

CITY OF DULUTH

PURCHASING DIVISION Room 120 City Hall 411 West First Street Duluth, Minnesota 55802-1199 218/730-5340 purchasing@duluthmn.gov

## Addendum 1 Bid No. 18-16AA File # 1717 Project: Duluth Seaway Port Expansion

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

# Bid Form:

Pay item **2118.601 Temporary Aggregate Surfacing** was added to the Bid Form (Exhibit A). **Replace Exhibit A with the attached Exhibit A.** 

# Specifications:

SP-21 has been revised as follows:

Add paragraph: SP A.1 Interim Completion: All removals, watermain, storm sewer, and rail extension work shall be completed by December 31<sup>st</sup>, 2018.

SP-38 has been revised as follows:

Replace Paragraph SP-38.2 with the following: **Track ties will be minimum 7"x9"x8'6" size new Industrial Grade and treated per AREMA specifications.** 

SP-38 has been revised as follows:

- 1. Replace Paragraph SP-38.2 with the following: **Track ties will be minimum 7"x9"x8'6" size new Industrial Grade and treated per AREMA specifications.**
- 2. Replace Paragraph SP-38.13 with the following: Rail shall be fastened to the crossties using elastic fasteners, type Pandorl E Clip, where Pandrol tie plates are used.
- 3. Replace Paragraph SP-38.15 with the following: **Rail anchors shall be boxed every fourth track tie in tangent track areas.**
- 4. Remove the last sentence from section SP-38.16.

SP-39 has been revised as follows:

Paragraph SP-39.2: Change "Type SP 9.5 Wearing Course" to "TYPE SP 12.5 Wearing Course".

Specification Section **SP-47 TERMINAL HIGH MAST LIGHTING** has been added and is attached to this addendum.

Plan Sheets:

Plan Sheets 2, 3, 11, 16, 35 and 36 have been revised. **Remove these sheets and replace with the attached revised sheets 2, 3, 11, 16, 35 and 36.** 

Please acknowledge receipt of this Addendum by initialing and dating Addendum #1 below the bid form on the invitation for bids. (Or if no place to initial on the bid form, acknowledge receipt of this Addendum by returning it with your bid.)

Posted: 9/21/18

An Equal Opportunity Employer

#### EXHIBIT A Schedule of Prices

Line No.	Spec. No.	Description	Unit	Est. Qty	Unit Price	Total Price
1	2021.501	MOBILIZATION		LUMP SUM	1	
2	2100.601	GUARD SHACK		LUMP SUM	1	
3	2104.502	SALVAGE HYDRANT & VALVE		EACH	1	
4	2104.502	REMOVE HYDRANT		EACH	1	
5	2104.502	REMOVE LIGHTING UNIT		EACH	3	
6	2104.502	ABANDON WATER MAIN		EACH	1	
7	2104.502	SALVAGE BUMPING POST		EACH	1	
8	2104.502	SALVAGE VEHICULAR GATE		EACH	2	
9	2104.502	REMOVE VEHICULAR GATE		EACH	1	
10	2104.502	REMOVE CONCRETE TRANSFORMER PAD		EACH	4	
11	2104.503	SALVAGE CHAIN LINK FENCE		LIN FT	1065	
12	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	760	
13	2104.503	REMOVE RAILROAD TRACK		LIN FT	96	
14	2104.503	SALVAGE PIPE CULVERT		LIN FT	98	
15	2104.518	REMOVE CONCRETE PAVEMENT		SQ FT	11800	
16	2105.604	BIAXIAL GEOGRID		SQ YD	4000	
17	2105.507	COMMON EXCAVATION		CU YD	3200	
18	2211.507	AGGREGATE BASE (CV) CLASS 5		CU YD	1800	
19	2211.607	CRUSHED CONCRETE		CU YD	2700	
20	2357.506	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	3600	
21	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)		TON	3650	
22	2360.509	TYPE SP 19 NON-WEARING COURSE MIXTURE (3,B)		TON	9950	
23	2411.502	CONCRETE STRUCTURE DES. SHELTER SLAB		EACH	1	
24	2501.503	8" SCH. 40 STEEL PIPE CULVERT		LIN FT	199	
25	2501.503	INSTALL 15" RC PIPE CULVERT		LIN FT	98	
26	2502.503	6" PERF PVC PIPE DRAIN		LIN FT	2118	
27	2502.503	8" GALVANIZED STEEL PIPE		LIN FT	12	
28	2504.602	CONNECT TO EXISTING WATER MAIN		EACH	2	
29	2504.602	CONNECT TO EXISTING HYDRANT LEAD		EACH	2	
30	2504.602	INSTALL HYDRANT & VALVE		EACH	1	
31	2504.602	8" GATE VALVE AND BOX		EACH	2	
32	2504.603	6" DIPS HDPE WATERMAIN SDR 11		LIN FT	84	
33	2504.603	8" DIPS HPDE WATERMAIN SDR 11 (DIRECTIONAL DRILLED)		LIN FT	759	
34	2504.603	12" STEEL CASING PIPE		LIN FT	50	
35	2504.608	DUCTILE IRON FITTINGS		POUND	130	
36	2506.502	DRAINAGE STRUCTURE DESIGN H		EACH	8	

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#### **EXHIBIT A** Schedule of Prices

Spec. No.	Description	Unit	Est. Qty	Unit Price	Total Price
2540.602	CONNECT TO EXISTING RAILROAD TRACK		EACH	2	
2540.602	NO. 9 TURNOUT		EACH	1	
2540.602	INSTALL BUMPING POST		EACH	1	
2540.602	BUMPING POST		EACH	1	
2540.603	RAILROAD TRACK		LIN FT	2510	
2540.603	RAILROAD CROSSING - PERMANENT (CONCRETE)		LIN FT	448	
2540.603	RAILROAD CROSSING - PERMANENT (TIMBER)		LIN FT	32	
2540.603	FLANGEWAY ANGLE		LIN FT	418	
2545.502	LIGHTING UNIT TYPE SPECIAL		EACH	2	
2545.502	LIGHT FOUNDATION DESIGN SPECIAL		EACH	2	
2545.502	SERVICE CABINET		EACH	1	
2545.502	SERVICE EQUIPMENT		EACH	1	
2545.502	EQUIPMENT PAD		EACH	1	
2545.502	HANDHOLE		EACH	3	
2545.503	2" NON-METALLIC CONDUIT		LIN FT	60	
2545.503	3" NON-METALLIC CONDUIT		LIN FT	735	
2545.503	3" RIGID STEEL CONDUIT		LIN FT	40	
2545.503	UNDERGROUND WIRE 1/C 4 AWG		LIN FT	2600	
2545.503	UNDERGROUND WIRE 1/C 6 AWG		LIN FT	1040	
2545.602	RECEPTACLE STANCHION		EACH	2	
2557.502	VEHICULAR GATE - 20 FT ROLLER		EACH	1	
2557.502	INSTALL VEHICULAR GATE		EACH	1	
2557.603	INSTALL CHAIN LINK FENCE		LIN FT	1036	
2563.601	TRAFFIC CONTROL		LUMP SUM	1	
2573.501	STABILIZED CONSTRUCTION EXIT		LUMP SUM	1	
2573.502	STORM DRAIN INLET PROTECTION		EACH	3	
2573.503	SEDIMENT CONTROL LOG TYPE WOOD CHIP		LIN FT	2981	
2575.504	EROSION CONTROL BLANKET, CATEGORY 3N		SQ YD	230	
2575.505	SEEDING		ACRE	0.25	
2575.605	MULCH MATERIAL TYPE 1		ACRE	0.25	
2118.601	TEMPORARY AGGREGATE SURFACING		LUMP SUM	1.00	

### SP-47 TERMINAL HIGH MAST LIGHTING - Lighting System with LED Light Source

#### SP-47.1 GENERAL

- SP-47.1.1 SUMMARY
  - A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
  - B. The purpose of this specification is to define the lighting system performance and design standards for the Container Shipping / Cargo Storage areas using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
  - C. The lighting system design is based upon the Musco Total Light Control® lighting system using LED luminaires, and galvanized steel segmented poles mounted to cast in place concrete bases.
  - D. The primary goals of this lighting project are:
    - 1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of operations on the Container Area / Loading and Unloading for all personnel. Therefore light levels are guaranteed to not drop below specified target values for a period of 10 years.
    - 2. Environmental Light Control: It is the primary goal of this project to minimize spill light and glare to shipping traffic and surrounding properties.

#### SP-47.1.2 LIGHTING PERFORMANCE

A. Illumination Levels and Design Factors: Load/Unload and Storage surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured and confirmed by Engineer, Installing Contractor, and confirmed by Lighting Manufacturer. Illumination levels shall not to drop below desired target values in accordance to IES RP-37, Maintained Average Illuminance and shall be guaranteed for the full warranty period.

Area of Lighting	Average Target Illumination Levels	Grid Spacing	Max/Mn
Container Storage Area	5 FC Horizontal	20' X 20'	6.83

B. Hours of usage: Designs shall be based on the following hours of usage

Area of Lighting	Annual Usage Hours	10 year Usage Hours
Container Storage Area	4380	43800

- A. Color: The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.
- B. Maximum luminaire operating wattage including driver 1150 watts
- C. Luminaire lumen output 121,000
- D. Maximum system operating wattage 9.2kW
- E. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better visibility, minimum mounting heights shall be as described below. Higher mounting heights may be required based on photometric report and ability to ensure the top of the field angle is a minimum of 10 degrees below horizontal.

# of Poles	Pole Designation	Pole Height
2	P1(A1) – P2(A2)	70'

#### SP-47.1.3 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.
- B. Glare Control: Maximum candela viewed from any one fixture shall not exceed 6000 candela at a distance of 450' from the pole.
- C. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines outside of the required Storage Cargo areas. Footcandle readings shall be taken at 30-foot intervals. Illumination level shall be measured in accordance with the IESNA LM-5-04 after 1 hour warm up.
- D. The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified independent testing laboratory with a minimum of five years experience or by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. Reports shall remain confidential and be returned to the manufacturer after the bid is awarded.

#### SP-47.1.4 LIFE-CYCLE COSTS

- A. Manufacturer shall submit a 10-year life cycle cost calculation as outlined in the required submittal information.
- B. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 10 years from the date of equipment shipment. Individual outages shall be repaired when the usage of the storage area is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.

#### SP-47.2 PRODUCT

#### SP-47.2.1 LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.
- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.
- C. System Description: Lighting system shall consist of the following:
  - 1. Galvanized steel poles and cross-arm assembly.
  - 2. An anchor bolt foundation shall be designed such that the steel pole flange is located a minimum of 48 inches above final grade. The concrete for anchor bolt foundations shall be allowed to cure for a minimum of 28 days before the pole stress is applied unless shorter cure time approved by structural engineer of record.
  - 3. Manufacturer will remote all drivers and supporting electrical equipment in aluminum enclosures mounted approximately 10 feet above grade. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral driver fixtures will not be accepted.

- 4. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
- 5. All luminaires, visors, and cross-arm assemblies shall withstand 150 mph winds and maintain luminaire aiming alignment.
- 6. Lightning Protection: Manufacturer shall provide integrated lightning grounding via concrete encased electrode grounding system as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.
- D. Safety: All system components shall be UL listed for the appropriate application.

#### SP-47.2.2 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the IBS Building Code 2012. Wind loads to be calculated using ASCE 7-05, a design wind speed of 115MPH for new lighting fixtures
- B. EPA: Effective Projected Area of the cross arm, fixtures, and all other components shall not exceed the existing current lighting system. Manufacturer to confirm with Engineer for loading purposes on the existing structure.

#### SP-47.3 EXECUTION

SP-47.3.1 DELIVERY TIMING

Delivery Timing Equipment On-Site: The equipment must be on-site 6-10 weeks from receipt of approved submittals and receipt of complete order information.

#### SP-47.3.2 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.
- B. Field Light Level Accountability
  - 1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 10 Years.
  - 2. The contractor/manufacturer shall be responsible for an additional inspection one year from the date of commissioning of the lighting system and will utilize the owner's light meter in the presence of the owner.
- C. The contractor/manufacturer will be held responsible for any and all changes needed to bring the area back to compliance for light levels and uniformities.
- D. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

#### SP-47.3.3 WARRANTY AND GUARANTEE

A. 10-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 10 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers. B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 10 years from the date of equipment shipment. Individual luminaire outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.

		STA	TEMENT OF ESTIMATED QUANTITIES		S.A.P 118-080-063	
NOTE	TAB	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATE QUANTITIES	
		2021.501	MOBILIZATION	LUMP SUM	1	
					· · ·	
		2100.601	GUARD SHACK	LUMP SUM	1	
	А	2104.502	SALVAGE HYDRANT & VALVE	EACH	1	
	А	2104.502	REMOVE HYDRANT	EACH	1	
	А	2104.502	REMOVE LIGHTING UNIT	EACH	3	
	А	2104.502	ABANDON WATER MAIN	EACH	1	
	А	2104.502	SALVAGE BUMPING POST	EACH	1	
6	А	2104.502	SALVAGE VEHICULAR GATE	EACH	2	
	А	2104.502	REMOVE VEHICULAR GATE	EACH	1	
	А	2104.502	REMOVE CONCRETE TRANSFORMER PAD	EACH	4	
	А	2104.503	SALVAGE CHAIN LINK FENCE	LIN FT	1065	
	А	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	760	
	А	2104.503	REMOVE RAILROAD TRACK	LIN FT	96	
4	А	2104.503	SALVAGE PIPE CULVERT	LIN FT	98	
	А	2104.518	REMOVE CONCRETE PAVEMENT	SQ FT	11800	
		2105.604	BIAXIAL GEOGRID	SQ YD	4000	
1		2105.507	COMMON EXCAVATION	CU YD	3200	
		2211.507	AGGREGATE BASE (CV) CLASS 5	CU YD	1800	
		2211.607	CRUSHED CONCRETE	CU YD	2700	
		2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	3600	
		2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)	TON	3650	
		2360.509	TYPE SP 19 NON-WEARING COURSE MIXTURE (3,B)	TON	9950	
2		2411.502	CONCRETE STRUCTURE DES. SHELTER SLAB	EACH	1	
	В	2501.503	8" SCH. 40 STEEL PIPE CULVERT	LIN FT	199	
4	В	2501.503	INSTALL 15" RC PIPE CULVERT	LIN FT	98	
	В	2502.503			2118	
	В	2502.503	8" GALVANIZED STEEL PIPE	LINFI	12	
	0	2504 602		FACH		
	C	2504.602		EACH	2	
	0	2504.602		EACH	2	
		2504.602		EACH	1	
	<u> </u>	2504.602	6" DIDS HDDE WATERMAIN SDR 11	LINET	2	
	0	2504.003	8" DIPS HDPE WATERMAIN SDR 11 (DIPECTIONAL DRILLED)		84	
	C	2504.603			759	
	0	2504.608		POUND	120	
	C	2004.000		TOOND	130	
2	P	2506 502	DRAINAGE STRUCTURE DESIGN H	FACH	0	
5	В	2000.002		LAGIT	0	
		2540 602	CONNECT TO EXISTING RAIL ROAD TRACK	FACH	2	
	D	2540.602	NO 9 TURNOUT	FACH	1	
	D	2540.602		FACH	1	
	D	2540.602	BUMPING POST	EACH	1	
	D	2540.603	RAIL ROAD TRACK	LIN FT	2510	
	D	2540.603	RAILROAD CROSSING - PERMANENT (CONCRETE)	LIN FT	448	
	 D	2540.603	RAILROAD CROSSING - PERMANENT (TIMBER)	LIN FT	32	
	 D	2540.603	FLANGEWAY ANGLE	LIN FT	418	
	-					
	E	2545.502	LIGHTING UNIT TYPE SPECIAL	EACH	2	
	E	2545.502	LIGHT FOUNDATION DESIGN SPECIAL	EACH	2	
	E	2545.502	SERVICE CABINET	EACH	1	
	E	2545.502	SERVICE EQUIPMENT	EACH	1	
	E	2545.502	EQUIPMENT PAD	EACH	1	
	E	2545.502	HANDHOLE	EACH	3	
	E	2545.503	2" NON-METALLIC CONDUIT	LIN FT	60	
				LINET		

	STATEMENT OF ESTIMATED QUANTITIES						
NOTE	TAB	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES		
	E	2545.503	3" RIGID STEEL CONDUIT	LIN FT	40		
	E	2545.503	UNDERGROUND WIRE 1/C 4 AWG	LIN FT	2600		
	E	2545.503	UNDERGROUND WIRE 1/C 6 AWG	LIN FT	1040		
	E	2545.602	RECEPTACLE STANCHION	EACH	2		
	F	2557.502	VEHICULAR GATE - 20 FT ROLLER	EACH	1		
	F	2557.502	INSTALL VEHICULAR GATE	EACH	1		
	F	2557.603	INSTALL CHAIN LINK FENCE	LIN FT	1036		
5		2563.601	TRAFFIC CONTROL	LUMP SUM	1		
	G	2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1		
	G	2573.502	STORM DRAIN INLET PROTECTION	EACH	3		
	G	2573.503	SEDIMENT CONTROL LOG TYPE WOOD CHIP	LIN FT	2981		
	Н	2575.504	EROSION CONTROL BLANKET, CATEGORY 3N	SQ YD	230		
	Н	2575.505	SEEDING	ACRE	0.25		
	Н	2575.605	MULCH MATERIAL TYPE 1	ACRE	0.25		
7		2118.601	TEMPORARY AGGREGATE SURFACING	LUMP SUM	1		

NOTES	S:
1	DOES NOT INCLUDE BITUMIOUS AND CONCRETE REMOVALS
2	INCLUDES 6" CLASS 5 AGGREGATE BASE FOUNDATION
3	INCLUDES CASTING ASSEMBLIES
4	INCLUDES PIPE APRONS
5	INCLUDES TWO W20-1, 48x48, "ROAD WORK AHEAD" SIGNS
6	INCLUDES DELIVERY OF SWING GATE AT STA. 11+25 TO DSPA
7	INCLUDES REMOVAL OF TEMPORARY SURFACE, MATERIAL SHALL B

EXISTING UTILITIES					
COMPANY	SERVICE				
GOPHER STATE ONE CALL	LOCATORS				
DULUTH SEAWAY PORT AUTHORITY	SITE LIGHTS, GAS, SANITARY SEWER AND STORM SEWER				
MINNESOTA POWER	ELECTRIC POWER				
MN ENERGY RESOURCES	GAS				
CENTURY LINK	TELEPHONE				
CHARTER COMMUNICATIONS	CABLE TV				
WESTERN LAKE SUPERIOR SANITARY DISTRICT	SANITARY SEWER				

	STANDARD PLATES
	THESE STANDARD PLATES AS APPROVED BY THE FH
PLATE NO.	DESCRIPTION
4006L	MH OR CB PRECAST - DES. G OR H
8000J	CHANNELIZERS
8117G	PRECAST CONCRETE HANDHOLE

#### 3 **Duluth Seaway Port Authority**

DRAWN RX: SRP					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT		
					THE LAWS OF THE STATE OF MINNESOTA.	PHONE: 218 279 3000	, DULUTH, MINNE
DESIGNER: BJR					Marl-	418 W SUPERIOR ST	SP 118-080-063
CHECKED BY: BJR	1 S	RP 0	9/20/18	ADDENDUM 1	MATTHEW J. BOLF, PE		
DESIGN TEAM	NO. E	3Y	DATE	REVISIONS	Date:07/26/2018 Lic. No43913	SET DOLOTIA, MIN 33802-1512 www.sehinc.com	



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HWA SHALL APPLY

ESOTA 53

# STATEMENT OF ESTIMATED QUANTITIES JECT #1717 DULUTH SEAWAY PORT AUTHORITY



	A - REMOVALS & S	AWCUTS														
			SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104	SPEC. 210	4 SPEC.	2104 SPE	C. 2104	SPEC. 2104	SPEC. 2104	SPEC. 2104
	STATION TO STATION	N LOCATION	SALVAGE HYDRANT & VALVE	REMOVE HYDRANT	REMOVE LIGHTING UNIT	ABANDON WATER MAIN	SALVAGE BUMPING POST	SALVAGE VEHICULAR GATE	REMOVE VEHICULAR GATE	REMOVE CONCRET TRANSFORM PAD	E SALV. /IER CHAIN FEN	AGE CON LINK PAV CE (FULL	.WING ICRETE EMENT . DEPTH)	REMOVE RAILROAD TRACK	SALVAGE PIPE CULVERT	REMOVE CONCRETE PAVEMENT
			EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LIN	FT LI	N FT	LIN FT	LIN FT	SQ FT
	BERTH 6 STUB TRACK															-
	0+00 - 3+04	RT/LT														7700
	0+00 - 3+04	RT											328			
	0+00 - 1+76	LT											206			
	3+04	LT											57			
	4+75 - EOT	RT									843	2				
	11+24	1' RT						1							98	
																+
	22102 24124														<u> </u>	4100
	23+02 - 24+24												15			4100
	23+02 - 24+24												140		<u> </u>	+
	23+02 - 24+24	CL/LT											140	96	<u> </u>	
	23+49 - 31+39	20' RT				1									<u> </u>	
	23+93	11'I T					1							+	t	+
	23+93	5'17		1											<u> </u>	
	24+24	RT											14			-
	26+94	2' LT			1											-
	27+63	3' RT								1						-
	27+66	18' LT								1						-
	31+75	30' RT								1						-
	31+83	13.5' RT			1											
	32+63	26' RT								1						
	34+14	10' LT						1	1							
	34+14 - EOT	LT/RT									22	3				
	35+00	17.5' RT			1											
	35+30	15.5' RT														
	35+30	15.5' RT	1													
			1	1	3	1	1	2	1	4	106	:5	760	96	08	11800
	FROJECT TEM TOTALS				3	1		4	1	4			100	30	30	11000
G - TEMPORARY EROSION CON	NTROL	1		B - I	DRAINAGE		1			1	1					
	2573	2573										SPEC. 2501	:	SPEC. 2501	SPE	C. 2502
		SEDIMENT CONTROL	-							SLOPE EI		SCH. 40 STEEL		ALL 15" RC PIF	'E 6" PERI	

	F																-		
1	F	27+66	18' LT					_			1						_		
	F	31+75	30' RT					_			1						_		
		31+83	13.5' RT		1														
	_	32+63	26' RT					_			1								
	_	34+14	10' LT					_	1	1							_		
		34+14 - EOT	LT/RT										223						
		35+00	17.5' RT		1			_									_		
		35+30	15.5' RT					_									_		
	_	35+30	15.5' RT	1				_									_		
	L	PROJECT ITEM TOTALS		1	1 3	1	1		2	1	4		1065	760	96	98 11800			
G - TEMPORARY EROS	SION CONTRO	OL			<b>B - DRAINAGE</b>														
		2573	2573										SPEC.	2501	SPEC. 2501	SPEC. 2502	SPEC. 2502	SPEC	C. 2506
STATION TO STATION	LOCATION	STORM DRAIN INLET PROTECTION	SEDIMENT CONTROL LOG TYPE WOOD CHIP	-	STATION TO STATI	ION LOC	ATION	NO.	TOP OF CASTING	START INV.	SLOPE	END INV.	8" SCH. 40 PIPE CUI	) STEEL LVERT	INSTALL 15" RC PIPE CULVERT	6" PERF PVC PIPE DRAIN	8" GALVANIZED STEEL PIPE	DRA STRUCTI	INAGE JRE DESIGN H
		EACH	LIN FT										LINF	FT	LIN FT	LIN FT	LIN FT	E	ACH
BERTH 6 STUB TRACK					BERTH 6 STUB TRAC	ж				1		1							
1+07 - 4+45	RT		324		1+14 - 5+00	5.2	25' RT									400			
4+75 - 11+15	RT		625		5+00	40	0' RT										6		
11+08	RT	1			5+15	6.2	25' LT	1	609.39	606.94									1
11+36 - EOT	RT		183		5+15	22.	75' RT	2			2.00%	606.36	29.0	0					
11+45	RT	2	100		6+15	6.2	25' LT	3	609.26	606.60				-					1
		-			6+15	22	75' RT	4			2.00%	606.02	29.0	0					
DSPA STUB TRACK					7+15	62	25' I T	5	609.16	606 20	2.0070	000.02	20.0						1
21+24 - FOT	IT		1624		7+15	19.3	75' RT	6	000.10	000.20	2.00%	605.68	26.0	0					
21124 201			1024		8+15	62	25' I T	7	609.06	605.84	2.0070	000.00	20.0				<u> </u>		1
WEST END OF SITE			225		8+15	17	75' RT	8	000.00	000.04	2 00%	605 36	24.0	0					
					9+15	62	25' I T	9	608.96	605.52	2.0070	000.00	2				<u> </u>		1
PROJECT ITEM TOTALS		3	2981		9+15	18	75' RT	10			2 00%	605.02	25.0	0			<u> </u>		· ·
			2001		10+15	62	25' I T	11	608.86	605.16	2.0070	000.02	20.0						1
					10+15	17	75' RT	12			2.00%	604 68	24.0	0			<u> </u>		
					10+90	62	25'IT	12	608.94	604 84	2.0070	004.00	24.0						1
H - TURF ESTABLISHM	ENT				10+90	14	75' RT	14	000.34	004.04	2 00%	604 42	21.0	0					
		SPEC. 2575	SPEC, 2575	SPEC. 2575	11+24	14.	PT	14			2.0070	004.42	21.0		08				
		EROSION CONTROL			11+52	17	5' PT								30		6		
		BLANKET, CATEGORY		MULCH MATERIAL	11+52 - EOT		DT									181			-
STATION TO STATION	LOCATION	3N	SEEDING	TYPE 1	12+15	62	25'I T	15	608.98	605.21						101	<u> </u>		1
		SQ YD	ACRE	ACRE	12+15	14	75' RT	16	000.00	000.21	2 00%	604 79	21.0	0					
BERTH 6 STUB TRACK						14.	75 101	10			2.0070	004.73	21.0						
13+16 - EOT	RT		0.25	0.25		<u>ر</u>													
7+70 - EOT	RT	230			23+02 - FOT	52	25' I T									1328	<u> </u>		
						0.2										1020	<u> </u>		
PROJECT ITEM TOTALS		230	0.25	0.25	WEST END OF SITE											209			
						-										200	-		
	way Port A	uthority			PROJECT ITEM TOTAL	LS							199	)	98	2118	12		8
						I HEREBY CERTIFY TH	AT THIS PLAN WAS	S PREPARED	BY ME OR UNDER MY	DIRECT	1				I		ı		T 4
DRAWN BY: SRP						SUPERVISION AND TH THE LAWS OF THE ST	AT LAM A DULY LIC	CENSED PRO	FESSIONAL ENGINEER	RUNDER		19 270 2000	DUL	JTH, MIN	INESOTA		ONS	FILE NO	13 /
DESIGNER:BJR							Ma 1	1-	-		418 W SUF	18.279.3000 PERIOR ST		SP 118-080	-063			DUSPA 144638	
CHECKED BY:BJR1	SRP 09/20/18 AE	DDENDUM 1				┥───╯	11 MO KA		MATTHEW J. BOLF		STE 200 DULUTH. N	MN 55802-1512	CITY OF	DULUTH PI	ROJECT #1717 DU	LUTH SEAWAY PO	AT AUTHORITY		1 45
DESIGN TEAM NO.	. BY DATE		REVISI	ONS		Date: 07	//26/2018		Lic. No43	913 2	www.sehin	c.com							
													=		•				

Date:





07/26/2018

Lic. No.

43913

DRAWN BY:

DESIGNER:

HECKED BY:

DESIGN TEAM

DATE

REVISIONS





T SC	HEDULE	-	
<hr/>	OPTICS	MANUFACTURER & SERIES #	
: }	TYPE III	LUMINAIRE: (4)TLC TYPE POLE: 70' 3 SEGMENT GALVANIZED STEEL POLE	
ied to Ion L	N/A	U011GP6 – LOOP FEED STYLE	

IESOTA
63
JECT #1717