

November 10, 2020

ADDENDUM 2 – JOB 23

TO: All prospective bidders on Projects NHU-1-806(052)071 and IM-1-094(200)153, Job No. 23 scheduled for the November 13, 2020 bid opening.

The following plan revisions shall be made:

Plan Revisions:

See attached summaries from Paul Benning, P.E. dated November 10, 2020 for an explanation.

This addendum is to be incorporated into the bidder's proposal for this project.



PHILLIP MURDOFF, P.E. – CONSTRUCTION SERVICES ENGINEER

80: jwj

Enclosure

PLAN ADDENDUM SUMMARY AND APPROVAL

Project Information		
Project: NHU-1-806(052)071 & IM-1-094(200)153		PCN: 22181 & 22182
Location: Interstate 94 (Mandan Ave Interchange); ND 1806 (Interstate 94 to 27 th Street)		
Date: November 9, 2020		Project Manager: Troy Ripplinger (KLJ)
Bid Opening Date: November 13, 2020		JOB#: 23 Addendum#: 2
Section	Sheet	Description of Change
6	4	Revised note 714-P01. Removed gasketed joint requirement.
140	13	Added note stating quantities are for informational purposes.
140	14	Revised conductor to Proposed Neutral.
140	20	Revised quantity for CONCRETE FOUNDATION-LIGHTING from 15 EA to 14 EA. Revised quantity for LIGHT STANDARD from 15 EA to 14 EA. Revised quantity for LED LUMINAIRE from 21 EA to 20 EA. Added note stating quantities are for informational purposes.
140	21	Revised conductor to Proposed Neutral.
140	22	Revised feed point from Type II-Pad Mounted to Type I-Pole Mounted in the quantities table. Added note stating quantities are for informational purposes.

APPROVAL

Should the revisions described above be processed as a plan addendum?

 X Yes No

Paul M. Benning
Paul Benning, P.E. – Local Government Engineer

11/10/2020
Date

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NHU-1-806(052)071 IM-1-094(200)153	6	4

NOTES

708-P01 **INLET PROTECTION:** Furnish, install, and maintain (clean) drainage inlet filter assemblies to collect sediment in surface storm water runoff. Dispose of debris or silt that has accumulated in the bag. Periodic cleaning of the filter as necessary.
Provide Wimco, Lange IPD, Flexstorm, Dandy CurbSack, or an approved equal.
Remove filters by November 15, or when the surrounding ground is frozen, whichever is sooner, if the surrounding surfaces are not stabilized by the approval of the Engineer. Prior to removal of the filters, ensure that surfaces surrounding the inlets are stabilized per the Standard Specifications. Reinstall filters on April 15, or when directed by the Engineer. Include the cost to reinstall or replace the filters in the unit price bid. Filter payment only paid once per each inlet location on the project no matter the number of filters required to provide adequate protection.
Keep filter in place until after the gradient surfaces are stabilized and the surrounding street is clean of debris. Include all costs related to the material, installation, maintenance, replacement and removal in the price bid for "Inlet Protection-Special".

714-P01 **STORM DRAINS AND CULVERTS:** Furnish and install tongue and groove joint concrete pipe sealed with butyl mastic. Wrapping the joints is not required.
Tie all joints on reinforced concrete pipe runs from drainage structure (i.e. inlet, manhole, etc.) to end section. Pipe ties are not required for concrete pipe placed from drainage structure to drainage structure.
Shoring may be required to install proposed underground utilities in areas to meet OSHA requirements. Include all costs for shoring in the price bid for other underground utility items.

722-P01 **CASTINGS:** Provide floating manhole castings for all new or existing manholes that lie within the limits of new concrete roadway, sidewalk, or shared-use path. Install casting as shown Section 20, Sheet 15. Position castings to avoid falling within a wheel path. Place flush all castings to within 1/8 inch below the pavement that lie in the roadway.
Provide the standard casting (see Section 20, Sheet 15) outfitted with an infiltration and inflow (I&I) barrier adhered to the manhole cover with the adjusting rings and casting set around the I&I barrier for all new manholes, adjusted manholes, or repaired manholes located outside of concrete.

722-P02 **STORM DRAIN INLETS AND MANHOLES:** All new inlets and manholes have a minimum 4.0-foot riser. Fill the bottom of the inlet or manhole with concrete up to the elevation that will accommodate the lowest invert elevation. Place and shape the concrete fill to eliminate trapping of debris and/or sediment. Backfill with suitable backfill all new inlets and manholes. Include all costs to accomplish this work in the price bid for the respective inlet or manhole.
Seal all barrel-to-barrel joints using a rubber gasketed joint.
Do not install steps in manholes or inlets.
Provide Neenah Foundry Company Type L grates and NDDOT style curb boxes or East Jordan Iron Works with Type M4 Vane Grate and Type T5 cur box or approved equal for all "Inlet-Type 2", "Inlet-Type 2 Double" and Inlet – Special".

722-P03 **ADJUST MANHOLE:** This bid item provides for the adjustment of various existing castings to the proper grade. Replace with new castings as stated in note 722-P01 with a maximum of 6 adjusting rings. Adding or removing adjusting rings will be paid by "Adjust Manhole". In the event that the manhole cannot be adjusted to grade with 6 adjusting rings or less, the bid item "Manhole Repair" may be utilized. Include all labor, materials, and equipment necessary to complete the adjustment in the price bid for "Adjust Manhole".

722-P04 **MANHOLE REPAIR:** This bid item provides for the adjustment and modification to bring existing manholes to grade. Replace with new castings as stated in note 722-P01 with a maximum of 6 adjusting rings. Adjustments requiring major reconstruction, beyond adding or removing adjusting rings will be paid by "Manhole Repair". Include all labor, materials and equipment necessary to complete the modification to the existing manhole in the price bid for "Manhole Repair".

722-P05 **INLET SPECIAL:** Include all costs for the manhole (base, riser, and cover), castings, grates, adjustment rings, trench excavation, aggregate base, and embankment in price bid for "Inlet Special – Type ___ IN."

722-P06 **ADJUST UTILITY APPURTENANCE:** Install debris plugs into all existing gate valve boxes when they are adjusted. Include all labor, equipment and materials required to install the plugs in the price bid for "Adjust Utility Appurtenance."

722-P07 **ADJUST INLET:** Adjust existing inlets to final grade by adding or removing adjusting rings. Include all labor, materials, and equipment necessary to complete the modification to the existing inlets in the price bid for "Adjust Inlet".

724-P01 **UTILITY ADJUSTMENT:** Notify Mandan Public Works Department (701) 667- 3240 a minimum of 48 hours before each manhole, valve, or hydrant/watermain location is adjusted. Manholes, valves, watermains and hydrant relocations/adjustments will be inspected and accepted by the Engineer.

724-P02 **WATERMAIN SHUTOFF:** Notify Mandan Public Works Department (701) 667- 3240 a minimum of 48 hours prior to closing any gate valves within the project corridor. Operate newly installed valves until the project is accepted, but existing valves to be operated by City of Mandan representatives. Existing valves may not close tight enough to get a watertight closure. Work may be required without a total water shut off with no extra charge to the City of Mandan.

724-P03 **SANITARY MANHOLE:** Do not install steps in the sanitary manholes.

724-P04 **SANITARY SEWER PIPE AND FITTINGS:** For sanitary sewer less than 18", provide and install pipe and fittings meeting PVC ASTM D3034 requirements for type PSM and have an SDR of 26, stamped on the pipe. For sanitary sewer 18" or greater, provide and install pipe and fittings meeting PVC ASTM F679-PS115 requirements. Install elastomeric gasket-type joint providing a watertight seal conforming to ASTM D3212 for all PVC sewer main line pipe and PVC sewer service pipe.
Furnish and install marking tape located 2 feet above the top of all sanitary sewer mains installed under the contract. Provide green tape of the non-detectable type and a minimum width of 5 inches with the words "CAUTION SEWER LINE BELOW" imprinted on the

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LIGHTING SYSTEM A: CABLE & CONDUIT SCHEDULE

#	RUN		CONDUIT		# of Cables	SIZE/TYPE	Total LF
	ITEM	STATION, OFFSET	SIZE (IN)	LF			
1	<i>Origin</i> <i>Destination</i>	Feed Point A Pull Box 1	Sta 3787+83.0, 35' RT Sta 3787+84.0, 30.0' RT	2 6	8 4	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	176 88
2	<i>Origin</i> <i>Destination</i>	Pull Box 1 Light Standard - L6	Sta 3787+84.0, 30.0' RT Sta 3785+52.9, 28.2' RT	2 231	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	482 241
3	<i>Origin</i> <i>Destination</i>	Light Standard - L6 Light Standard - L5	Sta 3785+52.9, 28.2' RT Sta 3782+68.3, 38.4' RT	2 340	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	696 348
4	<i>Origin</i> <i>Destination</i>	Light Standard - L5 Light Standard - L4	Sta 3782+68.3, 38.4' RT Sta 3779+37.5, 24.9' RT	2 339	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	694 347
5	<i>Origin</i> <i>Destination</i>	Light Standard - L4 Light Standard - L3	Sta 3779+37.5, 24.9' RT Sta 3775+69.4, 24.7' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
6	<i>Origin</i> <i>Destination</i>	Light Standard - L3 Light Standard - L2	Sta 3775+69.4, 24.7' RT Sta 3772+01.2, 29.0' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
7	<i>Origin</i> <i>Destination</i>	Light Standard - L2 Light Standard - L1	Sta 3772+01.2, 29.0' RT Sta 3768+33.2, 24.9' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
8	<i>Origin</i> <i>Destination</i>	Pull Box 1 Light Standard - L7	Sta 3787+84.0, 30.0' RT Sta 3788+76.0, 30.5' RT	2 92	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	204 102
9	<i>Origin</i> <i>Destination</i>	Light Standard - L7 Light Standard - L8	Sta 3788+76.0, 30.5' RT Sta 3792+44.0, 24.5' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
10	<i>Origin</i> <i>Destination</i>	Light Standard - L8 Light Standard - L9	Sta 3792+44.0, 24.5' RT Sta 3796+12.0, 24.5' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
11	<i>Origin</i> <i>Destination</i>	Light Standard - L9 Light Standard - L10	Sta 3796+12.0, 24.5' RT Sta 3799+80.1, 24.5' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
12	<i>Origin</i> <i>Destination</i>	Light Standard - L10 Light Standard - L11	Sta 3799+80.1, 24.5' RT Sta 3803+48.1, 24.5' RT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
13	<i>Origin</i> <i>Destination</i>	Light Standard - L11 Light Standard - L12	Sta 3803+48.1, 24.5' RT Sta 3807+26.0, 24.5' RT	2 378	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	772 386
14	<i>Origin</i> <i>Destination</i>	Light Standard - L12 Light Standard - L13	Sta 3807+26.0, 24.5' RT Sta 3810+84.2, 24.5' RT	2 358	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	732 366
15	<i>Origin</i> <i>Destination</i>	Pull Box 1 Pull Box 2	Sta 3787+84.0, 30.0' RT Sta 3787+84.0, 30.0' LT	2 60	4 2	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	288 144
16	<i>Origin</i> <i>Destination</i>	Pull Box 2 Light Standard - L19	Sta 3787+84.0, 30.0' LT Sta 3787+14.6, 26.0' LT	2 70	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	160 80
17	<i>Origin</i> <i>Destination</i>	Light Standard - L19 Light Standard - L18	Sta 3787+14.6, 26.0' LT Sta 3784+44.2, 26.3' LT	2 288	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	592 296
18	<i>Origin</i> <i>Destination</i>	Light Standard - L18 Light Standard - L17	Sta 3784+44.2, 26.3' LT Sta 3780+98.0, 25.4' LT	2 318	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	652 326
19	<i>Origin</i> <i>Destination</i>	Light Standard - L17 Light Standard - L16	Sta 3780+98.0, 25.4' LT Sta 3777+53.0, 24.4' LT	2 345	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	706 353
20	<i>Origin</i> <i>Destination</i>	Light Standard - L16 Light Standard - L15	Sta 3777+53.0, 24.4' LT Sta 3774+16.6, 25.0' LT	2 336	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	688 344
21	<i>Origin</i> <i>Destination</i>	Light Standard - L15 Light Standard - L14	Sta 3774+16.6, 25.0' LT Sta 3770+16.8, 24.6' LT	2 400	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	816 408
22	<i>Origin</i> <i>Destination</i>	Pull Box 2 Light Standard - L20	Sta 3787+84.0, 30.0' LT Sta 3790+59.7, 29.5' LT	2 276	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	572 286
23	<i>Origin</i> <i>Destination</i>	Light Standard - L20 Light Standard - L21	Sta 3790+59.7, 29.5' LT Sta 3794+27.7, 30.6' LT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
24	<i>Origin</i> <i>Destination</i>	Light Standard - L21 Light Standard - L22	Sta 3794+27.7, 30.6' LT Sta 3797+95.7, 24.5' LT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
25	<i>Origin</i> <i>Destination</i>	Light Standard - L22 Light Standard - L23	Sta 3797+95.7, 24.5' LT Sta 3801+72.3, 24.5' LT	2 376	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	768 384
26	<i>Origin</i> <i>Destination</i>	Light Standard - L23 Light Standard - L24	Sta 3801+72.3, 24.5' LT Sta 3805+31.8, 24.5' LT	2 360	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	736 368
27	<i>Origin</i> <i>Destination</i>	Light Standard - L24 Light Standard - L25	Sta 3805+31.8, 24.5' LT Sta 3808+99.9, 24.5' LT	2 368	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	752 376
28	<i>Origin</i> <i>Destination</i>	Light Standard - L25 Light Standard - L26	Sta 3808+99.9, 24.5' LT Sta 3812+88.9, 24.5' LT	2 389	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW	794 397

ITEM DESCRIPTION	UNIT	SYSTEM A
CONCRETE FOUNDATION-LIGHTING	EA	26
PULLBOX	EA	2
2IN DIAMETER RIGID CONDUIT	LF	8,642
UNDERGROUND CONDUCTOR NO6-TYPE THW	LF	9,024
UNDERGROUND CONDUCTOR NO6-TYPE RHW	LF	18,048
FEED POINT-TYPE IV-PAD MOUNTED	LF	1
LIGHT STANDARD	EA	26
LED LUMINAIRE	EA	26
CONCRETE FOUNDATION-FEED POINT-TYPE B	EA	1

These items are for information only and shall not be bid separately, but shall be included in the item "Lighting System A". Contractor shall provide all labor and equipment necessary for the lighting system to be fully operational as shown in the plans.

LIGHT STANDARD SCHEDULE						
LIGHT NUMBER	Circuit	Optics IES-Type	Wattage	Pole Ht.	Mast Arm	Breakaway
L1	1	II	279	40'	6'	YES
L2	1	II	279	40'	6'	YES
L3	1	II	279	40'	6'	YES
L4	1	II	279	40'	6'	YES
L5	1	II	279	40'	6'	YES
L6	1	II	279	40'	6'	YES
L7	2	II	279	40'	6'	YES
L8	2	II	279	40'	6'	YES
L9	2	II	279	40'	6'	YES
L10	2	II	279	40'	6'	YES
L11	2	II	279	40'	6'	YES
L12	2	II	279	40'	6'	YES
L13	2	II	279	40'	6'	YES
L14	3	II	279	40'	6'	YES
L15	3	II	279	40'	6'	YES
L16	3	II	279	40'	6'	YES
L17	3	II	279	40'	6'	YES
L18	3	II	279	40'	6'	YES
L19	3	II	279	40'	6'	YES
L20	4	II	279	40'	6'	YES
L21	4	II	279	40'	6'	YES
L22	4	II	279	40'	6'	YES
L23	4	II	279	40'	6'	YES
L24	4	II	279	40'	6'	YES
L25	4	II	279	40'	6'	YES
L26	4	II	279	40'	6'	YES

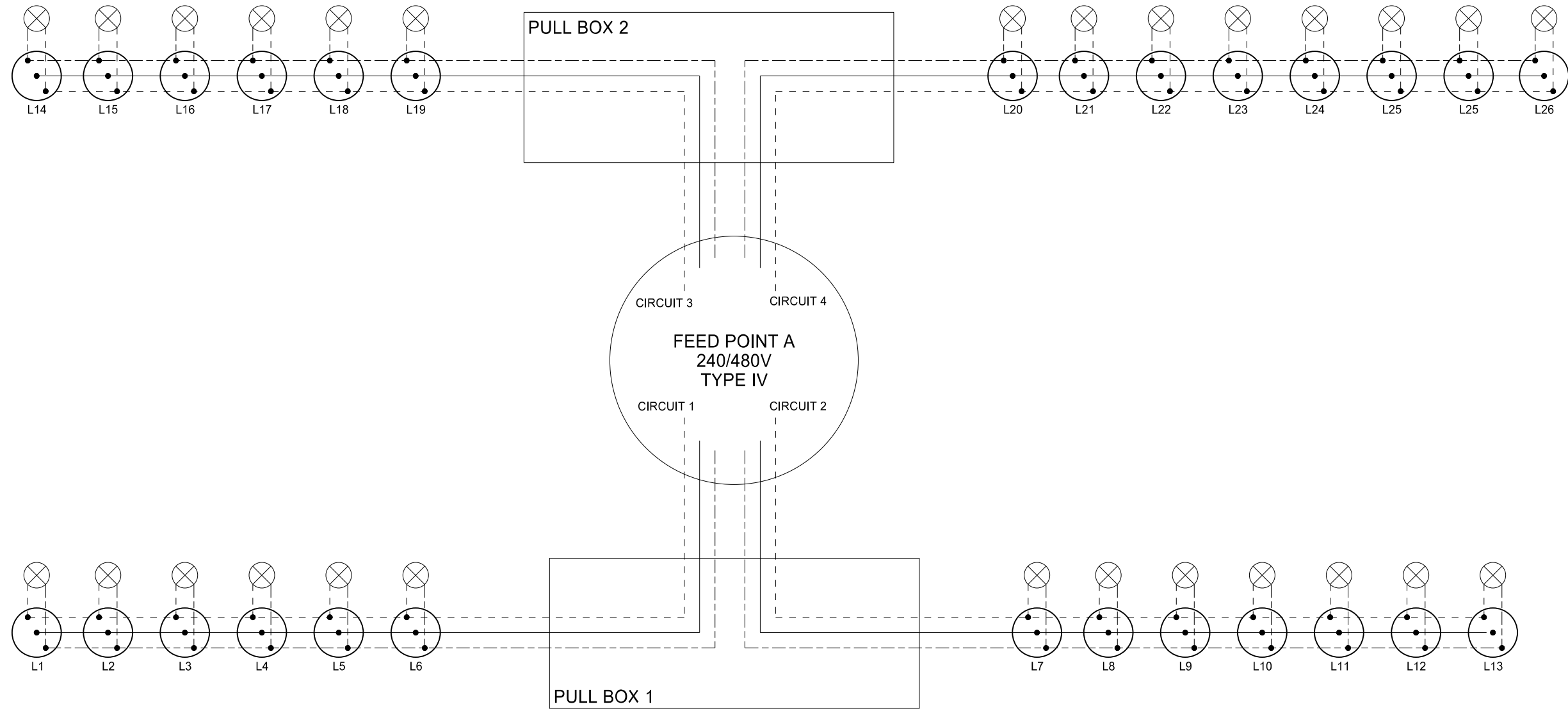
770 3 LIGHTING SYSTEM A 1 EA

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ND 1806
Lighting System A
Cable Runs, Lighting Standards, and Quantities

Revised	11/9/20	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-1-806(052)071	140	14

- ⊗ Proposed Luminaire LED
- Proposed Conductor Connection
- Proposed Neutral RHW #6
- Proposed Conductor Ground THW #6
- Proposed Conductor RHW #6
- Proposed Light Standard
- Proposed Pull Box



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ND 1806
 Lighting System A
 Feed Point A

LIGHTING SYSTEM B: CABLE & CONDUIT SCHEDULE

#	RUN		CONDUIT		CABLE		Total LF
	ITEM	STATION, OFFSET	SIZE (IN)	LF	# of Cables	SIZE/TYPE	
1	<i>Origin</i> <i>Destination</i>	Feed Point B Pull Box 3	Sta 3818+54.0, 55.0' LT Sta 3818+96.0, 62.0' LT	2	43	4 2	236 118
2	<i>Origin</i> <i>Destination</i>	Pull Box 3 Light Standard - L28	Sta 3818+96.0, 62.0' LT Sta 3816+65.9, 24.5' LT	2	245	2 1	510 255
3	<i>Origin</i> <i>Destination</i>	Light Standard - L28 Pull Box 10	Sta 3816+65.9, 24.5' LT Sta 3814+64.0, 26.0' LT	2	202	2 1	424 212
4	<i>Origin</i> <i>Destination</i>	Pull Box 10 Light Standard - L27	Sta 3814+64.0, 26.0' LT Sta 3814+62.2, 24.5' RT	2	51	2 1	122 61
5	<i>Origin</i> <i>Destination</i>	Pull Box 3 Light Standard - L29	Sta 3818+96.0, 62.0' LT Sta 3818+52.9, 16.3' RT	2	90	2 1	200 100
6	<i>Origin</i> <i>Destination</i>	Light Standard - L29 Pull Box 4	Sta 3818+52.9, 16.3' RT Sta 3818+36.0, 48.5' RT	2	37	2 1	94 47
7	<i>Origin</i> <i>Destination</i>	Pull Box 4 Pull Box 5	Sta 3818+36.0, 48.5' RT Sta 3820+64.0, 40.0' RT	2	123	2 1	206 135
8	<i>Origin</i> <i>Destination</i>	Pull Box 5 Light Standard - L30	Sta 3820+64.0, 40.0' RT Sta 3820+62.0, 2.7' LT	2	43	2 1	106 53
9	<i>Origin</i> <i>Destination</i>	Light Standard - L30 Pull Box 6	Sta 3820+62.0, 2.7' LT Sta 3820+80.0, 38.0' LT	2	40	2 1	100 50
10	<i>Origin</i> <i>Destination</i>	Pull Box 6 Light Standard - L31	Sta 3820+80.0, 38.0' LT Sta 3821+72.0, 23.4' LT	2	91	2 1	202 101
11	<i>Origin</i> <i>Destination</i>	Light Standard - L31 Light Standard - L32	Sta 3821+72.0, 23.4' LT Sta 3823+40.2, 18.7' LT	2	168	2 1	352 176
12	<i>Origin</i> <i>Destination</i>	Light Standard - L32 Light Standard - L33	Sta 3823+40.2, 18.7' LT Sta 3825+03.4, 18.5' LT	2	163	2 1	342 171
13	<i>Origin</i> <i>Destination</i>	Pull Box 3 Light Standard - L34	Sta 3818+96.0, 62.0' LT Sta 14+38.4, 17.2' LT	2	44	2 1	108 54
14	<i>Origin</i> <i>Destination</i>	Light Standard - L34 Pull Box 7	Sta 14+38.4, 17.2' LT Sta 14+26.8, 54.3' LT	2	39	2 1	98 49
15	<i>Origin</i> <i>Destination</i>	Pull Box 7 Pull Box 8	Sta 14+26.8, 54.3' LT Sta 103+88.5, 23.0' RT	2	88	4 2	400 200
16	<i>Origin</i> <i>Destination</i>	Pull Box 8 Light Standard - L38	Sta 103+88.5, 23.0' RT Sta 3819+67.1, 108.0' LT	2	42	2 1	104 52
17	<i>Origin</i> <i>Destination</i>	Pull Box 8 Light Standard - L39	Sta 103+88.5, 23.0' RT Sta 102+57.2, 27.0' RT	2	132	2 1	284 142
18	<i>Origin</i> <i>Destination</i>	Light Standard - L39 Pull Box 9	Sta 102+57.2, 27.0' RT Sta 100+80.0, 27.2' RT	2	178	2 1	376 188
19	<i>Origin</i> <i>Destination</i>	Pull Box 9 Light Standard - L40	Sta 100+80.0, 27.2' RT Sta 100+77.2, 27.0' LT	2	55	2 1	130 65
20	<i>Origin</i> <i>Destination</i>	Pull Box 3 Light Standard - L35	Sta 3818+96.0, 62.0' LT Sta 12+47.9, 24.0' RT	2	194	2 1	408 204
21	<i>Origin</i> <i>Destination</i>	Light Standard - L35 Light Standard - L36	Sta 12+47.9, 24.0' RT Sta 10+96.8, 24.0' RT	2	151	2 1	318 159
22	<i>Origin</i> <i>Destination</i>	Light Standard - L36 Light Standard - L37	Sta 10+96.8, 24.0' RT Sta 9+46.8, 24.0' RT	2	151	2 1	318 159

ITEM DESCRIPTION	UNIT	SYSTEM B
CONCRETE FOUNDATION-LIGHTING	EA	14
PULLBOX	EA	8
2IN DIAMETER RIGID CONDUIT	LF	2,370
UNDERGROUND CONDUCTOR NO6-TYPE THW	LF	2,751
UNDERGROUND CONDUCTOR NO6-TYPE RHW	LF	5,438
FEED POINT-TYPE II-PAD MOUNTED	EA	1
LIGHT STANDARD	EA	14
LED LUMINAIRE	EA	20
CONCRETE FOUNDATION-FEED POINT-TYPE B	EA	1

These items are for information only and shall not be bid separately, but shall be included in the item "Lighting System B". Contractor shall provide all labor and equipment necessary for the lighting system to be fully operational as shown in the plans.

LIGHT STANDARD SCHEDULE						
LIGHT NUMBER	Circuit	Optics IES-Type	Wattage	Pole Ht.	Mast Arm	Breakaway
L27	1	II	279	40'	6'	YES
L28	1	II	279	40'	6'	YES
L29	1	III	279	40'	6' x 3	YES
L30	1	III	279	40'	6' x 2	YES
L31	1	II	279	40'	6'	YES
L32	1	II	279	40'	6'	YES
L33	1	II	279	40'	6'	YES
L34	2	III	279	40'	6' x 2	YES
L35	2	II	279	40'	6'	YES
L36	2	II	279	40'	6'	YES
L37	2	II	279	40'	6'	YES
L38	2	III	279	40'	6' x 3	YES
L39	2	II	279	40'	6'	YES
L40	2	II	279	40'	6'	YES

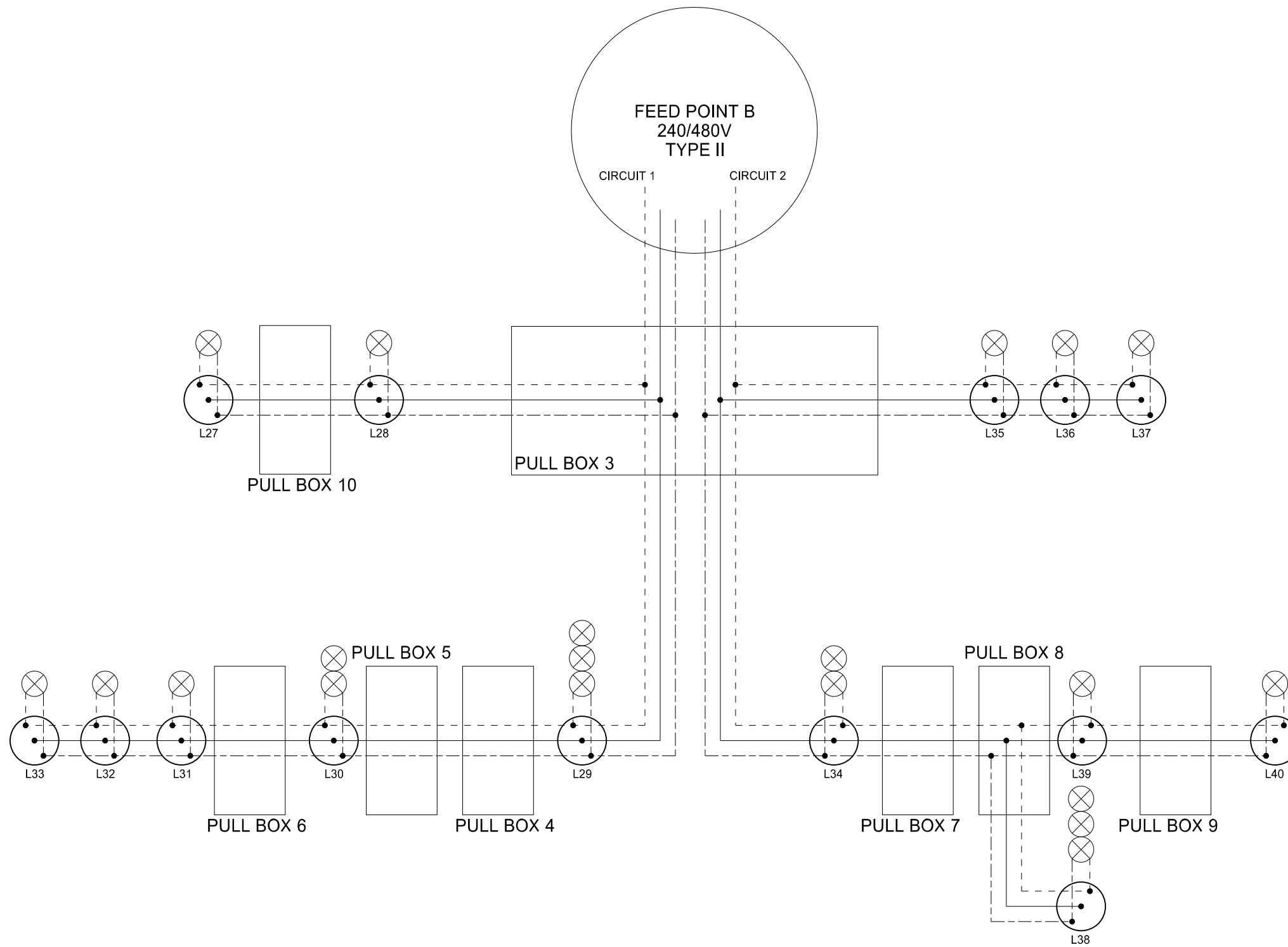
770 4 LIGHTING SYSTEM B
1 EA

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ND 1806
Lighting System B
Cable Runs, Lighting Standards, and Quantities

Revised	11/9/20	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-1-806(052)071	140	21

- ⊗ Proposed Luminaire LED
- Proposed Conductor Connection
- Proposed Neutral RHW #6
- Proposed Conductor Ground THW #6
- Proposed Conductor RHW #6
- Proposed Light Standard
- Proposed Pull Box

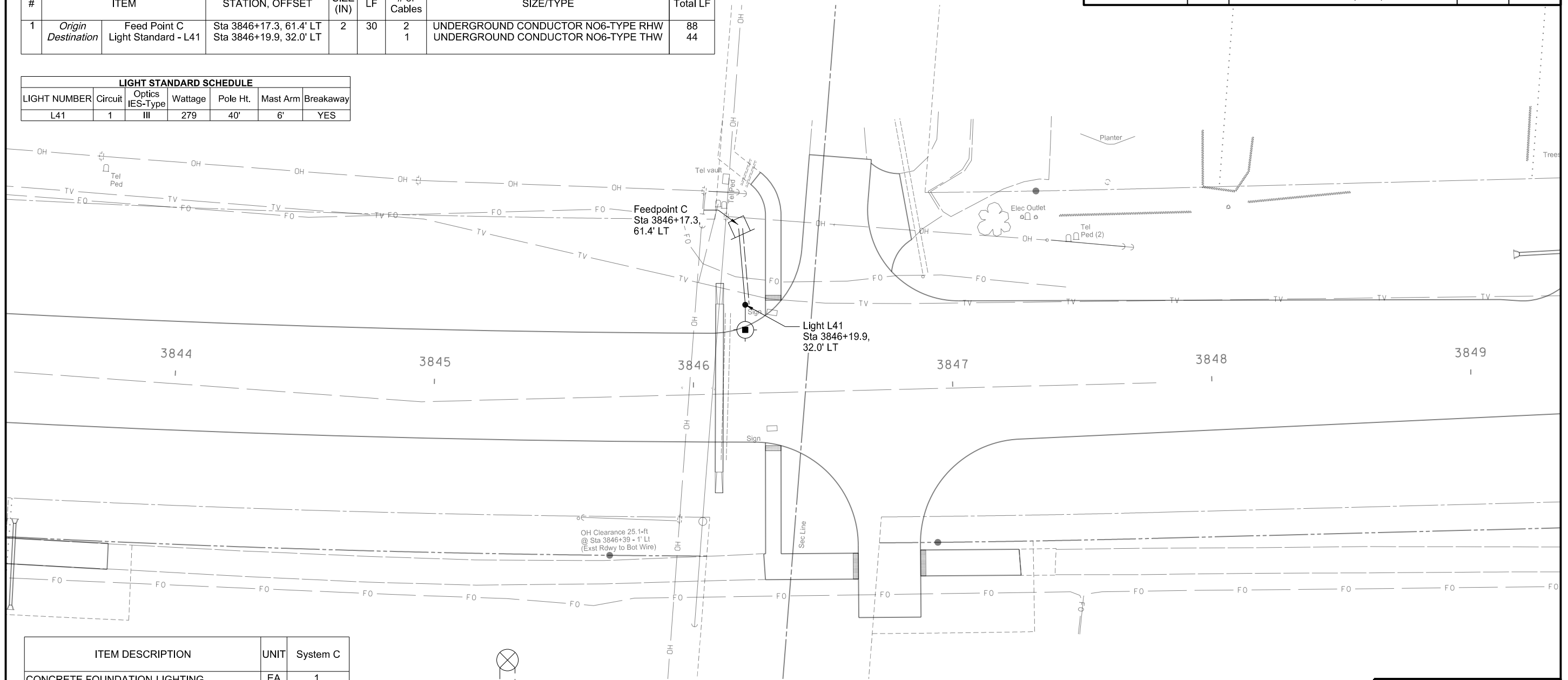


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Traci Sletmoe
Registration Number
PE-2835Q
on 11/9/20 and the original document is stored at the
North Dakota Department
of Transportation

ND 1806
Lighting System B
Feed Point B

LIGHTING SYSTEM C: CABLE & CONDUIT SCHEDULE						
#	RUN		CONDUIT		CABLE	
	ITEM	STATION, OFFSET	SIZE (IN)	LF	# of Cables	SIZE/TYPE
1	Origin Destination	Feed Point C Light Standard - L41	Sta 3846+17.3, 61.4' LT Sta 3846+19.9, 32.0' LT	2 30	2 1	UNDERGROUND CONDUCTOR NO6-TYPE RHW UNDERGROUND CONDUCTOR NO6-TYPE THW
						Total LF
						88 44

LIGHT STANDARD SCHEDULE						
LIGHT NUMBER	Circuit	Optics IES-Type	Wattage	Pole Ht.	Mast Arm	Breakaway
L41	1	III	279	40'	6'	YES

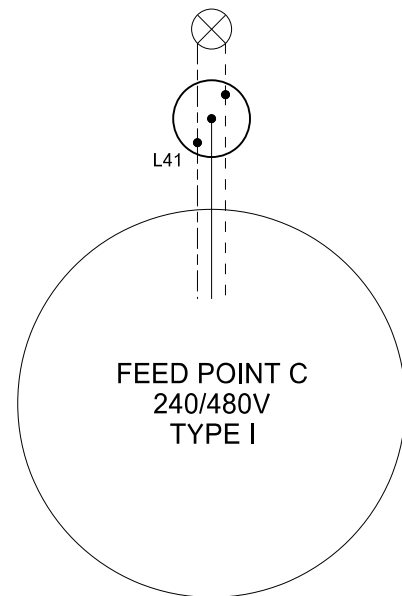


ITEM DESCRIPTION	UNIT	System C
CONCRETE FOUNDATION-LIGHTING	EA	1
PULLBOX	EA	-
2IN DIAMETER RIGID CONDUIT	LF	30
UNDERGROUND CONDUCTOR NO6-TYPE THW	LF	44
UNDERGROUND CONDUCTOR NO6-TYPE RHW	LF	88
FEED POINT-TYPE I-POLE MOUNTED	LF	1
LIGHT STANDARD	EA	1
LED LUMINAIRE	EA	1
WOOD POLE	EA	1

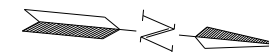
These items are for information only and shall not be bid separately, but shall be included in the item "Lighting System C". Contractor shall provide all labor and equipment necessary for the lighting system to be fully operational as shown in the plans.

770 5 LIGHTING SYSTEM C

1 EA



- ⊗ Proposed Luminaire LED
- Proposed Conductor Connection
- Proposed Neutral RHW #6
- Proposed Conductor Ground THW #6
- Proposed Conductor RHW #6
- Proposed Light Standard



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ND 1806
Lighting System C
Sta 3844+00 to 3849+00