☐ No ☐ N/A
7. The use of prequalified lists of individuals, firms or products include or will include sufficient qualified sources that ensure open and free competition and that does not preclude potential entities from qualifying during the solicitation period (2 CFR §319(d)).
☒ Yes ☐ No ☐ N/A
8. Solicitations with bid alternates include or will include explicit information that establish a basis for award of contract that is free of arbitrary decisions by the sponsor (2 CFR § 200.319(a)(7)).
☒ Yes ☐ No ☐ N/A
9. Concurrence was or will be obtained from the FAA if Sponsor incorporates a value engineering clause into the contract (FAA Order 5100.38, par. 3-57).
☒ Yes ☐ No ☐ N/A
10. The plans and specifications incorporate or will incorporate applicable requirements and recommendations set forth in the federally approved environmental finding (49 USC §47106(c)).
☒ Yes ☐ No ☐ N/A
11. The design of all buildings comply or will comply with the seismic design requirements of 49 CFR § 41.120. (FAA Order 5100.38d, par. 3-92)
☐ Yes ☐ No ☒ N/A
12. The project specification include or will include process control and acceptance tests required for the project by as per the applicable standard:
- a. Construction and installation as contained in Advisory Circular (AC) 150/5370-10.
☒ Yes ☐ No ☐ N/A

b. Snow Removal Equipment as contained in AC 150/5220-20.

☐ Yes ☐ No ☒ N/A

c. Aircraft Rescue and Fire Fighting (ARFF) vehicles as contained in AC 150/5220-10.

☐ Yes ☐ No ☒ N/A

13. For construction activities within or near aircraft operational areas(AOA):

a. The Sponsor has or will prepare a construction safety and phasing plan (CSPP) conforming to Advisory Circular 150/5370-2.

b. Compliance with CSPP safety provisions has been or will be incorporated into the plans and specifications as a contractor requirement.

c. Sponsor will not initiate work until receiving FAA's concurrence with the CSPP (FAA Order 5100.38, Par. 5-29).

☒ Yes ☐ No ☐ N/A

14. The project was or will be physically completed without federal participation in costs due to errors and omissions in the plans and specifications that were foreseeable at the time of project design (49 USC §47110(b)(1) and FAA Order 5100.38d, par. 3-100).

☒ Yes ☐ No ☐ N/A

Attach documentation clarifying any above item marked with "No" response.

Sponsor's Certification

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and additional documentation for any item marked "no" is correct and complete.

Executed on this 3rd day of April, 2023.

Name of Sponsor: City of Storm Lake

Name of Sponsor's Authorized Official: Keri Navratil

Title of Sponsor's Authorized Official: City Manager

Signature of Sponsor's Authorized Official: _____

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Selection of Consultants

Airport Improvement Program Sponsor Certification

Sponsor: City of Storm Lake

Airport: Storm Lake Municipal

Project Number: 3-19-0088-018-2023

Description of Work: Install Runway 17/35 Edge Lighting

Application

49 USC § 47105(d) authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General requirements for selection of consultant services within federal grant programs are described in 2 CFR §§ 200.317-200.326. Sponsors may use other qualifications-based procedures provided they are equivalent to standards of Title 40 chapter 11 and FAA Advisory Circular 150/5100-14, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects.

Certification Statements

Except for certification statements below marked as not applicable (N/A), this list includes major requirements of the construction project. Selecting "Yes" represents sponsor acknowledgement and confirmation of the certification statement. The term "will" means Sponsor action taken at appropriate time based on the certification statement focus area, but no later than the end of the project period of performance. This list is not comprehensive and does not relieve the sponsor from fully complying with all applicable statutory and administrative standards. The source of the requirement is referenced within parenthesis.

1. Sponsor acknowledges their responsibility for the settlement of all contractual and administrative issues arising out of their procurement actions (2 CFR § 200.318(k)).
☒ Yes ☐ No ☐ N/A
2. Sponsor procurement actions ensure or will ensure full and open competition that does not unduly limit competition (2 CFR § 200.319).
☒ Yes ☐ No ☐ N/A
3. Sponsor has excluded or will exclude any entity that develops or drafts specifications, requirements, or statements of work associated with the development of a request-for-qualifications (RFQ) from competing for the advertised services (2 CFR § 200.319).
☒ Yes ☐ No ☐ N/A

4. The advertisement describes or will describe specific project statements-of-work that provide clear detail of required services without unduly restricting competition (2 CFR § 200.319).
- ☒ Yes ☐ No ☐ N/A
5. Sponsor has publicized or will publicize a RFQ that:
- a. Solicits an adequate number of qualified sources (2 CFR § 200.320(d)); and
- b. Identifies all evaluation criteria and relative importance (2 CFR § 200.320(d)).
- ☒ Yes ☐ No ☐ N/A
6. Sponsor has based or will base selection on qualifications, experience, and disadvantaged business enterprise participation with price not being a selection factor (2 CFR § 200.320(d)).
- ☒ Yes ☐ No ☐ N/A
7. Sponsor has verified or will verify that agreements exceeding \$25,000 are not awarded to individuals or firms suspended, debarred or otherwise excluded from participating in federally assisted projects (2 CFR § 180.300).
- ☒ Yes ☐ No ☐ N/A
8. A/E services covering multiple projects: Sponsor has agreed to or will agree to:
- a. Refrain from initiating work covered by this procurement beyond five years from the date of selection (AC 150/5100-14); and
- b. Retain the right to conduct new procurement actions for projects identified or not identified in the RFQ (AC 150/5100-14).
- ☒ Yes ☐ No ☐ N/A
9. Sponsor has negotiated or will negotiate a fair and reasonable fee with the firm they select as most qualified for the services identified in the RFQ (2 CFR § 200.323).
- ☒ Yes ☐ No ☐ N/A
10. The Sponsor's contract identifies or will identify costs associated with ineligible work separately from costs associated with eligible work (2 CFR § 200.302).
- ☒ Yes ☐ No ☐ N/A
11. Sponsor has prepared or will prepare a record of negotiations detailing the history of the procurement action, rationale for contract type and basis for contract fees (2 CFR § 200.318(i)).
- ☒ Yes ☐ No ☐ N/A
12. Sponsor has incorporated or will incorporate mandatory contract provisions in the consultant contract for AIP-assisted work (49 U.S.C. Chapter 471 and 2 CFR part 200 Appendix II)
- ☒ Yes ☐ No ☐ N/A

13. For contracts that apply a time-and-material payment provision (also known as hourly rates, specific rates of compensation, and labor rates), the Sponsor has established or will establish:

- a. Justification that there is no other suitable contract method for the services (2 CFR §200.318(j));
- b. A ceiling price that the consultant exceeds at their risk (2 CFR §200.318(j)); and
- c. A high degree of oversight that assures consultant is performing work in an efficient manner with effective cost controls in place 2 CFR §200.318(j)).

☒ Yes ☐ No ☐ N/A

14. Sponsor is not using or will not use the prohibited cost-plus-percentage-of-cost (CPPC) contract method. (2 CFR § 200.323(d)).

☒ Yes ☐ No ☐ N/A

Attach documentation clarifying any above item marked with "no" response.

Sponsor's Certification

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and additional documentation for any item marked "no" is correct and complete.

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Executed on this 3rd day of April , 2023 .

Name of Sponsor: City of Storm Lake

Name of Sponsor's Authorized Official: Keri Navratil

Title of Sponsor's Authorized Official: City Manager

Signature of Sponsor's Authorized Official: _____

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Certification and Disclosure Regarding Potential Conflicts of Interest Airport Improvement Program Sponsor Certification

Sponsor: City of Storm Lake

Airport: Storm Lake Municipal

Project Number: 3-19-0088-018-2023

Description of Work: Install Runway 17/35 Edge Lighting

Application

Title 2 CFR § 200.112 and § 1201.112 address Federal Aviation Administration (FAA) requirements for conflict of interest. As a condition of eligibility under the Airport Improvement Program (AIP), sponsors must comply with FAA policy on conflict of interest. Such a conflict would arise when any of the following have a financial or other interest in the firm selected for award:

- a) The employee, officer or agent,
- b) Any member of his immediate family,
- c) His or her partner, or
- d) An organization which employs, or is about to employ, any of the above.

Selecting "Yes" represents sponsor or sub-recipient acknowledgement and confirmation of the certification statement. Selecting "No" represents sponsor or sub-recipient disclosure that it cannot fully comply with the certification statement. If "No" is selected, provide support information explaining the negative response as an attachment to this form. This includes whether the sponsor has established standards for financial interest that are not substantial or unsolicited gifts are of nominal value (2 CFR § 200.318(c)). The term "will" means Sponsor action taken at appropriate time based on the certification statement focus area, but no later than the end of the project period of performance.

Certification Statements

1. The sponsor or sub-recipient maintains a written standards of conduct governing conflict of interest and the performance of their employees engaged in the award and administration of contracts (2 CFR § 200.318(c)). To the extent permitted by state or local law or regulations, such standards of conduct provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the sponsor's and sub-recipient's officers, employees, or agents, or by contractors or their agents.

☒ Yes ☐ No

2. The sponsor's or sub-recipient's officers, employees or agents have not and will not solicit or accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to sub-agreements (2 CFR § 200.318(c)).

☒ Yes ☐ No

3. The sponsor or sub-recipient certifies that it has disclosed and will disclose to the FAA any known potential conflict of interest (2 CFR § 1200.112).

☒ Yes ☐ No

Attach documentation clarifying any above item marked with "no" response.

Sponsor's Certification

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and have the explanation for any item marked "no" is correct and complete.

Executed on this 3rd day of April, 2023.

Name of Sponsor: City of Storm Lake

Name of Sponsor's Authorized Official: Keri Navratil

Title of Sponsor's Authorized Official: City Manager

Signature of Sponsor's Authorized Official: _____

I declare under penalty of perjury that the foregoing is true and correct. I understand that knowingly and willfully providing false information to the federal government is a violation of 18 USC § 1001 (False Statements) and could subject me to fines, imprisonment, or both.

Staff Summary

04/03/2023

Agenda Item # F.4.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Lee Dutfield Development Services Sepcialist

SUBJECT: **Public Hearing On The Proposed Amendment No. 9 To The Storm Lake Industrial Park Urban Renewal Plan**

BACKGROUND: Amendment No. 9 to the Industrial Park Urban Renewal Area includes the following:

- King's Pointe Resort Remodel - The City originally authorized \$4,500,000 for this project (in Amendment No. 6). The expected costs of this project have increased since the project was originally authorized as an urban renewal project. With the adoption of this Amendment No. 9, the City is authorizing an additional \$5,500,000 for this project, for overall project costs (funded using TIF) not to exceed \$10,000,000.
- Memorial Road Resurfacing Project - This project was originally authorized in Amendment No. 3 to the Plan. This project involves the resurfacing of an existing gravel road to a hard surface street more suitable for traffic common to developed areas. Recent developments in the area as well as future projected development will increase traffic on this road and the need for a hard surface street to eliminate costly maintenance and negative impacts to neighboring businesses. This project will include the Installation of new water, sewer, and storm water infrastructures. The City originally authorized \$300,000 for this project (in Amendment No. 3) and later authorized an additional \$1,100,000 for the project in Amendment No. 7. The expected costs of this project have continued to increase and are now expected to total approximately \$5,500,000. Accordingly, the with adoption of this Amendment No. 9, the City is authorizing an additional \$4,100,000 for this project.
- Spoil Site Recreation Area - The City completed dredging of Storm Lake in the Fall of 2017 and has been exploring ways to

utilize the dredge spoil site land based on its existing conditions and the suitability of the property for development. A study was completed, and a plan was developed to construct a recreation area on the spoil site. Improvements to the spoil site may include, but is not limited to, parking lots and access roads/driveways, site restoration, trails, dog park, natural play area, seating areas/overlooks/outdoor classroom spaces, pickleball courts, and tennis courts. Estimated costs not to exceed \$4,300,000 - \$5,600,000.

- **Water Reuse System** - The City is proposing a project to install an effluent reuse system that will eliminate the need to use potable water from water supply for non-potable uses. The proposed project includes the installation of a six-inch effluent water line (approximately 12,500 linear feet) from the City's Water Reclamation Facility to the City's park maintenance facility. This water main would be a pressurized main that would transport wastewater effluent to the water reuse distribution point at the maintenance facility and will connect to the City's existing irrigation system for reuse in the City's systems. At the Water Reclamation Facility, the City will construct a pre-stressed concrete tank to hold treated effluent and a water reuse building which would contain a pump, chlorine feed system, a 10,000 gallon disinfected water tank, and a booster pump. The booster pump would pump water to the City maintenance facility near the golf course. A second water pump would be located in the building to pump effluent water to the Water Reclamation Facility for non-potable uses at that site. This urban renewal project is part of a larger project within the City for which the City is seeking a FEMA grant. The City expects that the FEMA grant, if awarded, would cover 80% to 90% of the overall projects. Because this project involves improvements located outside of the Urban Renewal Area as well as improvements that will be located within the Urban Renewal Area, only that portion of the improvements located within the Urban Renewal Area's boundaries constitute the "urban renewal project" being authorized by this Amendment. Accordingly, the City will determine the amount of any project costs incurred by the City that is proportional to the portion of the project improvements located within the Urban Renewal Area; the City will only seek TIF reimbursement for the proportional amount of the project costs related to improvements constructed within the Area. For example, if 30% of the improvements constructed for the project are within the Area, then the City would use TIF to help finance 30% of the overall project costs incurred by the City. This proportion is not yet known; however, the City expects the amount of project costs to be financed using TIF will not exceed \$1,800,000.

A consultation meeting with taxing entities was held on Tuesday, March 14, 2023, at 11:00 a.m. in the City Council Chambers at City Hall. At

the appointed time city staff present included: Keri Navratil, City Manager of Storm Lake, and Lee Dutfield, Development Services Specialist. There was no one else in attendance at the meeting. City staff waited until 11:15 a.m. then declared the consultation session closed. There were no comments, questions or written feedback from the affected taxing entities.

FISCAL IMPACT: N/A

RECOMMENDATION: Open Public Hearing
Take Public Comments
Close Public Hearing

ATTACHMENTS:

[FINAL_Storm_Lake_Industrial_Park_UR_Amendment_No._9_.docx](#)
[Consultation Report Amendment 9.pdf](#)

STORM LAKE INDUSTRIAL PARK URBAN RENEWAL PLAN

AMENDMENT NO. 9

CITY OF STORM LAKE, IOWA

Original Area Adopted – 1991

Amendment No. 1 – 2004

Amendment No. 2 – 2010

Amendment No. 3 – 2013

Amendment No. 4 – 2015

Amendment No. 5 – 2016

Amendment No. 6 – 2017

Amendment No. 7 – 2019

Amendment No. 8 – 2021

Amendment No. 9 - 2023

LOCAL GOVERNMENT PROFESSIONAL SERVICES, INC.
DBA SIMMERING-CORY

AMENDMENT NO. 9
to
STORM LAKE INDUSTRIAL PARK
URBAN RENEWAL PLAN
CITY OF STORM LAKE, IOWA

The Storm Lake Industrial Park Urban Renewal Plan (“Plan”) for the Storm Lake Industrial Park Urban Renewal Area (“Area” or “Urban Renewal Area”), adopted in 1991, and amended in 2004, 2010, 2013, 2015, 2016, 2017, 2019, and 2021 is being further amended to update a previously authorized urban renewal project and authorize additional urban renewal projects to be undertaken within the Urban Renewal Area by this Amendment No. 9 (“Amendment”).

The original Storm Lake Industrial Park Urban Renewal Area and each of its amendment areas may be referred to as Subareas in this Amendment. The Subareas make up the Urban Renewal Area.

This Storm Lake Industrial Park Urban Renewal Plan, Amendment No. 9 repeats much of the Storm Lake Industrial Park Urban Renewal Plan Amendment No. 8, adopted in 2021. The material changes by this Amendment include the following:

- Updating the Previously Authorized Urban Renewal Projects section (pages 5-7);
- Adding new Eligible Urban Renewal Projects section (pages 7-10);
- Updating the Financial Information section (page 10);

Except as modified by this Amendment, the provisions of the original Storm Lake Industrial Park Urban Renewal Plan, as previously amended, are hereby ratified, confirmed, and approved and shall remain in full force and effect as provided herein. In case of any conflict or uncertainty, the terms of this Amendment shall control.

DESCRIPTION OF THE URBAN RENEWAL AREA

This Amendment does not add or remove any land from the Urban Renewal Area.

AREA DESIGNATION

The Urban Renewal Area previously has been designated as a mixed area for the remediation of blight and promotion of economic development (commercial and industrial) activities. Together these findings continue to support the designation of the entire Urban Renewal Area, excluding the Amendment No. 7 Subarea, which is only designated as an economic development area, as a mixed area appropriate for the remediation of blight and the promotion of economic development (commercial and industrial) activities.

PROJECT OBJECTIVES

Renewal activities are designed to provide opportunities and incentives for community development purposes including new and expanded commercial and industrial development as well as revitalization and alleviation of blighting conditions. More specific objectives include:

1. To achieve a diversified, well balanced economy providing a desirable standard of living, creating job opportunities, and strengthening the tax base.
2. To plan and provide sufficient land for commercial, residential, and industrial development in a manner that is efficient from the standpoint of providing municipal services.
3. To provide for the installation of public works and facilities, which contribute to the revitalization of the Area.
4. To eliminate blighting influences and promote revitalization, through public action and commitment, or by providing incentives to private persons or businesses, to acquire, rehabilitate, renovate, demolish, and/or redevelop existing structures or property.
5. To stimulate through public action and commitment, private investment in residential development as part of blight remediation activities. The City realizes that the availability of affordable, decent, safe, and sanitary housing is important to the overall economic viability of the community.
6. To encourage commercial and industrial growth and expansion through governmental policies which make it economically feasible to do business.
7. To provide a more marketable and attractive investment climate through the use of various federal, state, and local incentives.
8. To stimulate, through public action and commitment, private investment in commercial and industrial expansion.
9. To help develop a sound economic base that will serve as the foundation for future growth and development.
10. To provide facilities offering diversified and expanded recreational opportunities, which will help improve the quality of life and contribute to the overall viability of the community.
11. To achieve a diversified, well-balanced economy providing a desirable standard of living, creating job opportunities, and strengthening the tax base.
12. To enhance the Storm Lake community by fostering an entrepreneurial climate, diversifying the local economy, encouraging opportunities for new businesses, and supporting retention of existing businesses.

13. To provide for the installation and upgrade of public works, infrastructure, including but not limited to, storm water collection and conveyance system, sanitary sewer facilities, water utility infrastructure, pedestrian pathways (sidewalks and trails), roads, and related facilities which alleviate blighting influences and contribute to the sound economic development of the Area.
14. To preserve the health, safety, living environment, general character, and general welfare of the City of Storm Lake, Iowa.
15. To promote development utilizing any other objectives allowed by Chapter 403 of the *Code of Iowa*.

TYPES OF RENEWAL ACTIVITIES

To meet the objectives of this Urban Renewal Plan, as amended, and to encourage the development of the Area, as amended, the City intends to utilize the powers conferred under Chapter 403 and Chapter 15A, *Code of Iowa* including, but not limited to, tax increment financing. Activities may include:

1. To undertake and carry out urban renewal projects through the execution of contracts and other instruments.
2. To provide for the construction of specific site improvements such as grading and site preparation activities, access roads and parking, fencing, utility connections, and related activities.
3. To acquire property through a variety of means (purchase, lease, option, etc.) and to hold, clear, or prepare the property for redevelopment.
4. To dispose of property that has been acquired.
5. To undertake blight remediation activities.
6. To demolish structures and to clear the land for future development so as to revitalize the Area and alleviate blighting conditions.
7. To make loans, forgivable loans, grants, tax rebate payments or other types of grants or incentives to private persons or businesses for economic development, revitalization, or blight remediation purposes, on such terms as may be determined by the City Council.

8. To finance programs which will directly benefit housing conditions and promote the availability of housing in the community.
9. To arrange for or cause to be provided the construction, expansion, or repair of public infrastructure including, but not limited to, streets and sidewalks, traffic lights, pedestrian safety measures, water mains, sanitary sewers, storm sewers, public utilities, bike and walking trails, landscaping, or other recreational facilities and activities in connection with urban renewal project which serve to revitalize the area and alleviate blighting conditions, or promote economic development in the Area.
10. To borrow money and to provide security therefor.
11. To make or have made surveys and plans necessary for the implementation of the Urban Renewal Plan or specific urban renewal projects.
12. To use tax increment financing for a number of purposes, including but not limited to, achieving a more marketable and competitive land offering price and providing for necessary physical improvements and infrastructure.
13. To use tax increment revenues to help leverage grants, loans, or other assistance from state and federal governments (such as providing the local match for such assistance) in support of projects or businesses that advance the objectives of this Plan, as amended.
14. To use any or all other powers granted by the Urban Renewal Act to develop and provide for improved economic conditions for the City of Storm Lake and the State of Iowa.

Nothing herein shall be construed as a limitation on the power of the City to exercise any lawful power granted to the City under Chapter 15, Chapter 15A, Chapter 403, Chapter 427B, or any other provision of the *Code of Iowa* in furtherance of the objectives of this Urban Renewal Plan, as amended.

PREVIOUSLY AUTHORIZED URBAN RENEWAL PROJECTS

Various Urban Renewal Projects were authorized prior to this Amendment No. 9 and are continuing. Such previously authorized urban renewal projects include, but are not limited to:

- King's Pointe Resort, Project AWAYSIS. This project was added in Amendment No. 3 and is complete. The City has \$13,016,112 in certified debt currently outstanding on this project.

- Gold Wing Drive. This project was added in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Memorial Road Resurfacing. This project was added with Amendment No. 3 and has not started as of this Amendment. Additional funds were authorized for this project in Amendment No. 7. With this Amendment, the City is amending the project description and authorizing additional funds for the project. Please see the update details on page 7.
- Acquisition and Demolition of Dilapidated Structures. This project was identified in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- HWY 7 Development Agreements. This project was identified in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Entrance Roads and Sidewalk Along Sunrise Park Road. This project is complete and the City has \$123,382 in certified debt currently outstanding on this project.
- FB Storm Lake II, LLC. This project was added in Amendment No. 5 and additional funds were authorized under Amendment No. 8. The project is currently ongoing and the City anticipates the project will continue over the next few years. Currently there is no debt certified on this project.
- King's Pointe Resort Remodel. The City added this project in Amendment No. 6. The project is ongoing and currently the City has outstanding certified debt of \$108,000 for this project. With this Amendment, the City is amending the project description and authorizing additional funds for the project. Please see the update details on page 7.
- Outdoor Waterpark Concrete. The City added this project in Amendment No. 6 and the project is complete. The City has \$16,822 in certified debt currently outstanding on this project.
- Memorial Park Storm Water Improvements. This project was added in Amendment No. 6 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Water Line Extensions. This project was added in Amendment No. 7. This project is complete. The City has \$452,866 in certified debt currently outstanding for this project.
- Expansion Boulevard Road Improvements. This project was added in Amendment No. 7. This project is completed and the City has \$715,859 in certified debt currently outstanding for this project.
- Tyson Fresh Meats Development Agreement for the Feedmill. This project was added with Amendment No. 7. The project is in process and the City currently has \$250,000 in certified debt outstanding for this project.
- Daycare Development Agreement. This project was added with Amendment No. 8 and is currently ongoing. Currently there is no debt certified on this project.

Collectively, as of the date of this Amendment, certified debt on these projects is approximately \$14,683,041. Other previously authorized projects that have not yet begun are still planned as

outlined in previous amendments and are expected to add to the amount of certified debt as they are undertaken.

With the adoption of this Amendment, the City is amending the following previously authorized projects:

1. King's Pointe Resort Remodel: This project was originally authorized in Amendment No. 6 to the Plan, to promote economic development in the Urban Renewal Area. King's Pointe Resort is almost 15 years old and in need of remodeling and renovations. It is industry standard to remodel and renovate hotel rooms and public spaces every seven years. Further, King's Pointe Resort is a leading recreational and tourism feature in the City and is used by members of the City, County, and School communities as well as attracting tourists and business related travelers from outside of the community. King's Pointe spurs tourism and commercial business activity in the community and is a key component of attracting employers, employees, and economic development. A public building analysis was completed for this project as part of Amendment No. 6 and remains applicable to this update of the project.

The City originally authorized \$4,500,000 for this project (in Amendment No. 6). The expected costs of this project have increased since the project was originally authorized as an urban renewal project. With the adoption of this Amendment No. 9, the City is authorizing an additional \$5,500,000 for this project, for overall project costs (funded using TIF) not to exceed \$10,000,000.

2. Memorial Road Resurfacing Project: This project was originally authorized in Amendment No. 3 to the Plan. This project involves the resurfacing of an existing gravel road to a hard surface street more suitable for traffic common to developed areas. Recent developments in the area as well as future projected development will increase traffic on this road and the need for a hard surface street to eliminate costly maintenance and negative impacts to neighboring businesses. The City originally authorized \$300,000 for this project (in Amendment No. 3) and later authorized an additional \$1,100,000 for the project in Amendment No. 7. The expected costs of this project have continued to increase and are now expected to total approximately \$5,500,000. Accordingly, the with adoption of this Amendment No. 9, the City is authorizing an additional \$4,100,000 for this project.

ELIGIBLE URBAN RENEWAL PROJECTS (Amendment No. 9)

Although certain project activities may occur over a period of years, in addition to projects previously authorized in the Plan, as previously amended, the eligible urban renewal projects under this Amendment No. 9 include:

1. Public Improvements.

Project	Estimated Date	Estimated Cost to be Funded by TIF Funds (Not to Exceed)	Rationale
Spoil Site Recreation Area	2023-2028	\$4,300,000 – 5,600,000	The City completed dredging of Storm Lake in the Fall of 2017 and has been exploring ways to utilize the dredge spoil site land based on its existing conditions and the suitability of the property for development. A study was completed, and a plan was developed to construct a recreation area on the spoil site. Improvements to the spoil site may include, but is not limited to, parking lots and access roads/driveways, site restoration, trails, dog park, natural play area, seating areas/overlooks/outdoor classroom spaces, pickleball courts, and tennis courts. The spoil site is a unique landscape with dramatic differences in topography and land cover that is not suitable for certain types of development. Constructing a recreation area that utilizes the natural landscape will assist in eliminating blight and spurring economic development.
Water, Sewer, and Storm Water Infrastructure for Highway 7 Commercial Development	2023-2024	\$5,500,000	Installation of new water, sewer, and storm water infrastructures will support and incentivize the construction of a new gas station and convenience store along Highway 7 on the east side of the City. The gas station and convenience store development is expected to create new jobs within the Urban Renewal Area. The City expects to enter into a development agreement with the gas station/convenience store operator related to the private development and operation of the facility, including creation of jobs through such operations.
	TOTAL:	Not to exceed \$11,100,000	
Note: It may be that the above costs will be reduced by the application of state and/or federal grants or programs; cost-sharing agreements with other entities; or other available sources of funds.			

2. Water Reuse System: The City is proposing a project to install an effluent reuse system that will eliminate the need to use potable water from water supply for non-potable uses. The

proposed project includes the installation of a six-inch effluent water line (approximately 12,500 linear feet) from the City's Water Reclamation Facility to the City's park maintenance facility. This water main would be a pressurized main that would transport wastewater effluent to the water reuse distribution point at the maintenance facility and will connect to the City's existing irrigation system for reuse in the City's systems. At the Water Reclamation Facility, the City will construct a pre-stressed concrete tank to hold treated effluent and a water reuse building which would contain a pump, chlorine feed system, a 10,000 gallon disinfected water tank, and a booster pump. The booster pump would pump water to the City maintenance facility near the golf course. A second water pump would be located in the building to pump effluent water to the Water Reclamation Facility for non-potable uses at that site.

Drought is becoming more severe in Storm Lake, and contributes to blighting conditions. The City has been looking at ways to reduce the impacts of drought on the community. This project would reduce impacts of drought, and therefore would reduce and prevent blighting conditions in the Urban Renewal Area. It is estimated that this project will provide an immediate reduction of water usage from the water system by approximately 20,000,000 gallons per year.

In addition to reducing and preventing blight, this project would support water supply to recreational amenities within the community, such as the golf course. Having accessible and well-maintained recreational amenities in the community are an important aspect of supporting economic development within the Urban Renewal Area.

This urban renewal project is part of a larger project within the City for which the City is seeking a FEMA grant. The City expects that the FEMA grant, if awarded, would cover 80% to 90% of the overall projects. Because this project involves improvements located outside of the Urban Renewal Area as well as improvements that will be located within the Urban Renewal Area, only that portion of the improvements located within the Urban Renewal Area's boundaries constitute the "urban renewal project" being authorized by this Amendment. Accordingly, the City will determine the amount of any project costs incurred by the City that is proportional to the portion of the project improvements located within the Urban Renewal Area; the City will only seek TIF reimbursement for the proportional amount of the project costs related to improvements constructed within the Area. For example, if 30% of the improvements constructed for the project are within the Area, then the City would use TIF to help finance 30% of the overall project costs incurred by the City. This proportion is not yet known; however, the City expects the amount of project costs to be financed using TIF will not exceed \$1,800,000.

3. Development Agreements: The City expects to consider requests for Development Agreements for the following projects that are consistent with this Plan, in the City's sole discretion.

A. Future Development Agreements: The City expects to consider requests for Development Agreements for projects that are consistent with this Plan, as amended, in the City's sole discretion. Such agreements are unknown at this time, but based on past history and dependent on development opportunities and climate the City expects to consider a

broad range on incentives as authorized by this Plan, as amended, including, but not limited to, land, loans, grants, tax rebates, public infrastructure assistance, and other incentives. The costs of such development agreements will not exceed \$500,000.

4. Planning, Engineering Fees (for Urban Renewal Plans), Attorney Fees, Administrative, and Other Related Costs to Support Urban Renewal Projects and Planning:

Project	Estimated Date	Estimated Cost to be Funded by TIF Funds
Fees & Costs	Undetermined	Not to Exceed \$25,000

FINANCIAL INFORMATION

1.	July 1, 2022 Constitutional Debt Limit:	\$26,815,398.60
2.	Outstanding General Obligation Debt:	\$13,116,000
3.	Proposed amount of indebtedness to be incurred: A specific amount of debt to be incurred for the Eligible Urban Renewal Projects (Amendment No. 9) has not yet been determined. This document is for planning purposes only. The estimated project costs in this Amendment are estimates only and will be incurred and spent over a number of years. In no event will the City's constitutional debt limit be exceeded. The City Council will consider each project proposal on a case-by-case basis to determine if it is in the City's best interest to participate before approving an urban renewal project or expense. It is further expected that such indebtedness, including interest on the same, may be financed in whole or in part with tax increment revenues from the Urban Renewal Area. Subject to the foregoing, it is estimated that the cost of the Eligible Urban Renewal Projects (Amendment No. 9) as described above and be funded by TIF funds will be approximately as stated in the next column:	<u>Update to Previously Approved Urban Renewal Projects:</u> \$9,600,000 <u>Eligible Urban Renewal Projects (Amendment No. 9)</u> \$13,425,000 This does not include financing costs related to debt issuance, which may be incurred over the life of the area.

DEVELOPMENT PLAN

Storm Lake has a general plan for the physical development of the City, as a whole, outlined in the Storm Lake Comprehensive Plan that was adopted by the City Council in February 2013. The goals, objectives, and projects proposed in this Urban Renewal Plan, as amended, are consistent with the City's Comprehensive Plan.

This Amendment No. 9 does not in any way replace the City's current land use planning or zoning regulation process.

URBAN RENEWAL FINANCING

The City intends to utilize various financing tools, such as those described below, to successfully undertake eligible urban renewal actions. The City has the statutory authority to use a variety of tools to finance physical improvements within the Area, as amended. These include:

A. Tax Increment Financing.

Under Section 403.19 of the *Code of Iowa*, urban renewal areas may utilize the tax increment financing mechanism to finance the costs of public improvements, economic development incentives, or other urban renewal projects. Upon creation of a tax increment district within the Area, by ordinance, the assessment base is frozen and the amount of tax revenue available from taxes paid on the difference between the frozen base and the increased value, if any, is segregated into a separate fund for the use by the City to pay costs of the eligible urban renewal projects. The increased taxes generated by any new development, above the base value, are distributed to the taxing entities, if not requested by the City, and in any event upon the expiration of the tax increment district.

B. General Obligation Bonds.

Under Division III of Chapter 384 and Chapter 403 of the *Code of Iowa*, the City has the authority to issue and sell general obligation bonds for specified essential and general corporate purposes, including the acquisition and construction of certain public improvements or urban renewal projects within the Area, as amended, or incentives for development consistent with this Plan, as amended. Such bonds are payable from the levy of unlimited ad valorem taxes on all the taxable property within the City. It may be that the City will elect to abate some or all of the debt service on these bonds with incremental taxes from this Area, as amended.

The City may also determine to use tax increment financing to provide incentives such as cash grants, loans, tax rebates, or other incentives to developers or private entities in connection with the urban renewal projects identified in the Plan, as amended. In addition, the City may determine to issue general obligation bonds, tax increment revenue bonds or such other obligations, or loan agreements for the purpose of making loans or grants of public funds to private businesses located in the Area for urban renewal projects. Alternatively, the City may determine to use available funds for making such loans or grants or other incentives related to urban renewal projects. In any event, the City may determine to use tax increment financing to reimburse the City for any obligations or advances.

Nothing herein shall be construed as a limitation on the power of the City to exercise any lawful power granted to the City under Chapter 15, Chapter 15A, Chapter 403, Chapter 427B, or any other provision of the *Code of Iowa* in furtherance of the objectives of this Urban Renewal Plan.

PROPERTY ACQUISITION/DISPOSITION

Notwithstanding prior plan provisions, the City will follow any and all applicable requirements for the acquisition and disposition of property upon terms and conditions in the discretion of the City Council.

RELOCATION

The City does not expect there to be any relocation required as part of the eligible urban renewal projects; however, if any relocation is necessary, the City will follow all applicable relocation requirements.

PROPERTY WITHIN AN URBAN REVITALIZATION AREA

The Urban Renewal Area may (now or in the future) also be located within an established Urban Revitalization Area. The Storm Lake City Council, at its sole discretion, shall determine which incentives are available through either: (a) this Plan for urban renewal incentives, if any urban renewal incentives are offered by the City, at the City Council's sole discretion; or (b) tax abatement incentives through Urban Revitalization but no individual or entity shall be eligible for both (a) and (b).

STATE AND LOCAL REQUIREMENTS

All provisions necessary to conform with State and local laws will be complied with by the City in implementing this Urban Renewal Plan, as amended, and its supporting documents.

REPEALER AND SEVERABILITY CLAUSE

Any parts of the previous Plan, as previously amended, in conflict with this Amendment are hereby repealed. If any part of the Amendment is determined to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity of the previously adopted Plan as a whole or the previous amendments to the Plan, or any part of the Plan not determined to be invalid or unconstitutional.

URBAN RENEWAL PLAN AMENDMENTS

The Urban Renewal Plan may be amended from time to time for a variety of reasons, including, but not limited to, adding or deleting land, adding or amending urban renewal projects, or modifying goals or types of renewal activities.

The City Council may amend this Plan in accordance with applicable State law.

EFFECTIVE PERIOD

This Amendment No. 9 will become effective upon its adoption by the City Council and will remain in effect until it is repealed by the City Council. Notwithstanding anything to the contrary in the Urban Renewal Plan, any prior amendment, resolution, or document, the Urban Renewal Plan, as amended, shall remain in effect until terminated by the City Council. This Amendment has no impact on the duration of the division of revenue in prior amendments.

02168095-2\11149-132



March 14, 2023

Sent via email: jsabroske@ahlerslaw.com

City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712)732-8000
f (712)732-4114

Ahlers & Cooney, P.C.
Jenna H.B. Sabroske
100 Court Avenue, Suite 600
Des Moines, Iowa 50309-2231

RE: Consultation Meeting for Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan

Dear Jenna,

As directed by Storm Lake City Council a consultation session was held for Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan for the affected taxing entities on Tuesday, March 14, 2023, at 11:00 a.m. in the City Council Chambers at City Hall.

At the appointed time city staff present included: Keri Navratil, City Manager of Storm Lake, and Lee Dutfield, Development Services Specialist.

There was no one else in attendance at the meeting. City staff waited until 11:15 a.m. then declared the consultation session closed. There were no comments or questions.

Sincerely,

Keri Navratil
City Manager
City of Storm Lake, Iowa

Staff Summary

04/03/2023

Agenda Item # F.5.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Lee Dutfield Development Services Sepcialist

SUBJECT: **Resolution No. 53-R-2022-2023 Determining An Area Of The City To Be An Economic Development Area, And That The Rehabilitation, Conservation, Redevelopment, Development Or A Combination Thereof, Of Such Area Is Necessary In The Interest Of The Public Health, Safety Or Welfare Of The Residents Of The City; Designating Such Area As Appropriate For Urban Renewal Projects; And Adopting The Amendment No. 9 To The Storm Lake Industrial Park Urban Renewal Plan**

BACKGROUND: Amendment No. 9 to the Industrial Park Urban Renewal Area includes the following:

- King's Pointe Resort Remodel - The City originally authorized \$4,500,000 for this project (in Amendment No. 6). The expected costs of this project have increased since the project was originally authorized as an urban renewal project. With the adoption of this Amendment No. 9, the City is authorizing an additional \$5,500,000 for this project, for overall project costs (funded using TIF) not to exceed \$10,000,000.
- Memorial Road Resurfacing Project - This project was originally authorized in Amendment No. 3 to the Plan. This project involves the resurfacing of an existing gravel road to a hard surface street more suitable for traffic common to developed areas. Recent developments in the area as well as future projected development will increase traffic on this road and the need for a hard surface street to eliminate costly maintenance and negative impacts to neighboring businesses. This project will include the Installation of new water, sewer, and storm water infrastructures. The City originally authorized \$300,000 for this project (in Amendment No. 3) and later authorized an additional \$1,100,000 for the project in Amendment No. 7. The expected costs of this project

have continued to increase and are now expected to total approximately \$5,500,000. Accordingly, the with adoption of this Amendment No. 9, the City is authorizing an additional \$4,100,000 for this project.

- Spoil Site Recreation Area - The City completed dredging of Storm Lake in the Fall of 2017 and has been exploring ways to utilize the dredge spoil site land based on its existing conditions and the suitability of the property for development. A study was completed, and a plan was developed to construct a recreation area on the spoil site. Improvements to the spoil site may include, but is not limited to, parking lots and access roads/driveways, site restoration, trails, dog park, natural play area, seating areas/overlooks/outdoor classroom spaces, pickleball courts, and tennis courts. Estimated costs not to exceed \$4,300,000 - \$5,600,000.
- Water Reuse System - The City is proposing a project to install an effluent reuse system that will eliminate the need to use potable water from water supply for non-potable uses. The proposed project includes the installation of a six-inch effluent water line (approximately 12,500 linear feet) from the City's Water Reclamation Facility to the City's park maintenance facility. This water main would be a pressurized main that would transport wastewater effluent to the water reuse distribution point at the maintenance facility and will connect to the City's existing irrigation system for reuse in the City's systems. At the Water Reclamation Facility, the City will construct a pre-stressed concrete tank to hold treated effluent and a water reuse building which would contain a pump, chlorine feed system, a 10,000 gallon disinfected water tank, and a booster pump. The booster pump would pump water to the City maintenance facility near the golf course. A second water pump would be located in the building to pump effluent water to the Water Reclamation Facility for non-potable uses at that site. This urban renewal project is part of a larger project within the City for which the City is seeking a FEMA grant. The City expects that the FEMA grant, if awarded, would cover 80% to 90% of the overall projects. Because this project involves improvements located outside of the Urban Renewal Area as well as improvements that will be located within the Urban Renewal Area, only that portion of the improvements located within the Urban Renewal Area's boundaries constitute the "urban renewal project" being authorized by this Amendment. Accordingly, the City will determine the amount of any project costs incurred by the City that is proportional to the portion of the project improvements located within the Urban Renewal Area; the City will only seek TIF reimbursement for the proportional amount of the project costs related to improvements constructed within the Area. For example, if 30% of the improvements constructed for the project are within the Area, then the City

would use TIF to help finance 30% of the overall project costs incurred by the City. This proportion is not yet known; however, the City expects the amount of project costs to be financed using TIF will not exceed \$1,800,000.

A consultation meeting with taxing entities was held on Tuesday, March 14, 2023, at 11:00 a.m. in the City Council Chambers at City Hall. At the appointed time city staff present included: Keri Navratil, City Manager of Storm Lake, and Lee Dutfield, Development Services Specialist. There was no one else in attendance at the meeting. City staff waited until 11:15 a.m. then declared the consultation session closed. There were no comments, questions or written feedback from the affected taxing entities.

FISCAL IMPACT:

N/A

RECOMMENDATION:

Adopt Resolution No. 53-R-2022-2023 determining an area of the City to be an economic development and blighted area, and that the rehabilitation, conservation, redevelopment, development or a combination thereof, of such area is necessary in the interest of the public health, safety or welfare of the residents of the City; designating such area as appropriate for urban renewal projects; and adopting the Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan.

ATTACHMENTS:

[Resolution No. 53-R-2022-2023](#)

RESOLUTION NO. 53-R-2022-2023

RESOLUTION DETERMINING AN AREA OF THE CITY TO BE AN ECONOMIC DEVELOPMENT AREA, AND THAT THE REHABILITATION, CONSERVATION, REDEVELOPMENT, DEVELOPMENT, OR A COMBINATION THEREOF, OF SUCH AREA IS NECESSARY IN THE INTEREST OF THE PUBLIC HEALTH, SAFETY OR WELFARE OF THE RESIDENTS OF THE CITY; DESIGNATING SUCH AREA AS APPROPRIATE FOR URBAN RENEWAL PROJECTS; AND ADOPTING AMENDMENT NO. 9 TO THE STORM LAKE INDUSTRIAL PARK URBAN RENEWAL PLAN

WHEREAS, by Resolution No. 33-R-91-92, adopted September 16, 1991, this Council found and determined that certain areas located within the City are eligible and should be designated as an urban renewal area under Iowa law, and approved and adopted the Storm Lake Industrial Park Urban Renewal Plan (the "Plan" or "Urban Renewal Plan") for the Storm Lake Industrial Park Urban Renewal Area (the "Area" or "Urban Renewal Area") described therein, which Plan is on file in the office of the Recorder of Buena Vista County; and

WHEREAS, the Plan has subsequently been amended eight times, lastly by the adoption of Amendment No. 8 to the Plan, adopted by Resolution No. 02-R-2021-2022, adopted July 6, 2021; and

WHEREAS, this Urban Renewal Area currently includes and consists of:

ORIGINAL AREA

A part of the South Half (S1/2) of Section One (1), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.) lying North of the Illinois Central Railroad, and a part of the Northeast Quarter (NE¼) of Section (12), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.) lying North of the Illinois Central Railroad, more particularly described as follows:

Commencing at the Northwest Corner of the Southwest Quarter (SW¼) Section One (1), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.), thence 00°32' East along the West Line of said Southwest Quarter (SW¼) a distance of One Thousand Two Hundred Seven and Seven Tenths Feet (1,207.70') to the Point of Beginning; thence North 90°00' East a distance of Two Thousand Six Hundred Forty Two and Six Hundredths Feet (2,642.06') to the North-South Centerline of said Section One (1); thence South 00°34' East along the North-South Centerline of said Section One (1), a distance of Four Hundred Seven and Eighteen Hundredths Feet (407.18'); thence North 90°00' East a distance of Two Thousand Six Hundred Thirty Eight and Seventy Two Hundredths Feet (2,638.72') to the East Line of said Section One (1); thence South

00°31' East along the East Line of said Section (1) a distance of One Thousand Eighty Seven and Seven Tenths Feet (1,087.7') to the Southeast Corner of said Section One (1), said Point also being the Northeast Corner of Section Twelve (12), Township Ninety North (T 90 N), Range Thirty Seven West (R 37 W) of the Fifth Principal Meridian (5th P.M.); thence South 00°20'20" East along the East Line of said Northeast Quarter (NE¼) Section Twelve (12) a distance of Two Hundred Sixty Six and Five Hundredths Feet (266.05') to the North Right of Way Line of the Illinois Central Railroad; thence North 77°07" West along the North Right of Way Line of said Railroad a distance of Five Thousand Four Hundred Twenty Seven and Seven Tenths Feet (5,427.7') to the West Line of the Southwest Quarter (SW¼) said Section One (1); thence North 00° 32' West along the West Line of said Section (1) a distance of Five Hundred Fifty and Seventy One Hundredths Feet (550.71') to the Point of Beginning.

The above parcel contains 115.46 acres in total

MCS Industrial Addition to Storm Lake, Iowa

AND

A PART OF THE SOUTH EAST QUARTER (SE¼) OF SECTION 2, TOWNSHIP 90 NORTH, RANGE 37 WEST OF THE 5TH P.M., BUENA VISTA COUNTY, IOWA AND BEING MORE FULLY DESCRIBED AS FOLLOWS:

Beginning at the Northeast (NE) corner of the Southeast Quarter (SE¼) of said Section 2; thence South 89°45'20" West along the North line of said Southeast Quarter (SE¼), a distance of 2,131.17 feet to a point on the Easterly right of way line of the Chicago, Milwaukee, St. Paul and Pacific Railroad; thence Southerly along the Easterly right of way line of said railroad on a curve whose short chord bearings are as follows: South 29°31'40" East, a distance of 57.05 feet; thence South 23°07'17" East, a distance of 601.83 feet; thence South 16°32'54" East, a distance of 56.08 feet; thence continuing along the Easterly line of said railroad right of way South 15°59'20" East, a distance of 675.12 feet to a point on the Northerly line of the Illinois Central Railroad right of way; thence South 89°44'44" East, along the Northerly line of said railroad, a distance of 824.23 feet; thence South 1°56'40" West, a distance of 238.22 feet; thence South 76°34'40" East, a distance of 872.88 feet to a point on the East line of said Southeast Quarter (SE¼); thence North along the East line of said Southeast Quarter (SE¼) a distance of 1,759.60 feet to the point of beginning containing 62.91 acres and subject to all easements of record.

The East line of the Southeast Quarter (SE¼) of said Section 2 is assumed to bear due North and South in the above description.

AMENDMENT NO. 1 AREA

All of the property within the corporate limits that is located South of Richland Avenue and East of Flint Drove. The area also includes the full right-of-way of all streets forming the boundary.

AMENDMENT NO. 2 AREA

A parcel in Buena Vista County, Iowa beginning at a point which is at the center of the intersection of the Canadian National Railroad right of way and Radio Road in Storm Lake, Iowa; thence South along the center line of Radio Road to the south right of way line of Highway 7; thence continuing South along the centerline of the County Road just West of the Northwest Quarter (NW $\frac{1}{4}$) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to a point that the center line intersects with the South line of the Northwest Quarter (NW $\frac{1}{4}$) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M.; thence East along a South line of the Northwest Quarter (NW $\frac{1}{4}$), Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to the Southeast corner of the Northwest Quarter (NW $\frac{1}{4}$) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M.; thence North along the East line of the Northwest Quarter (NW $\frac{1}{4}$) of Section Twelve (12), Township Ninety (90) North, Range Thirty-Seven (37) West of the 5th P.M. to the point where that East line intersects with the South line of Highway 7; thence East along the South line of Highway 7 to the point where it intersects with the center line of Gilbert Street extended South across Highway 7; thence North along the center line of Gilbert Street to the point where that line intersects with the center line of the Canadian National Railroad right of way; thence Northwesterly along the center line of the Canadian National Railroad right of way to the point of beginning.

AMENDMENT NO. 3 AREA

A tract of land located in the Southwest Quarter of the Southeast Quarter (SW $\frac{1}{4}$ SE $\frac{1}{4}$) of Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa, and being more particularly described as follows:

Beginning at the Northwest (NW) Corner of Lot Seven (7), Block One (1), of Industrial Park Addition to Storm Lake; thence on a previously recorded bearing of North 90°00'00" East along the North line of said Lot Seven (7), 581.78 Feet to the West line of the East One Hundred Seventy-Five Feet (175') of said Lot Seven (7); thence North 00°10'50" West along the Northern extension of said West line of the East One Hundred Seventy-Five Feet (175'), 186.90 feet; thence South 90°00'00" West, 583.58 Feet to the East line of Lot Six (6), of said Block One (1); thence South 00°43'45" East, along said East line, 186.90 Feet to the point of beginning.

Tract contains 2.50 acres and is subject to all easements of record.

and

A tract of land located in the Southeast Quarter (SE¼) of Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa, and being more particularly described as follows: Commencing at the Northwest (NW) Corner of the Southeast Quarter (SE¼) of said Section 1; thence on a true bearing of South 00°21'07" East along the West line of said Southeast Quarter (SE¼), 930.76 Feet to the point of beginning; thence South 89°10'02" East 838.14 Feet; thence South 00°21'07" East, 645.29 Feet to the North line of the Industrial Park Addition to the City of Storm Lake; thence North 89°50'14" West, along said North line, 255.00 Feet; thence North 00°02'17" East, 186.90 Feet; thence North 89°47'21" West, 583.58 Feet to the East line of Lot Six (6), Block One (1) of said Industrial Park Addition; thence North 00°32'05" West, along said East line, 220.28 Feet to the Northeast (NE) Corner of said Lot Six (6); thence North 00°21'07" West, along the West line of the Southeast Quarter (SE¼), 247.44 Feet to the point of beginning. Hereafter referred to as Lot C of Lot B in Section 1, Township 90 North, Range 37 West of the 5th P.M., Buena Vista County, Iowa.

Tract contains 10.00 acres and is subject to all easements of record; and

AMENDMENT NO. 7 AREA

A TRACT OF LAND LOCATED IN THE SOUTHWEST QUARTER (SW ¼) OF SECTION 1 TOWNSHIP 90 NORTH, RANGE 37 WEST OF THE 5TH P.M., BUENA VISTA COUNTY, IOWA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Commencing at the Northeast (NE) corner of the Southwest Quarter (SW ¼) of said Section 1; Thence South 00° 08' 18" East, along the East line of said Southwest Quarter (SW ¼), 131.94 feet to the Point of Beginning. Thence continuing South 00° 08' 18" East, along said West line, 798.82 feet; Thence South 74° 10' 45" West, 456.34 feet; Thence South 00° 08' 18" East, 120.00 feet to the North line of Block One (1), Industrial Park Addition to Storm Lake; Thence North 89° 35' 28" West, along said North line, 2201.55 feet to the West line of the Southwest Quarter (SW ¼); Thence North 00° 09' 20" West, along said West line, 1075.76 feet to the South line of the North eight (8) acres of the Southwest Quarter (SW ¼); Thence South 88° 57' 13" East, along said South line, 2641.68 feet to the Point of Beginning.

Hereafter known as Lot F in Section 1 Township 90 North, Range 37 West of the 5th P.M., Buena Vista, Iowa.

Tract contains 62.48 acres and is subject to all easements of record.

WHEREAS, a proposed Amendment No. 9 to the Plan ("Amendment No. 9" or "Amendment") for the Urban Renewal Area described above has been prepared, which proposed Amendment has been on file in the office of the City Clerk and which is incorporated herein by reference, the purpose of which is to update the description of previously approved urban renewal projects and to authorize additional urban renewal projects to be undertaken within the Urban Renewal Area; and

WHEREAS, this proposed Amendment No. 9 adds no new land to the Urban Renewal Area; and

WHEREAS, it is desirable that the area be redeveloped as part of the overall redevelopment covered by the Plan, as amended; and

WHEREAS, by resolution adopted on March 6, 2023, this Council directed that a consultation be held with the designated representatives of all affected taxing entities to discuss the proposed Amendment No. 9 and the division of revenue described therein, and that notice of the consultation and a copy of the proposed Amendment No. 9 be sent to all affected taxing entities; and

WHEREAS, pursuant to such notice, the consultation was duly held as ordered by the City Council and all required responses to the recommendations made by the affected taxing entities, if any, have been timely made as set forth in the report of the City Manager, or her delegate, filed herewith and incorporated herein by this reference, which report is in all respects approved; and

WHEREAS, by resolution this Council also set a public hearing on the adoption of the proposed Amendment No. 9 for this meeting of the Council, and due and proper notice of the public hearing was given, as provided by law, by timely publication in the Storm Lakes Times Pilot, which notice set forth the time and place for this hearing and the nature and purpose thereof; and

WHEREAS, in accordance with the notice, all persons or organizations desiring to be heard on the proposed Amendment No. 9, both for and against, have been given an opportunity to be heard with respect thereto and due consideration has been given to all comments and views expressed to this Council in connection therewith and the public hearing has been closed.

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, STATE OF IOWA:

Section 1. That the findings and conclusions set forth or contained in Amendment No. 9 concerning the area of the City of Storm Lake, State of Iowa, described in the preamble hereof, be and the same are hereby ratified and confirmed in all respects as the findings of this Council for this area.

Section 2. This Council further finds:

a) Although relocation is not expected, a feasible method exists for the relocation of any families who will be displaced from the Urban Renewal Area into decent, safe and

sanitary dwelling accommodations within their means and without undue hardship to such families;

b) The Plan, as amended, and Amendment No. 9 conform to the general plan for the development of the City as a whole; and

c) Acquisition by the City is not immediately expected, however, as to any areas of open land to be acquired by the City included within the Urban Renewal Area:

i. Residential use is not expected, however, with reference to any portions thereof which are to be developed for residential uses, this City Council hereby determines that a shortage of housing of sound standards and design with decency, safety and sanitation exists within the City; that the acquisition of the area for residential uses is an integral part of and essential to the program of the municipality; and that one or more of the following conditions exist:

a. That the need for housing accommodations has been or will be increased as a result of the clearance of slums in other areas, including other portions of the urban renewal area.

b. That conditions of blight in the municipality and the shortage of decent, safe and sanitary housing cause or contribute to an increase in and spread of disease and crime, so as to constitute a menace to the public health, safety, morals, or welfare.

c. That the provision of public improvements related to housing and residential development will encourage housing and residential development which is necessary to encourage the retention or relocation of industrial and commercial enterprises in this state and its municipalities.

d. The acquisition of the area is necessary to provide for the construction of housing for low and moderate income families.

ii. Non-residential use is expected and with reference to those portions thereof which are to be developed for non-residential uses, such non-residential uses are necessary and appropriate to facilitate the proper growth and development of the City in accordance with sound planning standards and local community objectives.

Section 3. That the Urban Renewal Area, as amended, continues to be an economic development area within the meaning of Chapter 403, Code of Iowa; that such area is eligible for designation as an urban renewal area and otherwise meets all requisites under the provisions of Chapter 403, Code of Iowa; and that the rehabilitation, conservation, redevelopment, development, or a combination thereof, of such area is necessary in the interest of the public health, safety or welfare of the residents of this City.

Section 4. That Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan of the City of Storm Lake, State of Iowa, attached hereto as Exhibit 1 and incorporated herein by

reference, be and the same is hereby approved and adopted as "Amendment No. 9 to the Storm Lake Industrial Park Urban Renewal Plan for the City of Storm Lake, State of Iowa"; Amendment No. 9, including all of the exhibits attached thereto, is hereby in all respects approved; and the City Clerk is hereby directed to file a certified copy of Amendment No. 9 with the proceedings of this meeting.

Section 5. That, notwithstanding any resolution, ordinance, plan, amendment or any other document, Amendment No. 9 shall be in full force and effect from the date of this Resolution until the Council amends or repeals the Plan. The proposed Amendment No. 9 shall be forthwith certified by the City Clerk, along with a copy of this Resolution, to the Recorder for Buena Vista County, Iowa, to be filed and recorded in the manner provided by law.

Section 6. That all other provisions of the Plan not affected or otherwise revised by the terms of Amendment No. 9, as well as all resolutions previously adopted by this City Council related to the Plan be and the same are hereby ratified, confirmed, and approved in all respects.

PASSED AND APPROVED this 3rd day of April, 2023.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

EXHIBIT 1

STORM LAKE INDUSTRIAL PARK URBAN RENEWAL PLAN

AMENDMENT NO. 9

CITY OF STORM LAKE, IOWA

Original Area Adopted – 1991

Amendment No. 1 – 2004

Amendment No. 2 – 2010

Amendment No. 3 – 2013

Amendment No. 4 – 2015

Amendment No. 5 – 2016

Amendment No. 6 – 2017

Amendment No. 7 – 2019

Amendment No. 8 – 2021

Amendment No. 9 - 2023

LOCAL GOVERNMENT PROFESSIONAL SERVICES, INC.
DBA SIMMERING-CORY

AMENDMENT NO. 9
to
STORM LAKE INDUSTRIAL PARK
URBAN RENEWAL PLAN
CITY OF STORM LAKE, IOWA

The Storm Lake Industrial Park Urban Renewal Plan (“Plan”) for the Storm Lake Industrial Park Urban Renewal Area (“Area” or “Urban Renewal Area”), adopted in 1991, and amended in 2004, 2010, 2013, 2015, 2016, 2017, 2019, and 2021 is being further amended to update a previously authorized urban renewal project and authorize additional urban renewal projects to be undertaken within the Urban Renewal Area by this Amendment No. 9 (“Amendment”).

The original Storm Lake Industrial Park Urban Renewal Area and each of its amendment areas may be referred to as Subareas in this Amendment. The Subareas make up the Urban Renewal Area.

This Storm Lake Industrial Park Urban Renewal Plan, Amendment No. 9 repeats much of the Storm Lake Industrial Park Urban Renewal Plan Amendment No. 8, adopted in 2021. The material changes by this Amendment include the following:

- Updating the Previously Authorized Urban Renewal Projects section (pages 5-7);
- Adding new Eligible Urban Renewal Projects section (pages 7-10);
- Updating the Financial Information section (page 10);

Except as modified by this Amendment, the provisions of the original Storm Lake Industrial Park Urban Renewal Plan, as previously amended, are hereby ratified, confirmed, and approved and shall remain in full force and effect as provided herein. In case of any conflict or uncertainty, the terms of this Amendment shall control.

DESCRIPTION OF THE URBAN RENEWAL AREA

This Amendment does not add or remove any land from the Urban Renewal Area.

AREA DESIGNATION

The Urban Renewal Area previously has been designated as a mixed area for the remediation of blight and promotion of economic development (commercial and industrial) activities. Together these findings continue to support the designation of the entire Urban Renewal Area, excluding the Amendment No. 7 Subarea, which is only designated as an economic development area, as a mixed area appropriate for the remediation of blight and the promotion of economic development (commercial and industrial) activities.

PROJECT OBJECTIVES

Renewal activities are designed to provide opportunities and incentives for community development purposes including new and expanded commercial and industrial development as well as revitalization and alleviation of blighting conditions. More specific objectives include:

1. To achieve a diversified, well balanced economy providing a desirable standard of living, creating job opportunities, and strengthening the tax base.

2. To plan and provide sufficient land for commercial, residential, and industrial development in a manner that is efficient from the standpoint of providing municipal services.
3. To provide for the installation of public works and facilities, which contribute to the revitalization of the Area.
4. To eliminate blighting influences and promote revitalization, through public action and commitment, or by providing incentives to private persons or businesses, to acquire, rehabilitate, renovate, demolish, and/or redevelop existing structures or property.
5. To stimulate through public action and commitment, private investment in residential development as part of blight remediation activities. The City realizes that the availability of affordable, decent, safe, and sanitary housing is important to the overall economic viability of the community.
6. To encourage commercial and industrial growth and expansion through governmental policies which make it economically feasible to do business.
7. To provide a more marketable and attractive investment climate through the use of various federal, state, and local incentives.
8. To stimulate, through public action and commitment, private investment in commercial and industrial expansion.
9. To help develop a sound economic base that will serve as the foundation for future growth and development.
10. To provide facilities offering diversified and expanded recreational opportunities, which will help improve the quality of life and contribute to the overall viability of the community.
11. To achieve a diversified, well-balanced economy providing a desirable standard of living, creating job opportunities, and strengthening the tax base.
12. To enhance the Storm Lake community by fostering an entrepreneurial climate, diversifying the local economy, encouraging opportunities for new businesses, and supporting retention of existing businesses.
13. To provide for the installation and upgrade of public works, infrastructure, including but not limited to, storm water collection and conveyance system, sanitary sewer facilities, water utility infrastructure, pedestrian pathways

(sidewalks and trails), roads, and related facilities which alleviate blighting influences and contribute to the sound economic development of the Area.

14. To preserve the health, safety, living environment, general character, and general welfare of the City of Storm Lake, Iowa.
15. To promote development utilizing any other objectives allowed by Chapter 403 of the *Code of Iowa*.

TYPES OF RENEWAL ACTIVITIES

To meet the objectives of this Urban Renewal Plan, as amended, and to encourage the development of the Area, as amended, the City intends to utilize the powers conferred under Chapter 403 and Chapter 15A, *Code of Iowa* including, but not limited to, tax increment financing. Activities may include:

1. To undertake and carry out urban renewal projects through the execution of contracts and other instruments.
2. To provide for the construction of specific site improvements such as grading and site preparation activities, access roads and parking, fencing, utility connections, and related activities.
3. To acquire property through a variety of means (purchase, lease, option, etc.) and to hold, clear, or prepare the property for redevelopment.
4. To dispose of property that has been acquired.
5. To undertake blight remediation activities.
6. To demolish structures and to clear the land for future development so as to revitalize the Area and alleviate blighting conditions.
7. To make loans, forgivable loans, grants, tax rebate payments or other types of grants or incentives to private persons or businesses for economic development, revitalization, or blight remediation purposes, on such terms as may be determined by the City Council.
8. To finance programs which will directly benefit housing conditions and promote the availability of housing in the community.
9. To arrange for or cause to be provided the construction, expansion, or repair of public infrastructure including, but not limited to, streets and sidewalks, traffic lights, pedestrian safety measures, water mains, sanitary sewers, storm sewers,

public utilities, bike and walking trails, landscaping, or other recreational facilities and activities in connection with urban renewal project which serve to revitalize the area and alleviate blighting conditions, or promote economic development in the Area.

10. To borrow money and to provide security therefor.
11. To make or have made surveys and plans necessary for the implementation of the Urban Renewal Plan or specific urban renewal projects.
12. To use tax increment financing for a number of purposes, including but not limited to, achieving a more marketable and competitive land offering price and providing for necessary physical improvements and infrastructure.
13. To use tax increment revenues to help leverage grants, loans, or other assistance from state and federal governments (such as providing the local match for such assistance) in support of projects or businesses that advance the objectives of this Plan, as amended.
14. To use any or all other powers granted by the Urban Renewal Act to develop and provide for improved economic conditions for the City of Storm Lake and the State of Iowa.

Nothing herein shall be construed as a limitation on the power of the City to exercise any lawful power granted to the City under Chapter 15, Chapter 15A, Chapter 403, Chapter 427B, or any other provision of the *Code of Iowa* in furtherance of the objectives of this Urban Renewal Plan, as amended.

PREVIOUSLY AUTHORIZED URBAN RENEWAL PROJECTS

Various Urban Renewal Projects were authorized prior to this Amendment No. 9 and are continuing. Such previously authorized urban renewal projects include, but are not limited to:

- King's Pointe Resort, Project AWAY SIS. This project was added in Amendment No. 3 and is complete. The City has \$13,016,112 in certified debt currently outstanding on this project.
- Gold Wing Drive. This project was added in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Memorial Road Resurfacing. This project was added with Amendment No. 3 and has not started as of this Amendment. Additional funds were authorized for this project in Amendment No. 7. With this Amendment, the City is amending the project description and authorizing additional funds for the project. Please see the update details on page 7.

- Acquisition and Demolition of Dilapidated Structures. This project was identified in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- HWY 7 Development Agreements. This project was identified in Amendment No. 3 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Entrance Roads and Sidewalk Along Sunrise Park Road. This project is complete and the City has \$123,382 in certified debt currently outstanding on this project.
- FB Storm Lake II, LLC. This project was added in Amendment No. 5 and additional funds were authorized under Amendment No. 8. The project is currently ongoing and the City anticipates the project will continue over the next few years. Currently there is no debt certified on this project.
- King's Pointe Resort Remodel. The City added this project in Amendment No. 6. The project is ongoing and currently the City has outstanding certified debt of \$108,000 for this project. With this Amendment, the City is amending the project description and authorizing additional funds for the project. Please see the update details on page 7.
- Outdoor Waterpark Concrete. The City added this project in Amendment No. 6 and the project is complete. The City has \$16,822 in certified debt currently outstanding on this project.
- Memorial Park Storm Water Improvements. This project was added in Amendment No. 6 and is no longer being pursued. As of this Amendment the project is being removed from the list of eligible projects.
- Water Line Extensions. This project was added in Amendment No. 7. This project is complete. The City has \$452,866 in certified debt currently outstanding for this project.
- Expansion Boulevard Road Improvements. This project was added in Amendment No. 7. This project is completed and the City has \$715,859 in certified debt currently outstanding for this project.
- Tyson Fresh Meats Development Agreement for the Feedmill. This project was added with Amendment No. 7. The project is in process and the City currently has \$250,000 in certified debt outstanding for this project.
- Daycare Development Agreement. This project was added with Amendment No. 8 and is currently ongoing. Currently there is no debt certified on this project.

Collectively, as of the date of this Amendment, certified debt on these projects is approximately \$14,683,041. Other previously authorized projects that have not yet begun are still planned as outlined in previous amendments and are expected to add to the amount of certified debt as they are undertaken.

With the adoption of this Amendment, the City is amending the following previously authorized projects:

1. King's Pointe Resort Remodel: This project was originally authorized in Amendment No. 6 to the Plan, to promote economic development in the Urban Renewal Area. King's Pointe

Resort is almost 15 years old and in need of remodeling and renovations. It is industry standard to remodel and renovate hotel rooms and public spaces every seven years. Further, King's Pointe Resort is a leading recreational and tourism feature in the City and is used by members of the City, County, and School communities as well as attracting tourists and business related travelers from outside of the community. King's Pointe spurs tourism and commercial business activity in the community and is a key component of attracting employers, employees, and economic development. A public building analysis was completed for this project as part of Amendment No. 6 and remains applicable to this update of the project.

The City originally authorized \$4,500,000 for this project (in Amendment No. 6). The expected costs of this project have increased since the project was originally authorized as an urban renewal project. With the adoption of this Amendment No. 9, the City is authorizing an additional \$5,500,000 for this project, for overall project costs (funded using TIF) not to exceed \$10,000,000.

2. **Memorial Road Resurfacing Project:** This project was originally authorized in Amendment No. 3 to the Plan. This project involves the resurfacing of an existing gravel road to a hard surface street more suitable for traffic common to developed areas. Recent developments in the area as well as future projected development will increase traffic on this road and the need for a hard surface street to eliminate costly maintenance and negative impacts to neighboring businesses. The City originally authorized \$300,000 for this project (in Amendment No. 3) and later authorized an additional \$1,100,000 for the project in Amendment No. 7. The expected costs of this project have continued to increase and are now expected to total approximately \$5,500,000. Accordingly, the with adoption of this Amendment No. 9, the City is authorizing an additional \$4,100,000 for this project.

ELIGIBLE URBAN RENEWAL PROJECTS (Amendment No. 9)

Although certain project activities may occur over a period of years, in addition to projects previously authorized in the Plan, as previously amended, the eligible urban renewal projects under this Amendment No. 9 include:

1. Public Improvements.

Project	Estimated Date	Estimated Cost to be Funded by TIF Funds (Not to Exceed)	Rationale

Spoil Site Recreation Area	2023-2028	\$4,300,000 – 5,600,000	The City completed dredging of Storm Lake in the Fall of 2017 and has been exploring ways to utilize the dredge spoil site land based on its existing conditions and the suitability of the property for development. A study was completed, and a plan was developed to construct a recreation area on the spoil site. Improvements to the spoil site may include, but is not limited to, parking lots and access roads/driveways, site restoration, trails, dog park, natural play area, seating areas/overlooks/outdoor classroom spaces, pickleball courts, and tennis courts. The spoil site is a unique landscape with dramatic differences in topography and land cover that is not suitable for certain types of development. Constructing a recreation area that utilizes the natural landscape will assist in eliminating blight and spurring economic development.
Water, Sewer, and Storm Water Infrastructure for Highway 7 Commercial Development	2023-2024	\$5,500,000	Installation of new water, sewer, and storm water infrastructures will support and incentivize the construction of a new gas station and convenience store along Highway 7 on the east side of the City. The gas station and convenience store development is expected to create new jobs within the Urban Renewal Area. The City expects to enter into a development agreement with the gas station/convenience store operator related to the private development and operation of the facility, including creation of jobs through such operations.
	TOTAL:	Not to exceed \$11,100,000	
Note: It may be that the above costs will be reduced by the application of state and/or federal grants or programs; cost-sharing agreements with other entities; or other available sources of funds.			

2. Water Reuse System: The City is proposing a project to install an effluent reuse system that will eliminate the need to use potable water from water supply for non-potable uses. The proposed project includes the installation of a six-inch effluent water line (approximately 12,500 linear feet) from the City's Water Reclamation Facility to the City's park maintenance facility. This water main would be a pressurized main that would transport wastewater effluent to the water reuse distribution point at the maintenance facility and will connect to the City's existing irrigation system for reuse in the City's systems. At the Water Reclamation Facility, the City will construct a pre-stressed concrete tank to hold treated effluent and a water reuse building which would contain

a pump, chlorine feed system, a 10,000 gallon disinfected water tank, and a booster pump. The booster pump would pump water to the City maintenance facility near the golf course. A second water pump would be located in the building to pump effluent water to the Water Reclamation Facility for non-potable uses at that site.

Drought is becoming more severe in Storm Lake, and contributes to blighting conditions. The City has been looking at ways to reduce the impacts of drought on the community. This project would reduce impacts of drought, and therefore would reduce and prevent blighting conditions in the Urban Renewal Area. It is estimated that this project will provide an immediate reduction of water usage from the water system by approximately 20,000,000 gallons per year.

In addition to reducing and preventing blight, this project would support water supply to recreational amenities within the community, such as the golf course. Having accessible and well-maintained recreational amenities in the community are an important aspect of supporting economic development within the Urban Renewal Area.

This urban renewal project is part of a larger project within the City for which the City is seeking a FEMA grant. The City expects that the FEMA grant, if awarded, would cover 80% to 90% of the overall projects. Because this project involves improvements located outside of the Urban Renewal Area as well as improvements that will be located within the Urban Renewal Area, only that portion of the improvements located within the Urban Renewal Area's boundaries constitute the "urban renewal project" being authorized by this Amendment. Accordingly, the City will determine the amount of any project costs incurred by the City that is proportional to the portion of the project improvements located within the Urban Renewal Area; the City will only seek TIF reimbursement for the proportional amount of the project costs related to improvements constructed within the Area. For example, if 30% of the improvements constructed for the project are within the Area, then the City would use TIF to help finance 30% of the overall project costs incurred by the City. This proportion is not yet known; however, the City expects the amount of project costs to be financed using TIF will not exceed \$1,800,000.

3. Development Agreements: The City expects to consider requests for Development Agreements for the following projects that are consistent with this Plan, in the City's sole discretion.

A. *Future Development Agreements:* The City expects to consider requests for Development Agreements for projects that are consistent with this Plan, as amended, in the City's sole discretion. Such agreements are unknown at this time, but based on past history and dependent on development opportunities and climate the City expects to consider a broad range on incentives as authorized by this Plan, as amended, including, but not limited to, land, loans, grants, tax rebates, public infrastructure assistance, and other incentives. The costs of such development agreements will not exceed \$500,000.

4. Planning, Engineering Fees (for Urban Renewal Plans), Attorney Fees, Administrative, and Other Related Costs to Support Urban Renewal Projects and Planning:

Project	Estimated Date	Estimated Cost to be Funded by TIF Funds
Fees & Costs	Undetermined	Not to Exceed \$25,000

FINANCIAL INFORMATION

1.	July 1, 2022 Constitutional Debt Limit:	\$26,815,398.60
2.	Outstanding General Obligation Debt:	\$13,116,000
3.	Proposed amount of indebtedness to be incurred: A specific amount of debt to be incurred for the Eligible Urban Renewal Projects (Amendment No. 9) has not yet been determined. This document is for planning purposes only. The estimated project costs in this Amendment are estimates only and will be incurred and spent over a number of years. In no event will the City's constitutional debt limit be exceeded. The City Council will consider each project proposal on a case-by-case basis to determine if it is in the City's best interest to participate before approving an urban renewal project or expense. It is further expected that such indebtedness, including interest on the same, may be financed in whole or in part with tax increment revenues from the Urban Renewal Area. Subject to the foregoing, it is estimated that the cost of the Eligible Urban Renewal Projects (Amendment No. 9) as described above and be funded by TIF funds will be approximately as stated in the next column:	<u>Update to Previously Approved Urban Renewal Projects:</u> \$9,600,000 <u>Eligible Urban Renewal Projects (Amendment No. 9)</u> \$13,425,000 This does not include financing costs related to debt issuance, which may be incurred over the life of the area.

DEVELOPMENT PLAN

Storm Lake has a general plan for the physical development of the City, as a whole, outlined in the Storm Lake Comprehensive Plan that was adopted by the City Council in February 2013. The goals, objectives, and projects proposed in this Urban Renewal Plan, as amended, are consistent with the City's Comprehensive Plan.

This Amendment No. 9 does not in any way replace the City's current land use planning or zoning regulation process.

URBAN RENEWAL FINANCING

The City intends to utilize various financing tools, such as those described below, to successfully undertake eligible urban renewal actions. The City has the statutory authority to use a variety of tools to finance physical improvements within the Area, as amended. These include:

A. Tax Increment Financing.

Under Section 403.19 of the *Code of Iowa*, urban renewal areas may utilize the tax increment financing mechanism to finance the costs of public improvements, economic development incentives, or other urban renewal projects. Upon creation of a tax increment district within the Area, by ordinance, the assessment base is frozen and the amount of tax revenue available from taxes paid on the difference between the frozen base and the increased value, if any, is segregated into a separate fund for the use by the City to pay costs of the eligible urban renewal projects. The increased taxes generated by any new development, above the base value, are distributed to the taxing entities, if not requested by the City, and in any event upon the expiration of the tax increment district.

B. General Obligation Bonds.

Under Division III of Chapter 384 and Chapter 403 of the *Code of Iowa*, the City has the authority to issue and sell general obligation bonds for specified essential and general corporate purposes, including the acquisition and construction of certain public improvements or urban renewal projects within the Area, as amended, or incentives for development consistent with this Plan, as amended. Such bonds are payable from the levy of unlimited ad valorem taxes on all the taxable property within the City. It may be that the City will elect to abate some or all of the debt service on these bonds with incremental taxes from this Area, as amended.

The City may also determine to use tax increment financing to provide incentives such as cash grants, loans, tax rebates, or other incentives to developers or private entities in connection with the urban renewal projects identified in the Plan, as amended. In addition, the City may determine to issue general obligation bonds, tax increment revenue bonds or such other obligations, or loan agreements for the purpose of making loans or grants of public funds to private businesses located in the Area for urban renewal projects. Alternatively, the City may determine to use available funds for making such loans or grants or other incentives related to urban renewal projects. In any event, the City may determine to use tax increment financing to reimburse the City for any obligations or advances.

Nothing herein shall be construed as a limitation on the power of the City to exercise any lawful power granted to the City under Chapter 15, Chapter 15A, Chapter 403, Chapter 427B, or any other provision of the *Code of Iowa* in furtherance of the objectives of this Urban Renewal Plan.

PROPERTY ACQUISITION/DISPOSITION

Notwithstanding prior plan provisions, the City will follow any and all applicable requirements for the acquisition and disposition of property upon terms and conditions in the discretion of the City Council.

RELOCATION

The City does not expect there to be any relocation required as part of the eligible urban renewal projects; however, if any relocation is necessary, the City will follow all applicable relocation requirements.

PROPERTY WITHIN AN URBAN REVITALIZATION AREA

The Urban Renewal Area may (now or in the future) also be located within an established Urban Revitalization Area. The Storm Lake City Council, at its sole discretion, shall determine which incentives are available through either: (a) this Plan for urban renewal incentives, if any urban renewal incentives are offered by the City, at the City Council's sole discretion; or (b) tax abatement incentives through Urban Revitalization but no individual or entity shall be eligible for both (a) and (b).

STATE AND LOCAL REQUIREMENTS

All provisions necessary to conform with State and local laws will be complied with by the City in implementing this Urban Renewal Plan, as amended, and its supporting documents.

REPEALER AND SEVERABILITY CLAUSE

Any parts of the previous Plan, as previously amended, in conflict with this Amendment are hereby repealed. If any part of the Amendment is determined to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity of the previously adopted Plan as a whole or the previous amendments to the Plan, or any part of the Plan not determined to be invalid or unconstitutional.

URBAN RENEWAL PLAN AMENDMENTS

The Urban Renewal Plan may be amended from time to time for a variety of reasons, including, but not limited to, adding or deleting land, adding or amending urban renewal projects, or modifying goals or types of renewal activities.

The City Council may amend this Plan in accordance with applicable State law.

EFFECTIVE PERIOD

This Amendment No. 9 will become effective upon its adoption by the City Council and will remain in effect until it is repealed by the City Council. Notwithstanding anything to the contrary in the Urban Renewal Plan, any prior amendment, resolution, or document, the Urban Renewal Plan, as amended, shall remain in effect until terminated by the City Council. This Amendment has no impact on the duration of the division of revenue in prior amendments.

02168095-2\11149-132

Staff Summary

04/03/2023

Agenda Item # F.6.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Public Hearing On The Authorization Of A Loan Agreement And
The Issuance Of Notes To Evidence The Obligation Of The City
Thereunder**

BACKGROUND: This Agenda Item will commence a public hearing and meeting on the matter of the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, of the City of Storm Lake, State of Iowa, to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark, and that notice of the proposed action by the Council to institute proceedings for the authorization of the Loan Agreement and the issuance of the Notes had been published pursuant to the provisions of Sections 384.24A and 403.9 of the Code of Iowa.

FISCAL IMPACT: None at this time.

RECOMMENDATION: Open Public Hearing
Receive any comments or objections.
Close Public Hearing

ATTACHMENTS:
[Public Hearing Notice.pdf](#)

AFFIDAVIT OF PUBLICATION

I, Jon Robinson, being duly sworn,
do state an oath that I am the publisher/general manager of
the Storm Lake Times Pilot, a newspaper printed in the English
language and published in Storm Lake, Buena Vista County,
Iowa, and that the notice, a printed copy of which is attached,
was published in said newspaper on the following date(s):

March 24, 2023

_____, 20____

_____, 20____

[Signature]

Publisher/General Manager

Subscribed and sworn to me this 24th day of

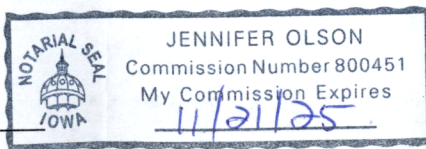
March, 2023.

NOTARY PUBLIC

[Signature]

Price \$

39.20



OFFICIAL PUBLICATION

NOTICE OF MEETING OF THE
CITY COUNCIL OF THE CITY OF
STORM LAKE, STATE OF IOWA,
ON THE MATTER OF THE
PROPOSED AUTHORIZATION OF
A LOAN AGREEMENT AND THE
ISSUANCE OF NOT TO EXCEED
\$6,200,000 URBAN RENEWAL
REVENUE CAPITAL LOAN NOTES,
AND THE HEARING ON THE
ISSUANCE THEREOF

PUBLIC NOTICE is hereby given that the City Council of the City of Storm Lake, State of Iowa, will hold a public hearing on the 3rd day of April, 2023, at 5:00 P.M., in the Council Chambers, City Hall, 620 Erie Street, Storm Lake, Iowa, at which meeting the Council proposes to take additional action for the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark. The Notes will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by the Net Revenues of the incremental taxes ("Net Revenues") under Iowa Code Section 403.19 produced by the Storm Lake Industrial Park Urban Renewal Area, as amended.

At the above meeting the Council shall receive oral or written objections from any resident or property owner of the City to the above action. After all objections have been received and considered, the Council will at the meeting or at any adjournment thereof, take additional action for the authorization of a Loan Agreement and the issuance of the Notes to evidence the obligation of the City thereunder or will abandon the proposal to issue said Notes.

This notice is given by order of the City Council of the City of Storm Lake, State of Iowa, as provided by Sections 384.24A, 403.9 and 403.19 of the Code of Iowa.

Dated this 20th day of March, 2023.

/s/ Mayra A. Martinez
Mayra A. Martinez, City Clerk,
City of Storm Lake, State of Iowa 66

Staff Summary

04/03/2023

Agenda Item # F.7.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Resolution No. 54-R-2022-2023 Initiating Proceedings To Take Additional Action For The Authorization Of A Loan Agreement And The Issuance Of Not To Exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes.**

BACKGROUND: Pursuant to notice published as required by law, the City Council has held a public meeting and hearing upon the proposal to institute proceedings for the authorization of a Loan Agreement and has considered the extent of objections received from residents or property owners as to the proposed issuance of Notes; and accordingly this Resolution is now considered to be in the best interests of the City and residents thereof.

FISCAL IMPACT: This Resolution shall also serve as a declaration of official intent under Treasury Regulation 1.150-2 and shall be maintained on file as a public record of such intent. It is reasonably expected that the urban renewal revenue fund moneys may be advanced from time to time for capital expenditures which are to be paid from the proceeds of the above Notes. The amounts so advanced shall be reimbursed from the proceeds of the Notes not later than eighteen months after the initial payment of the capital expenditures or eighteen months after the property is placed in service. This Resolution authorizes, but shall not exceed \$6,200,000 in future indebtedness but will not constitute general obligations or be payable in any manner by taxation, but will be payable from and secured by Net Revenues under Iowa Code Section 403.19.

RECOMMENDATION: Approve Resolution No. 54-R-2022-2023 instituting proceedings to take additional action for the authorization of a Loan Agreement and the Issuance of CLN.

ATTACHMENTS:

[5420222023 - Hearing Proceedings 2023 UR Revenue CLN \(02179084x7F7E1\).pdf](#)

RESOLUTION NO. 54-R-2022-2023

**RESOLUTION INSTITUTING PROCEEDINGS TO TAKE
ADDITIONAL ACTION FOR THE AUTHORIZATION OF
A LOAN AGREEMENT AND THE ISSUANCE OF NOT TO
EXCEED \$6,200,000 URBAN RENEWAL REVENUE
CAPITAL LOAN NOTES**

WHEREAS, pursuant to notice published as required by law, the City Council has held a public meeting and hearing upon the proposal to institute proceedings for the authorization of a Loan Agreement and the issuance of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, in order to provide funds to pay the costs of aiding in the planning, undertaking, and carrying out of urban renewal projects under the authority of Chapter 403 and the Storm Lake Industrial Park Urban Renewal Plan for the Storm Lake Industrial Park Urban Renewal Area, including renovating, improving, equipping and reconstructing the King's Pointe Resort and indoor waterpark, and has considered the extent of objections received from residents or property owners as to the proposed issuance of Notes; and accordingly the following action is now considered to be in the best interests of the City and residents thereof.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STORM LAKE, STATE OF IOWA:

Section 1. That this Council does hereby institute proceedings and take additional action for the authorization of a Loan Agreement and the issuance in the manner required by law of not to exceed \$6,200,000 Urban Renewal Revenue Capital Loan Notes, for the foregoing purposes.

Section 2. This Resolution shall serve as a declaration of official intent under Treasury Regulation 1.150-2 and shall be maintained on file as a public record of such intent. It is reasonably expected that the urban renewal revenue fund moneys may be advanced from time to time for capital expenditures which are to be paid from the proceeds of the above Notes. The amounts so advanced shall be reimbursed from the proceeds of the Notes not later than eighteen months after the initial payment of the capital expenditures or eighteen months after the property is placed in service. Such advancements shall not exceed the amount authorized in this Resolution unless the same are for preliminary expenditures or unless another declaration of intention is adopted.

PASSED AND APPROVED this 3rd day of April, 2023.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Staff Summary

04/03/2023

Agenda Item # F.8.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Motion Setting Public Hearing On Fiscal Year 2022-2023 Budget Amendment**

BACKGROUND:

The City is required to amend the budget anytime expenses are estimated to exceed the prior authorized budget authority as set by City Council.

Prior to adoption of the budget amendment the City must hold a public hearing and publish notice. Passage of this motion will set the official public hearing date for Monday, April 17th, 2023 at 5:00 p.m. and directs the City Clerk to publish notice of the hearing as required by State of Iowa law.

FISCAL IMPACT: The fiscal impact to set the public hearing is the cost of publication.

RECOMMENDATION: Set the public hearing for Monday, April 17th, 2023 at 5:00 P.M.

ATTACHMENTS:

Staff Summary

04/03/2023

Agenda Item # F.9.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: David Derragon Assistant City Manager

SUBJECT: **Ordinance No. 04-O-2022-2023 Amending Title IV of the Storm Lake, Iowa City Code by Amending Section 4-3-2(d) of Chapter 4-3 on Solicitors, Which Section Defines "Transient Merchant," and by Adding New Chapter 4-10 Regulating Mobile Food and Beverage Vendors - 2nd Reading**

BACKGROUND: The City of Storm Lake has experienced an increase in the number of mobile food and beverage vendors engaged in business within its city limits.

With the increase in number, there is a need to license and regulate such enterprises for the protection of the City's residents, the preservation of the attractiveness of the City's public spaces, and the encouragement of fair and orderly growth of the mobile food and beverage segment of the local economy.

Adoption of this ordinance will provide guidance for mobile vendors occupying public spaces when conducting business.

First Reading: ~~March 20, 2023~~

Second Reading: April 3, 2023

Third Reading: April 17, 2023

FISCAL IMPACT: N/A

RECOMMENDATION: Move to Adopt on Second Reading Ordinance No. 04-O-2022-2023 Amending Title IV of the Storm Lake, Iowa City Code by Amending Section 4-3-2(d) of Chapter 4-3 on Solicitors, Which Section Defines "Transient Merchant," and by Adding New Chapter 4-10 Regulating Mobile Food and Beverage Vendors

ATTACHMENTS:

[Ordinance #04-O2022-2023 - Mobile Food Vendor Ordinance - Storm Lake 2023 DRAFT-as modified by Havens-revised to include penalty provision.pdf](#)

ORDINANCE NO. 04-O-2022-2023

AN ORDINANCE AMENDING TITLE IV OF THE STORM LAKE, IOWA CITY CODE BY AMENDING SECTION 4-3-2(d) OF CHAPTER 4-3 ON SOLICITORS, WHICH SECTION DEFINES “TRANSIENT MERCHANT,” AND BY ADDING NEW CHAPTER 4-10 REGULATING MOBILE FOOD AND BEVERAGE VENDORS

WHEREAS, the City of Storm Lake has experienced an increase in the number of mobile food and beverage vendors engaged in business within its city limits; and

WHEREAS, the Storm Lake City Council sees the need to license and regulate such enterprises for the protection of the City’s residents, the preservation of the attractiveness of the City’s public spaces, and the encouragement of fair and orderly growth of the mobile food and beverage segment of the local economy;

NOW THEREFORE, BE IT ORDAINED by the City Council of the City of Storm Lake, Iowa as follows:

Section 1. Paragraph (d) under Section 2, entitled “Definitions,” in Chapter 4-3 on Solicitors is amended by inserting at the end of the definition of “Transient Merchant” the following sentence:

Notwithstanding the foregoing definition of “Transient Merchant,” the term, “Transient Merchant” shall not include a “Mobile Vendor,” as defined in Chapter 4-10 on Mobile Food and Beverage Vendors.

Section 2. Title IV of the Storm Lake City Code, on Business, is amended by inserting the following new Chapter 4-10, entitled “Mobile Food and Beverage Vendors,” immediately after existing Chapter 4-9:

4-10-1 PURPOSE. The purpose of this chapter is to protect residents of the City against fraud, unfair competition, and unsafe food sources; preserve the attractiveness of the City’s public spaces; and encourage the fair and orderly growth of the mobile food and beverage segment of the local economy by licensing and regulating mobile food and beverage vendors.

4-10-2 DEFINITIONS. The following words, terms and phrases when used in this Chapter shall have the following meanings:

Food Service Establishment shall have the meaning established by Section 481-30.2 of the Iowa Administrative Code.

Mobile Vendor means a person engaged in the business of selling food, beverages, or both, from a Mobile Vendor Vehicle on public property.

Mobile Vendor Vehicle means a licensed motorized vehicle, a licensed trailer, or both, used for the sale of food, beverages, or both, for immediate consumption. The definition of Mobile Vendor Vehicle includes but is not limited to the common term “Food Truck.”

Restaurant means a food service establishment which derives at least fifty percent (50%) of its gross receipts from the sale of food, beverages, or both, for immediate consumption on the premises.

4-10-3 MOBILE VENDOR LICENSE REQUIRED. Before offering for sale any food or beverage in the City, a Mobile Vendor shall obtain a license for their sale from the City Clerk as provided in this Chapter. A separate Mobile Vendor License shall be required for each Mobile Vending Vehicle.

For any community event, the City Clerk may issue a license to the organization hosting the event to allow Mobile Vendors authorized by the hosting organization to operate without an individual Mobile Vendor license for a limited number of days, not to exceed the number of days of the event being hosted. Regulations relating to the allowed location or area of Mobile Vendors' operations may be modified by the City for community events.

4-10-4 APPLICATION FOR LICENSE. A Mobile Vendor shall apply to the City Clerk for a Mobile Vendor license at least three (3) business days prior to its use by providing the following information upon a form to be provided by the City Clerk, providing the required documents specified below, and paying the application fee for the period of the license's duration in the amount set in the Schedule of Fees as adopted by the City Council by resolution:

- A. The full name, age, permanent address, e-mail address, if any, and telephone number of the applicant.
- B. The business name and address.
- C. A description of the licensed motorized vehicle or licensed trailer from which the sale will be conducted, including the license plate number, and the length of the motorized vehicle or the trailer and tow vehicle.
- D. A summary of the food and beverages to be sold.
- E. The period of time the applicant has been engaged in the same or similar business and the jurisdictions in which the applicant has previously conducted business in the last year.
- F. The application must be accompanied by a copy of the Retail Sales Tax Permit issued to the applicant by the Iowa Department of Revenue.
- G. If the Mobile Vendor sells food or beverages other than prepackaged items that do not require hot or cold handling procedures, then the application shall also contain the following:
 - 1. A copy of the Mobile Food Unit License issued by the Iowa Department of Inspections and Appeals for the Mobile Vendor Vehicle.
 - 2. The addresses of the businesses or facilities at which any fat, oil or grease generated in the operation of the Mobile Vendor business are disposed of, including the contact information for the individual or business responsible for the operation of each such business or facility.
- H. The location where the Mobile Vendor Vehicle will be regularly parked when not in use.
- I. The precise location or locations in the city where the Mobile Vendor Vehicle will conduct sales.

- J. The requested period of duration for the license which shall be one of the periods specified in Section 4-10-9.

4-10-5 POLICE DEPARTMENT REVIEW. Each application for a Mobile Vendor license may be provided to the Police Chief for review and comment and the applicant's submission of such an application authorizes the police to conduct a background check with respect to the applicant.

4-10-6 ACTION BY CITY CLERK. All references to the City Clerk in this chapter shall be deemed to include the City Clerk's designee.

4-10-7 AREAS OF MOBILE VENDOR VEHICLE OPERATION.

- A. Operation of Mobile Vendor Vehicles shall not be permitted on public road rights-of-way, but shall be permitted on designated public parking areas of City property as permitted by the City, within intended locations to be designated on a map or diagram submitted with the application together with dates and times of operation.
- B. Mobile Vendor Vehicle operation may be permitted in Storm Lake City Parks only upon approval of the City in accordance with Park Department Rules.

4-10-8 LICENSE ISSUANCE.

- A. A Mobile Vendor license may be denied to any applicant who has operated a Mobile Vendor business in material violation of any of the requirements of this article or any other chapter of this Code within the prior one hundred eighty (180) days.
- B. If the City Clerk finds that the information provided in an application for a Mobile Vendor license is true and correct and that the requirements of this Chapter for issuance of the license have been satisfied, the City Clerk shall issue a Mobile Vendor license for the period of duration authorized by Section 4-10-9 that is requested by the applicant. The license shall identify whether the Mobile Vendor is limited to the sale of prepackaged food and beverages that do not require hot or cold handling procedures.
- C. The City Clerk shall deny any application for the operation of a Mobile Vendor business that does not conform with all applicable requirements of this article, the City Code, the Iowa Code and the Iowa Administrative Code.
- D. In the event an application for a Mobile Vendor license is denied, the City Clerk shall cause notice of such denial to be promptly communicated to the applicant or the applicant's representative by telephone at the telephone number provided in the application. Written notice shall also be sent to the applicant at the business address identified in the application informing the applicant of the denial, the reason therefor, and the applicant's right to appeal the denial to the City Council of the City of Storm Lake, Iowa, by filing a written notice of appeal with the City Clerk within ten (10) business days after the date of such notice.

4-10-9 DURATION OF LICENSE. The Mobile Vendor license may be issued for a period of one day, seven consecutive days, or twenty-eight consecutive days. No licensee shall be permitted more than 183 one-day licenses in a calendar year, more than 26 seven-day licenses in a calendar year, or more than 6 twenty-eight day licenses in a calendar year. In

addition, no licensee shall be permitted licenses of any duration whose periods exceed 183 days in the aggregate each calendar year.

4-10-10 BOND REQUIRED. Before a license under this Chapter shall be issued, each proposed licensee shall post with the City Clerk a bond issued by a surety company authorized to engage in the business of insuring the fidelity of others in Iowa, in the amount of one thousand dollars (\$1,000.00), to the effect that the licensee and the surety company shall consent to the forfeiture of the principal sum of the bond or such part thereof as may be necessary (1) to indemnify the City of Storm Lake for any penalties or costs occasioned by the enforcement of this Chapter, and (2) to make payment of any judgment rendered against the licensee as a result of a claim or litigation arising out of or in connection with any activities regulated or covered by this Chapter. Said bond shall not be retired until a lapse of one (1) year from the expiration of the license which it covers. Notwithstanding the foregoing requirement to post a bond, a licensee who has posted such a bond for a license previously issued under this Chapter that remains in effect at the time the new such license is to be issued shall not be required to post a new bond provided that the bond that remains in effect, by its original terms or any amendment or extension thereof, will not expire until a lapse of one (1) year from the expiration of the new license. Before issuance of the new license, the City Clerk shall require written evidence from the surety company that the bond previously issued will not expire until a lapse of at least one (1) year from the expiration of the new license.

4-10-11 MOBILE VENDOR LICENSES NOT TRANSFERRABLE. Mobile Vendor licenses issued under this chapter are not transferrable.

4-10-12 GENERAL REGULATIONS.

A. Hours of Operation. Mobile Food Vendors may operate between the hours of 7:00 a.m. and 11:00 p.m. local time.

B. Allowed Locations.

1. No Mobile Vendor shall conduct any sale from the Mobile Vendor Vehicle which is not parked as shown or as set out in the Mobile Vendor's license application.
2. No Mobile Vendor shall conduct any sale from a parking space which is designated as an "Accessible Parking Space" or otherwise designated as "Limited Parking."
3. No Mobile Vendor shall conduct any sale from a Mobile Vendor Vehicle located within one hundred (100) feet of any public entrance of any street level restaurant then open for business, unless authorized by the restaurant.
4. No Mobile Vendor shall conduct any sale in a residential neighborhood unless such sales are specifically authorized in the Mobile Vendor's license and then shall only be in the specific areas stated in the license.
5. No Mobile Vendor shall conduct any sale from a Mobile Vendor vehicle unless such sales are specifically authorized in the Mobile Vendor's license.
6. The Mobile Vendor Vehicle must be removed from the location of operation after the hours of operation.

7. No Mobile Vendor Vehicle shall be operated within 10 feet of any building or other structure, and shall not be operated within 50 feet of any other Mobile Vendor Vehicle, unless specifically approved for a special event by the City Clerk.
- C. Mobile Vendor Vehicle.
1. Any vehicle used as a Mobile Vendor Vehicle shall be no larger than thirty-seven (37) feet long and eight and a half (8 ½) feet wide. Any trailer used as a Mobile Vendor Vehicle, together with the tow vehicle, shall be no longer than thirty-seven (37) feet long and eight and a half (8 ½) feet wide.
 2. A Mobile Vendor Vehicle shall not have a second story or any interior space used for customer service or seating.
 3. Any generator used by the Mobile Vendor must be as quiet as possible to avoid being a disruption to the area in which it is located. The generator should have a decibel rating of 60dB or less. If necessary, sound proofing can be used to reach the desired rating.
- D. Display of License. License required by this Chapter and a valid Sales Tax Permit for such business shall be displayed within the Mobile Vendor Vehicle in a manner such that it is readily visible to all persons seeking to conduct business with the Mobile Vendor.
- E. Sale of Merchandise. No Mobile Vendor shall offer any merchandise or wares for sale other than food and beverages for immediate consumption.
- F. Food Safety. Any Mobile Vendor who offers food or beverages for sale, other than prepackaged items that do not require hot or cold handling procedures, shall be subject to the following additional requirements:
1. A valid Mobile Vendor license for the Mobile Vendor Vehicle shall be displayed within the Mobile Vendor Vehicle in a location that is readily visible to all customers.
 2. No Mobile Vendor shall operate the business in a manner that violates any applicable food or sanitation laws.
- G. Use of Street and Sidewalk. No Mobile Vendor shall place any tables, chairs, furniture, equipment, signage or other material on the ground, streets or sidewalks. No Mobile Vendor shall place any food, materials or equipment on the ground or on tables, chairs, or shelves that are not incorporated into the Mobile Vendor Vehicle, or immediately adjacent to the Mobile Vendor Vehicle.
- H. Trash Receptacles. A Mobile Vendor shall provide one or more trash receptacles readily accessible to its customers either in or attached to the Mobile Vendor Vehicle. All accumulations of trash and litter shall be removed from the site by the Mobile Vendor before departing.
- I. All Sales from Safe Locations. No Mobile Food Vendor shall conduct any sales from outside the Mobile Vendor Vehicle. All sales, activities and transfer of food and beverages to the customer shall occur only from a safe location such that the customer is not exposed to traffic on the street. No Mobile Vendor shall sell to any persons situated in a motor vehicle. The requirements of this paragraph do not apply to Mobile Vendors operating on private property.

4-10-13 SUSPENSION OR REVOCATION OF LICENSE.

- A. Upon complaint or a reasonable suspicion that a licensee or the licensee's employees have furnished any false information required under this chapter or has violated or

failed to comply with any of the requirements of this chapter or any other provisions of the City Code, the City Clerk may cause the matter to be investigated. If the City Clerk finds that a violation has occurred, the City Clerk shall give notice to the licensee of intent to suspend or revoke the license, or to deny its renewal.

- B. Notice of the City's intent to suspend, revoke, or deny renewal of a license shall be served upon the licensee by personal service or by certified mail, return receipt requested. The suspension, revocation, or denial of renewal shall become effective seven (7) days after notice is served or mailed.

4-10-14 APPEAL. Any applicant or licensee aggrieved by the refusal of the City Clerk to issue a license or by suspension, revocation, or non-renewal of a license under this chapter has the right to appeal the City Clerk's decision to the City Council of the City of Storm Lake, Iowa. Such appeal shall be requested by submitting a written request to the City Clerk within ten (10) days of the action of the City Clerk which is appealed. The City Council shall consider the appeal at the first regularly scheduled meeting following the filing of the appeal before which meeting sufficient time exists to give the public the required notice of the existence of the appeal hearing on the agenda. At the appeal hearing, the appellant shall be entitled to present his or her appeal orally or in writing. The City Council shall act on the appeal within twenty-one (21) days of the hearing and shall either uphold the action of the City Clerk or shall direct the issuance of a license.

4-10-15 MUNICIPAL INFRACTION. A violation of any provision of this Chapter shall constitute a Municipal Infraction subject to the penalties and alternative relief authorized by Title I, Chapter 20 of this Code and by Section 364.22 of the Code of Iowa.

Section 3. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 4. If any section, provision or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

Section 5. This ordinance shall be in effect following its final passage, approval and publication as provided by law.

PASSED AND APPROVED this _____ day of _____, 2023.

Michael Porsch, Mayor

ATTEST:

Mayra Martinez, City Clerk

1st Reading:
2nd Reading:
3rd Reading:
Passed & Approved:
Publication Date:



City of Storm Lake

Application for Food Truck/Mobile Food Vendor Permit

Business name: _____

Business contact person: _____

Business phone: _____

Business address: _____

Address vehicle parks when not operating: _____

Type of permit: (circle one)

One-Day Permit (\$25)

3-Day Permit (\$50)

Annual Permit (\$150)

Description of vehicle, trailer, and generator (including decibel limits) used for business:

Summary of cuisine and beverages sold:

Planned locations of operation:

Address 1: _____

Location on property: _____

Address 2: _____

Location on property: _____

Additional addresses: Describe on back of page or additional page

Check if business has:

☐ State Mobile Food Unit License (attach) ☐ Arrangements for trash/grease/fat disposal

☐ Appropriate Retail Sales Tax Permit ☐ Written approval from property owner

**Please return form with fee for permit or call (712) 732-8000 to pay by credit card

2023

Staff Summary

04/03/2023

Agenda Item # F.10.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Closed Session Reference Iowa Code Chapter 21.5 (c) Matters of Litigation**

BACKGROUND:

Iowa Code allows for cities to have a closed session of the City Council for matters regarding litigation where matters that are either currently in litigation or where litigation is imminent and the disclosure of the issues would enable prejudice or disadvantage the position of the governmental body in that litigation. (Iowa Code Chapter 21.5 (c))

City Council, by roll call vote should vote to go into Closed Session, and then by roll call vote vote to come back into Open Session once they have conducted the discussion allowed by the Iowa Code.

Topics other than those that are specifically allowed to be in closed session are not allowed to be discussed. The City Council may **NOT** make any motions or take any action during the closed session, as all action must be done in open session.

FISCAL IMPACT: No fiscal impact for Closed Session, further action may occur.

RECOMMENDATION: Motion to go into Closed Session Reference Iowa Code Chapter 21.5 (c) - Roll Call Vote

Motion to return to Open Session - Roll Call Vote

ATTACHMENTS:

Staff Summary

04/03/2023

Agenda Item # F.11.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Brian Oakleaf Finance Director

SUBJECT: **Resolution No. 55-R-2022-2023 Approving a Mutual Release Agreement**

BACKGROUND: On March 30th, 2023, the attached Mutual Release was received by the Heidman Law Firm representing the City of Storm Lake in pending litigation. Following discussion of the matter, this Resolution would authorize the signing of the Release and oblige the City to the terms and conditions of the Release and acquit and discharge the City of Storm Lake from any liability resulting from the events and claims stated within the Release.

FISCAL IMPACT: To be determined.

RECOMMENDATION: Take action on Resolution No. 55-R-2022-2023 to authorize signing of Mutual Release Agreement.

ATTACHMENTS:
[5520222023 - Agreement Heidman Law.pdf](#)

RESOLUTION NO. 55-R-2022-2023

Approving a Mutual Release Agreement and Authorizing the Mayor to Sign

WHEREAS, the City Council of the City of Storm Lake received an Agreement for Mutual Release on March 30th, 2023, from Hindman Law Firm, representing the City of Storm Lake

WHEREAS, the City Council has considered the terms, conditions, considerations and discharges contained

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Storm Lake that the Mutual Release Agreement is Approved and Authorizes signature by the Mayor.

PASSED AND APPROVED this 3rd day of April 2023.

Michael Porsch, Mayor

ATTEST:

Mayra A. Martinez, City Clerk

Staff Summary

04/03/2023

Agenda Item # F.12.



City of Storm Lake
PO Box 1086
Storm Lake, IA 50588
p (712) 732-8000
f (712) 732-4114

REPORT TO: Honorable Mayor & Council

FROM: Mayra Martinez City Clerk

SUBJECT: City Council Requested Items

BACKGROUND:

FISCAL IMPACT:

RECOMMENDATION: Future work session or presentations:

To Be Determined - Facility For Indoor Mini Pitch Soccer

ATTACHMENTS: