

Purchasing Division Finance Department

Room 120

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Room 120 411 West First Street Duluth, Minnesota 55802

# Addendum 2 Solicitation 22-4402 Reconstruction of Taxiway A and Repair Midfield Ramp

This addendum serves to notify all bidders of the following changes to the solicitation documents:

Please see attached addendum 2.

Please acknowledge receipt of this Addendum by checking the acknowledgment box within the <u>www.bidexpress.com</u> solicitation.

Posted: 08.02.2022

# **DOCUMENT 00 00 12**

# ADDENDUM NO. 2 August 2, 2022

# 2022 Midfield Ramp Repair – Phase 1 Duluth International Airport (DLH) Duluth, Minnesota City of Duluth No. 22-4402 SEH No. DULAI 161944

Taxiway A Reconstruction – Phases 2 & 4 Duluth International Airport Duluth, Minnesota AIP No. 3-27-0024-074-2022 SP No. A6901-205 SEH No. DULAI 165102 & 167744

- From: Short Elliott Hendrickson Inc. 3535 Vadnais Center Drive St. Paul, MN 55110-3507 651.490.2000
- To: Document Holders

DOCUMENT HOLDERS on the above-named project are hereby notified that this document shall be appended to, take precedence over and become part of the original bidding documents dated July 14, 2022 for this work. Bids submitted for the construction of this work shall conform to this document.

This addendum consists of the attached Bidding Questions and Answers, revised bid form, Attachment 1 – Addendum No. 2 Changes to Bid Form, revised project drawings, revised specifications.

# Changes to Bidding Requirements, Project Manual, and Specifications:

- 1. Instructions to Bidders Document 00 21 13: REPLACE with the attached Section No. 00 21 13. Article 13.06 under Preparation of Bid has been revised requiring that the contractor be either organized under Minnesota Law or have a Certificate of Authority from the Minnesota Secretary of State to do business in Minnesota in accordance with M.S. 303.03. Additionally, the portion of Bid Express requiring the Contractor's License Number has been removed.
- Document 00 41 00 Bid Form: The bid form has been updated. Please see Attachment 1 Addendum No.
   2 Changes to Bid Form for various quantity additions, item removals and additions.
- 3. Section No. P-605 Joint Sealants for Pavements: REPLACE with attached Section No. P-605 Joint Sealants for Pavements. ASTM D7116 removed from the material requirements for 605-2.1 Joint Sealants.
- 4. Section No F-162 Chain-Link Fence: Insert the following Specification Section into the Project Manual. This specification shall apply to the fencing and gates installed at the Batch Plant Site.
- Section No L-125 Installation of Airport Lighting Systems: REPLACE with attached Section No. L-125 Installation of Airport Lighting Systems. The pay item for Allowance for FAA Unknowns has been removed from the project.

# Changes to Drawings (DLH Taxiway A Reconstruction Phases 2 & 4):

- 6. Drawing G0.01 Table of Contents Minor Table of Contents Updates
- 7. Drawing G0.02 Construction Safety Plan Notes Phasing notes 34 and 35 have been updated to show a 60 hour closure of runway 9-27 and 7 nights of work for phase 2B. Other minor updates to notes.
- 8. Drawing G0.20 Construction Signage Plan Phases 2A, 2B, 2C Update to sheet title.

- 9. Drawing G0.21 Construction Signage Plan Phases 4 & Midfield Ramp Update to sheet title.
- 10. Drawing G0.22 Construction Signage South Added Vehicle Entrance Gates to Batch Plant Site
- 11. Drawing G0.24 Fence Detail NEW Sheet. Added detail sheet for vehicle entrance gates at the batch plant site.
- 12. Drawing G0.40 General Notes Minor updates to general notes.
- 13. Drawing G0.41 General Notes Minor updates to general notes.
- 14. Drawing G0.42 General Notes Minor updates to general notes. Note 8 revised to state that a radio car escort is required across the tower ramp during construction.
- 15. Drawing G0.43 Statement of Estimated Quantities Schedule A Two Vehicle Entrance Gates have been added. The electrical quanitties have been updated.
- 16. Drawing G0.45 Statement of Estimated Quantities Schedule C Item Codes Updated for line No. 135-143. SEQ notes added for Items 158-167.
- 17. Drawing C0.40 Existing Utility Location Plan Phase 2 Note added stating that utilities to remain shall be located via hydro-excavation prior to excavation. Hydroexcavation shall be incidental to utility locating work.

Attachments: Bidding Questions and Answers Attachment 1 – Addendum No. 2 Changes to Bid Form Updated Bid Form Updated Drawings (DLH Taxiway A Reconstruction Phases 2 & 4) Updated Specifications

Note: Receipt of this Addendum No.2, dated August 2, 2022 shall be acknowledged on <u>BidExpress</u>. Failure to do so will not allow Bidder to submit Bid.

# END OF ADDENDUM

# Addendum 2 – Bidding Questions and Answers

 There are 6 items listed as Quantities for Bid Item 40: "L-858(L) GUIDANCE SIGN, SIZE 2, INCLUDING FOUNDATION, ISOLATION TRANSFORMER, WIRE, BASE CAN, AND CONDUIT". However, the SIGN SCHEDULE on plan sheet E-111 shows 4 new signs on new foundation; 1 existing sign on new foundation; and 1 existing sign with new face on new foundation. Are these the 6 items quantified under Base Bid Phase 2, Bid Item #40? So, all totaled there are 6 new base cans, covers, gaskets (signs S27, S28, S29, S32, S33, S34); 4 new signs (S27, S29, S32, S33); 2 existing signs on new foundations (S28, S34); and 1 sign requiring 6 replacement panels (new face) (S34).

Response: Correct, there were six signs listed under the bid item, but only four of the signs are new with new foundations while two are existing on new foundations, one of the two needing only a new sign face on the front side (S34). Therefore, there are 6 new base cans, covers, gaskets (signs S27, S28, S29, S32, S33, S34); 4 new signs (S27, S29, S32, S33); 2 existing signs on new foundations (S28, S34); and 1 sign requiring **3** replacement panels (**front face only**) (S34).

2. Who is the Original Equipment Manufacturer (OEM) for sign #S34?

Response: Lumacurve.

3. Do the Existing Signs on New Foundations (#s S28 & S34) also require new isolation transformers?

Response: Yes, new isolation transformers are required for all signs affected.

4. What is the required isolation transformer size for the existing signs?

Response: The isolation transformer size is unknown but is likely a 200W size. The contractor is required to verify the size of the isolation transformer with the sign manufacturer and get their recommendation.

5. Notes on plan sheet G0.02 indicate 20 days of night work (11 PM – 5 AM) for Phase 2B. Plan sheet G0.14 indicates a 60-hour closure of 9/27 and 7 nights of work for Phase 2B. Can you please clarify the phasing plan for Phase 2B, as these notes appear to conflict?

Response: Phase 2B will be a 60-hour closure of 9/27 and 7 night closures.

6. What side of sign 34 gets new panels?

Response: Front Side only.

7. In a previous discussion of night work and existing restrictions on the local pits for night hours you stated that if we couldn't gain a variance to allow night work in our pits, that SEH and the Duluth Airport would work to accommodate pit hours that could be achieved. Can you please confirm?

Response: To clarify our conversation, we will expect that the awarded contractor would pursue a waiver to be able to pave asphalt at night temporarily. If this waiver to pave at night is not approved due to local restrictions, SEH and the DAA would work with the contractor to accommodate pit hours that could be achieved for the project, while still making efforts to maintain the issue for bid project phasing as much as possible.

8. Are last year's bid tabulations available for this project? Bid Express only has the apparent bids posted.

Response: We are not comfortable sharing the Phase 1 bid tab with only you and not all the other plan holders, so this request is declined.

9. What is the predetermined value of the FAA Unforeseen Conditions Allowance in Item #45 on Base Bid- Phase 2 Scope?

Response: We will be removing this bid item in Addendum No. 2 which will be issued today or tomorrow (8/1 or 8/2). The electrical quantities may change with Addendum No. 2.

10. In Bid Express, there is a required field asking for our Minnesota Contractors License Number. What is it and how would we go about getting one?

Response: We will remove the "Minnesota Contractor's License Number" field in Bid Express and be adding the following in its place to the bid documents via Addendum No. 2: The contractor shall be organized under Minnesota law or have a Certificate of Authority from the Minnesota Secretary of State to do business in Minnesota, in accordance with the requirements in M.S. 303.03.

# Attachment 1 - ADDENDUM 2 CHANGES TO BID FORM:

F-162-5.1 VEHICLE ENTRANCE GATE

ADDED BIT ITEM

L-108-5.2 NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS, GROUND RODS AND GROUND CONNECTORS CHANGED QUANTITY

L-108-5.5 100-PR PE-39 TELEPHONE CABLE

CHANGED QUANTITY

L-110-5.4 CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 CHANGED QUANTITY

L-125-5.7 FAA UNFORESEEN CONDITIONS ALLOWANCE

DELETED BID ITEM

Section Title	Line Item	Item Code	Item Description		Quantity	Unit Price	Extension
Base Bid - Phase 2 Scope	1	40-05	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1	\$	\$
Base Bid - Phase 2 Scope	2	40-08	RESTORATION OF BATCH PLANT AND CONTRACTOR	IS	1	\$	\$
	-		STORAGE AREAS	20	•	Ψ	*
Pasa Pid Phasa 2 Saana	2	50.06		18	1	¢	¢
Base Bid - Thase 2 Scope	1	50-00 60.05		10	1	¢	Ψ ¢
Base Bid - Phase 2 Scope	4	00-05		10	1	ф	¢
Base Bid - Phase 2 Scope	5	70-08		L5	1	۶	۵
			DEVICES/PHASING				
Base Bid - Phase 2 Scope	6	70-10	ORANGE CONSTRUCTION FENCE	LF	2250	\$	\$
Base Bid - Phase 2 Scope	7	02 41 35	REMOVE PAVEMENT MARKING BY WATER BLASTING	SF	440	\$	\$
Base Bid - Phase 2 Scope	8	02 41 35	REMOVE PAVEMENT MARKING, GROUND OFF	SF	35	\$	\$
Base Bid - Phase 2 Scope	9	32 12 16	PLANT-MIXED ASPHALT PAVEMENT	TON	3785	\$	\$
Base Bid - Phase 2 Scope	10	C-100	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1	\$	\$
Base Bid - Phase 2 Scope	11	C-102-5.1	ROCK CONSTRUCTION ENTRANCE (INCLUDES	EA	2	\$	\$
			MAINTENANCE AND REMOVAL)				
Base Bid - Phase 2 Scope	12	C-102-5.2	SILT FENCE, TYPE PREASSEMBLED (INCLUDES	LF	17400	\$	\$
		0 102 0.2				Ψ	*
Pasa Rid Phase 2 Seena	12	C 102 5 2		15	2200	¢	¢
Dase Did - I Hase 2 Scope	15	0-102-0.0		-	2200	Ψ	Ψ
Basa Did Dhasa 2 Casaa	4.4	C 400 F 4	MAINTENANCE AND REMOVAL)	<u>cv</u>	1000	¢	¢
Base Bid - Phase 2 Scope	14	C-102-5.4	EROSION CONTROL BLANKET, CATEGORY 3N (WOOD	51	1200	۶	\$
			FIBER HV) (INCLUDES MAINTENANCE)				
Base Bid - Phase 2 Scope	15	C-102-5.5	INLET PROTECTION, TYPE B (INCLUDES	EA	31	\$	\$
			MAINTENANCE AND REMOVAL)				
Base Bid - Phase 2 Scope	16	C-105	MOBILIZATION	LS	1	\$	\$
Base Bid - Phase 2 Scope	17	D-701-5.1	12IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	26	\$	\$
Base Bid - Phase 2 Scope	18	D-701-5.2	18IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	247	\$	\$
Base Bid - Phase 2 Scope	19	D-701-5.3	24IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	970	\$	\$
Base Bid - Phase 2 Scope	20	D-701-5.5	36IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	277	\$	\$
Base Bid - Phase 2 Scope	21	D-705-5 1	DRAIN THE (6" PERFORATED INCLUDING TRENCH	I F	2920	\$	* \$
Dase Did - Thase 2 Ocope	21	D-705-5.1	BACKELL EARDIC)	L1	2020	Ψ	Ψ
Rasa Rid Rhasa 2 Saana	22	D 705 5 2		15	005	¢	¢
Base Blu - Fliase 2 Scope	22	D-705-5.2	DRAIN TILE (0 SDR35 FVC FIFE, INCLUDING TRENCH,	LF	995	Φ	Φ
					10	•	•
Base Bid - Phase 2 Scope	23	D-751-5.1	DRAIN TILE ACCESS/INSPECTION PIT	EA	13	\$	\$
Base Bid - Phase 2 Scope	24	D-751-5.2	48IN DIA MANHOLE / CATCH BASIN	EA	7	\$	\$
Base Bid - Phase 2 Scope	25	D-751-5.3	60IN DIA MANHOLE / CATCH BASIN	EA	3	\$	\$
Base Bid - Phase 2 Scope	26	D-751-5.5	84IN DIA MANHOLE / CATCH BASIN	EA	1	\$	\$
Base Bid - Phase 2 Scope	27	D-751-5.6	96IN DIA MANHOLE / CATCH BASIN	EA	1	\$	\$
Base Bid - Phase 2 Scope	28	F-162-5.1	VEHICLE ENTRANCE GATE	EA	2	\$	\$
Base Bid - Phase 2 Scope	29	L-108-5.1	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN	LF	67500	\$	\$
			DUCT BANK OR CONDUIT				
Base Bid - Phase 2 Scope	30	L-108-5.2	NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE,	LF	8680	\$	\$
			INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR				
			CONDUIT INCLUDING CONNECTIONS/TERMINATIONS				
			GROUND RODS AND GROUND CONNECTORS				
Base Bid - Phase 2 Scone	31	1-108-5.5	100 DR DE 30 TELEDHONE CARLE	IE	10080	¢	¢
Base Bid - Thase 2 Scope	20	L-100-5.5			4000	φ	\$
Base Bid - Fliase 2 Scope	52	L-110-5.1	NON-ENCASED ELECTRICAL CONDOLL, 1-WAT 2-INCH,	LF	4000	Φ	\$
	00	1 440 5 0	PVC SCHEDULE 40		400	•	<b>.</b>
Base Bid - Phase 2 Scope	33	L-110-5.2	CONCRETE ENCASED ELECTRICAL CONDUIT, 2-WAY 2-	LF	400	\$	\$
			INCH, PVC SCHEDULE 40				
Base Bid - Phase 2 Scope	34	L-110-5.4	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-	LF	700	\$	\$
			INCH, PVC SCHEDULE 40				
Base Bid - Phase 2 Scope	35	L-110-5.5	DRAIN LINE CONNECTION TO STORM STRUCTURE	EA	20	\$	\$
Base Bid - Phase 2 Scope	36	L-110-5.8	CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-	LF	1350	\$	\$
			INCH, PVC SCHEDULE 40				
Base Bid - Phase 2 Scope	37	L-115-5.1	PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE	EA	7	\$	\$
Base Bid - Phase 2 Scope	38		L-867 BASE CAN WITH BLANK COVER USED AS A		3	\$	\$
		L-115-5.2	SPLICE CAN	EA		•	•
Base Bid - Phase 2 Scope	39		ADJUST EXISTING FAA ELECTRICAL MANHOLE TO		1	\$	\$
			FINISHED GRADE AND INSTALL NEW AIRCRAFT		-	*	*
		L-115-5-3	RATED CASTING	FΔ			
Ross Rid Dhass 2 Sasna	40	E-110-0.0		LA	1	¢	¢
Base Bid - Phase 2 Scope	40				1	Φ	Φ
			FIXTURES AND SIGNS, INCLUDING BASE CAN,				
			ISOLATION TRANSFORMER, SIGN FOUNDATION,				
		L-125-5.1	CONDUIT, AND WIRE	LS			
Base Bid - Phase 2 Scope	41		L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT		39	\$	\$
			(WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON				
			NEW L-867-B GALVANIZED BASE CAN (INCLUDES				
		L-125-5.2	FIXTURES, TRANSFORMER, AND BASE CAN)	EA			
Base Bid - Phase 2 Scope	42		L-858(L) GUIDANCE SIGN, SIZE 2. INCLUDING		6	\$	\$
ecopo			FOUNDATION, ISOLATION TRANSFORMER WIRE		0	•	•
		L-125-5.3	BASE CAN AND CONDUIT	FA			
Base Bid - Phase 2 Scope	12	L -125-5 A		ΕΔ	1	\$	¢
Base Bid - Phase 2 Scope	40	1_125-5.5		EA	1	¢	۲ ¢
Base Did - Thase 2 Scope	44	1_125 5 6			1	Ψ ¢	Ψ ¢
Dase Diu - Fliase 2 Scope	40	L-120-0.0	L-000D GAIN WITH DLAINK GOVER	LA	3	Ψ	Ψ

			UNIT PRICE BID					
Section Title	Line Item	Item Code	Item Description	UofM	Quantity	Unit Price		Extension
Base Bid - Phase 2 Scope	46		TEMPORARILY REMOVE RUNWAY LIGHT FIXTURE.		1	\$	\$	
	10		BASE CAN, CABLE, CONDUIT, AND ISOLATION			*	÷	
			TRANSFORMER AND REPLACE LIGHT FIXTURE ON					
			NEW BASE CAN WITH NEW ISOLATION					
		L-125-5.8	TRANSFORMER IN LATER PHASE	EA				
Base Bid - Phase 2 Scope	47	P-101-5.1	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	1100	\$	\$	
Base Bid - Phase 2 Scope	48	P-101-5.2	REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)	SY	16529	\$	\$	
Base Bid - Phase 2 Scope	49	P-101-5.3	MILL BITUMINOUS PAVEMENT (DEPTH VARIES)	SY	3235	\$	\$	
Base Bid - Phase 2 Scope	50	P-101-5.4	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	65	\$	\$	
Base Bid - Phase 2 Scope	51	P-101-5.5	REMOVE CONCRETE PAVEMENT (FULL DEPTH)	SY	550	\$	\$	
Base Bid - Phase 2 Scope	52	P-101-5.6	REMOVE STORM PIPE	LF	1400	\$	\$	
Base Bid - Phase 2 Scope	53	P-101-5.7	REMOVE STORM STRUCTURE	EA	9	\$	\$	
Base Bid - Phase 2 Scope	54	P-101-5.8	REMOVE DRAIN TILE CLEANOUT	EA	8	\$	\$	
Base Bid - Phase 2 Scope	55	P-101-5.9	REMOVE DRAIN TILE	LF	2980	\$	\$	
Base Bid - Phase 2 Scope	56	P-152-5.1	COMMON EXCAVATION (EV)	CY	23550	\$	\$	
Base Bid - Phase 2 Scope	57		UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES		800	\$	\$	
		P-152-5.2	SUBGRADE PROOF ROLLING)	CY				
Base Bid - Phase 2 Scope	58	P-152-5.3	MUCK EXCAVATION (EV)	CY	150	\$	\$	
Base Bid - Phase 2 Scope	59		SUBGRADE PREPARATION (INCLUDES SUBGRADE		21425	\$	\$	
		P-152-5.4	PROOF ROLLING)	SY				
Base Bid - Phase 2 Scope	60	P-152-5.5	ROCK EXCAVATION	CY	50	\$	\$	
Base Bid - Phase 2 Scope	61	P-154-5.1	GRANULAR BORROW (CV)	CY	10145	\$	\$	
Base Bid - Phase 2 Scope	62	P-154-5.2	GEOTEXTILE FABRIC, TYPE V	SY	21425	\$	\$	
Base Bid - Phase 2 Scope	63	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (CV)	CY	3905	\$	\$	
Base Bid - Phase 2 Scope	64	P-403-8.1	BITUMINOUS SURFACE COURSE	TON	1035	\$	\$	
Base Bid - Phase 2 Scope	65	P-403-8.2	BITUMINOUS BASE COURSE	TON	885	\$	\$	
Base Bid - Phase 2 Scope	66	P-501-8.4	CEMENT CONCRETE PAVEMENT, 13"	SY	12095	\$	\$	
Base Bid - Phase 2 Scope	67	P-501-8.5	CEMENT CONCRETE PAVEMENT, REINFORCED 13"	SY	740	\$	\$	
Base Bid - Phase 2 Scope	68	P-603-5.1	BITUMINOUS TACK COAT	GAL	1495	\$	\$	
Base Bid - Phase 2 Scope	69	P-604-6.1	COMPRESSION JOINT SEALS FOR CONCRETE	LF	15440	\$	\$	
Base Bid - Phase 2 Scope	70	P-605-5.1	JOINT SEALING FILLER	LF	3000	\$	\$	
Base Bid - Phase 2 Scope	71	P-620-5.1	RUNWAY & TAXIWAY PAVEMENT MARKING	SF	15730	\$	\$	
Base Bid - Phase 2 Scope	72	P-620-5.2	REFLECTIVE MEDIA	LB	960	\$	\$	_
Base Bid - Phase 2 Scope	73	T-901-5.1	SEEDING (INCLUDING FERTILIZER)	ACRE	6.00	\$	\$	
Base Bid - Phase 2 Scope	74	T-905-5.1	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	100	\$	\$	
Base Bid - Phase 2 Scope	75	T-908-5.1	HYDROMULCHING	ACRE	6.00	\$	\$	

Section Title	Line Item	Item Code	Item Description		Quantity	Unit Price	Extension
Add. Alternate No. 1	76	40-05	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1	\$	\$
Add. Alternate No. 1	77	40-08	RESTORATION OF BATCH PLANT AND CONTRACTOR	15	1	\$	\$
Add Alternata No. 1	79	-00-00 50-06		IS	1	¢	¢
Add. Alternate No. 1	70	30-00		20	1	Ф	ə
Add. Alternate No. 1	79	70.00		10	1	۵	\$
		70-08	DEVICES/PHASING	LS			
Add. Alternate No. 1	80	70-10	ORANGE CONSTRUCTION FENCE	LF	835	\$	\$
Add. Alternate No. 1	81		REMOVE PAVEMENT MARKING BY WATER BLASTING		110	\$	\$
		02 41 35		SF			
Add. Alternate No. 1	82	32 12 16	PLANT-MIXED ASPHALT PAVEMENT	TON	1065	\$	\$
Add. Alternate No. 1	83	C-105	MOBILIZATION	LS	1	\$	\$
Add, Alternate No. 1	84	D-701-5.2	18IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	377	\$	\$
Add Alternate No. 1	85		DRAIN THE (6" PERFORATED INCLUDING TRENCH		630	\$	\$
	00	D-705-5 1	BACKEUL EABRIC)	LE	000	Ψ	•
Add. Altermete No. 1	00	D 751 5 1			4	¢	¢
Add. Alternate No. 1	80	D-751-5.1			4	\$	\$
Add. Alternate No. 1	87	D-751-5.2	48IN DIA MANHOLE / CATCH BASIN	EA	1	\$	\$
Add. Alternate No. 1	88		NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN		12050	\$	\$
		L-108-5.1	DUCT BANK OR CONDUIT	LF			
Add. Alternate No. 1	89		NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE,		2100	\$	\$
			INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR				
			CONDUIT INCLUDING CONNECTIONS/TERMINATIONS				
		1 109 5 2	GROUND RODS AND GROUND CONNECTORS	16			
A LL Alternate No. 4	00	L-100-5.2		LF	440	•	•
Add. Alternate No. 1	90		1/C #4/0 15KV CONCENTRIC NEUTRAL CABLE,		410	\$	\$
		L-108-5.3	INSTALLED IN DUCT BANK OR CONDUIT	LF			
Add. Alternate No. 1	91		1/C #4 5KV UNSHIELDED XLP MV-90 CABLE,		410	\$	\$
		L-108-5.4	INSTALLED IN DUCT BANK OR CONDUIT	LF			
Add. Alternate No. 1	92		NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 2-INCH.		4000	\$	\$
		L-110-5.1	PVC SCHEDULE 40	LF			
Add Alternate No. 1	03		CONCRETE ENCASED ELECTRICAL CONDUIT 6 WAY 6		175	¢	¢
Aud. Alternate No. 1	95		NOL DVG COUPDULE 40 WITH FOUD 2 CELL		175	φ	Φ
			INCH, PVC SCHEDULE 40 WITH FOUR 3-GELL				
			TEXTILE/FABRIC INNERDUCTS IN EACH OF FOUR				
		L-110-5.3	DUCTS	LF			
Add. Alternate No. 1	94	L-110-5.5	DRAIN LINE CONNECTION TO STORM STRUCTURE	EA	8	\$	\$
Add. Alternate No. 1	95		CONCRETE ENCASED ELECTRICAL CONDUIT, 4-WAY 4-		135	\$	\$
		L-110-5.6	INCH, PVC SCHEDULE 40	LF			
Add Alternate No 1	96		CONCRETE ENCASED ELECTRICAL CONDUIT 2-WAY 6-		135	\$	\$
		L-110-5 7	INCH PVC SCHEDULE 40	1 F		•	*
Add Alternate No. 1	07	L 115 5 1			2	¢	¢
Add. Alternate No. 1	97	L-110-0.1		LA	2	Ф	\$
Add. Alternate No. 1	98		REMOVAL OF EXISTING TAXIWAY EDGE LIGHT		1	\$	\$
			FIXTURES AND SIGNS, INCLUDING BASE CAN,				
			ISOLATION TRANSFORMER, SIGN FOUNDATION,				
		L-125-5.1	CONDUIT, AND WIRE	LS			
Add. Alternate No. 1	99		L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT		18	\$	\$
			(WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON				
			NEW L-867-B GALVANIZED BASE CAN (INCLUDES				
		I -125-5 2	FIXTURES TRANSFORMER AND BASE CAN)	FA			
Add Alternate No. 1	100	2 .20 0.2			2	¢	¢
Add. Alternate No. 1	100				2	Ψ	Ψ
			FOUNDATION, ISOLATION TRANSFORMER, WIRE,	- •			
		L-125-5.3	BASE CAN, AND CONDUIT	EA			
Add. Alternate No. 1	101	P-101-5.1	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	80	\$	\$
Add. Alternate No. 1	102	P-101-5.2	REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)	SY	2370	\$	\$
Add. Alternate No. 1	103	P-101-5.3	MILL BITUMINOUS PAVEMENT (DEPTH VARIES)	SY	440	\$	\$
Add. Alternate No. 1	104	P-101-5.4	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	110	\$	\$
Add. Alternate No. 1	105	P-101-5.5	REMOVE CONCRETE PAVEMENT (FULL DEPTH)	SY	940	\$	\$
Add, Alternate No. 1	106	P-101-5.6	REMOVE STORM PIPE	LF	435	\$	\$
Add Alternate No. 1	107	P-101-5.7	REMOVE STORM STRUCTURE	EA	2	\$	\$
Add Alternate No. 1	109	P-101-5.8		FA	2	¢	¢
Add. Alternate No. 1	100	P 101-5.0			<u>ک</u>	φ	\$
Add. Alternate No. 1	109	D 450 5 4			515	»	\$
Add. Alternate No. 1	110	P-152-5.1	COMMON EXCAVATION (EV)	CY	4550	\$	\$
Add. Alternate No. 1	111		UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES		200	\$	\$
		P-152-5.2	SUBGRADE PROOF ROLLING)	CY			
Add. Alternate No. 1	112	P-152-5.3	MUCK EXCAVATION (EV)	CY	50	\$	\$
Add. Alternate No. 1	113		SUBGRADE PREPARATION (INCLUDES SUBGRADE		4790	\$	\$
		P-152-5.4	PROOF ROLLING)	SY			
Add. Alternate No. 1	114	P-154-5.1	GRANULAR BORROW (CV)	CY	2155	\$	\$
Add. Alternate No. 1	115	P-154-5.2	GEOTEXTILE FABRIC, TYPE V	SY	4790	\$	\$
Add Alternate No. 1	116	P-200-5 1	CRUSHED AGGREGATE BASE COURSE (CV)	CY	Q/F	* \$	\$
Add Alternate No. 1	447	P_/03_0 1		TON	400	¢	¢
Add Alterate No. 1	11/	D_402 0 2		TON	120	Ψ ¢	Ψ ¢
Add. Alternate No. 1	118	F-403-0.2			120	Ф	ə
Add. Alternate No. 1	119	P-501-8.4	CEMENT CONCRETE PAVEMENT, 13"	SY	3180	\$	\$
Add. Alternate No. 1	120	P-501-8.5	CEMENT CONCRETE PAVEMENT, REINFORCED 13"	SY	440	\$	\$
Add. Alternate No. 1	121	P-603-5.1	BITUMINOUS TACK COAT	GAL	240	\$	\$
Add. Alternate No. 1	122	P-604-6.1	COMPRESSION JOINT SEALS FOR CONCRETE	LF	4515	\$	\$
Add. Alternate No. 1	123	P-605-5.1	JOINT SEALING FILLER	LF	430	\$	\$
Add. Alternate No. 1	124	P-620-5.1	RUNWAY & TAXIWAY PAVEMENT MARKING	SF	3775	\$	\$

Section Title	E Line Iter	n Item Code	Item Description	UofM	Quantity	Unit Price	Extension
Add. Alternate N	lo. 1 125	P-620-5.2	REFLECTIVE MEDIA	LB	230 \$_		\$
Add. Alternate N	lo. 1 126	T-901-5.1	SEEDING (INCLUDING FERTILIZER)	ACRE	1.25 \$_		\$
Add. Alternate N	lo. 1 127	T-905-5.1	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	100 \$		\$
Add. Alternate N	lo. 1 128	T-908-5.1	HYDROMULCHING	ACRE	1.25 \$		\$

Section Title	Line Item	Item Code	Item Description		Quantity	Unit Price	Extension
Base Bid - Phase 4 Scope	129	40-05	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1	\$	\$
Base Bid - Phase 4 Scope	130		RESTORATION OF BATCH PLANT AND CONTRACTOR	20	1	¢	\$ \$
Base Bid - Thase 4 Geope	100	40-08		15		Ψ	Ψ
D D D D D D D D D D D D D D D D D D D	101	40-00 E0.06		10		<b>^</b>	<u>^</u>
Base Bid - Phase 4 Scope	131	50-00		L3		\$	\$
Base Bid - Phase 4 Scope	132	70.00	TRAFFIC PROVISIONS/AIRPORT SECURITY &		1	\$	\$
		70-08	DEVICES/PHASING	LS			
Base Bid - Phase 4 Scope	133	70-10	ORANGE CONSTRUCTION FENCE	LF	1000	\$	\$
Base Bid - Phase 4 Scope	134		REMOVE PAVEMENT MARKING BY WATER BLASTING		1000	\$	\$
		02 41 35		SF			
Base Bid - Phase 4 Scope	135	2511.507	RANDOM RIP RAP CLASS 2	CY	475	\$	\$
Base Bid - Phase 4 Scope	136	2511.508	RANDOM RIP RAP CLASS 4	CY	16	\$	\$
Base Bid - Phase 4 Scope	137		LIGHTING UNIT TYPE A WITH (4) LUMINAIRES (1)		3	\$	\$
		2545 502	BUILTHORN ARM AND (1) 30' POLE	FΔ		Ψ	÷
Ross Rid Rhoss 4 Sasna	120	2545 503			2	¢	¢
Base Blu - Phase 4 Scope	130	2545.505			3	Ф	ə
Base Bid - Phase 4 Scope	139	2545.504	1.5" NON METALLIC CONDUIT		750	\$	\$
Base Bid - Phase 4 Scope	140	2545.505	UNDERGROUND WIRE 1/C 6 AWG (CU)		1350	\$	\$
Base Bid - Phase 4 Scope	141	2545.506	UNDERGROUND #8 WIRE	LF	750	\$	\$
Base Bid - Phase 4 Scope	142	2545.507	EXISTING SERVICE PANEL MODIFICATION	EA	1	\$	\$
Base Bid - Phase 4 Scope	143		ROLLED EROSION PREVENTION CATEGORY 45		5375	\$	\$
		2575.504	(INCLUDES MAINTENANCE)	SY			
Base Bid - Phase 4 Scope	144	32 12 16	PLANT-MIXED ASPHALT PAVEMENT	TON	3750	\$	\$
Base Bid - Phase 4 Scope	145				1	¢	\$ ¢
Dase bid - I hase 4 boope	145	C-100		15		Ψ	Ψ
D D D D D D D D D D D D D D D D D D D	110	0-100	DOOK CONSTRUCTION ENTRANCE (INCLUDES	LO		<b>^</b>	<u>^</u>
Base Bid - Phase 4 Scope	146		ROCK CONSTRUCTION ENTRANCE (INCLUDES		1	\$	\$
		C-102-5.1	MAINTENANCE AND REMOVAL)	ΕA			
Base Bid - Phase 4 Scope	147		SILT FENCE, TYPE PREASSEMBLED (INCLUDES		4375	\$	\$
		C-102-5.2	MAINTENANCE AND REMOVAL)	LF			
Base Bid - Phase 4 Scope	148		INLET PROTECTION. TYPE B (INCLUDES		16	\$	\$
1		C-102-5.5	MAINTENANCE AND REMOVAL)	EA		•	•
Pasa Pid Phasa 4 Saana	140	C-105		15	1	¢	¢
Dase Bid - Fliase 4 Scope	149	D 701 5 2			710	φ	Ф
Base Bid - Phase 4 Scope	150	D-701-5.2	18IN REINFORCED CONCRETE PIPE (RCP), CLASS III		710	\$	\$
Base Bid - Phase 4 Scope	151	D-701-5.3	24IN REINFORCED CONCRETE PIPE (RCP), CLASS III		240	\$	\$
Base Bid - Phase 4 Scope	152	D-701-5.4	30IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	577	\$	\$
Base Bid - Phase 4 Scope	153		30IN REINFORCED CONCRETE PIPE (RCP) FES W/		1	\$	\$
		D-701-5.6	TRASH GUARD, CLASS III	EA			
Base Bid - Phase 4 Scope	154		DRAIN TILE (6" PERFORATED, INCLUDING TRENCH,		110	\$	\$
1		D-705-5.1	BACKEILL FABRIC)	LF		•	•
Base Bid - Phase 4 Scope	155	D-751-52	48IN DIA MANHOLE / CATCH BASIN	FA	7	\$	\$
Base Bid - Thase 4 Scope	155	D-751-5-3			1	φ	Ψ
Base Blu - Phase 4 Scope	150	D 751 5 4			2	Ф	ə
Base Bid - Phase 4 Scope	157	D-751-5.4		EA	3	\$	\$
Base Bid - Phase 4 Scope	158		NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN		18500	\$	\$
		L-108-5.1	DUCT BANK OR CONDUIT	LF			
Base Bid - Phase 4 Scope	159		NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE,		950	\$	\$
			INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR				
			CONDUIT. INCLUDING CONNECTIONS/TERMINATIONS.				
			GROUND RODS AND GROUND CONNECTORS				
		1-108-5.2		IE			
Dees Did Dhees 4 Corne	100	L-100-0.2			045	¢	¢
Base Bid - Phase 4 Scope	160	1 400 5 0	I/C #4/U ISKV CONCENTRIC NEUTRAL CABLE,		945	¢	۵
		L-100-5.5	INSTALLED IN DUCT BANK OR CONDUIT	LF			
Base Bid - Phase 4 Scope	161		1/C #4 5KV UNSHIELDED XLP MV-90 CABLE,		1000	\$	\$
		L-108-5.4	INSTALLED IN DUCT BANK OR CONDUIT	LF			
Base Bid - Phase 4 Scope	162		CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 6-		300	\$	\$
			INCH, PVC SCHEDULE 40 WITH FOUR 3-CELL				
			TEXTILE/FABRIC INNERDUCTS IN EACH OF FOUR				
		L-110-5.3	DUCTS	LF			
Base Bid - Phase 4 Scope	163	I -110-5 5	DRAIN LINE CONNECTION TO STORM STRUCTURE	FA	4	\$	\$
Base Bid - Thase 4 Scope	164	2 0.0		<b>_</b> / `	215	φ ¢	¥
Base Blu - Fliase 4 Scope	104	1 110 5 6	NOL DVG COUEDULE 40	1 5	515	φ	Φ
	105	L-110-5.0		LI		•	•
Base Bid - Phase 4 Scope	165		CONCRETE ENCASED ELECTRICAL CONDULT, 2-WAY 6-	. –	330	\$	\$
		L-110-5.7	INCH, PVC SCHEDULE 40				
Base Bid - Phase 4 Scope	166	L-115-5.1	PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE	EA	4	\$	\$
Base Bid - Phase 4 Scope	167		REMOVAL OF EXISTING CONCRETE ENCASED		1	\$	\$
		L-125-5.9	DUCTBANK, CONDUIT, AND WIRE	LS			_
Base Bid - Phase 4 Scope	168	P-101-5.1	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	200	\$	\$
Base Bid - Phase 4 Scope	169	P-101-5.2	REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)	SY	4140	\$	\$
Base Bid - Phase 4 Scope	170	P-101-5.3	MILL BITI MINOUS PAVEMENT (DEPTH VARIES)	SY	105	\$	\$
Base Bid - Phase 4 Scope	171	P_101_5 /			100	¢	¢
	171	D 101-0.4	DEMOVE STORM RIDE		190	Ψ ዮ	φ ¢
Base Big - Phase 4 Scope	1/2	P-101-5.6			/15	ð	ð
Base Bid - Phase 4 Scope	173	P-101-5.7	REMOVE STORM STRUCTURE	EA	7	\$	\$
Base Bid - Phase 4 Scope	174	P-152-5.1	COMMON EXCAVATION (EV)	CY	21350	\$	\$
Base Bid - Phase 4 Scope	175		UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES		150	\$	\$
		P-152-5.2	SUBGRADE PROOF ROLLING)	CY			_
Base Bid - Phase 4 Scope	176	P-152-5.3	MUCK EXCAVATION (EV)	CY	50	\$	\$
Base Bid - Phase 4 Scope	177		SUBGRADE PREPARATION (INCLUDES SUBGRADE		15270	\$	\$
		P-152-54	PROOF BOLLING)	SY		•	·
Ross Rid Bhass 4 Same	170	P_152-5.4		cv	E0	¢	¢
Dase Diu - Miase 4 Scope	1/0	1-102-0.0	NOON EAGAVATION	01	50	Ψ	<u>ن</u>

Section Title	Line Item	Item Code	Item Description	UofM	Quantity	Unit Price	Extension
Base Bid - Phase 4 Scope	179	P-152-5.6	DRAINAGE EXCAVATION	CY	50	\$	\$
Base Bid - Phase 4 Scope	180	P-154-5.1	GRANULAR BORROW (CV)	CY	7550	\$	\$
Base Bid - Phase 4 Scope	181	P-154-5.2	GEOTEXTILE FABRIC, TYPE V	SY	15270	\$	\$
Base Bid - Phase 4 Scope	182	P-154-5.3	REGRAVELING, 2" THICKNESS	SY	2400	\$	\$
Base Bid - Phase 4 Scope	183	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (CV)	CY	2440	\$	\$
Base Bid - Phase 4 Scope	184	P-501-8.1	CEMENT CONCRETE PAVEMENT, 6"	SY	2100	\$	\$
Base Bid - Phase 4 Scope	185	P-501-8.2	CEMENT CONCRETE PAVEMENT, 12"	SY	12290	\$	\$
Base Bid - Phase 4 Scope	186	P-501-8.3	CEMENT CONCRETE PAVEMENT, REINFORCED 12"	SY	665	\$	\$
Base Bid - Phase 4 Scope	187	P-603-5.1	BITUMINOUS TACK COAT	GAL	650	\$	\$
Base Bid - Phase 4 Scope	188	P-604-6.1	COMPRESSION JOINT SEALS FOR CONCRETE	LF	16910	\$	\$
Base Bid - Phase 4 Scope	189	P-605-5.1	JOINT SEALING FILLER	LF	1600	\$	\$
Base Bid - Phase 4 Scope	190	P-610-6.1	12" CONCRETE CURB	LF	90	\$	\$
Base Bid - Phase 4 Scope	191	P-620-5.1	RUNWAY & TAXIWAY PAVEMENT MARKING	SF	9200	\$	\$
Base Bid - Phase 4 Scope	192	P-620-5.2	REFLECTIVE MEDIA	LB	590	\$	\$
Base Bid - Phase 4 Scope	193	T-901-5.1	SEEDING (INCLUDING FERTILIZER)	ACRE	3.25	\$	\$
Base Bid - Phase 4 Scope	194	T-905-5.1	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	50	\$	\$
Base Bid - Phase 4 Scope	195	T-908-5.1	HYDROMULCHING	ACRE	3.25	\$	\$

Section Title	Line Item	Item Code	Item Description	UofM	Quantity	Unit Price	Extension
Midfield Base Bid	196	50-06	CONSTRUCTION LAYOUT & STAKING LS 1 \$			\$	
	197		TRAFFIC PROVISIONS/AIRPORT SECURITY & \$				\$
Midfield Base Bid		70-08	DEVICES/PHASING	LS	1		
	198					\$	\$
Midfield Base Bid		02 41 35	REMOVE PAVEMENT MARKING BY WATER BLASTING	SF	815		
Midfield Base Bid	199	P-154-5.2	GEOTEXTILE FABRIC, TYPE V	SY	4350	\$	\$
	200		SILT FENCE, TYPE PREASSEMBLED (INCLUDES			\$	\$
Midfield Base Bid		C-102-5.2	MAINTENANCE AND REMOVAL)	LF	75	•	
	201		FILTER LOG, TYPE WOOD FIBER BIOROLL (INCLUDES			\$	\$
Midfield Base Bid	201	C-102-5.3	MAINTENANCE AND REMOVAL)	LF	940	¥	•
	202	0 102 010	INLET PROTECTION, TYPE B (INCLUDES		0.0	\$	\$
Midfield Base Bid	202	C-102-5 5	MAINTENANCE AND REMOVAL)	FA	5	Ψ	Ψ
Midfield Base Bid	203	C-105	MOBILIZATION	LS	1	¢	¢
Midfield Base Bid	203	D-701-54	30IN REINFORCED CONCRETE PIPE (RCP) CLASS III	LO	250	Ψ ¢	. Ч ¢
Midilold Babo Bla	204	D-701-0.4	DRAIN THE (6" PERFORATED INCLUDING TRENCH		200	Ф ¢	۰ پ
Midfield Base Bid	205	D 705 5 1	BACKEUL EABRIC)	15	25	φ	φ
Midfield Base Bid	2000	D 751 5 4	72IN DIA CATCH BASIN/MANHOLE		30	¢	¢
Midfield Base Bid	206	D-751-5.4			415	\$	
Midfield Base Bid	207	P 101-5.4		LF eV	415	\$	
Midfield Pase Bid	208	P-101-5.5	REMOVE CONCRETE FAVEMENT (FOLL DEFTH)	51	4460	\$	
Midfield Base Bid	209	P-101-5.0			250	\$	\$
Midfield Dase Did	210	P-101-5.7		EA	1	\$	\$
Midlield Base Bld	211	P-152-5.1		COMMON EXCAVATION (EV) CY 1500 \$		\$	\$
MUSCIE DE CONT	212		UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES			\$	\$\$
Midlield Base Bid		P-152-5.2	SUBGRADE PROOF ROLLING)	CY	200		
	213		SUBGRADE PREPARATION (INCLUDES SUBGRADE			\$	\$
Midfield Base Bid		P-152-5.4	PROOF ROLLING)	SY	4350		
	214		RECYCLED CONCRETE AGGREGATE BASE COURSE			\$	\$
Midfield Base Bid		P-219-5.1	(CV)	CY	1330		
Midfield Base Bid	215	P-501-8.2	CEMENT CONCRETE PAVEMENT, 12"	SY	4110	\$	\$
Midfield Base Bid	216	P-501-8.3	CEMENT CONCRETE PAVEMENT, REINFORCED 12"	SY	210	\$	\$
Midfield Base Bid	217	P-604-6.1	COMPRESSION JOINT SEALS FOR CONCRETE	LF	5600	\$	\$
Midfield Base Bid	218	P-620-5.3	PAVEMENT MARKING (INCL. REFLECTIVE BEADS)	LS	1	\$	\$
	219		SEEDING (INCLUDING FERTILIZER, HYDROLUCH,			\$	\$
Midfield Base Bid		T-901-5.1	STABILIZATION)	ACRE	0.25		
Midfield Base Bid	220	T-905-5.1	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	50	\$	\$
Midfield Add. Alt	221	P-154-5.2	GEOTEXTILE FABRIC, TYPE V	SY	590	\$	\$
Midfield Add. Alt	222	P-101-5.4	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	30	\$	\$
Midfield Add. Alt	223	P-101-5.5	REMOVE CONCRETE PAVEMENT (FULL DEPTH)	SY	590	\$	\$
Midfield Add. Alt	224	P-152-5.1	COMMON EXCAVATION (EV)	CY	250	\$	\$
	225		UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES			\$	\$
Midfield Add. Alt		P-152-5.2	SUBGRADE PROOF ROLLING)	CY	50	•	· ·
	226		SUBGRADE PREPARATION (INCLUDES SUBGRADE			\$	\$
Midfield Add. Alt	220	P-152-5.4	PROOF ROLLING)	SY	590	¥	· •
	227		RECYCLED CONCRETE AGGREGATE BASE COURSE		2.50	\$	\$
Midfield Add, Alt	~~ 1	P-219-5 1	(CV)	CY	180	Ψ	Ψ
Midfield Add, Alt	228	P-501-8 2	CEMENT CONCRETE PAVEMENT, 12"	SY	500	\$	¢
Midfield Add Alt	220	P-604-6 1	COMPRESSION JOINT SEALS FOR CONCRETE	IF	720	Ψ ¢	. ۴ د
	229	1 -004-0.1			730	Ψ	Ψ

# DOCUMENT 00 21 13

# INSTRUCTIONS TO BIDDERS

# **ARTICLE 1 – DEFINED TERMS**

- 1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
  - A. Issuing Office The office from which the Bidding Documents are to be issued.
  - B. *Bidder or Responsible Bidder* Terms used in these Bidding Documents that mean a 'responsible contractor' meeting the minimum criteria as defined in Minnesota Statutes, section 16C.285, subdivision 3.

# **ARTICLE 2 – COPIES OF BIDDING DOCUMENTS**

- 2.01 Authorized sets of the Bidding Documents may be obtained digitally or by paper copy as directed in the Advertisement for Bids.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete or unauthorized sets of Bidding Documents.
- 2.03 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

# **ARTICLE 3 – QUALIFICATIONS OF BIDDERS**

- 3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder must submit with its Bid
  - A. Bid Surety (5 percent) may be emailed
  - B. Bid Item Prices
  - C. Acknowledgement of Addenda
  - D. Declaration of Non-Collusion
  - E. Responsible Contractor Verification & Certification of Compliance (BidExpress)
  - F. First Tier Subcontractor List (Attachment A-1)
- 3.02 Documents included in the bid express solicitation shall be complete when a bid is submitted. These documents include the bid bond, bid form with bid item prices, acknowledgement of addenda, declaration of non-collusion, responsible contractor verification and certification of compliance, and Attachment 1 First Tier Subcontractor List from the responsible contractor form.
- 3.03 The following documents shall be submitted by email to <u>smcmahon@sehinc.com</u> within 72 hours after bid opening to remain in consideration for project award.
  - A. Signed Document 00 41 00 Bid Form
  - B. Document 00 43 37 List of Proposed Suppliers
  - C. Document 00 45 46 Buy American Certification
  - D. Document 00 45 47 Certification of Compliance with Minnesota Statutes 363A.36
  - E. DBE Documentation according to Instruction to Bidders (Document 00 21 13) Article 22

- 3.04 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.05 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.06 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

# ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 4.01 Site and Other Areas
  - A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.
- 4.02 Existing Site Conditions
  - A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
    - 1. The Supplementary Conditions identify:
      - (a) those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
      - (b) those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
      - (c) reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
      - (d) Technical Data contained in such reports and drawings.
    - 2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
    - 3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.
    - 4. Geotechnical Evaluation Report: The Bidding Documents contain a Geotechnical Evaluation Report (GER). The GER describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations ("Conditions"). The GER is a Contract Document.

The Conditions in the GER are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GER, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are evaluated.

Nothing in the GER is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the

responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.

- B. Underground Facilities
  - Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
- C. Adequacy of Data:
  - 1. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

# 4.03 Site Visit and Testing by Bidders

- A. On request, and to the extent Owner has control over the Site, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- B. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- C. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavations and utility locates.
- 4.04 Owner's Safety Program
  - A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.
- 4.05 Other Work at the Site
  - A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

# **ARTICLE 5 – BIDDER'S REPRESENTATIONS**

- 5.01 It is the responsibility of each Bidder before submitting a Bid to:
  - A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding documents, including Addenda;

- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider the information known to Bidder; information commonly known to Contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

# **ARTICLE 6 – PRE-BID CONFERENCE**

6.01 A pre-Bid conference will be held at the time and location stated in the Advertisement for Bids. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

# **ARTICLE 7 – INTERPRETATIONS AND ADDENDA**

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than three days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

# **ARTICLE 8 – BID SECURITY**

- 8.01 Bidders may submit electronic surety as through Bid Express or copies of paper bid bonds may be emailed to <u>purchasing@duluthmn.gov</u>, but must be sent and received prior to the bid opening date and time.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

# **ARTICLE 9 – CONTRACT TIMES**

9.01 The number of days within which, or the dates by which milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

# ARTICLE 10 – LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

# **ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS**

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

# **ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. Subcontractors must comply with MN Statute 16C.285 to do work under this project. It is the prospective Bidder's responsibility to verify its proposed subcontractors compliances with the statutes. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 All Bidders shall within 72 hours of the bid opening submit by email to <u>smcmahon@sehinc.com</u> a list of the proposed Suppliers to remain in consideration for project award.

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

# **ARTICLE 13 – PREPARATION OF BID**

- 13.01 All blanks on the Bid Form shall be completed. A Bid price shall be indicated for each section, Bid Item and unit price item listed therein.
- 13.02 The Bid Form is available in Bid Express and must be submitted electronically.
- 13.03 The Bid must be executed as directed by the City of Duluth Purchasing website <u>https://www.duluthmn.gov/purchasing/bids-request-for-proposals/</u> and by Bid Express.
- 13.04 The Bid shall contain an acknowledgement of receipt of all Addenda.
- 13.05 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.06 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract. The Bidder shall be either organized under Minnesota Law or have a Certificate of Authority from the Minnesota Secretary of State to do business in Minnesota, in accordance with the requirements of M.S. 303.03.

# **ARTICLE 14 – BASIS OF BID; EVALUATION OF BIDS**

- 14.01 Unit Price
  - A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
  - B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
  - C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

# ARTICLE 15 – SUBMITTAL OF BID

- 15.01 The Bid Form is to be completed and submitted in compliance with directions given on Bid Express.
- 15.02 The Bid shall be submitted no later than the date and time prescribed as indicated in the Advertisement for Bids, unless altered in an issued addendum.

- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner will not be accepted nor opened.
- 15.04 The submitted Bid Surety may be emailed, as directed in the Advertisement for Bid. Request of actual copy upon award may be requested.

# **ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID**

16.01 If your bid was submitted in error, or if you wish to withdraw your bid, follow these steps: (before the solicitation closes)

Select your bid on the Bids tab.

Click Withdraw Bid.

Click OK in the confirmation window.

After you have withdrawn your bid, an email confirmation will be sent to all users associated with your business. This email confirms that the bid has been withdrawn on this solicitation at a specific date and time.

- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

# ARTICLE 17 – OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, and read aloud publicly.

# **ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

# **ARTICLE 19 – AWARD OF CONTRACT**

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional bids. Owner will reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 19.02 If Owner awards the Contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid. Owner may also reject the Bid of any bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder.
- 19.03 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

# 19.04 Evaluation of Bids

- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- B. For determination of the apparent low Bidder(s) when sectional bids are submitted, Bids will be compared on the basis of the aggregate of the Bids for separate sections and the Bids for combined sections that result in the lowest total amount for all of the Work.
- 19.05 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Bidding Documents.
- 19.06 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

# **ARTICLE 20 – BONDS AND INSURANCE**

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

# **ARTICLE 21 – SIGNING OF AGREEMENT**

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within 10 days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

# **ARTICLE 22 – UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES**

- 22.01 Contract requirements for DBEs shall be in accordance with Document 00 73 30.
- 22.02 Within 3 business days following the opening of the bids and prior to the award of the Contract, all Bidders who wish to remain in competition for the Contract will be required to submit the following information:
  - A. Names and addresses of DBE subcontractors,
  - B. A description of the work each DBE subcontractor is to perform,
  - C. The dollar value of each proposed DBE subcontract.

# **ARTICLE 23 – CERTIFICATION OF NON-SEGREGATED FACILITIES**

- 23.01 Notice to Prospective Federally-Assisted Construction Contractors
  - A. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federallyassisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.
  - B. 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 following 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. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

- 23.02 Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities
  - A. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding \$10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
- 23.03 Contractors receiving subcontract 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 this 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. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

# END OF DOCUMENT

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# Item P-605 Joint Sealants for Pavements

# DESCRIPTION

**605-1.1** This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

# MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of ASTM D6690.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

**605-2.2 Backer rod**. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be  $25\% \pm 5\%$  larger in diameter than the nominal width of the joint.

**605-2.3 Bond breaking tapes.** Provide a bond breaking tape or separating material that is a flexible, nonshrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F (3°C) greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch (3 mm) wider than the nominal width of the joint and shall not bond to the joint sealant.

# **CONSTRUCTION METHODS**

**605-3.1 Time of application.** Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be  $50^{\circ}$ F ( $10^{\circ}$ C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

**605-3.2 Equipment.** Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, **7** days prior to use on the project.

**a. Tractor-mounted routing tool**. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

**b.** Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

**c. Sandblasting equipment.** The Contractor must demonstrate sandblasting equipment including the air compressor, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the Resident Project Representative (RPR), that the method cleans the joint and does not damage the joint.

**d. Waterblasting equipment**. The Contractor must demonstrate waterblasting equipment including the pumps, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

**e. Hand tools**. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

**f. Hot-poured sealing equipment**. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

**605-3.3 Preparation of joints.** Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

**a.** Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

**b.** Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by sandblasting, tractor-mounted routing equipment, concrete saw, or waterblaster as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

**c. Backer Rod.** When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

**d. Bond-breaking tape.** Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

**605-3.4 Installation of sealants.** Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/4 inch  $\pm 1/16$  inch (2 mm) below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as

to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

**605-3.5 Inspection.** The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

**605-3.6 Clean-up.** Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

# **METHOD OF MEASUREMENT**

**605-4.1** Joint sealing material shall be measured by linear foot of sealant in place, completed, and accepted.

# **BASIS OF PAYMENT**

**605-5.1** Payment for joint sealing material shall be made at the contract unit price per linear foot. The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-5.1 Joint Sealing Filler per linear foot

# 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 D789	Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
ASTM D5249	Standard Specification for Backer Material for Use with Cold- and Hot- Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
ASTM D5893	Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt]
ASTM D7116	Standard Specification for Joint Sealants, Hot Applied, Jet Fuel Resistant Types for Portland Cement Concrete Pavements

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# The Engineer shall specify one or more of the ASTMs above to agree with sealant type selected in paragraph 605-2.1.

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Advisory Circulars (AC)

AC 150/5340-30

Design and Installation Details for Airport Visual Aids

# END ITEM P-605

# 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.

**125-1.2** The Contractor shall ascertain that all lighting system components furnished are compatible in all respects with each other and the remainder of the new/existing system. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the airport sponsor with a similar unit, approved by the RPR (different model or different manufacturer) that is compatible with the remainder of the airport lighting system.

**125-1.3** The Contractor is responsible for using the latest editions of the referenced FAA Advisory Circulars, including any changes, in effect at the time of bidding. The advisory circulars may be obtained free of charge on the internet at the following address:

http://www.faa.gov/airports\_airtraffic/airports/resources/advisory\_circulars/

# **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 performs 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 must be warrantied by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

**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 used.

**125-2.7 Runway and Taxiway Lights.** Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. 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.

Туре	Class	Mode	Option	Base	Filter	Transformer	Notes
L-861T(L)	2	2	4	L-867B	Blue	L-830	Taxiway Alpha 4/Alpha Center Edge Lights
L-861T(L)	2	2	4	L-867B	Blue	L-830	Taxiway Alpha 4/Alpha Center Edge Lights

# Lights

**125-2.8 Runway and Taxiway Signs.** Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Si	σns
51	gns

Туре	Size	Style	Class	Mode	Notes
L-858R(L)	2	2	2	2	Hold Sign
L-858Y(L)	2	2	2	2	Location/Directional
					Sign

125-2.9 Runway End Identifier Light (REIL). Not used.

125-2.10 Precision Approach Path Indicator (PAPI). Not used.

125-2.11 Circuit Selector Cabinet. Not used.

**125-2.12 Light Base and Transformer Housings.** Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867 and L-868, and shall be provided as indicated on drawings 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. See Specification "L-115 Electrical Manholes and Junction Structures" for light bases to be used as junction boxes.

**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.

**125-2.14 Constant Current Regulator (CCR).** The constant current regulator shall be a Type L-829 conforming to the requirements of AC 150/5345-10. The regulator(s) shall be of the size and steps indicated on drawings, CCR(s) shall be floor mounted but capable of stacking vertically with other CCR's. CCR(s) shall include meggering option and shall be compatible with existing DLH ALCMS. Contractor shall coordinate existing system prior to procurement of CCR. Input shall be single phase with output of 6.6A maximum current at 60 Hz. Lightning protection shall be provided on the input and output of the regulator. The regulator shall have an integrated digital ammeter indicating the output current. Control voltage shall be coordinated with existing ALCMS currently installed. All necessary program and additional wiring to connect the new CCR into the existing ALCMS and airfield vault infrastructure (power, control, etc.) shall be incidental to the CCR.

# 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.

The Contractor shall provide core-drilling as required to install the new in-pavement base cans and shall be incidental to the installation. Contractor shall coordinate locations with RPR prior to work and provide all necessary labor and equipment for a fully functioning system. Should base can fall within a close

enough proximity to pavement jointing, lighting fixture block outs shall be provided as shown on drawings.

**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** Base cans and junction plazas 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** Runway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR.

**125-4.3** Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR.

**125-4.4** Removal and salvage of airfield lighting fixtures and signs will be measured with lump sum and accepted by the RPR.

**125-4.5** Constant Current Regulators will be measured by the number of each type and size installed as completed units, in place, 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 taxiway light, guidance sign, 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.

Payment will be made under:

Item L-125-5.1	Removal of Existing Taxiway Edge Light Fixtures and Signs, Including Base Can, Isolation Transformer, Sign Foundation, Conduit, and Wire – Per Lump Sum
Item L-125-5.2	L-861T(L) Medium Intensity Taxiway Edge Light (Without Arctic Kit), Blue Lens Installed on New L-867-B Galvanized Base Can (Includes Fixtures, Transformer, and Base Can) – Per Each
Item L-125-5.3	L-858(L) Guidance Sign, Size 2, Including Foundation, Isolation Transformer, Wire, Base Can, and Conduit – Per Each
Item L-125-5.4	L-829 4kW Constant Current Regulator – Per Each
Item L-125-5.5	L-829 7.5kW Constant Current Regulator – Per Each
Item L-125-5.6	L-868B Can with Blank Cover – Per Each

- Item L-125-5.8 Temporarily Remove Runway Light Fixture, Base Can, Cable, Conduit, and Isolation Transformer, and Replace Light Fixture on New Base Can with New Isolation Transformer in Later Phase – Per Each
- Item L-125-5.9 Removal of Existing Concrete Encased Ductbank, Conduit, and Wire Per Lump Sum

# **MATERIAL REQUIREMENTS**

AC 150/5345-5	Circuit Selector Switch
AC 150/5345-26	L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-42	Airport Light Bases, Transformer Houses, Junction Boxes and Accessories
AC 150/5345-44	Taxiway and Runway Signs
AC 150/5345-46	Runway and Taxiway Light Fixtures
AC 150/5345-47	Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Discharge-Type Flasher Equipment

# 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

# Item F-162 Chain-Link Fence

# DESCRIPTION

**162-1.1** This item shall consist of furnishing and erecting a chain-link fence in accordance with these specifications, the details shown on the plans, and in conformity with the lines and grades shown on the plans or established by the RPR.

# MATERIALS

**162-2.1 Fabric.** The fabric shall be woven from a 9-gauge aluminum-coated steel wire in a 2-inch (50 mm) mesh and shall conform to the requirements of ASTM A491.

**162-2.2 Barbed wire.** Barbed wire shall be 3-strand 12-1/2 gauge aluminum-coated wire with 4-point barbs and shall conform to the requirements of ASTM A121, Class II.

**162-2.3 Posts, rails, and braces.** Line posts, rails, and braces shall conform to the requirements of ASTM F1043 or ASTM F1083 as follows:

• Galvanized tubular steel pipe shall conform to the requirements of Group IA, (Schedule 40) coatings conforming to Type A, or Group IC (High Strength Pipe), External coating Type B, and internal coating Type B or D.

The dimensions of the posts, rails, and braces shall be in accordance with Tables I through VI of Federal Specification RR-F-191/3.

**162-2.4 Gates.** Gate frames shall consist of galvanized steel pipe and shall conform to the specifications for the same material under paragraph 162-2.3. The fabric shall be of the same type material as used in the fence.

**162-2.5 Wire ties and tension wires.** Wire ties for use in conjunction with a given type of fabric shall be of the same material and coating weight identified with the fabric type. Tension wire shall be 7-gauge coil spring steel wire with the same coating as the fabric type.

All material shall conform to Federal Specification RR-F-191/4.

**162-2.6 Miscellaneous fittings and hardware.** Miscellaneous steel fittings and hardware for use with aluminum-coated steel fabric shall be of commercial grade steel or better quality, wrought or cast as appropriate to the article, and sufficient in strength to provide a balanced design when used in conjunction with fabric posts, and wires of the quality specified herein. All steel fittings and hardware shall be protected with a zinc coating applied in conformance with ASTM A153. Barbed wire support arms shall withstand a load of 250 pounds (113 kg) applied vertically to the outermost end of the arm.

162-2.7 Concrete. Concrete shall have a minimum 28-day compressive strength of 3000 psi (2670 kPa).

**162-2.8 Marking.** Each roll of fabric shall carry a tag showing the kind of base metal (steel, aluminum, or aluminum alloy number), kind of coating, the gauge of the wire, the length of fencing in the roll, and the name of the manufacturer. Posts, wire, and other fittings shall be identified as to manufacturer, kind of base metal (steel, aluminum, or aluminum alloy number), and kind of coating.

# **CONSTRUCTION METHODS**

**162-3.1 General.** The fence shall be constructed in accordance with the details on the plans and as specified here using new materials. All work shall be performed in a workmanlike manner satisfactory to

the RPR. The Contractor shall layout the fence line based on the plans. The Contractor shall span the opening below the fence with barbed wire at all locations where it is not practical to conform the fence to the general contour of the ground surface because of natural or manmade features such as drainage ditches. The new fence shall be permanently tied to the terminals of existing fences as shown on the plans. The Contractor shall stake down the woven wire fence at several points between posts as shown on the plans.

The Contractor shall arrange the work so that construction of the new fence will immediately follow the removal of existing fences. The length of unfenced section at any time shall not exceed 300 feet (90 m). The work shall progress in this manner and at the close of the working day the newly constructed fence shall be tied to the existing fence.

**162-3.2 Clearing fence line.** Clearing shall consist of the removal of all stumps, brush, rocks, trees, or other obstructions that will interfere with proper construction of the fence. Stumps within the cleared area of the fence shall be grubbed or excavated. The bottom of the fence shall be placed a uniform distance above ground, as specified in the plans. When shown on the plans or as directed by the RPR, the existing fences which interfere with the new fence location shall be removed by the Contractor as a part of the construction work unless such removal is listed as a separate item in the bid schedule. All holes remaining after post and stump removal shall be refilled with suitable soil, gravel, or other suitable material and compacted with tampers.

The cost of removing and disposing of the material shall not constitute a pay item and shall be considered incidental to fence construction.

**162-3.3 Installing posts.** All posts shall be set in concrete at the required dimension and depth and at the spacing shown on the plans.

The concrete shall be thoroughly compacted around the posts by tamping or vibrating and shall have a smooth finish slightly higher than the ground and sloped to drain away from the posts. All posts shall be set plumb and to the required grade and alignment. No materials shall be installed on the posts, nor shall the posts be disturbed in any manner within seven (7) days after the individual post footing is completed.

Should rock be encountered at a depth less than the planned footing depth, a hole 2 inches (50 mm) larger than the greatest dimension of the posts shall be drilled to a depth of 12 inches (300 mm). After the posts are set, the remainder of the drilled hole shall be filled with grout, composed of one part Portland cement and two parts mortar sand. Any remaining space above the rock shall be filled with concrete in the manner described above.

In lieu of drilling, the rock may be excavated to the required footing depth. No extra compensation shall be made for rock excavation.

**162-3.4 Installing top rails.** The top rail shall be continuous and shall pass through the post tops. The coupling used to join the top rail lengths shall allow for expansion.

**162-3.5 Installing braces.** Horizontal brace rails, with diagonal truss rods and turnbuckles, shall be installed at all terminal posts.

**162-3.6 Installing fabric.** The wire fabric shall be firmly attached to the posts and braced as shown on the plans. All wire shall be stretched taut and shall be installed to the required elevations. The fence shall generally follow the contour of the ground, with the bottom of the fence fabric no less than one inch (25 mm) or more than 4 inches (100 mm) from the ground surface. Grading shall be performed where necessary to provide a neat appearance.

At locations of small natural swales or drainage ditches and where it is not practical to have the fence conform to the general contour of the ground surface, longer posts may be used and multiple strands of barbed wire stretched to span the opening below the fence. The vertical clearance between strands of barbed wire shall be 6 inches (150 mm) or less.

Tension wire is to be installed as shown in the plans.

**162-3.7 Electrical grounds.** Electrical grounds shall be constructed at 500 feet (150 m) intervals. The ground shall be accomplished with a copper clad rod 8 feet (2.4 m) long and a minimum of 5/8 inches (16 mm) in diameter driven vertically until the top is 6 inches (150 mm) below the ground surface. A No. 6 solid copper conductor shall be clamped to the rod and to the fence in such a manner that each element of the fence is grounded. Installation of ground rods shall not constitute a pay item and shall be considered incidental to fence construction. The Contractor shall comply with FAA-STD-019, Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment, paragraph 4.2.3.8, Lightning Protection for Fences and Gates, when fencing is adjacent to FAA facilities.

**162-3.8 Cleaning up.** The Contractor shall remove from the vicinity of the completed work all tools, buildings, equipment, etc., used during construction. All disturbed areas shall be seeded per T-901.

# **METHOD OF MEASUREMENT**

**162-4.1** Gates will be measured as complete units, including the designated length of adjacent proposed fence at the gate location.

# **BASIS OF PAYMENT**

162-5.1 Payment for vehicle or pedestrian gates will be made at the contract unit price for each gate.

The price shall be full compensation for furnishing all materials, and for all preparation, erection, and installation of these materials, and for all labor equipment, tools, and incidentals necessary to complete the item. This work includes furnishing and installing double swing gate and all associated hardware and adjacent fencing, including concrete footings, as indicated in the plans. This work also includes removal of existing swing gate components and concrete footings at the site.

Payment will be made under:

Item F-162-5.1 Vehicle Entrance Gate - 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.

ASTM International (ASTM)

ASTM A121	Standard Specification for Metallic-Coated Carbon Steel Barbed Wire
ASTM A153	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A392	Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A491	Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM A824	Standard Specification for Metallic-Coated Steel Marcelled Tension Wire for Use with Chain Link Fence
ASTM B117	Standard Practice for Operating Salt Spray (Fog) Apparatus

	4 STM F668	Standard Specification for Polyvinyl Chloride (PVC) Polyolefin and
		other Organic Polymer Coated Steel Chain-Link Fence Fabric
	ASTM F1043	Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework
	ASTM F1083	Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
	ASTM F1183	Standard Specification for Aluminum Alloy Chain Link Fence Fabric
	ASTM F1345	Standard Specification for Zinc 5% Aluminum-Mischmetal Alloy Coated Steel Chain-Link Fence Fabric
	ASTM G152	Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
	ASTM G153	Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
	ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials
	ASTM G155	Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials
Federal	Specifications (FED SP	EC)
	FED SPEC RR-F-191/3	Fencing, Wire and Post, Metal (Chain-Link Fence Posts, Top Rails and Braces)
	FED SPEC RR-F-191/4	Fencing, Wire and Post, Metal (Chain-Link Fence Accessories)
FAA St	tandard	
	FAA-STD-019	Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment
FAA O	rders	
	5300.38	AIP Handbook

# END OF ITEM F-162

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13 of 160	G0.20		84 of 160	C5.02			154 of 160	X2.00	CROSS SECTIONS - TAXIWAY A (PH 4)
14 of 160			85 of 160	C5.02			155 of 160	X3.00	CROSS SECTIONS - TAXIWAY A (PH 4)
15 of 160	60.22		85 of 160	C5.03			150 of 160	X2.02	CROSS SECTIONS - TAXIWAY A (PH 4)
16 of 160	G0.25		87 of 160	05.04		—    ;	158 of 160	X3.04	CROSS SECTIONS - TAXIWAY A (PH 4)
17 of 160	G0.20		88 of 160	C5.06	STORM - 005 PLAN AND PROFILE - PHASE 2C (ALT BID)	—    ;	159 of 160	X3.04 X3.05	CROSS SECTIONS - TAXIWAY A (PH 4)
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21 01 160	GU.42		92 07 160	C5.10		— )			
22 01 160	GU.43		93 07 160	00.11		— )			
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24 01 100	GU.45		00 -1 100	00.01		— )			
25 01 160	G0.46		96 01 160	C6.02		— )			
20 01 160	GU.47		97 07 160	07.03		— )			
27 07 160	GU.48		98 of 160	07.00		— )			
20 -5 400	0.00		99 07 160	07.01		—			
29 of 160	C0.01		100 of 160	07.02		<u> </u>			
( 30 of 160	C0.10		101 of 160	C7.03		<u> </u>			
( 31 of 160	C0.11	ERUSION CONTROL PLAN - PHASE 2 & 4	102 of 160	C8.00	PAVEMENT MARKING DEMOLITION - PHASE 2	<u> </u>			
32 of 160	C0.12	ERUSION CONTROL PLAN - BIO-RETENTION POND	103 of 160	C8.01	PAVEMENT MARKING DEMOLITION - PHASE 4	<u> </u>			
( 33 of 160	C0.13	ERUSION CONTROL DETAILS	104 of 160	C8.02	PAVEMENT MARKING PLAN - PHASE 2	≺			
( 34 of 160	C0.14	EROSION CONTROL DETAILS	105 of 160	C8.03	PAVEMENT MARKING PLAN - PHASE 4				
( 35 of 160	C0.15	EROSION CONTROL DETAILS	106 of 160	C8.04	PAVEMENT MARKING DETAILS				
( 36 of 160	C0.16	EROSION CONTROL DETAILS	107 of 160	C8.05	PAVEMENT MARKING DETAILS - AIRCRAFT TIEDOWN				
( 37 of 160	C0.17	EROSION CONTROL DETAILS	108 of 160	E-105	SRE APRON LIGHTING PLAN				
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2 40 of 160	C0.20	EROSION CONTROL DETAILS	111 of 160	E-001	ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES	<			
2 41 of 160	C0.21	EROSION CONTROL DETAILS	112 of 160	E-002	ELECTRICAL NOTES	$ \rightarrow $			
2 42 of 160	C0.22	EROSION CONTROL DETAILS	113 of 160	ED101	ELECTRICAL DEMOLITION PLAN 1				
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45 of 160	C0.30	ALIGNMENT PLAN AND SURVEY CONTROL	116 of 160	ED104	ELECTRICAL DEMOLITION PLAN (PHASE 4 SRE APRON)				
46 of 160	C0.40	EXISTING UTILITY LOCATION PLAN - PHASE 2	117 of 160	E-100	ELECTRICAL NEW WORK PLAN OVERALL	〉			
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48 of 160	C0.50	DEMOLITION PLAN - PHASES 2A & 2B	119 of 160	E-101A	ELECTRICAL NEW WORK PLAN				
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50 of 160	C0.51	DEMOLITION PLAN - PHASE 4	121 of 160	E-103	ELECTRICAL NEW WORK PLAN (ALT BID)				
51 of 160	C1.00	TYPICAL SECTION - TAXIWAY A	122 of 160	E-104	ELECTRICAL NEW WORK PHASE 4	)			
52 of 160	C1.01	TYPICAL SECTION - TAXIWAY A & APRON	123 of 160	E-105	SRE APRON LIGHTING PLAN	`)			
53 of 160	C1.02	TYPICAL SECTION - TAXIWAY A4	124 of 160	E-111	ELECTRICAL SIGN LEGEND	)			
54 of 160	C1.03	TYPICAL SECTION - TAXIWAY MONACO (ALT BID)	125 of 160	E-501	ELECTRICAL DETAILS 1	5			
55 of 160	C1.04	TYPICAL SECTION - SRE APRON	126 of 160	E-502	ELECTRICAL DETAILS 2	<			
56 of 160	C2.00	PLAN AND PROFILE - TAXIWAY A	127 of 160	E-503	ELECTRICAL DETAILS 3	<			
57 of 160	C2.01	PLAN AND PROFILE - TAXIWAY A	128 of 160	E-504	ELECTRICAL DETAILS 4	<			
58 of 160	C2.02	PLAN AND PROFILE POINT TABLES - TAXIWAY A	129 of 160	E-505	ELECTRICAL DETAILS 5	$\neg \langle \rangle$			
(59 of 160	C2.03	PLAN AND PROFILE - TAXIWAY A4	130 of 160	E-506	SRE APRON LIGHTING ELECTRICAL DETAILS	<			
(60 of 160	C2.04	PLAN AND PROFILE POINTS TABLES - TAXIWAY A4	131 of 160	E-507	SRE APRON LIGHTING ELECTRICAL SPECIFICATIONS				
(61 of 160	C2.05	PLAN AND PROFILE GRADE - TAXIWAY A (ALT BID)	132 of 160	E-600	CIRCUIT SCHEDULES	$\neg \land$			
62 of 160	C2.06	PLAN AND PROFILE POINTS TABLES - TAXIWAY A (ALT BID)	133 of 160	X1.00	CROSS SECTIONS - TAXIWAY A	$\neg \uparrow$			
63 of 160	C2.07	PLAN AND PROFILE GRADE - TAXIWAY MONACO ACCESS (ALT BID)	134 of 160	X1.01	CROSS SECTIONS - TAXIWAY A	$\neg \uparrow$			
64 of 160	C2.08	PLAN AND PROFILE POINTS TABLES - TXY MONACO ACCESS (ALT BID)	135 of 160	X1.02	CROSS SECTIONS - TAXIWAY A	$\neg \downarrow$			
	C3.00	PCC JOINT ELEVATION PLAN (TXY A & A4) - PHASES 2A & 2B	136 of 160	X1.03	CROSS SECTIONS - TAXIWAY A	$\neg \downarrow$			
65 of 160	C3.01	PCC JOINT ELEVATION PLAN (TXY A & A4) - PHASES 2A & 2B	137 of 160	X1.04	CROSS SECTIONS - TAXIWAY A	$\neg \downarrow$			
65 of 160		PCC JOINT ELEVATION PLAN (TXY A & MONACO) - PHASE 2C (ALT BID)	138 of 160	X1.05	CROSS SECTIONS - TAXIWAY A	1			
65 of 160 66 of 160 67 of 160	C3 02		100 01 100						
65 of 160 66 of 160 67 of 160 68 of 160	C3.02	PCC JOINT ELEVATION PLAN (TXY A & MONACO) (ALT BID)	139 of 160	X1.06	CROSS SECTIONS - TAXIWAY A				
65 of 160 66 of 160 67 of 160 68 of 160 69 of 160	C3.02 C3.03 C3.04	PCC JOINT ELEVATION PLAN (TXY A & MONACO) (ALT BID) PCC JOINT ELEVATION PLAN (SRE APRON) - PHASE 4	139 of 160	X1.06 X1.07	CROSS SECTIONS - TAXIWAY A CROSS SECTIONS - TAXIWAY A	\$			
65 of 160 66 of 160 67 of 160 68 of 160 69 of 160 70 of 160	C3.02 C3.03 C3.04 C3.05	PCC JOINT ELEVATION PLAN (TXY A & MONACO) (ALT BID) PCC JOINT ELEVATION PLAN (SRE APRON) - PHASE 4 PCC JOINT ELEVATION TABLES (SRE APRON) - PHASE 4	139 of 160 140 of 160 141 of 160	X1.06 X1.07 X1.08	CROSS SECTIONS - TAXIWAY A CROSS SECTIONS - TAXIWAY A CROSS SECTIONS - TAXIWAY A				



# CONSTRUCTION SAFETY & PHASING NOTES:

### GENERAL SAFETY NOTES

- ALL CONSTRUCTION SHALL MEET THE MOST CURRENT REQUIREMENTS OF FAA ADVISORY CIRCULARS WHICH ARE AVAILABLE ONLINE AT WWW.FAA.GOV, OR UPON REQUEST TO THE ENGINEER. APPLICABLE ADVISORY CIRCULARS MAY INCLUDE, BUT ARE NOT LIMITED TO, 150/5340-1, 5370-2, 5210-5, AND 70/7460-1.
- THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE OF CONSTRUCTION OPERATIONS AT LEAST 7 DAYS PRIOR TO THE PRE-CONSTRUCTION CONFERENCE. THE PHASING PLAN AND SCHEDULE MUST BE APPROVED BY THE ENGINEER AND THE OWNER PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS. 2.
- THE CONTRACTOR WILL ADVISE THE ENGINEER AND THE AIRPORT MANAGER 72 HOURS IN ADVANCE OF ANY PROPOSED CONSTRUCTION ACTIVITIES ON THE PROJECT
- THE AIR OPERATIONS AREA (AOA) CONSISTS OF ALL AREAS OF THE AIRPORT LOCATED WITHIN THE PERIMETER SECURITY FENCE AND INCLUDES RUNWAYS, TAXIWAYS, AIRCRAFT PARKING APRONS, AND OTHER AREAS WHÉRE AIRCRAFT MAY MOVE UNDER THEIR OWN POWER, AS WELL AS RUNWAY PROTECTION ZONES.
- NO WORK SHALL BE ALLOWED WITHIN THE AOA UNTIL THE REQUIRED AIRFIELD CLOSURES HAVE BEEN MADE AND THE REQUIRED CLOSURE MARKERS AND BARRICADES ARE IN PLACE. ALL NECESSARY NOTICE TO AIR MISSIONS (NOTAMS) WILL BE ISSUED BY AIRFIELD OPERATIONS, WHICH SPECIFICALLY DETAIL THE CURRENT STATUS OF THE AIRPORT DURING CONSTRUCTION. COORDINATE WITH ENGINEER TO FACILITATE NOTAMS.

A WORK MAX BE STOPPED AT ANY TIME BY THE AIRPORT MANAGER OR ENGINEER IE IT IS DETERMINED THAT PROPER SAFETY PRECAUTIONS ARE NOT BEING TAKEN 7. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH INFORMATION ON THIS SAFETY & PHASING PLAN AND THE SAFETY PLAN COMPLIANCE NARRATIVE CONTAINED IN THE SPECIFICATION 

### EQUIPMENT SAFETY REQUIREMENTS

- THE MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT TO BE USED ON THE AIRPORT SHALL BE 20 FEET. IF USE OF EQUIPMENT OF GREATER THAN 20 FEET IS NEEDED, THE CONTRACTOR SHALL FILE FAA FORM 7460-1 WITH THE APPROPRIATE FAA OFFICE. FORM SA AVAILABLE UPON REQUEST TO THE ENGINEER. FAA FORM 7460-1 SHALL BE SUBMITTED 6 WEEKS PRIOR TO THE ANTICIPATED USE OF EQUIPMENT GREATER THAN 20 FEET.
- ALL AIRPORT AND CONSTRUCTION EQUIPMENT ON THE AIRPORT SHALL BE MARKED, LIGHTED, AND FLAGGED ACCORDING TO FAA ADVISORY CIRCULARS.
   STOCKPILED MATERIALS AND EQUIPMENT STORAGE ARE NOT PERMITTED WITHIN THE RUNWAY SAFETY AREA AND OBSTACLE FREE ZONE, 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.
- 11. THE CONTRACTORS PARKED EQUIPMENT OR VEHICLES (INCLUDING PERSONAL VEHICLES) SHALL BE STORED IN THE STORAGE AREA LOCATION ON SHEET G0.03. LARGE EQUIPMENT THAT IS BEING USED EACH WORKING DAY THAT CANNOT BE EASILY MOVED OUT OF THE AGA MAY BE LEFT OVERNIGHT WITHIN THE AGA AT A LOCATION DESIGNATED BY THE ENGINEER AND AIRPORT OPERATIONS.

- LOW PROFILE BARRICADES & LIGHTED CLOSING CROSS MARKERS 12. THE CONTRACTOR SHALL MAINTAIN LIGHTED LOW PROFILE BARRICADES THROUGHOUT THE DURATION OF THE PROJECT. MAINTAINING & PLACING DEVICES, BATTERY REPLACEMENT, AND MOVEMENT ARE ALL INCIDENTAL TO MOBILIZATION.
- 13. BARRICADES SHALL BE PROVIDED BY THE AIRPORT IN ADDITION TO THE BARRICADES PROVIDED BY THE CONTRACTOR (SEE NOTE BELOW), AND PLACED & MAINTAINED BY THE CONTRACTOR. ANY DAMAGE TO THE AIRPORT'S BARRICADES SHALL BE AT THE CONTRACTOR'S EXPENSE
- 14. TWENTY (20) ADDITIONAL BARRICADES TO BE PROVIDED BY CONTRACTOR AS DESCRIBED IN BARRICADE DETAIL

15 LOW PROFILE BARRICADES SHALL BE PLACED AT DESIGNATED TAXIWAY CONNECTOR LOCATIONS DURING RUNWAY AND TAXIWAY CLOSUBES 16. LIGHTED CLOSING CROSS MARKERS FOR TEMPORARY RUNWAY CLOSURES TO BE PROVIDED BY AIRPORT. CONTRACTOR TO PLACE AND MAINTAIN LIGHTED CROSSES. MAINTENANCE INCLUDES LIGHT BULB REPLACEMENT, FUELING, OIL CHANGES, AND ANY ITEMS TO KEEP THE LIGHTING UNITS OPERATIONAL.

### CONSTRUCTION HAUL ROUTES

- 18. THE CONTRACTOR SHALL ESTABLISH A HAUL ROUTE IN THE GENERAL AREA INDICATED ON THE PLAN. THE EXACT LOCATION OF THE HAUL ROUTE SHALL BE REVIEWED AND APPROVED BY THE ENGINEER AND AIRPORT OPERATIONS. THIS ROUTE SHALL BE USED FOR DELIVERY AND REMOVAL OF ALL CONSTRUCTION EQUIPMENT AND MATERIALS AND ACCESS TO THE SITE FOR ALL PERSONNEL FOR THE DURATION OF THE PROJECT.
- 19. THE CONTRACTOR SHALL KEEP THE ROUTE AND ALL PAVEMENTS CLEAR OF DEBRIS AT ALL TIMES. AT A MINIMUM, THE ROUTE SHALL BE SWEPT AT THE END OF EACH WORKING DAY

# ADDITIONAL SWEEPING MAY BE REQUIRED IMMEDIATELY UPON THE NOTIFICATION BY ENGINEER. 20 THE ROUTE AND ALL AIRFIELD PAVEMENTS SHALL BE THOROUGHLY CLEANED AND INSPECTED PRIOR TO REOPENING TO AIRCRAFT USE 21. ROCK CONSTRUCTION ENTRANCES AND/OR TEMPORARY HAUL ROADS MAY BE REQUIRED AS SHOWN ON THE CONSTRUCTION SAFETY PLAN OR EROSION CONTROL PLAN.

- AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) ACCESS
- 22. ARFF ACCESS WILL REMAIN UNCHANGED FROM NORMAL CONDITIONS. RUNWAYS WILL BE CLOSED DURING CLOSURE PERIODS NOTED.
- 23. COORDINATE WITH ARFF PERSONNEL PRIOR TO CONSTRUCTION TO DEVELOP RUNWAY CLOSURE PROCEDURES AND ACCESS TO AIRFIELD.

### UTILITIES

- 24. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING AND MARKING ANY AND ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES. CALL GOPHER STATE ONE CALL AT 800.252.1166 AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION
- 25. IN THE EVENT UTILITIES ARE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGED UTILITIES TO THE UTILITY OWNER'S REQUIREMENTS AT THE EXPENSE OF THE CONTRACTOR.

### SCHEDULE

- 26. CONTRACTOR SHALL BE GIVEN 139 CALENDAR DAYS TO ACHIEVE SUBSTANTIAL COMPLETION.
  - PHASE 4: 60 CALENDAR DAYS (MAY 15TH JULY 13TH) PHASES 2A, 2B, AND 2C (BID ALT): 76 DAYS IF PHASE 2C (ALT BID) IS ALSO CONSTRUCTED (JULY 17TH - SEPTEMBER 30TH)
- 27. THE CONTRACTOR MUST STOP ALL CONSTRUCTION ACTIVITY DURING THE DLH AIRSHOW ON JULY 14-16, 2023.

### PHASING

- 28. PRIOR TO REOPENING A CLOSED RUNWAY, THAT PORTION OF THE RUNWAY SAFETY AREA WITHIN 250' OF THE CENTERLINE & 1000' BEYOND END OF RUNWAY MUST MEET FAA CRITERIA. FAA CRITERIA REQUIRES THAT THERE BE NO OPEN EXCAVATIONS OR TRENCHES. THE MAXIMUM PAVEMENT DROP-OFE BE 3 INCHES, AND AU, GRADES IN ANY DIRECTION BE LESS THAN 5 PERCENT. TEMPORARY WEDGING OR GRADING WILL BE REQUIRED TO MEET FAA CRITERIA AND MUST SUPPORT ALL ANTICIPATED AIRCRAFT
- 29. THE CONTRACTOR SHALL PROVIDE ALL FINAL CLEANUP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL ALSO CONTINUOUSLY CLEAN UP DURING EACH PHASE OF THE PROJECT
- 30. ALL NON-STANDARD MARKINGS/LIGHTING DURING PHASE TRANSITIONS SHALL BE NOTAMED APPROPRIATELY

31. PHASE 4 IS TO BE COMPLETED PRIOR TO THE AIR SHOW. PAVEMENT MARKING AND FINAL CURING CAN OCCUR AFTER THE AIR SHOW, BUT THE PAVEMENT MUST BE OPEN TO VEHICLE TRAFFIC DURING THE AIR SHOW. PHASES 2A, 2B, AND 2C CANNOT BEGIN UNTIL PHASE 4 IS COMPLETED. AIRCRAFT WILL TAXI THROUGH THE PHASE 4 AREA BETWEEN THE MIDFIELD RAMP AND MONACO RAMP WHILE PHASES 2A, 2B, AND 2C ARE BEING CONSTRUCTED. 32. PHASE 4 WILL BE CONSTRUCTED CONCURRENTLY WITH THE MIDFIELD RAMP REPAIR - PHASE 1 PROJECT (ADJACENT PROJECT.)

- RHASE 26, PHASE 28, AND RHASE 20 (ALT BHD) SHALL BE GONST BUCTED CONCURRENTLY. 34. PHASE 2B REQUIRES A COORDINATED 60 HOUR CLOSURE OF RUNWAY 9-27, AFTER THE CONCRETE
- PILOT LANES ARE PAVED, DUE TO THE OPEN EXCAVATION THAT WILL BE PRESENT IN THE RUNWAY SAFETY AREA. THIS RUNWAY 9-27 CLOSURE SHALL BE COORDINATED WITH DLH TENANTS AND CONTINGENT UPON APPROVAL FROM THE DAA 35. PHASE 2B WILL REQUIRE 7 DAYS OF NIGHT WORK (11 PM - 5 AM) WHICH WILL REQUIRE CLOSURE OF RUNWAY 9-27
- 30 PHASES 24 AB, AND 20 SHALL BE OONSTRUCTED APTER PHASE AND SOMPLETED



37. CONTRACTOR SHALL NOTIFY ON DUTY AIRPORT OPERATIONS OF DAILY WORK STARTING AND SCHEDULE A CONSTRUCTION INSPECTION WITH AIRPORT OPERATIONS BEFORE CONCLUDING WORK FOR THE DAY.



CONSTRUCTION SAFETY FLAG

NTS

CRITICAL AIRCRAFT DATA							
ELEMENT	EXISTING						
WING SPAN	DESIGN GROUP III						
APPROACH SPEED	CATEGORY C						
TAIL HEIGHT	30'-45'						
AIRPORT REFERENCE CODE	C-III						













# GENERAL NOTES:

- 1. SECURITY FENCE SHALL CONFORM TO THE DIMENSIONAL REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-191/3.
- 2. TERMINAL POSTS SHALL BE: 16' LONG, SP4
- 3. LINE POSTS SHALL BE: 16' LONG, SP3
- 4. GATE POSTS SHALL BE: 16' LONG, SP7
- 5. BRACE BARS SHALL BE: 15/8" OUTSIDE DIA,
- DAMAGING THE TOP RAIL.
- 7. BOTTOM. AND CONFORM TO THE REQUIREMENTS OF AASHTO M 181 TYPE 11, IV. DESIGN 60-9322 SHALL BE FURNISHED IN TYPE II (ALUMINUM COATED STEEL).
- USE 12<sup>1</sup>/<sub>2</sub>" GA GALVANIZED STEEL HOG RINGS FOR TENSION WIRE TIES. 8.
- 9. AND FOR FIRST LINE POSTS(S) ADJACENT TO THE TERMINAL OR BRACE POSTS.
- NATURAL GROUND.



### CONSTRUCTION SAFETY AND PHASING NOTES: FOR THE FOLLOWING NOTES, REFER TO FAA AC 150/5370-2.

# 205 COORDINATION

- CHANGES TO THE CSPP & CSPN SHALL BE REQUESTED TO THE ENGINEER. ENGINEER WILL FACILITATE CHANGE REQUEST AT A PROJECT MEETING WITH ALL REQUIRED PARTIES, INCLUDING FAA, DAA, ENGINEER AND CONTRACTOR.
- 2. THE CONTRACTOR SHALL ACQUAINT THEIR SUPERVISORS AND EMPLOYEES OF THE AIRPORT ACTIVITY AND OPERATIONS THAT ARE INHERENT TO THIS ACTIVE AIR CARRIER AIRPORT AND SHALL CONDUCT THE CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC REQUIREMENTS AND GUIDELINES ON SAFETY.
- THE CONTRACTOR IS DIRECTED TO COMPLY WITH AND ACQUAINT THEIR EMPLOYEES WITH THE FOLLOWING 3. SAFETY GUIDELINES, RELATED MATERIALS AND FAA ADVISORY CIRCULARS

FAA ORDER "SAFETY REQUIREMENT ON AIRPORTS DURING AGENCY FUNDED CONSTRUCTION AND MAINTENANCE ACTIVITIES" 150/5200-18 "AIRPORT SAFETY-SELF INSPECTION"

- 150/5210-5 "PAINTING, MARKING & LIGHTING OF VEHICLES USED ON
- AIRPORTS" 150/5370-2 "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION"
- 150/5370-4 "APPENDIX 3. SUGGESTED SPECIAL PROVISIONS FOR PROTECTION OF CABLES, CONTROLS, NAVAIDS AND WEATHER BUREAU FACILITIES"
- 150/5370-7 "AIRPORT CONSTRUCTION CONTROLS TO PREVENT AIR AND WATER POLLUTION"

COPIES OF THESE DOCUMENTS ARE PROVIDED ON THE FAA WEBSITE

- ALL COMMUNICATION WITH THE AIR TRAFFIC CONTROL TOWER OR OTHER ELEMENTS OF THE AIRPORT 4. SHALL BE THROUGH THE ENGINEER OR AIRPORT OPERATIONS
- THE AIRPORT DIRECTOR, WORKING THROUGH THE ENGINEER, SHALL, AT ALL TIMES, HAVE COMPLETE 5. JURISDICTION OVER THE SAFETY OF ALL AIRCRAFT OPERATIONS DURING THE WORK. WHEREVER THE SAFETY OF AIR TRAFFIC IS CONCERNED, THE DECISIONS OF THE AIRPORT DIRECTOR OR HIS DESIGNATED REPRESENTATIVE, SHALL BE FINAL AS TO METHODS, PROCEDURES AND MEASURES USED
- 6 THE ATCT MANAGER SHALL BE COORDINATED WITH, INVITED TO ALL MEETINGS, AND ANY/ALL CONCERNS ADDRESSED/RESOLVED, PERTAINING TO THE PROPOSED CONSTRUCTION
- THE FAA TECH OPS POINT OF CONTACT (POC) FOR THE NORTHERN MINNESOTA SSC. DUI UTH 7 INTERNATIONAL AIRPORT CAN BE REACHED AT (218) 722-4861. THE SPONSOR/CONTRACTOR SHALL MEET WITH THE FAA TECH OPS POC PRIOR TO PROJECT STARTUP.
- THE SPONSOR SHALL NOTIFY THE FAA TECH OPS SYSTEM MANAGEMENT OFFICE (SMO), MANAGER FOR 8. TECHNICAL SUPPORT (MTS) AT (952) 997-9261, AT LEAST 72 HOURS PRIOR TO A PRECONSTRUCTION MEETING AND/OR CONSTRUCTION START. THE SPONSOR SHALL REQUEST TO HAVE A FAA TECH OPS REPRESENTATIVE ATTEND THIS MEETING FOR THE PURPOSE OF IDENTIFYING ALL FAA FACILITIES. THEIR ASSOCIATED CRITICAL AREAS, THEIR ASSOCIATED CABLE (POWER AND CONTROL) AND SCHEDULE SHUTDOWN OF THESE FACILITIES, IF RUNWAYS ARE TO BE SHUT DOWN AS A RESULT OF THE PROPOSED WORK
- NOTICE TO AIR MISSIONS (NOTAMS)
  - A. AIRPORT OPERATIONS SHALL ISSUE NOTAMS, ADVISING: REFER TO SHEETS G0.02 G0.16 FOR NOTAMS, RELATED TO THIS PLAN SET AS WELL AS PLAN SET B FOR THE MDIFIELD RAMP - PHASE 1 NOTAMS.
- THE CONTRACTOR WILL ADVISE THE ENGINEER AND AIRPORT OPERATIONS 7 CALENDAR DAYS IN ADVANCE OF ANY PROPOSED CONSTRUCTION WITHIN THE RUNWAY OR TAXIWAY OBJECT FREE AREAS, RUNWAY PROTECTION AREAS, OR APPROACH AREAS SO THAT THE NECESSARY NOTAMS CAN BE ISSUED
- 11. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING PLAN AND SCHEDULE OF OPERATIONS TO THE ENGINEER PRIOR TO THE PRE-CONSTRUCTION CONFERENCE. THE PHASING PLAN AND SCHEDULE MUST BE APPROVED BY THE ENGINEER AND THE OWNER PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS SCHEDULE WILL BE UPDATED AT WEEKLY PROGRESS MEETINGS.
- 12. TAXIWAYS MAY BE CLOSED AS DIRECTED BY THE ENGINEER TO FACILITATE CONSTRUCTION. TAXIWAY ACCESS TO THE ACTIVE RUNWAY WILL BE MAINTAINED AT ALL TIMES
- 13. MEETINGS SHALL BE HELD ON A WEEKLY BASIS TO DISCUSS WORK AREAS AND CONSTRUCTION SCHEDULES. ALL SUBCONTRACTORS PERFORMING WORK OVER THE NEXT WEEK, OR DESIGNATED WORK PERIOD, SHALL BE PRESENT
- WORK MAY BE STOPPED AT ANY TIME BY THE AIRPORT MANAGER OR ENGINEER IF IT IS DETERMINED THAT PROPER SAFETY PRECAUTIONS ARE NOT BEING TAKEN, AT NO COST TO DAA.
- 15. THE CONTRACTOR SHALL, AT ALL TIMES, COORDINATE THEIR EFFORTS WITH THE ENGINEER. IF ANY PROBLEMS ARISE DURING THE CONSTRUCTION SEQUENCING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER TO HELP RESOLVE SAID PROBLEMS PRIOR TO CONTINUING WORK
- 16. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE MULTIPLE CREWS AND WORK EXTENDED HOURS TO ACCOMPLISH AND COMPLETE THE WORK WITHIN THE ALLOTTED TIME
- 17. COORDINATION OF CONSTRUCTION ACTIVITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONSTANT COORDINATION BETWEEN THE SUBCONTRACTORS AND THE ENGINEER. ALL CONSTRUCTION ACTIVITIES PLANNED BY THE CONTRACTOR SHALL BE REVIEWED AND APPROVED BY THE ENGINEER AND AIRPORT OPERATIONS REPRESENTATIVES.
- 18. UNDER AN EMERGENCY SITUATION, CONTRACTOR SHALL FIRST CALL 911 AND THEN NOTIFY AIRPORT PERSONNEL, IF ABLE. ANY AIRCRAFT UNDER DISTRESS REQUIRES IMMEDIATE EVACUATION OF PERSONNEL AND EQUIPMENT FROM THE CONSTRUCTION AREA.
- 19. AN UPDATED SCHEDULE IS ESSENTIAL FOR TENANT AND AIRFIELD OPERATION COORDINATION. THE CONTRACTOR WILL PROVIDE AN UPDATED SCHEDULE WITHIN 72 HOURS OF REQUEST. INABILITY TO PROVIDE A SCHEDULE IN THAT TIME FRAME MAY RESULT IN \$100 PER DAY ASSESSMENT DEDUCTED FROM MOBILIZATION

## 206 PHASING



- 207 AREAS AND OPERATIONS AFFECTED BY CONSTRUCTION ACTIVITY ANY CONSTRUCTION ACTIVITY WITHIN THE SAFETY AREA OF AN ACTIVE RUNWAY EDGE OR WITHIN THE SAFETY AREA OF AN ACTIVE TAXIWAY EDGE OR OPEN EXCAVATIONS IN EXCESS OF THREE INCHES DEEP WITHIN THE ABOVE AREAS, WILL REQUIRE CLOSURE OF THE AFFECTED RUNWAY OR TAXIWAY, UNLESS OTHERWISE APPROVED BY AIRPORT OPERATIONS.
- 2 BARRICADES SHALL BE MAINTAINED DURING THE ENTIRE LENGTH OF THE PROJECT ALONG ACTIVE PAVEMENTS. ALL ASSOCIATED BARRICADE AND CLOSING CROSS COSTS SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC PROVISIONS/AIRPORT SECURITY & DEVICES/PHASING ITEMIZED IN THE SCHEDULE OF PRICES
- 3. ALL CONSTRUCTION SHALL MEET REQUIREMENTS OF FAA AC 150/5370-2 "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" AND IS AVAILABLE UPON REQUEST AT THE OFFICE OF THE ENGINEER.
- STAGING AREAS: ALL STAGING AREAS SHALL BE FINALIZED BY AIRPORT MANAGEMENT, AT THE PRE-CONSTRUCTION MEETING
- 208 NAVIGATION AID (NAVAID) PROTECTION 1. NAVAIDS WILL BE IMPACTED DURING CONSTRUCTION. SHOULD NAVAID CRITICAL AREAS BE IMPACTED DUE TO PROJECT CHANGES, CONTRACTOR SHALL AMEND CSPP ACCORDING TO PROCEDURES OUTLINED IN 205, COORDINATION

### 209 CONTRACTOR ACCESS

- THE CONSTRUCTION HAUL ROUTE WILL BE CLOSED TO ALL AIRCRAFT TO ALLOW THE CONTRACTOR ACCESS TO THE CONSTRUCTION SITE. HOWEVER, ALL NON-RADIO EQUIPPED CONTRACTOR VEHICLES THAT ARE REQUIRED TO OPERATE ON OR ACROSS ACTIVE RUNWAYS, TAXIWAYS, APRONS AND RUNWAY APPROACH AND PROTECTION ZONES SHALL DO SO UNDER THE DIRECT CONTROL OF A RADIO EQUIPPED ESCORT VEHICLE. ESCORT VEHICLES, OPERATORS, AND RADIO EQUIPMENT SHALL BE APPROVED BY THE DULUTH INTERNATIONAL AIRPORT. ESCORT VEHICLES SHALL BE MARKED AND LIGHTED IN ACCORDANCE WITH FAA ADVISORY CIRCULAR AND SHALL BE EQUIPPED WITH AN APPROVED AVIATION BAND RADIO, RADIO EQUIPPED VEHICLES SHALL CONTINUOUSLY MONITOR GROUND CONTROL FREQUENCY 121.9 MHZ OR OTHER FREQUENCY AS DIRECTED BY ATCT. ALL AIRCRAFT TRAFFIC ON RUNWAYS, TAXIWAYS AND APRONS SHALL HAVE PRIORITY OVER CONTRACTOR'S TRAFFIC.
- ANY MOVEMENT OF THE CONTRACTOR'S VEHICLES AND EQUIPMENT ON OR ACROSS LANDING AREAS SHALL 2. ONLY BE AT CROSSING POINTS APPROVED BY THE ENGINEER/DAA, AND AT TIMES THE ENGINEER DIRECTS. THE ACTUAL CROSSINGS SHALL ONLY BE MADE AFTER THE CONTRACTOR'S REPRESENTATIVE GETS APPROVAL FOR EACH CROSSING BY USE OF RADIO CONTACT WITH THE AIR TRAFFIC CONTROL TOWER TO GET PERMISSION FOR MOVEMENT.
- 3. THE CONTRACTOR SHALL CONFINE PERSONNEL, EQUIPMENT, OPERATIONS AND TRAVEL TO THE AREA WITHIN THE DEFINED WORK LIMITS SHOWN ON THE PLANS AND BE PROPERLY BADGED FOR THE AREAS OF CONSTRUCTION.
- THE CONTRACTOR SHALL INFORM ALL CONSTRUCTION PERSONNEL AS TO THE PROPER ROUTES, SPEEDS 4. AND PROCEDURES FOR TRANSPORTING EQUIPMENT AND MATERIALS TO THE CONSTRUCTION SITE: AND ALL RESTRICTIONS TO MOVEMENT OF EQUIPMENT OR PERSONNEL WITHIN THE AIR OPERATIONS AREA. ON A DAILY BASIS AND MORE OFTEN IF NECESSARY ALL PERSONNEL SHALL BE ADVISED OF ANY CHANGES IN AIRPORT OPERATIONS THAT MAY FURTHER RESTRICT MOVEMENT.
- ACCESS OR HAUL ROUTES SHALL BE EXISTING ROADWAYS TO THE EXTENT THAT THEY ARE AVAILABLE. THE CONTRACTOR SHALL CORRECT ANY DAMAGE TO THE ROADS USED AND SHALL RESTORE THOSE ROADS TO THE SAME OR BETTER CONDITION AS THEY EXISTED PRIOR TO THE START OF WORK. THE CONTRACTOR MAY ESTABLISH ADDITIONAL HAUL OR ACCESS ROUTES AT HIS OWN EXPENSE AND RESPONSIBILITY IF APPROVED BY THE SPONSOR. UPON COMPLETION OF THE WORK, ANY ADDITIONAL ROADS SHALL EITHER BE LEFT OR GRADED AS DIRECTED SO THAT THEY DO NOT IMPEDE THE EXISTING DRAINAGE OR ACCESS ROUTES.
- VEHICLES WITHIN THE SECURITY FENCE SHALL BE VISIBLY IDENTIFIABLE AS CONTRACTOR VEHICLES WHICH HAVE BEEN PROPERLY CLEARED FOR ENTRY (LOGO AND FLAGS ON AUTHORIZED EQUIPMENT AND VEHICLES WOULD BE ACCEPTABLE - MAGNETS ARE PREFERRED. PAPER TAPED TO THE VEHICLE IS UNACCEPTABLE.)
- CONCRETE PAVEMENT PROTECTION: STEEL TRACKED EQUIPMENT WILL NOT BE ALLOWED TO CROSS THE 7 CONCRETE PAVEMENT WITHOUT APPROVED CONCRETE PROTECTION. ALL DAMAGE CAUSED TO THE PAVEMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

### 210 WILDLIFE MANAGEMENT

- TRASH WILL BE COLLECTED AND REMOVED FROM WORK ZONE PROMPTLY.
- 2. THE CONTRACTOR SHALL TAKE PRECAUTIONS AND HAVE READY, AT NO ADDITIONAL COST TO THE PROJECT. A PUMP TO REMOVE STANDING WATER TO THE NEAREST STORM INLET
- 3. GRASS IN CONTRACTOR OCCUPIED AREAS WILL BE MAINTAINED AT A REASONABLE LENGTH AND CUT AS DIRECTED BY ENGINEER
- 4. GATES WILL BE CLOSED AND SECURED DURING NON-WORK HOURS AND FENCES WILL NOT BE DISTURBED DURING THE PROJECT EXCEPT AS DIRECTED.
- 5. WILDLIFE HABITAT WILL NOT BE DISRUPTED BY CONSTRUCTION WORK. HOWEVER IF WILDLIFE IS FOUND, THE ENGINEER AND AIRPORT OPS ON GARAGE CELL (218-391-5697) SHOULD BE NOTIFIED IMMEDIATELY.

- 211 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT 1. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT JET BLAST OR WIND CONDITIONS IN EXCESS OF TEN KNOTS. STOCKPILE HEIGHT SHALL BE LESS THAN 20 FEET, AND OUTSIDE THE RUNWAY AND TAXIWAY OBJECT FREE AREAS. IN ADDITION, STOCKPILED MATERIAL SHALL HAVE SILT FENCE LOCATED AROUND THE MATERIAL TO PREVENT FOD FROM MOVING ONTO THE AIRFIELD PAVEMENTS.
- 2 DEBRIS, WASTE AND LOOSE MATERIAL CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEARS, PROPELLERS OR BEING INGESTED IN JET ENGINES SHALL NOT BE ALLOWED ON ACTIVE AIRCRAFT MOVEMENT AREAS. IF THESE MATERIALS ARE OBSERVED TO BE ON ACTIVE AIRCRAFT MOVEMENT AREAS, THEY WILL BE REMOVED IMMEDIATELY AND/OR CONTINUOUSLY DURING CONSTRUCTION
- THE ENGINEER WILL ARRANGE WITH AIRPORT OPERATIONS FOR INSPECTION PRIOR TO OPENING FOR 3 AIRCRAFT USE ANY RUNWAY, TAXIWAY OR APRON THAT HAS BEEN CLOSED FOR WORK, ON OR ADJACENT THERETO, OR THAT HAS BEEN USED FOR A CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR.

- AS DIRECTED BY ENGINEER.
- AND WILL REQUIRE ITS SUBCONTRACTORS TO DO THE SAME. 2 ACCORDANCE WITH FAA AC 150/5320-15

## 213 NOTIFICATION OF CONSTRUCTION ACTIVITIES

- 3.
- ENGINEER

- WITH THE CSPP AND FAA AC 150/5370-2. 2 PROJECT
- THE ENGINEER

- PROTECTION OF THOSE CABLES THROUGHOUT THE PROJECT.
- VICINITY OF THE PROPOSED WORK

### CABLE OWNER

FEDERAL AVIATION ADMINISTRATION Mn AIR NATIONAL GUARD DULUTH AIRPORT AUTHORITY OTHERS

- PROTECT ALL UTILITIES DURING CONSTRUCTION.
- 5.
- FORM OF REPAIR

4. THE CONTRACTOR SHALL SWEEP ON DAILY BASIS, AS NECESSARY OR AS DIRECTED BY THE ENGINEER, THE ACTIVE AIRPORT AREAS NEAR CONSTRUCTION ACTIVITIES WHICH HAS HAD ANY FOREIGN OBJECT DEBRIS (FOD) DEPOSITED BY AUTOMOBILE OR CONSTRUCTION EQUIPMENT OR BY WIND BLOWING DEBRIS OR MATERIALS ONTO THOSE ACTIVE AREAS. IT IS IMPERATIVE THAT NO DAMAGE BE DONE TO ANY AIRCRAFT DUE TO FOD. ANY DAMAGES DONE TO AIRCRAFT WHICH IS ATTRIBUTABLE TO FOD FROM THE CONSTRUCTION AREAS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE WITH NO REIMBURSEMENT BY THE AIRPORT, ENGINEER OR THEIR AUTHORIZED REPRESENTATIVES.

5. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE PROJECT. PROVIDE WATER TO SUBGRADE, BASE, AND OTHER PAVEMENT OR EXCAVATED AREAS, INCLUDING HAUL ROADS, WITH WATER OR

212 HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT 1. CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF THE MN EMPLOYEE RIGHT-TO-KNOW ACT OF 1983

THE CONTRACTOR SHALL SUBMIT A PLAN THAT ADDRESSES THE MANAGEMENT OF HAZARDOUS WASTES IN

PROCEDURES FOR ISSUING NOTAMS ARE INCLUDED IN SECTION 205, COORDINATION FOR ANY RESTRICTIONS TO AIRCRAFT OPERATIONS, THE AIRPORT OPERATORS SHALL GIVE PROPER NOTICE TO THE NEAREST FAA FLIGHT SERVICE STATION PRIOR TO THE START OF WORK, AND FOR ANY SUBSEQUENT CHANGES NEEDED IN THE NOTAM WHICH MAY BE ISSUED DURING THE PERIOD OF WORK.

THE MAXIMUM HEIGHT OF CONSTRUCTION EQUIPMENT TO BE USED ON THE AIRPORT SHALL BE 20 FEET. IF USE OF EQUIPMENT OF GREATER THAN 20 FEET IS NEEDED, THE CONTRACTOR SHALL FILE FAA FORM 7460-1 WITH THE APPROPRIATE FAA OFFICE. FORMS ARE AVAILABLE UPON REQUEST AT THE OFFICE OF THE

214 INSPECTION REQUIREMENTS 1. THE CONTRACTOR AND AIRPORT OPERATOR SHALL CONDUCT DAILY INSPECTIONS TO ENSURE COMPLIANCE

THE CONTRACTOR SHALL PERFORM ALL FINAL CLEANUP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL ALSO CLEAN UP DAILY OR AS DIRECTED BY ENGINEER DURING EACH PHASE OF THE

APPROPRIATE EROSION CONTROL MEASURES SHALL BE ACCOMPLISHED PRIOR TO BEGINNING THE RESPECTIVE PHASE. REMOVAL OF TEMPORARY EROSION CONTROL SHALL BE ACCOMPLISHED BY THE CONTRACTOR EITHER AT THE COMPLETION OF THE ASSOCIATED PHASE OR THEREAFTER AS DIRECTED BY

THE ENGINEER. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT THEIR RECOMMENDED FIELD OPERATIONS AREAS FOR STORAGE OF EQUIPMENT, SUPPLIES AND FIELD OFFICES TO THE ENGINEER AND AIRPORT MANAGER AT THE PRE-CONSTRUCTION CONFERENCE FOR REVIEW, COMMENTS AND/OR APPROVAL. ANY AREAS RECOMMENDED FOR STORAGE OF EQUIPMENT OVERNIGHT, FOR STORAGE OF FUELING FACILITIES. MATERIALS AND OFFICES SHALL BE APPROVED BY THE AIRPORT MANAGEMENT AND ENGINEER PRIOR TO MOBILIZATION OF ANY EQUIPMENT OR FIELD OFFICES AND CERTIFIED BY THE CONTRACTOR THAT THE FACILITIES MEET ALL APPLICABLE LOCAL. STATE, AND FEDERAL REQUIREMENTS.

215 UNDERGROUND UTILITIES 1. THE CONTRACTOR SHALL CONTACT THE FAA TECH OPS TO PROVIDE LOCATIONS OF EXISTING FACILITY CABLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAND DIGGING TO LOCATE FACILITY CABLING, AND

2. A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION OR BORINGS, THE CONTRACTOR SHALL CONTACT THE FOLLOWING LOCAL CABLE OWNERS TO VERIFY ALL UNDERGROUND CABLE LOCATIONS IN THE

	CONTACT PERSON
1	TECH OPS
	WORK CONTROL
	RYAN WELCH
	GOPHER STATE ONE-CA

PHONE NUMBER 218-722-4861 218-788-7292 218-625-5051 800-252-1166

3. EXISTING CONDITIONS WERE TAKEN FROM BEST AVAILABLE SURVEY. INFORMATION SHOWN CONCERNING FEATURES AND UTILITIES IS NOT GUARANTEED TO BE ALL INCLUSIVE OR CORRECT. THE CONTRACTOR WILL VERIFY THE FEATURES AND THEIR LOCATION PRIOR TO CONSTRUCTION. EXISTING UTILITIES MUST REMAIN IN SERVICE AT ALL TIMES, THE LOCATION, MATERIAL, AND DIMENSION OF EXISTING FACILITIES AND OBSTRUCTIONS ARE BASED UPON AVAILABLE RECORDS AND ARE SHOWN ON THE PLAN STRICTLY AS AN AID TO THE CONTRACTOR. THAT INFORMATION MUST NOT BE CONSTRUED AS BEING ABSOLUTELY ACCURATE, CORRECT, OR COMPLETE. ALL STRUCTURES ABOVE OR BELOW GROUND THAT ARE TO REMAIN IN PLACE WHICH ARE ENCOUNTERED DURING CONSTRUCTION MUST BE PROPERLY SUPPORTED AND MAINTAINED THE CONTRACTOR WILL MAKE ARRANGEMENT WITH THE ENGINEER AND THE AIRPORT AUTHORITY FOR THE PROTECTION OR RELOCATION OF SUCH STRUCTURES. IF DAMAGED DURING CONSTRUCTION, THE CONTRACTOR WILL MAKE REPAIRS OR PAY FOR REPAIRS TO THE STRUCTURE TO THE SATISFACTION OF THE AIRPORT. NO EXTRA PAYMENT WILL BE MADE FOR SUCH INTERFERENCE OR OBSTRUCTION.

4. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAVE BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER. IN THE RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND THERE IS NO GUARANTEE. EITHER EXPRESSED OR IMPLIED, THAT THE CONDITIONS INDICATED ARE REPRESENTATIVE OF, THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND

ANY DAMAGE TO FAA CABLES, ACCESS ROADS, OR TO FAA FACILITIES DURING THE CONSTRUCTION WILL REQUIRE THE CONTRACTOR TO REPLACE THE DAMAGED CABLES, ACCESS ROAD, OR FAA FACILITIES TO THE FAA TECH OPS SMO'S REQUIREMENTS, AND AT THE CONTRACTOR'S EXPENSE

IF ANY POWER, CONTROL, OR SIGNAL CABLES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THE CABLE IN ITS ENTIRETY AT NO COST TO THE OWNER. THE SPLICING OF CABLES IS NOT AN ACCEPTABLE



# CONSTRUCTION SAFETY AND PHASING NOTES (CONT'D):

### 216 PENALTIES

- THE CONTRACTOR SHALL BE GIVEN A SPECIFIC NUMBER OF CALENDAR DAYS TO PERFORM THE WORK AND IF THE CONTRACTOR DOES NOT COMPLETE THE CONSTRUCTION WITHIN THAT TIME FRAME, LIQUIDATED DAMAGES WILL BE ASSESSED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR ANY DELAYS. IF THE ENGINEER, OR AIRPORT MANAGEMENT FEELS THAT CONSTRUCTION IS PROCEEDING AT TOO SLOW A PACE, THE ENGINEER SHALL NOTIFY THE CONTRACTOR IN WRITING AND THE CONTRACTOR SHALL BE REQUIRED TO RESPOND IN WRITING JUSTIFYING THE IDENTIFIED DELAYS AND/OR LACK OF ADEQUATE EQUIPMENT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING OF ANY LIQUIDATED DAMAGES CHARGED TO THE CONTRACTOR.
- 2. SEE CONTRACTOR SECURITY PLAN AND SHEET G0.42 FOR PENALTIES ASSOCIATED WITH FAILURE TO MAINTAIN ADEQUATE SECURITY
- SEE SHEET G0.40 (205 COORDINATION) FOR PENALTIES ASSOCIATED WITH FAILURE TO PROVIDE UPDATED 3. SCHEDULE

### 217 SPECIAL CONDITIONS

- 1. AIRPORT OPERATIONS WILL TAKE PRECEDENCE OVER ALL WORK.
- 2. SEE PARAGRAPH 220 FOR PENALTIES ASSOCIATED WITH FAILURE TO MAINTAIN ADEOUATE SAFETY AND TRAFFIC CONTROL

### 218 RUNWAY AND TAXIWAY VISUAL AIDS

1. CONTRACTOR WILL SUPPLY OR MAINTAIN BARRICADES AS DESCRIBED IN THIS SAFETY PLAN.

### 219 MARKING AND SIGNS FOR ACCESS ROUTES

HAUL ROUTES: LOCATION OF HAUL ROUTES ON THE AIRPORT SITE SHALL BE AS SPECIFIED ON THE PLANS OR AS APPROVED BY THE ENGINEER AND/OR AIRPORT OPERATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE BEFORE AND AFTER CONDITION OF ON-SITE HAUL ROUTES SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE CONTRACTOR, THE ENGINEER AND AIRPORT REPRESENTATIVES. FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT TEMPORARY HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT WILL BE THE CONTRACTOR'S TOTAL RESPONSIBILITY AND SHALL BE APPROVED BY THE AIRPORT OPERATIONS PRIOR TO THE WORK. ALL ON-SITE FAA ACCESS ROADS TO FAA FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES. PHOTOGRAPHS AND A VIDEO OF THE HAUL ROUTES SPECIFIED BY THE PLANS MUST BE PROVIDED BY THE CONTRACTOR BEFORE AND AFTER CONSTRUCTION TO THE AIRPORT ADMINISTRATION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO HAUL ROUTES RESULTING FROM CONSTRUCTION TRAFFIC.

### 220 HAZARD MARKING, LIGHTING, AND SIGNING

- ALL CONTRACTOR VEHICLES THAT ARE AUTHORIZED TO OPERATE ON THE AIRPORT IN THE ACTIVE AIRCRAFT OPERATIONS AREA (AOA) SHALL DISPLAY IN FULL VIEW A FLASHING AMBER (YELLOW) DOME-TYPE LIGHT AND/OR ABOVE THE VEHICLE A 3' X 3' OR LARGER, ORANGE AND WHITE CHECKERBOARD FLAG, EACH CHECKERBOARD COLOR BEING 1-FOOT SQUARE, (SEE CONSTRUCTION SAFETY FLAG DETAIL, SHEET G0.02) AND ESCORTED UNDER THE CONTROL OF ONE CONTRACTOR MOBILE (TWO-WAY) RADIO OPERATOR ON THE JOB AT ALL TIMES. ANY VEHICLE OPERATING IN THE ACTIVE AOA DURING THE HOURS OF DARKNESS SHALL BE EQUIPPED WITH A FLASHING AMBER (YELLOW) DOME LIGHT, MOUNTED ON TOP OF THE VEHICLE AND OF SUCH INTENSITY TO CONFORM TO LOCAL CODES FOR MAINTENANCE AND EMERGENCY VEHICLES.
- 2. THE CONTRACTOR SHALL INSTALL ALL REQUIRED BARRICADES AT DESIGNATED PLAN LOCATIONS, HAVE ALL ACCESS GATES GUARDED AND LOCKABLE, HAVE ALL EQUIPMENT EITHER FLAGGED OR FITTED WITH FLASHING YELLOW DOME-TYPE LIGHTS ON TOP OF THE VEHICLES. ALL THESE ITEMS SHALL CONSIST OF THE SAFETY AND SECURITY SYSTEM. THE CONTRACTOR SHALL INSTALL THE COMPONENTS OF THE SYSTEM AT THE APPROPRIATE TIMES AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INSPECT EVERY ASPECT OF THE SAFETY AND SECURITY SYSTEM ON A DAILY BASIS AND ENSURE ALL COMPONENTS ARE FUNCTIONING PROPERLY. THE RESIDENT PROJECT REPRESENTATIVE (RPR) SHALL ALSO DAILY INSPECT THE SYSTEM AND IF ANY DEFICIENCIES ARE NOTED, THE CONTRACTOR SHALL HAVE THAT DAY'S PRORATED SAFETY AND SECURITY COST DEDUCTED FROM THE CONTRACTOR'S EARNINGS. THE SYSTEM ELEMENTS TO BE INSPECTED AND DEFICIENCIES NOTED ARE AS FOLLOWS:

\*BARRICADES SET PROPERLY AND ALL FLASHING WARNING LIGHTS OPERATING PROPERLY. \*ALL CONTRACTOR PERSONNEL AND EQUIPMENT ACCESS GATES MANNED AND SECURITY PROCEDURES IN PLACE

\*ALL EQUIPMENT FLAGGED OR OUTFITTED WITH FLASHING YELLOW DOME-TYPE LIGHTS \*CONTRACTOR USE OF UNAUTHORIZED AIRPORT ACCESS GATES CHECKED.

ANY OF THE ABOVE SAFETY AND SECURITY ITEMS FOUND TO BE DEFICIENT AT THE BEGINNING OF THE DAY BY THE RPR AND/OR AIRPORT OPERATIONS STAFF WILL RESULT IN A \$1000 DEDUCTION FROM THE MOBILIZATION LINE ITEM AND DEDUCTED PERMANENTLY FROM THE CONTRACTOR'S EARNINGS. THE CONTRACTOR SHALL MAKE A CONCERTED FEFORE TO ENSURE ALL SAFETY AND SECURITY ITEMS ARE IN PROPER WORKING ORDER EACH DAY DUE TO THE HEIGHTENED SECURITY STATUS OF THE AIRPORT AND THE CONSIDERABLE LIABILITY ASSOCIATED WITH THE SAFETY AND SECURITY WORK.

- THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, DANGER 3. SIGNALS AND LIGHTS FOR THE PROTECTION OF THE WORK AND THE SAFETY OF THE PUBLIC FOR BOTH LAND AND AIR TRAFFIC IN ACCORDANCE WITH THE SPECIFICATIONS (AC 150/5370-2)
- CLOSED RUNWAYS OR TAXIWAYS SHALL BE BARRICADED OFF AT ALL INTERSECTIONS WITH ACTIVE RUNWAYS OR TAXIWAYS. THE CONTRACTOR SHALL HAVE PERSONNEL ON CALL 24 HOURS PER DAY FOR EMERGENCY MAINTENANCE OF AIRPORT HAZARD LIGHTING AND BARRICADES.
- BARRICADES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN. IF THE CONTRACTOR MUST TEMPORARILY REMOVE ANY OF THE BARRICADES (TO ALLOW CONSTRUCTION TRAFFIC TO TRAVEL INTO OR OUT OF THE CONSTRUCTION AREA, OR TO COMPLETE CONSTRUCTION AT THE PHASE BOUNDARY), THE CONTRACTOR SHALL PROVIDE A FLAG PERSON TO PREVENT AIRCRAFT FROM INADVERTENTLY TRAVELING INTO THE CONSTRUCTION AREA UNTIL THE BARRICADE IS REPLACED TO ITS ORIGINAL POSITION
- \_\_\_\_\_  $\boldsymbol{\mathcal{M}}$ DURING NIGHT TIME CONSTRUCTION OPERATIONS, ALL CONTRACTOR VEHICLES SHALL HAVE OPERATING, AMBER (YELLOW) FLASHING LIGHTS.

- THERE SHALL BE NO EXCAVATION OR OPEN TRENCHES WITHIN THE ACTIVE RUNWAY SAFETY AREA (RSA). EQUIPMENT MUST BE REMOVED AT THE END OF EACH WORKING DAY AND NO STOCKPILES WITHIN THE ACTIVE RUNWAY OBJECT FREE AREA (ROFA). ALL OF THE DIMENSIONS OF THESE AREAS CAN BE SEEN IN A TABLE ON THE SAFETY PLAN
- ANY NECESSARY ESCORTING & RADIO CAR OPERATIONS REQUIRED BY THE DAA WILL REQUIRE \$100 PER HOUR CHARGE. THE DAA WILL LOG HOURS AND SUBMIT TO CONTRACTOR VIA INVOICE

## 221 PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS

- CONSTRUCTION DURING THE PROJECT MAY BE HALTED AT ANY TIME BY RPR, ENGINEER, AND/OR AIRPORT OPERATIONS IF IT IS DETERMINED TO BE IN THE BEST INTEREST OF AIRPORT OPERATIONS OR SAFETY. THE CONTRACTOR MAY BE DIRECTED TO REMOVE EQUIPMENT AND/OR EVACUATE THE SITE IN ORDER TO ENABLE AIRCRAFT OPERATIONS. NECESSARY EXTENSIONS IN CONTRACT TIME WILL BE GRANTED OR A STOP WORK ORDER WILL BE ISSUED DUE TO THESE DELAYS, HOWEVER, THERE WILL BE NO ADJUSTMENTS IN CONTRACT PRICE DUE TO THESE DELAYS.
- IN ADDITION TO THE ABOVE, THE FOLLOWING SPECIAL REQUIREMENTS WILL APPLY FOR NIGHT 2. CONSTRUCTION
  - A DAILY SAFETY AND PROGRESS MEETING SHALL BE HELD BETWEEN THE ENGINEER, DAA OPERATIONS PERSONNEL, AND THE CONTRACTOR'S SUPERINTENDENT TO DISCUSS REQUIREMENTS FOR THE NEXT NIGHTTIME WORK PERIOD
  - THE CONTRACTOR SHALL PREPARE A SAFETY PLAN SPECIFIC TO NIGHTTIME CONSTRUCTION OPERATIONS AS WELL AS A CONTINGENCY PLAN TO ADDRESS CASES OF ABNORMAL FAILURES OR UNEXPECTED DISASTERS USING APPENDIX 3 OF AC 150/5370-2 AS A GUIDE.
  - TRUCK HAUL ROUTES ON THE AIRFIELD SHALL BE DELINEATED WITH LIGHTED BARRICADES. OTHER MEANS TO CLEARLY MARK THE ROUTES TO THE WORK SITE MAY BE APPROVED BY THE RPR, ENGINEER, AND/OR AIRPORT OPERATIONS.
- 3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE THE SAFETY OF OPERATING AIRCRAFT AS WELL AS HIS OWN EQUIPMENT AND PERSONNEL. SPECIAL CONSIDERATIONS SHOULD BE GIVEN TO FLIGHT SCHEDULES AND MISCELLANEOUS AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL OBEY ALL INSTRUCTIONS AS TO ROUTES TO BE TAKEN BY EQUIPMENT TRAVELING WITHIN THE AIRPORT AREA AND KEEP SUCH VEHICLES AND FOUIPMENT MARKED WITH THE SPECIFIED AIRPORT SAFETY FLAGS THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE OF ALL DIFFICULTIES TO BE ENCOUNTERED. EQUIPMENT NOT ACTUALLY IN OPERATION SHALL BE KEPT CLEAR OF LANDING AREAS. PERSONNEL SHALL NOT ENTER AREAS OF THE AIRPORT WHERE AIRCRAFT ARE OPERATING WITHOUT SPECIFIC PERMISSION.
- THE CONTRACTOR SHALL TAKE ALL STEPS TO PROTECT THE EXISTING RUNWAY AND TAXIWAY LIGHTS, 4. UNDERGROUND CABLES AND UTILITIES DURING CONSTRUCTION TO ASSURE CONTINUOUS OPERATION OF LIGHTS AND NAVIGATIONAL AIDS WHEN NEEDED
- MATERIALS STORED OR STOCKPILED ON THE AIRPORT SHALL BE SO PLACED AND THE WORK SHALL. AT 5. ALL TIMES, BE SO CONDUCTED AS TO CAUSE NO GREATER OBSTRUCTION TO THE AIR AND GROUND TRAFFIC THAN IS CONSIDERED NECESSARY BY THE ENGINEER.
- AT THE END OF EACH DAY, ANY RUNWAY, TAXIWAY OR APRON WHICH IS NOT CLOSED TO AIRCRAFT ANI WHICH HAS BEEN USED BY THE CONTRACTOR, SHALL BE CLEANED BY BROOMING OR OTHER ACCEPTABLE METHODS APPROVED BY THE AIRPORT OPERATIONS. ALL EQUIPMENT SHALL BE STORED OR MOVED TO THE CONTRACTOR'S STAGING AREAS.
- CONSTRUCTION LIMITS AND FLAGGERS: ALL CONTRACTOR VEHICLES AND TRAFFIC SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES. ABSOLUTELY NO CONTRACTOR VEHICLES WILL BE ALLOWED ON OTHER ACTIVE AIRFIELD OPERATIONS AREAS.

# 222 OTHER LIMITATION ON CONSTRUCTION

- MEASURES SHALL BE ADOPTED TO PREVENT POTENTIAL POLLUTANTS FROM ENTERING ANY DRAINAGE SYSTEM OR WATERWAY. MATERIALS AND DEBRIS SHALL NOT BE STORED IN THE WORK AREA IN A MANNER THAT WOULD ALLOW THEM TO ENTER THE DRAINAGE SYSTEM AS A RESULT OF SPILLAGE, NATURAL RUNOFF OR FLOODING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY NOTIFY THE SPONSOR SHOULD THERE BE A SPILLAGE OF MATERIAL WHICH MIGHT CONTAMINATE THE DRAINAGE SYSTEM. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND CLEAR UP SUCH SPILLAGE IN A MANNER ACCEPTABLE TO THE SPONSOR. MATERIAL SHALL BE SECURED SO THAT IT WILL NOT BE BLOWN BY THE WIND ONTO THE AIRFIELD SURFACES.
- 2. SPECIAL ATTENTION TO DUST CONTROL WILL BE REQUIRED WHEN EARTHWORK OR HAULING OPERATIONS ARE IN PROGRESS OR WHEN WIND AND WEATHER CONDITIONS CAUSE EXCESSIVE BLOWING OF DUST. IN THIS REGARD THE CONTRACTOR SHALL APPLY WATER OR CALCIUM CHLORIDE SOLUTION TO THE AFFECTED SITES AS DIRECTED
- 3. ANY AREAS UTILIZED AS FIELD OPERATIONS AREAS SHALL BE MAINTAINED AT ALL TIMES IN A CLEAN AND ENVIRONMENTALLY SAFE CONDITION. IF THE CONTRACTOR MUST UTILIZE AGGREGATE BASE MATERIALS TO PROVIDE A STABLE SURFACE FOR EQUIPMENT STORAGE, ANY MATERIALS UTILIZED WILL BE REMOVED AT THE END OF THE PROJECT AND DISPOSED OF AT A LOCATION ACCEPTABLE TO THE OWNER. A STABLE BASE EXTENDING FROM EXISTING PAVEMENT, NOT SCHEDULED FOR RECONSTRUCTION, TO THE FIELD OFFICES SHALL BE PROVIDED FOR CLEAN ACCESS.
- WASTE DISPOSAL AND BORROW AREAS: CONCRETE RUBBLE AND EXCAVATION WASTE MATERIAL REMOVED FROM THE CONSTRUCTION AREA SHALL BE DISPOSED OF OFF THE AIRPORT PROPERTY. NO MATERIAL SHALL BE WASTED ON THE AIRPORT SITE UNLESS APPROVED BY AIRPORT OPERATIONS WASTE AND DISPOSAL AREAS SHALL BE SEEDED AND RESTORED IN A SMOOTH, GRADED AND DRAINABLE CONDITION. BORROW AREAS, IF REQUIRED, SHALL BE LOCATED AS SHOWN ON THE PLANS AND SHALL ALSO BE RESTORED IN A SMOOTH GRADED AND DRAINABLE CONDITION
- PERMITS: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AND PAY FOR ALL APPLICABLE PERMITS FOR CONSTRUCTION AND EQUIPMENT.
- EQUIPMENT TO BE REMOVED: ALL EQUIPMENT DESIGNATED AS TO BE REMOVED SHALL BE TURNED OVER TO THE AIRPORT AND USED AS SPARE INVENTORY. THE AIRPORT SHALL DESIGNATE LOCATIONS ON THE AIRPORT PROPERTY FOR THE STORAGE OF SUCH EQUIPMENT. ANY EQUIPMENT NOT REQUIRED BY THE AIRPORT SHALL BE PROPERLY DISPOSED OF OFF THE AIRPORT PROPERTY
- CONTRACTOR SHALL HAVE WATER AVAILABLE TO USE FOR SWEEPING AND CLEAN UP OPERATIONS DAILY OR AS DIRECTED BY ENGINEER. COORDINATE WITH CITY OF DULUTH FOR METER AND PAYMENT.

8. AIRPORT OPERATIONS STAFF



CONTRACTOR SHALL DESIGNATE A REPRESENTATIVE TO NOTIFY/CALL AIRPORT OPERATIONS (SRE GARAGE CELL: 218-391-5697) WHEN CONSTRUCTION OPERATIONS BEGIN AND END ON EACH WORKING DAY. AT THE END OF EACH WORKING DAY, CONTRACTOR SHALL LEAVE AN APPROPRIATE WORKFORCE TO ENSURE THE WORK AREA IS LEFT IN A CONDITION SATISFACTORY TO THE THE ENGINEER AND/OR

# GENERAL NOTES:

- 1. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL MINNESOTA'S ONE-CALL NOTIFICATION CENTER (GSOC) AT 1-800-252-1166, AND COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING AND UTILITY WORK. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY UTILITIES DAMAGED DURING CONSTRUCTION TO THE SATISFACTION OF THE UTILITY OWNER AT NO COST.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THE PLANS.
- 3. ALL WORK SHALL CONFORM TO APPLICABLE LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.
- 4. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- 5. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES. THE CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS AS SHOWN ON THE PLANS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL EXISTING AREAS, PAVEMENTS, STRUCTURES, OR OTHER FACILITIES DAMAGED DURING CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER CONDITION AT NO COST TO THE OWNER.
- 7. THE CONTRACTOR SHALL REMOVE ALL DEBRIS RESULTING FROM WORK UNDER THIS CONTRACT TO AN APPROVED OFF-AIRPORT DUMP SITE.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE OWNER'S REPRESENTATIVE WITH REDLINED PLANS AND AS-BUILT SURVEYS, CERTIFIED BY A PROFESSIONAL LAND SURVEYOR IN THE STATE OF MINNESOTA.
- 9. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING.

## SECURITY NOTES:

- 1. <u>GENERAL INTENT:</u> IT IS INTENDED THAT THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN BY AIRPORT OPERATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF THEIR "CONTRACTOR SECURITY AND SAFETY OFFICER (CSSO)." THE CSSO SHALL BE AN EMPLOYEE OF THE CONTRACTOR AND REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT.
- 2. <u>CONTRACTOR PERSONNEL SECURITY ORIENTATION:</u> THE CSSO SHALL BE RESPONSIBLE FOR SCHEDULING ALL TRAINING REQUIRED FOR CONTRACTOR AND SUBCONTRACTOR PERSONNEL INTENDING TO WORK ON THE SITE. ALL SECURITY REQUIREMENTS WILL BE INCORPORATED INTO A SECURITY PLAN DEVELOPED BY THE CONTRACTOR AND APPROVED BY AIRPORT OPERATIONS. ALL CONTRACTOR EMPLOYEES SHALL BE BRIEFED ON SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA. THE AIRPORT SHALL BRIEF AND/OR TRAIN CONSTRUCTION RELATED VEHICLE EQUIPMENT DRIVERS ON OPERATIONS WITHIN AN AIRPORT/AIRCRAFT ENVIRONMENT. AIRPORT MANAGEMENT SHALL PROVIDE PRINTED MATERIAL TO THE CONTRACTOR THAT DEPICTS HAUL ROUTES, PROHIBITED MOVEMENT AREAS, AND DESCRIBE THE CONSEQUENCES FOR NON-COMPLIANCE WITH ESTABLISHED PROCEDURES. THE AIRPORT HAS IMPLEMENTED A ZERO-TOLERANCE APPROACH TO DRIVING VIOLATIONS.
- 3. <u>PERSONNEL SECURITY FIRM</u>: THE CONTRACTOR IS REQUIRED TO HIRE PROFESSIONAL SECURITY FOR THE PROJECT. THE SECURITY FIRM SHALL PROVIDE GATE GUARDS ANYTIME ACCESS GATES TO THE AIRFIELD ARE UNLOCKED AND IN USE. THE SECURITY FIRM WILL ALSO PERFORM ROUTINE SEARCHES OF DELIVERIES IN ACCORDANCE WITH AIRPORT SECURITY PROCEDURES. THE CONTRACTOR IS REQUIRED TO RECEIVE AIRPORT AUTHORITY APPROVAL ON SELECTION OF SECURITY FIRM.
- 4. IDENTIFICATION EMPLOYEES: CONSTRUCTION PERSONNEL ON SITE FOR MORE THAN 5 DAYS (CONTRACTOR AND SUBCONTRACTORS) ARE REQUIRED TO BE BADGED. THE CSSO SHALL BE RESPONSIBLE FOR COORDINATING AND COMPLETING ALL NECESSARY DOCUMENTATION FOR BADGING. AS A REQUIREMENT OF BADGING, EACH EMPLOYEE SHALL ATTEND SAFETY AND SECURITY TRAINING AS CONDUCTED BY OPERATIONS. TRAINING WILL TAKE APPROXIMATELY TWO HOURS. BADGE APPLICATION AND PROCESSING WILL TAKE APPROXIMATELY ONE HOUR. BADGES FOR CONSTRUCTION PERSONNEL REQUIRE A FEE OF \$175 PER BADGE. ALL BADGES MUST BE RETURNED TO THE AIRPORT AFTER PROJECT COMPLETION. FINAL PAYMENT WILL NOT BE MADE TO THE CONTRACTOR UNTIL ALL BADGES HAVE BEEN RETURNED. LOST BADGES RESULT IN A \$200 PENALTY. ALL CONSTRUCTION PERSONNEL SHALL COMPLETE BADGE APPLICATION AND TRAINING AT LEAST SIX WEEKS PRIOR TO NOTICE TO PROCEED. DAILY OPERATIONS SHALL INCLUDE TURNING IN BADGES AT THE END OF THE WORKDAY AND CHECKING OUT THE BADGES AT THE BEGINNING OF THE NEXT WORK DAY. THE PROFESSIONAL SECURITY FIRM SHALL HANDLE THE BADGE CHECK IN/CHECK OUT PROCESS. IN THE RARE EXCEPTION AN EMPLOYEE IS NOT BADGED, THE CONTRACTOR SHALL PROVIDE AN ESCORT FOR THE UNBADGED EMPLOYEE. THE ESCORT CANNOT PERFORM ANY OTHER WORK WHILE ESCORTING AND SCORT UP TO FIVE PEOPLE MAXIMUM. ESCORT MUST BE WITHIN EARSHOT OF ALL PEOPLE BEING ESCORTED.
- 5. <u>IDENTIFICATION VEHICLES:</u> THE CONTRACTOR, THROUGH THE CSSO, SHALL ESTABLISH AND MAINTAIN A LIST OF CONTRACTOR AND SUBCONTRACTOR VEHICLES AUTHORIZED TO OPERATE ON THE SITE OR DELIVER TO THE SITE. THE LIST MAY BE UPDATED, AS NEEDED, TO ACCOUNT FOR DIFFERENT OPERATIONAL COMPONENTS OF THE WORK.
- 6. <u>SECURE ACCESS TO THE AIRFIELD:</u> CONTRACTOR ACCESS TO THE SITE SHALL BE SHOWN ON THE PLANS. NO OTHER ACCESS POINTS SHALL BE ALLOWED UNLESS APPROVED BY AIRPORT OPERATIONS. ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE SITE SHALL BE BADGED EMPLOYEES OR ESCORTED BY BADGED CONTRACTOR PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE. THE SELECTED PROFESSIONAL SECURITY FIRM SHALL BE RESPONSIBLE FOR THE OPERATION AND SECURITY OF THE ACCESS GATES TO THE SITE. NO UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC SHALL BE ALLOWED WITHIN THE AIRPORT SECURITY FENCE. ACCESS GATES TO THE SITE SHALL BE LOCKED AND SECURED AT ALL TIMES WHEN NOT ATTENDED BY THE PROFESSIONAL SECURITY FIRM. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS DEPOSITED ALONG THE ACCESS ROUTE AS A RESULT OF CONSTRUCTION TRAFFIC. DIRECTIONAL SIGNING FROM THE ACCESS GATE ALONG THE DELIVERY ROUTE TO THE STORAGE AREA, PLANT SITE, OR WORK SITE SHALL BE AS DIRECTED BY AIRPORT OPERATIONS. CONTRACTOR SHALL PROVIDE VISUAL CUES TO DELINEATE THE WORK AREAS. ADDITIONAL BARRELS/BARRICADES, AND SIGNAGE MAY BE REQUIRED TO CONTAIN EMPLOYEES WITHIN THE WORK AREA, AT NO ADDITIONAL COST TO THE CONTRACT.

- 7. COSTS ASSOCIATED WITH SECURITY: ALL COSTS ASSOCIATED WITH SECURITY ARE ASSOCIATED WITH THE TRAFFIC PROVISIONS/AIRPORT SECURITY & DEVICES/PHASING ITEM AS A LUMP SUM.
- 8. <u>CONSTRUCTION RADIO CAR OPERATOR (CRCO):</u> A CONSTRUCTION RADIO CAR WILL BE REQUIRED TO ESCORT TRAFFIC ACROSS THE TOWER RAMP. WHENEVER CONTRACTOR VEHICLES ARE CROSSING, THE ESCORT MUST BE PRESENT AND PERFORMING ESCORTING DUTIES. ESCORT TO BE FAMILIAR WITH AIRPORT OPERATIONS AND RECEIVE 1-HOUR OF TRAINING FROM DAA.
- 9. MATERIAL DELIVERED TO THE SITE: ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE SITE WILL USE AS A DELIVERY ADDRESS THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING SITE AT THE AIRPORT. THE NAME "DULUTH INTERNATIONAL AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. THIS WILL PRECLUDE DELIVERY TRUCKS FROM ENTERING INTO THE TERMINAL COMPLEX, OR TAKING SHORT CUTS THROUGH THE PERIMETER GATES AND ENTERING INTO AIRCRAFT OPERATIONAL AREAS INAPPROPRIATELY.
- 10. <u>FINES:</u> PAYMENT OF ALL FINES ASSESSED TO DULUTH INTERNATIONAL AIRPORT DUE TO VIOLATIONS BY THE CONTRACTOR OF FAA, TSA, OR AIRFIELD SECURITY AND SAFETY REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 10.1. IF THE RESTRICTED AREA GATE IS FOUND TO BE OPEN OR UNLOCKED AND UNATTENDED, AIRPORT SECURITY POLICE AND/OR TSA MAY ISSUE THE CONTRACTOR A CITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COURT COSTS AND IMPOSED FINES. IN ADDITION, AN UP TO \$10,000.00 CHARGE MAY BE LEVIED BY THE DULUTH AIRPORT AUTHORITY AND/OR TSA FOR EACH VIOLATION SO DOCUMENTED. ALL FINES AND CHARGES SHALL BE DEDUCTED FROM FINAL PAYMENT TO THE CONTRACTOR IF FINES ARE NOT PAID WHEN DUE.
- 10.2. IN THE EVENT THE CONTRACTOR DEVIATED FROM THE IDENTIFIED CONSTRUCTION LIMITS OR DESIGNATED HAUL ROUTES ONTO ACTIVE RUNWAY, TAXIWAY, OR SAFETY AREA, THE CONTRACTOR WILL BE FINED \$1,000.00 PER OCCURRENCE. ALL FINES AND CHARGES SHALL BE DEDUCTED FROM FINAL PAYMENT DUE TO THE CONTRACTOR IF FINES ARE NOT PAID WHEN DUE.

## EARTHWORK SUMMARY & NOTES:

- 1. STRIPPING, ON SITE STOCKPILING AND PLACING OF STRIPPED AND SALVAGED TOPSOIL WILL BE PAID FOR UNDER COMMON EXCAVATION.
- 2. EXCAVATION OR FIELD GRADING QUANTITIES OUTSIDE OF THE GRADING LIMITS SHALL BE DETERMINED QUANTITIES FROM A TOPOGRAPHIC SURVEY FROM BEFORE & AFTER THE WORK. THE SURVEY DATA COMPLETED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER.
- 3. UNCLASSIFIED EXCAVATION QUANTITIES ARE ESTIMATES ONLY. QUANTITIES FOR PAYMENT MUST BE JUSTIFIED FROM A TOPOGRAPHIC SURVEY FROM BEFORE & AFTER THE WORK. THE SURVEY DATA SHALL BE SUBMITTED TO THE ENGINEER.
- 4. SEE SHEET G0.46 & G0.47 FOR THE EARTHWORK SUMMARY AND NOTES.

## SEQ NOTES (FOR REFERENCE ONLY):

- 1. ALL BITUMINOUS PAVING COURSES CALCULATED A (115 LB/SY·IN)
- 2. ALL BITUMINOUS TACK COAT CALCULATED AT 0.05 GAL/SY
- 3. REFLECTIVE MEDIA CALCULATED AT 115 SF/GAL AND 7 LBS/GAL



		STATEMENT OF ES		IED QU	ANTITIES	)						STATEMENT OF ES	STIMA	TE
				ESTI	MATED QUAN	ΙΤΙΤΙΥ	F	INAL QUANITT	Y					
INE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	AIP ELIGIBLE FUNDING	AIP INELIGIBLE FUNDING	TOTAL	AIP ELIGIBLE FUNDING	AIP INELIGIBLE FUNDING	TOTAL	LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	EL
CHE	DULE A - TA	XIWAY A RECONSTRUCTION, PHASE 2 (BASE BID)								SCHEL	₩₽₽₽₽	xiwax a reconstruction rhase 2 (base bid)	<u> </u>	$\sim$
1	40-05	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1	0	1				$\langle \Box \rangle$		TEMPORARILY REMOVE RUNWAY LIGHT FIXTURE, BASE		
2	40-08	RESTORATION OF BATCH PLANT AND CONTRACTOR STORAGE AREAS	LS	1	0	1				<b>4</b> 6	L-125-5.8	AND REPLACE LIGHT FIXTURE ON NEW BASE CAN WITH NEW ISOLATION TRANSFORMER IN LATER PHASE	EA	
3	50-06	CONSTRUCTION LAYOUT & STAKING	LS	1	0	1				47	P-101-5.1	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	<u>₩</u>	卢
4	60-05		LS	1	0	1				48	P-101-5.2	REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)	SY	T
5	70-08	DEVICES/PHASING	LS	1	0	1				49	P-101-5.3	MILL BITUMINOUS PAVEMENT (DEPTH VARIES)	SY	
6	70-10	ORANGE CONSTRUCTION FENCE	LF	2,250	0	2,250				50	P-101-5.4	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	╞
	02 41 35	REMOVE PAVEMENT MARKING BY WATER BLASTING	SF	440	0	440				51	P-101-5.5		SY LF	┢
3	02 41 35		SF	35	0	35				52	P-101-5.6			┢
9 0	32 12 10 C-100	CONTRACTOR QUALITY CONTROL PROGRAM (COCP)		3,045	740 0	3,765				54	P-101-5.8			┢
	0-100	ROCK CONSTRUCTION ENTRANCE (INCLUDES			0	-				55	P-101-5.9	REMOVE DRAIN TILE	LF	┢
1	C-102-5.1	MAINTENANCE AND REMOVAL)	EA	2	0	2				56	P-152-5.1	COMMON EXCAVATION (EV)	CY	
2	C-102-5.2	SILT FENCE, TYPE PREASSEMBLED (INCLUDES	LF	17,400	0	17,400				57	P-152-5.2	UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES	СҮ	Γ
2	0 400 5 0	FILTER LOG, TYPE WOOD FIBER BIOROLL (INCLUDES		2 200		2 200				58	P-152-5.3	SUBGRADE PROOF ROLLING) MUCK EXCAVATION (EV)	CY	┢
3	C-102-5.3	MAINTENANCE AND REMOVAL)		2,200	0	2,200				50	D 450 5 4	SUBGRADE PREPARATION (INCLUDES SUBGRADE PROOF		t
4	C-102-5.4	EROSION CONTROL BLANKET, CATEGORY 3N (WOOD FIBER HV) (INCLUDES MAINTENANCE)	SY	1,200	0	1,200				59	P-152-5.4	ROLLING)	SY	L
	0 400 5 5	INLET PROTECTION, TYPE B (INCLUDES MAINTENANCE AND	<b>F</b> A	04		04				60	P-152-5.5		CY	╞
15	C-102-5.5	REMOVAL)	EA	31	0	31				61	P-154-5.1			┢
16	C-105	MOBILIZATION	LS	1	0	1				63	P-209-5 1	CRUSHED AGGREGATE BASE COURSE (CV)		┢
17	D-701-5.1	12IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	26	0	26				64	P-403-8.1	BITUMINOUS SURFACE COURSE	TON	┢
18	D-701-5.2	18IN REINFORCED CONCRETE PIPE (RCP), CLASS III		247	0	247				65	P-403-8.2	BITUMINOUS BASE COURSE	TON	┢
20	D-701-5.5	36IN REINFORCED CONCRETE PIPE (RCP), CLASS III		970 277	0	970 277				66	P-501-8.4	CEMENT CONCRETE PAVEMENT, 13"	SY	
20	D-701-3.3	DRAIN TILE (6" PERFORATED. INCLUDING TRENCH.		211	0	211				67	P-501-8.5	CEMENT CONCRETE PAVEMENT, REINFORCED 13"	SY	
21	D-705-5.1	BACKFILL, FABRIC)	LF	2,920	0	2,920				68	P-603-5.1	BITUMINOUS TACK COAT	GAL	
22	D-705-5.2	DRAIN TILE (6" SDR35 PVC PIPE, INCLUDING TRENCH, BACKEILL FABRIC)	LF	995	0	995				69	P-604-6.1	COMPRESSION JOINT SEALS FOR CONCRETE		
23	D-751-5.1	DRAIN THE ACCESS/INSPECTION PIT	EA	13	0	13				70	P-605-5.1			┢
4	D-751-5.2	48IN DIA MANHOLE / CATCH BASIN	EA	7	0	7				71	P-020-5.1			┢
5	D-751-5.3	60IN DIA MANHOLE / CATCH BASIN	EA	3	0	3				73	T-901-5.1	SEEDING (INCLUDING FERTILIZER)	ACRE	┢
6	D-751-5.5	84IN DIA MANHOLE / CATCH BASIN	EA	1	0	1				74	T-905-5.1	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	⊢
27	D-751-5.6	96IN DIA MANHOLE / CATCH BASIN	EA		$\sim$					75	T-908-5.1	HYDROMULCHING	ACRE	$\square$
8	F-162-5.1		EA	2	0	2	<u>}</u>			050	NOTEO			
9	L-108-5.1	BANK OR CONDUIT	LF	67,500	0	67,500	2			SEQ	NOTES	- SCHEDULE A		eur
D	L-108-5.2	NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS, GROUND RODS AND GROUND CONNECTORS	LF	8,680	0	8,680	}			ITEM 1 ITEM 1	CONDITIO 6: MOBILIZA 6: FURNISH	DNS OR BETTER, AS APPROVED BY ENGINEER. TION SHALL BE LIMITED TO 10-PERCENT OF THE TOTAL PROJECTING, INSTALLATION, AND REMOVAL OF ELECTRICAL JUMPERS R		
31	L-108-5.5	100-PR PE-39 TELEPHONE CABLE	LF	10,080	0	10,080	$\mathbf{i}$				TO THE V	VORK OF MOBILIZATION.		
2	L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 2-INCH, PVC	LF	4,000	0	4,000	3			ITEMS	17-27: CON 1 <sup>.</sup> DRAIN TI	NECT TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN TILE F PAY ITEM IS TO INCLUDE TRENCHING BACKFILL MATERIAL P	E, INSPE	) FA
33	L-110-5.2	CONCRETE ENCASED ELECTRICAL CONDUIT, 2-WAY 2-INCH, PVC SCHEDUI E 40	LF	400	0	400	Ś			ITEM 2	2: DRAIN TI 8: BID ITEM	LE PAY ITEM IS TO INCLUDE TRENCHING, BACKFILL MATERIAL, P SHALL INCLUDE FURNISHING AND INSTALLING DOUBLE SWING (	IPE, AND	) FA
							K					ATED IN THE CONSTRUCTION DOCUMENTS. REMOVAL OF EXIST	TING SW	NG
34	L-110-5.4	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40	LF	700	0	700	В				AS INDIC THIS WO	RK.		
34 35	L-110-5.4 L-110-5.5	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE	LF EA	700 20	0	700 20	}			ITEMS	AS INDIC THIS WO 29-46: NO F	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE (	DF QUAN	TIT
4 5 6	L-110-5.4 L-110-5.5 L-110-5.8	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH,	LF EA LF	700 20 1,350	0 0 0	700 20 1,350	} } }			ITEMS	AS INDIC THIS WO 29-46: NO F SPECIFIC	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE	OF QUAN	ITIT IE (
4 5 6 7	L-110-5.4 L-110-5.5 L-110-5.8	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 DRECASE AIRCRAFE RATED ELECTRICAL MANHOLE	LF EA LF	700 20 1,350 7	0 0 0	700 20 1,350 7	} } }			ITEMS	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRA	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF TOR	OF QUAN SURE Tŀ ₹ PLANS.	ITIT IE ( RE
34 35 36 37	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE	LF EA LF EA	700 20 1,350 7	0 0 0	700 20 1,350 7	} } } }			ITEMS ITEM 4 ITEM 5	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRA 6-58: SEE E	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF CTOR. ARTHWORK SUMMARY ON SHEET G0.44.	OF QUAN SURE TH R PLANS.	ITIT IE C RE
34 35 36 37 38	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED	LF EA LF EA EA	700 20 1,350 7 3	0 0 0 0 0	700 20 1,350 7 3	<u>}</u>			ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRA 6-58: SEE E 0: SEE EAR 4: ALL ON-S	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF CTOR. ARTHWORK SUMMARY ON SHEET G0.44. THWORK SUMMARY ON SHEET G0.44. ITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN	OF QUAN SURE TH R PLANS.	ITIT HE C RE
4 5 6 7 8 9	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2 L-115-5.3	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED GRADE AND INSTALL NEW CASTING	LF EA EA EA EA	700 20 1,350 7 3 1	0 0 0 0 0 0	700 20 1,350 7 3 1				ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRAI 6-58: SEE E 0: SEE EAR 4: ALL ON-S BORROW	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF CTOR. ARTHWORK SUMMARY ON SHEET G0.44. THWORK SUMMARY ON SHEET G0.44. ITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SUM	OF QUAN SURE TH R PLANS.	ITIT HE C REI L B
4 5 7 8 9 0	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2 L-115-5.3 L-125-5.1	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED GRADE AND INSTALL NEW CASTING REMOVAL OF EXISTING TAXIWAY EDGE LIGHT FIXTURES AND SIGNS, INCLUDING BASE CAN, ISOLATION TRANSFORMER, SIGN FOUNDATION, CONDUIT, AND WIRE	LF EA EA EA LS	700 20 1,350 7 3 1 1	0 0 0 0 0 0	700 20 1,350 7 3 1 1				ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7 GENEF	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRA 6-58: SEE E 0: SEE EAR 4: ALL ON-S BORROW RAL: TEMPC	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF CTOR. ARTHWORK SUMMARY ON SHEET G0.44. THWORK SUMMARY ON SHEET G0.44. ITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SUM IRARY SANITARY FACILITIES, WATER FOR DUST CONTROL, TEMP	OF QUAN SURE TH R PLANS.	
34 35 36 37 38 39 40 41	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2 L-115-5.3 L-125-5.1 L-125-5.2	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED GRADE AND INSTALL NEW CASTING REMOVAL OF EXISTING TAXIWAY EDGE LIGHT FIXTURES AND SIGNS, INCLUDING BASE CAN, ISOLATION TRANSFORMER, SIGN FOUNDATION, CONDUIT, AND WIRE L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURES, TRANSFORMER, AND BASE CAN)	LF EA EA EA LS EA	700 20 1,350 7 3 1 1 39	0 0 0 0 0 0	700 20 1,350 7 3 1 1 39				ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7 GENEF	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRAM 6-58: SEE E 6-58: SEE EAR 4: ALL ON-S BORROW RAL: TEMPC	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PER CTOR. ARTHWORK SUMMARY ON SHEET G0.44. ITWORK SUMMARY ON SHEET G0.44. ITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SUM RARY SANITARY FACILITIES, WATER FOR DUST CONTROL, TEMP	OF QUAN SURE TH R PLANS.	LLB NSI WA
34 35 36 37 38 39 40 41 41 42	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2 L-125-5.1 L-125-5.2 L-125-5.3	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED GRADE AND INSTALL NEW CASTING REMOVAL OF EXISTING TAXIWAY EDGE LIGHT FIXTURES AND SIGNS, INCLUDING BASE CAN, ISOLATION TRANSFORMER, SIGN FOUNDATION, AND WIRE L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURES, TRANSFORMER, AND BASE CAN) L-858(L) GUIDANCE SIGN, SIZE 2, INCLUDING FOUNDATION, ISOLATION TRANSFORMER, WIRE, BASE CAN, AND CONDUIT	LF EA EA EA LS EA EA	700 20 1,350 7 3 1 1 1 39 6	0 0 0 0 0 0 0	700 20 1,350 7 3 1 1 1 39 6				ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7 GENEF	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRA 6-58: SEE E BORROW RAL: TEMPC	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PER CTOR. ARTHWORK SUMMARY ON SHEET G0.44. ITHWORK SUMMARY ON SHEET G0.44. ITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SUM RARY SANITARY FACILITIES, WATER FOR DUST CONTROL, TEMP	OF QUAN SURE TH R PLANS.	
34 35 36 37 38 39 40 41 12 13	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2 L-125-5.1 L-125-5.2 L-125-5.2 L-125-5.3 L-125-5.3	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED GRADE AND INSTALL NEW CASTING REMOVAL OF EXISTING TAXIWAY EDGE LIGHT FIXTURES AND SIGNS, INCLUDING BASE CAN, ISOLATION TRANSFORMER, SIGN FOUNDATION, CONDUIT, AND WIRE L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURES, TRANSFORMER, AND BASE CAN) L-858(L) GUIDANCE SIGN, SIZE 2, INCLUDING FOUNDATION, ISOLATION TRANSFORMER, WIRE, BASE CAN, AND CONDUIT L-829 4KW CONSTANT CURRENT REGULATOR	LF EA EA EA LS EA EA EA	700 20 1,350 7 3 1 1 1 39 6 1	0 0 0 0 0 0 0 0	700 20 1,350 7 3 1 1 39 6 1				ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7 GENEF	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRAM 6-58: SEE E 0: SEE EAR 4: ALL ON-S BORROW RAL: TEMPC	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF CTOR. ARTHWORK SUMMARY ON SHEET G0.44. ITWORK SUMMARY ON SHEET G0.44. ITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SUM RARY SANITARY FACILITIES, WATER FOR DUST CONTROL, TEMP	OF QUAN SURE TH R PLANS.	
34 35 36 37 38 39 40 41 41 42 13 14	L-110-5.4 L-110-5.5 L-110-5.8 L-115-5.1 L-115-5.2 L-115-5.3 L-125-5.2 L-125-5.3 L-125-5.4 L-125-5.4 L-125-5.5	CONCRETE ENCASED ELECTRICAL CONDUIT, 8-WAY 4-INCH, PVC SCHEDULE 40 DRAIN LINE CONNECTION TO STORM STRUCTURE CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 4-INCH, PVC SCHEDULE 40 PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE L-867 BASE CAN WITH BLANK COVER USED AS A SPLICE CAN ADJUST EXISTING FAA ELECTRICAL MANHOLE TO FINISHED GRADE AND INSTALL NEW CASTING REMOVAL OF EXISTING TAXIWAY EDGE LIGHT FIXTURES AND SIGNS, INCLUDING BASE CAN, ISOLATION TRANSFORMER, SIGN FOUNDATION, CONDUIT, AND WIRE L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURES, TRANSFORMER, AND BASE CAN) L-858(L) GUIDANCE SIGN, SIZE 2, INCLUDING FOUNDATION, ISOLATION TRANSFORMER, WIRE, BASE CAN, AND CONDUIT L-829 4KW CONSTANT CURRENT REGULATOR L-829 7.5KW CONSTANT CURRENT REGULATOR	LF EA EA EA LS EA EA EA	700 20 1,350 7 3 1 1 39 6 1 1 2	0 0 0 0 0 0 0 0 0 0 0 0 0	700 20 1,350 7 3 1 1 39 6 1 1 2				ITEMS ITEM 4 ITEM 5 ITEM 6 ITEM 7 GENEF	AS INDIC THIS WO 29-46: NO F SPECIFIC 8: 50 DUMP CONTRAI 6-58: SEE E 0: SEE EAR 4: ALL ON-S BORROW RAL: TEMPC	RK. RICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAGE ( ALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PEF CTOR. ARTHWORK SUMMARY ON SHEET G0.44. THWORK SUMMARY ON SHEET G0.44. TITE STRIPPING, SALVAGING, REPLACING AND SPREADING QUAN (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SUM RARY SANITARY FACILITIES, WATER FOR DUST CONTROL, TEMP	OF QUAN SURE TH R PLANS.	ITIT HE ( RE

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SOCIAT	ED HARDWA	RE, ADJACE AND CONCF	NT FENCING, A RETE FOOTING	ND CONCRETE S SHALL BE INC	E FOOTINGS	55102/167744 A6901-205 ULY 13, 2022  (SEH)
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						SHEET TITLE STATEMENT OF ESTIMATED QUANTITIES - SCHEDULE A
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$\left\{ \right\}$	LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	AIP ELIGIBLE FUNDING	AIP INELIGIBLE FUNDING	TOTAL	AIP ELIGIBLE FUNDING	AIP INELIGIBLE FUNDING	TOTAL	LINE NO.	ITEM NO	D. ITEM DESCRIPTION	UNIT	ELI FUI
ł	SCHE	DULE C - TA	XIWAY A RECONSTRUCTION, PHASE 4 (BASE BID)								176	P-152-5	.3 MUCK EXCAVATION (EV)	CY	
(	129	40-05	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1	0	1				177	P-152-5	.4 SUBGRADE PREPARATION (INCLUDES SUBGRADE PROOF	SY	15
\$	130	40-08	STORAGE AREAS	LS	1	0	1				178	P-152-5	.5 ROCK EXCAVATION	CY	<u> </u>
<pre>{</pre>	131	50-06	CONSTRUCTION LAYOUT & STAKING	LS	1	0	1				179	P-152-5	.6 DRAINAGE EXCAVATION	CY	
}	132	70-08	TRAFFIC PROVISIONS/AIRPORT SECURITY &	LS	1	0	1				180	P-154-5	.1 GRANULAR BORROW (CV)	CY	7
(	133	70-10	ORANGE CONSTRUCTION FENCE	LF	1,000	0	1,000				181	P-154-5	.2 GEOTEXTILE FABRIC, TYPE V	SY	15
<b>、(</b>	134	024135	REMOVE PAVEMENT MARKING BY WATER BLASTING	SF	1,000	0	1,000				182	P-154-5	.3 REGRAVELING, 2" THICKNESS	SY	2
⊵∖≬	135	2511.507	RANDOM RIP RAP CLASS 2	CY	475	0	475				183	P-209-5	1 CEMENT CONCRETE PAVEMENT 6"	SY	2
Þ	136	2511.508		CY	16	0	16				185	P-501-8	.2 CEMENT CONCRETE PAVEMENT, 12"	SY	12
R	137	2545.502	ARM, AND (1) 30' POLE	EA	3	0	3				186	P-501-8	.3 CEMENT CONCRETE PAVEMENT, REINFORCED 12"	SY	
6	138	2545.503	RAISED LIGHT FOUNDATION	EA	3	0	3				187	P-603-5	1 BITUMINOUS TACK COAT	GAL	(
Þ	139	2545.504	5" NON METALLIC CONDUIT	LF	750	0	750				188	P-604-6	1 COMPRESSION JOINT SEALS FOR CONCRETE	LF	16
()	140	2545.505	UNDERGROUND WIRE 1/C 6 AWG (CU)	LF	1,350	0	1,350				189	P-605-5			1,
X	141	2545.506	UNDERGROUND #8 WIRE	LF	750	0	750				190	P-610-6	12" CONCRETE CURB		9
ß	142	2545.507	EXISTING SERVICE PANEL MODIFICATION	EA	1	0	1				192	P-620-5	2 REFLECTIVE MEDIA	LB	
X	143	2575.504	MAINTENANCE)	SY	5,375	0	5,375				193	T-901-5	.1 SEEDING (INCLUDING FERTILIZER)	ACRE	
}	144	-32 12 16	PLANT-MIXED ASPHALT PAVEMENT	TON	3,750	0	3,750				194	T-905-5	1 SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	
{	145	C-100	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1	0	1				195	T-908-5	1 HYDROMULCHING	ACRE	
(	146	C-102-5.1	ROCK CONSTRUCTION ENTRANCE (INCLUDES MAINTENANCE AND REMOVAL)	EA	1	0	1				SEC		S - SCHEDULE C		
- {	147	C 102 E 2	SILT FENCE, TYPE PREASSEMBLED (INCLUDES		1 375	0	4 375				ITEM	130: RES	TORATION INCLUDES GRADING, TURF ESTABLISHMENT, AND ANY C	)THER M	EASU
}	147	C-102-5.2			4,375	0	4,373					CON	DITIONS OR BETTER, AS APPROVED BY ENGINEER.		-
{	148	C-102-5.5	REMOVAL)	EA	16	0	16				ITEM	149: MOB 149: FURI	VISHING, INSTALLATION, AND REMOVAL OF ELECTRICAL JUMPERS	REQUIRE	T. ED FC
(	149	C-105	MOBILIZATION	LS	1	0	1					INCI	DENTAL TO THE WORK OF MOBILIZATION.		
- {	150	D-701-5.2	18IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	710	0	710				ITEM	S 150-157:	CONNECT TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN T	ILE, INSF	PECT
}	151	D-701-5.3	24IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	240	0	240				ITEM	S 158-167:	NO PRICE ADJUSTMENT WILL BE MADE BASED UPON PERCENTAG	E OF QU	ANTI
2	152	D-701-5.4	30IN REINFORCED CONCRETE PIPE (RCP), CLASS III	LF	577	0	577						FICALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO MAKE	SURE TH	
(	153	D-701-5.6	GUARD, CLASS III	EA	1	0	1				ITEM	169: 50 DI	JMP TRUCK LOADS OF MILLINGS ARE TO BE SALVAGED ON SITE PE TRACTOR	ER PLAÑS	3. RE
- {	154	D-705-5.1	DRAIN TILE (6" PERFORATED, INCLUDING TRENCH,	LF	110	0	110				ITEM	174-176: \$	SEE EARTHWORK SUMMARY ON SHEET G0.46.		
}	155	D 751 5 2			7	-	7				ITEM	178-179: \$	SEE EARTHWORK SUMMARY ON SHEET G0.46.	-	
{	155	D-751-5.2	48IN DIA MANHOLE / CATCH BASIN 60IN DIA MANHOLE / CATCH BASIN	EA	2	0	2				ITEM	193: NOTI 194: ALL (	E SEEDING AT BIO-RETENTION AREA REQUIRED A DIFFERENT SEEL	) MIX TH/ ANTITY W	AN CI /ILL E
(	157	D-751-5.4	72IN DIA MANHOLE / CATCH BASIN	EA	3	0	3					BOR	ROW (OBTAINED OFF-SITE) ITEM BEING PAID. SEE EARTHWORK SU	IMMARY	ON S
<b>}</b>	158	L-108-5.1	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN DUCT	LF	18,500	0	18,500				GEN	ERAL: TEN	IPORARY SANITARY FACILITIES, WATER FOR DUST CONTROL, TEM	PORARY	WAT
$\left\{ \right\}$	159	L-108-5.2	BANK OR CONDULT NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS, CEPOLIND PODS	LF	950	0	950				}				
shko			AND GROUND CONNECTORS								}				
aandra	160	L-108-5.3	1/C #4/0 15KV CONCENTRIC NEUTRAL CABLE, INSTALLED IN DUCT BANK OR CONDUIT	LF	945	0	945				Ş				
:12 PN	161	L-108-5.4	1/C #4 5KV UNSHIELDED XLP MV-90 CABLE, INSTALLED IN DUCT BANK OR CONDUIT	LF	1,000	0	1,000				5				
3/2/2022 12	162	L-110-5.3	CONCRETE ENCASED ELECTRICAL CONDUIT, 6-WAY 6-INCH, PVC SCHEDULE 40 WITH FOUR 3-CELL TEXTILE/FABRIC INNERDUCTS IN EACH OF FOUR DUCTS	LF	300	0	300				}				
dwg	163	L-110-5.5	DRAIN LINE CONNECTION TO STORM STRUCTURE	EA	4	0	4				{				
2 an	164	L-110-5.6	CONCRETE ENCASED ELECTRICAL CONDUIT, 4-WAY 4-INCH, PVC SCHEDULE 40	LF	315	0	315				Ş				
+1651(	165	L-110-5.7	CONCRETE ENCASED ELECTRICAL CONDUIT, 2-WAY 6-INCH, PVC SCHEDULE 40	LF	330	0	330				}				
	166	L-115-5.1	PRECAST AIRCRAFT-RATED ELECTRICAL MANHOLE	EA	4	0	4				)				
on/Plan	167	L-125-5.9	CONDUIT, AND WIRE	LS	1	0	1				}				
viatio	168	P-101-5.1	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	200	0	200				5				
s/65-4	169	P-101-5.2		SY	4,140	0	4,140				ζ				
wing	170	P-101-5.3		SY	105	0	105				$\langle$				
51-dra	172	P-101-5.4	REMOVE STORM PIPE	I F	715	0	715				{				
lsgn/f	173	P-101-5.7	REMOVE STORM STRUCTURE	EA	7	0	7	1			5				
final-c	174	P-152-5.1	COMMON EXCAVATION (EV)	CY	21,350	0	21,350				5				
5102\5-	175	P-152-5.2	UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES SUBGRADE PROOF ROLLING)	CY	150	0	150				}				
41/16											5				

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						ET TITLE ATEMENT OF TIMATED ANTIFIES - HEDULE C Stort Elliot Hendrekson, Inc. a) (2011) DESIGNED BY DRAWN BY Stort Elliot Hendrekson, Inc. a) (2011) DESIGNED BY Stort Elliot Hendrekson, Inc. a) (2011) MARK - RAWN BY Stort Elliot Hendrekson, Inc. a) (2011) MARK - RAWN BY Stort Elliot Hendrekson, Inc. a) (2011) MARK - RAWN BY Stort Elliot Hendrekson, Inc. a) (2011)
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