

December 30, 2024

ADDENDUM 2 – JOB 23335

TO: All prospective bidders on Projects NHU-SU-CPU-7-002(178)019, Job No. 23335 scheduled for the January 10, 2025 bid opening.

The following revision(s) shall be made:

Plan Revisions:

See attached summary from Derek D. Pfeifer, P.E. dated December 30, 2024 for an explanation.

Request for Proposal Revisions:

- Remove and replace pages 5 thru 15 of 17 of the Proposal pages located at the beginning of the Request for Proposal with pages revised December 30, 2024.
- Bid Item Changes are summarized in the Plan Addendum Summary and Approval.

This addendum is to be incorporated into the bidder's proposal for this project. AASHTOWare Project Bids files should be updated by downloading the addendum file from the Bid Express on-line bidding exchange at <http://www.bidx.com/> and load it into the AASHTOWare Project Bids program.



PHILLIP MURDOFF, P.E. – CONSTRUCTION SERVICES ENGINEER

80: jwj

Enclosure

PLAN ADDENDUM SUMMARY AND APPROVAL

PROJECT INFORMATION		
Project:	NHU-SU-CPU-7-002(178)019	PCN: 23335
Location:	US-2 9 th Ave W to N of 34 th St in Williston	
Date:	12/27/2024	Lead Designer: Civil Science
Bid Opening Date:	1/10/2025	JOB#: 23335 Addendum#: 2

PLAN SHEET CHANGES		
Section	Sheet	Description
6	6	Revised Note 722-P04 from “(new or adjusted manholes)” to “(new or modified manholes)”.
6	8	Revised Note 770-P05 to call out a 29’ or 40’ shaft length from top of foundation to the bottom of luminaire for all light standards.
6	10	Revised Note 772-P04 to call out Clary SP1250XLE system to be installed in traffic signal controller cabinet. Revised Note 772-P05 to call out NoTraffic NT-DET detection system.
6	11	Revised Note 772-P13 to call out Polara pedestrian crossing system. Added Note 772-P15 TRAFFIC SIGNAL HOUSINGS to call out McCain traffic signal housings with AeroFlex backplates and 1-inch reflective tape border. Added Note 772-P16 TRAFFIC SIGNAL CONTROL SYSTEM to call out McCain ATC FLEX Controller. Added Note 772-P17 TRAFFIC SIGNAL CONTROLLER CABINET to call out McCain 350i ATC Cabinet.
6	12	Text was shifted due to the notes that were added on Sheet 11.
8	2	Revised quantity for 722 0317 MANHOLE CASTING TYPE 1 from 1 to 2 for Funding Source A. Total quantity was changed to 5.
8	4	Revised quantity for 910 0570 MODIFY MANHOLE from 2 to 1 for Funding Source B, and from 0 to 1 for Funding Source C. Total quantity was unchanged.
11	2	Revised quantities for 910 0570 Modify Manhole. Revised manhole at Sta 1019+81 to be included as part of Funding Source C.
60	1	Added bid item quantity for 722 0317 MANHOLE CASTING TYPE 1.

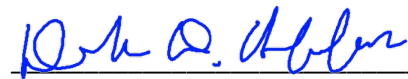
140	1	Proposed Circuit #3 was split into two circuits, Circuit 1 (south of US-2) and Circuit 2 (north of US-2). A new connection was added to the existing feed point EXFP1 from the existing luminaire at Sta 597+07. Proposed luminaires L1 to L8 were placed on Circuit 1 with a connection to the existing luminaire at Sta 600+35.
140	2	Proposed luminaires L9 to L-14 were placed on Circuit 2, with a connection to the existing luminaire at Sta 604+98. Pull boxes LHT-PB1, LHT-PB2 and the proposed crossing across US 2 were removed. Proposed circuit "Ppsd Circuit #3" name labels were revised to "Ppsd Circuit #1" south of US-2 and "Ppsd Circuit #2" north of US-2.
140	3	Proposed circuit "Ppsd Circuit #3" name labels were revised to "Ppsd Circuit #1" south of US-2 and "Ppsd Circuit #2" north of US-2.
140	4	Proposed circuit "Ppsd Circuit #3" name labels were revised to "Ppsd Circuit #1" south of US-2 and "Ppsd Circuit #2" north of US-2.
140	16	Revised Light Std L71 to a Type A Dbl.
140	20	Updated EXFP1 lighting schematic to show Ppsd Cirtcuit #1 including Luminaires L1 to L8, and Ppsd Cirtcuit # 2 including Ppsd luminaires L9 to L14.
140	23	Updated FP3 lighting schematic to show a Type A Dbl at Light Std L71.
140	24	Updated quantity table for Existing Feedpoint "EXFP1" at US-2 & 9 th Ave W based on revised circuit layout and removal of pull boxes LHT-PB1 and LHT-PB2.
140	26	Updated quantity tables for Proposed Feedpoint "FP3" at 2 nd Ave W & 26 th St W and Light Standard Locations Fed from FP3 at 2 nd Ave W & 26 th St W to show "L71-A" being revised to "L71-A Dbl". Updated lighting quantities summary table for the changes to "EXFP1" and the revision of L71 to a Type A Dbl. Removed quantities for Embedded Foundation. Total quantity for Concrete Foundation revised to 77.
150	6	Revised "Controller Type 1" in Quantities table to "ATC Controller and Cabinet". "Vide Detection Equipment" revised to "Video Detection Equipment".
150	9	Revised vertical clearance dimension to call out 19'-21'.
150	10	Revised vertical clearance dimension to call out 19'-21'.
150	11	Revised vertical clearance dimension to call out 19'-21'.
150	12	Revised vertical clearance dimension to call out 19'-21'.
150	19	Revised "Controller Type 1" in Quantities table to "ATC Controller and Cabinet".
150	22	Revised vertical clearance dimension to call out 19'-21'.
150	23	Revised vertical clearance dimension to call out 19'-21'.

CHANGES MADE TO BID ITEMS FOR JOB					
Spec	Code	Description	Unit	Previous Quantity	Revised Quantity
722	0317	MANHOLE CASTING TYPE 1	EA	4	5

APPROVAL

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

☒ Yes ☐ No



Derek Pfeifer, P.E. – Local Government Division

12/30/2024

Date

BID ITEMS

Project: NHU-SU-CPU-7-002(178)019 (PCN-23335)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
001	103	0100	CONTRACT BOND	L SUM	1.				
002	201	0380	REMOVAL OF TREES 18IN	EA	18.				
003	201	0390	REMOVAL OF TREES 30IN	EA	12.				
004	202	0097	REMOVAL OF STRUCTURES & OBSTRUCTIONS	L SUM	1.				
005	202	0105	REMOVAL OF STRUCTURE	L SUM	1.				
006	202	0129	REMOVAL OF CURB	LF	137.				
007	202	0130	REMOVAL OF CURB & GUTTER	LF	10,734.				
008	202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	1,436.				
009	202	0136	REMOVAL OF PAVEMENT	TON	52,047.				
010	202	0170	REMOVAL OF CULVERTS-ALL TYPES & SIZES	LF	1,637.				
011	202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	2,804.				
012	202	0210	REMOVAL OF MANHOLES	EA	10.				
013	202	0230	REMOVAL OF INLETS	EA	18.				
014	202	0231	REMOVE & RESET INLETS	EA	1.				
015	202	0235	REMOVAL OF CATCH BASIN	EA	10.				
016	202	0288	EXCAVATION & DISPOSAL OF CONTAMINATED SOIL	CY	1,000.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
017	202	0310	REMOVAL OF CHAIN LINK FENCE	LF	492.				
018	202	0812	DISPOSAL OF CONTAMINATED WATER	GAL	5,000.				
019	203	0101	COMMON EXCAVATION-TYPE A	CY	56,924.				
020	203	0109	TOPSOIL	CY	15,107.				
021	203	0113	COMMON EXCAVATION-WASTE	CY	13,446.				
022	203	0119	TOPSOIL-IMPORTED	CY	939.				
023	210	0050	BOX CULVERT EXCAVATION	EA	1.				
024	210	0210	FOUNDATION FILL	CY	96.				
025	210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1.				
026	216	0100	WATER	M GAL	1,884.				
027	230	0165	SUBGRADE PREPARATION-TYPE A-12IN	STA	71.200				
028	251	0200	SEEDING CLASS II	ACRE	19.480				
029	251	1000	WETLAND SEED	ACRE	.400				
030	251	2000	TEMPORARY COVER CROP	ACRE	19.750				
031	253	0201	HYDRAULIC MULCH	ACRE	39.620				
032	255	0101	ECB TYPE 1	SY	970.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
033	255	0201	TRM TYPE 1	SY	287.				
034	256	0200	RIPRAP GRADE II	CY	87.				
035	260	0100	SILT FENCE UNSUPPORTED	LF	590.				
036	260	0101	REMOVE SILT FENCE UNSUPPORTED	LF	590.				
037	261	0112	FIBER ROLLS 12IN	LF	2,288.				
038	261	0113	REMOVE FIBER ROLLS 12IN	LF	1,248.				
039	302	0120	AGGREGATE BASE COURSE CL 5	TON	37,154.				
040	430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	2,275.				
041	550	0305	9IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	61,855.				
042	606	0704	7FT X 4FT PRECAST RCB CULVERT	LF	62.				
043	606	2704	DBL 7FT X 4FT PRECAST RCB CULVERT	LF	62.				
044	606	4704	7FT X 4FT PRECAST RCB END SECTION	EA	2.				
045	606	6704	DBL 7FT X 4FT PRECAST RCB END SECTION	EA	2.				
046	702	0100	MOBILIZATION	L SUM	1.				
047	704	0100	FLAGGING	MHR	5,220.				
048	704	1000	TRAFFIC CONTROL SIGNS	UNIT	7,476.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
049	704	1051	TYPE II BARRICADE	EA	3.				
050	704	1052	TYPE III BARRICADE	EA	229.				
051	704	1060	DELINEATOR DRUMS	EA	601.				
052	704	1065	TRAFFIC CONES	EA	20.				
053	704	1067	TUBULAR MARKERS	EA	120.				
054	704	1072	FLEXIBLE DELINEATORS	EA	290.				
055	704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	4.				
056	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	336.				
057	704	3511	STATE FURNISHED MEDIAN BARRIER	LF	140.				
058	704	4011	PORTABLE CHANGEABLE MESSAGE SIGN	EA	5.				
059	706	0400	FIELD OFFICE	EA	1.				
060	706	0500	AGGREGATE LABORATORY	EA	1.				
061	708	1540	INLET PROTECTION-SPECIAL	EA	48.				
062	708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	48.				
063	709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	243.				
064	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	131.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
065	714	3030	END SECT-CONC REINF 30IN	EA	1.				
066	714	4097	PIPE CONDUIT 15IN-STORM DRAIN	LF	196.				
067	714	4101	PIPE CONDUIT 18IN-STORM DRAIN	LF	1,008.				
068	714	4107	PIPE CONDUIT 24IN-STORM DRAIN	LF	798.				
069	714	4110	PIPE CONDUIT 30IN	LF	210.				
070	714	4113	PIPE CONDUIT 30IN-APPROACH	LF	65.				
071	714	4115	PIPE CONDUIT 36IN	LF	930.				
072	714	4117	PIPE CONDUIT 36IN-STORM DRAIN	LF	150.				
073	714	4122	PIPE CONDUIT 42IN-APPROACH	LF	916.				
074	714	4125	PIPE CONDUIT 48IN	LF	816.				
075	714	4126	PIPE CONDUIT 48IN-STORM DRAIN	LF	162.				
076	714	4227	PIPE CONDUIT ARCH 51IN X 31IN	LF	644.				
077	714	4231	PIPE CONDUIT ARCH 65IN X 40IN	LF	36.				
078	714	9680	PLUG PIPE-ALL TYPES & SIZES	EA	3.				
079	720	0110	RIGHT OF WAY MARKERS	EA	3.				
080	720	0125	ALIGNMENT MONUMENTS	EA	33.				

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						\$\$\$\$	000	\$\$\$\$	00
081	720	0130	IRON PIN R/W MONUMENTS	EA	7.				
082	722	0100	MANHOLE 48IN	EA	4.				
083	722	0107	MANHOLE 54IN	EA	1.				
084	722	0130	MANHOLE 84IN	EA	1.				
085	722	0200	MANHOLE 108IN	EA	1.				
086	722	0317	MANHOLE CASTING TYPE 1	EA	5.				
087	722	1100	MANHOLE RISER 48IN	LF	52.				
088	722	1106	MANHOLE RISER 54IN	LF	4.				
089	722	1130	MANHOLE RISER 84IN	LF	5.				
090	722	1200	MANHOLE RISER 108IN	LF	7.				
091	722	3291	ABANDON SANITARY SEWER MANHOLE	EA	2.				
092	722	3297	ABANDON STORM SEWER	LF	96.				
093	722	3495	MODIFY INLET	EA	1.				
094	722	3510	INLET-TYPE 2	EA	1.				
095	722	3520	INLET-TYPE 2 DOUBLE	EA	7.				
096	722	3701	INLET SPECIAL-TYPE 2 48IN	EA	3.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
097	722	3720	INLET SPECIAL CATCH BASIN 6IN BEEHIVE 48IN	EA	1.				
098	722	3730	INLET SPECIAL CATCH BASIN 9IN BEEHIVE 48IN	EA	1.				
099	722	3761	INLET SPECIAL-TYPE 2 60IN	EA	2.				
100	722	3766	INLET SPECIAL-TYPE 2 72IN	EA	1.				
101	722	4010	INLET CATCH BASIN 6IN BEEHIVE	EA	1.				
102	722	4020	INLET CATCH BASIN 9IN BEEHIVE	EA	3.				
103	722	6140	ADJUST GATE VALVE BOX	EA	18.				
104	722	6160	ADJUST INLET	EA	5.				
105	722	6200	ADJUST MANHOLE	EA	6.				
106	724	0270	REMOVE GATE VALVE & BOX	EA	4.				
107	724	0310	GATE VALVE & BOX 8IN	EA	6.				
108	724	0420	HYDRANT-RELOCATE	EA	2.				
109	724	0430	REMOVE HYDRANT	EA	1.				
110	724	0611	WATER SERVICE LINE 1IN	LF	86.				
111	724	0820	WATERMAIN 8IN	LF	500.				
112	724	0905	CURB STOP & BOX 1IN	EA	2.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
113	724	1025	UNDERGROUND IRRIGATION SYSTEM	L SUM	1.				
114	724	1118	15IN SANITARY SEWER PIPE	LF	1,214.				
115	724	1208	BORE & PUSH 8IN WATERMAIN	LF	279.				
116	724	6825	8IN 45DEG BEND	EA	4.				
117	724	7009	REMOVE TEE	EA	1.				
118	724	7011	8IN TEE	EA	1.				
119	744	0100	POLYSTYRENE INSULATION BOARD	BD FT	7,920.				
120	748	0140	CURB & GUTTER-TYPE I	LF	14,675.				
121	748	0150	MOUNTABLE CURB & GUTTER-TYPE 1 SEC A	LF	50.				
122	748	0520	CURB-TYPE I	LF	164.				
123	750	0101	SIDEWALK CONCRETE REINF	SY	89.				
124	750	0115	SIDEWALK CONCRETE 4IN	SY	3,772.				
125	750	0200	CONCRETE MEDIAN PAVING	SY	3,407.				
126	750	0210	CONCRETE MEDIAN NOSE PAVING	SY	118.				
127	750	1000	DRIVEWAY CONCRETE	SY	652.				
128	750	2115	DETECTABLE WARNING PANELS	SF	192.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
129	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	471.400				
130	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	373.600				
131	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1,527.100				
132	754	0592	RESET SIGN PANEL	EA	4.				
133	754	0803	OBJECT MARKERS - TYPE III	EA	4.				
134	754	0805	OBJECT MARKERS - CULVERTS	EA	21.				
135	762	0122	PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)	SF	1,296.				
136	762	0420	SHORT TERM 4IN LINE-TYPE R	LF	108,031.				
137	762	0424	SHORT TERM 8IN LINE-TYPE R	LF	16,433.				
138	762	0426	SHORT TERM 24IN LINE-TYPE R	LF	1,098.				
139	762	0440	SHORT TERM MESSAGE-TYPE R	SF	2,420.				
140	762	1305	PREFORMED PATTERNED PVMT MK 4IN LINE-GROOVED	LF	17,697.				
141	762	1307	PREFORMED PATTERNED PVMT MK 6IN LINE-GROOVED	LF	795.				
142	762	1309	PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	12,784.				
143	762	1325	PREFORMED PATTERNED PVMT MK 24IN LINE-GROOVED	LF	536.				
144	766	0100	MAILBOX-ALL TYPES	EA	6.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
145	770	0001	LIGHTING SYSTEM	EA	1.				
146	770	4525	REVISE LIGHTING SYSTEM	EA	5.				
147	770	4560	REMOVE LIGHT STANDARD	EA	57.				
148	772	0004	SIGNAL STANDARD-MA FOUNDATION	EA	1.				
149	772	2810	TEMPORARY TRAFFIC SIGNALS	EA	2.				
150	772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1.				
151	772	9812	TRAFFIC SIGNAL SYSTEM - SITE 2	EA	1.				
152	900	1000	TEMPORARY STREAM DIVERSION	EA	1.				
153	910	0570	MODIFY MANHOLE	EA	8.				
154	920	1233	HEALTH AND SAFETY PLAN	L SUM	1.				
155	930	9543	RETAINING WALL	SF	56.				
156	970	1012	SHRUBS GROUP A	EA	24.				
157	970	2028	TATARIAN MAPLE	EA	24.				
158	970	2194	RED SPLENDOR CRABAPPLE	EA	13.				
159	970	2392	IVORY SILK LILAC	EA	13.				
160	970	2456	PRAIRIE EXPEDITION AMERICAN ELM	EA	13.				

North Dakota Department of Transportation

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
			TOTAL SUM BID						

NOTES

Revised 12/27/2024

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NHU-SU-CPU-7-002(178)019	6	6

- 714-P01

PIPE CONDUIT: For culverts located from Sta 626+28 – 145’ Lt to Sta 628+31 – 161’ Rt and Sta 626+37 – 145’ Lt to Sta 628+35 – 155’ Rt seal joints with rubber gaskets or with sealer approved by the Engineer. Include the cost of materials, equipment, labor, and incidentals required for this operation in the unit price bid for “PIPE CONDUIT 36IN.”
- 722-P01

ABANDON SANITARY SEWER MANHOLES AND SEWER LINE: Remove all adjustment rings and risers to minimum of 2 feet below the proposed surface. Pump the pipe and manhole full of controlled density backfill.

Furnish and install end plugs near the existing manholes to remain in service prior to placing backfill in the pipe itself. The end plug must be watertight.

Place controlled density backfill starting at the end plug, filling the cavity progressively away from the end plug until the entire pipe and manhole is filled. Controlled density backfill must continue to be pumped until refusal (when no more backfill can be pumped).

Include all required materials, labor and equipment in the unit price for “ABANDON SANITARY SEWER MAHNOLE.”
- 722-P02

ABANDON STORM SEWER: At the location designated in the plans, clean out and plug existing pipe. Pump the pipe full of controlled density backfill.

Furnish and install an end plug near the existing manhole prior to placing backfill in the pipe itself. The end plug must be watertight.

Place controlled density backfill starting at the end plug, filling the cavity progressively away from the end plug until the entire pipe is filled. Pump controlled density backfill until refusal (when no more backfill can be pumped). Include all labor, materials, and equipment in the unit cost for “ABANDON STORM SEWER.”
- 722-P03

CONTROLLED DENSITY BACKFILL: Use a controlled density backfill consisting of cement, water, pozzolanic materials, and fillers. Use a material that is fluid on placement to flow around and fill voids in the backfill area. Use a material able to support normal loads after 6 hours and have a compressive strength in the range of 75 psi to 125 psi at 28 days. If either mix design shown is used, no further testing will be required. The mix design yields approximately one cubic yard of flowable mortar.

Mix Design 1

Cement 100 lbs

Fly Ash 300 lbs

Fine Aggregate 2600 lbs

Water 65 gals

Mix Design 2 (No Fly Ash)

Cement 165 lbs

Fly Ash N/A

Fine Aggregate 2600 lbs

Water 65 gals
- 722-P04

MANHOLE CASTINGS: Install floating manhole castings for all storm sewer and sanitary sewer manholes that lie within the limits of the concrete pavement (new or modified manholes) or sidewalk. Include the cost of providing floating manhole

- castings per Standard Drawing D-722-5A within the unit price bid for “722-0137 MANHOLE CASTING TYPE 1”.

Install castings 1/4" to 3/8" below the finished surface. Install floating manhole castings with the paving operation. Manhole isolation or box outs will not be allowed.
- 724-P01

WATERMAIN: Use potable water products meeting American National Standards Institute (ANSI) and National Sanitation Foundation International (NSF) Standard 61. Provide product certification by NSF, the Underwriters Laboratories, or other organizations accredited by ANSI.

Use PVC C-900 pipe, DR18 and PVC C-905, DR25.

Provide restrained Class 350 ductile iron fittings including bends, tees, reducers, plugs and adapters. Provide fittings manufactured by Tyler Pipe, American Cast Iron Pipe Company. Install watermain fittings with stainless steel bolts and nuts and anti-seize material placed on the threads.
- 724-P02

OPERATION OF EXISTING VALVE AND HYDRANTS: Coordinate with City Water Department to operate existing valves and hydrants. Open new valves adjacent to an existing main only after the following conditions have been met:

1. Notify Water Distribution personnel to operate the valve and flush adjacent mains in the area, if necessary.

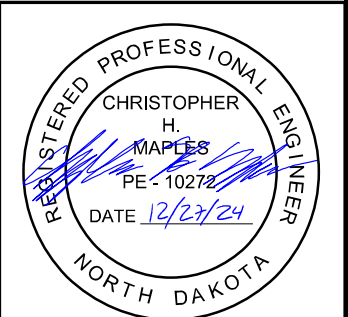
2. Hydrostatic testing and sterilization is complete and approved.

3. Confirm that the connection point is not to a “dead-end” line. If so, make provisions to back flush the existing main to ensure water quality of the new connection.

Unauthorized valve operation resulting in material, labor, or water cost to the City will be either invoiced or deducted from the payment due the Contractor. Charges to the Contractor in either case will be calculated at the employee’s direct wage rates with a 2.0 multiplier.

New valves external to the existing distribution system may be opened and closed as necessary for installation and testing during construction.
- 724-P03

TEMPORARY WATER SERVICE: Provide temporary water service to Williston City water customers when water service shut-off extends beyond a 4-hour period. Notify affected customers 48 hours in advance of water service shut-off. Coordinate water service shut-off with Williston City Water Department. Include costs for materials, equipment, labor, maintenance, and incidentals in the contract unit price for "BORE & PUSH 8IN WATERMAIN.”



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luminaire in the base of the lighting standard at the handhole. Tape fuse kits with a 1/2-inch lapped layer for a distance of 1½ inches on each side of joint with conductor. Fuse holders to be complete with a proper fuse to protect luminaire. Connect the neutral conductor to be solid and unfused throughout the system. Support the fuse by the conductors at the level of the hand hole. Provide sufficient excess conductor length to permit withdrawal of the fuse holder through the hand hole a minimum of 6 inches outside of the hand hole.

770-P05 STREET LIGHT STANDARDS: The following are approved equivalent street light standards for the following types of street light units:

- TYPE A AND C STREET LIGHT STANDARD:
 - Steel light standards are to be two-piece galvanized construction. The shaft will be constructed using only one longitudinal weld with a minimum yield strength of 50,000 PSI. Shaft may be round or octagonal.
 - The Davit type mast arm is to be constructed of one-piece galvanized steel material. Utilize a tenon adaptor for mast arm luminaire mounting.
 - The anchor is to be a one-piece steel casting secured to the lower end of the shaft by two continuous welds. Utilize one weld inside the base at the bottom of the shaft, and the other on the outside of the shaft, at the top of the anchor base. Is to have the full strength of the adjacent shaft section. Complete assembly of the anchor base with bolts, washers, shims, and bolt covers with cap screws for attaching covers to base. Grounding lug to be provided inside of base.
 - Provide a hand hole in the shaft opposite the roadside. Hand holes to be a minimum of 4 inches by 6 inches with reinforced frame and removable cover. Cover to be secured in place with tamper proof screws.
 - Ensure the bases for the light standards are the breakaway transformer type with a minimum of 4 anchor bolts. Provide 6 ft davit mast arms. Ensure the shaft length is 29 ft or 40 ft from the top of the foundation to the bottom of the luminaire for all light standards.

770-P06 LED LUMINAIRES – CONVENTIONAL (TYPE A): Provide luminaires that meet the following or approved equal:

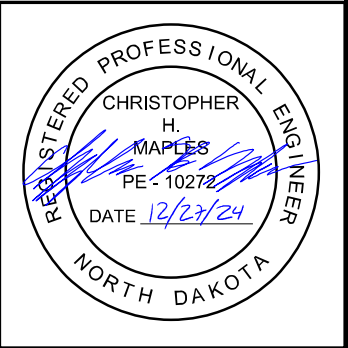
Conventional Luminaire	Catalog Number
American Electric Autobahn ATB2	ATB2-P601-MVOLT-R3-NL-BAA-NR

The Lighting was designed using the requirements.

Roadway Classification	Principal Arterial
Average Maintained Illuminance	1.2 foot-candles
Illuminance Uniformity Ratio	3:1
Minimum Illuminance	As uniformity ratio allows
Light Loss Factor	0.81

Alternate luminaires must meet the requirements below.

Conventional (Type A) Alt. Luminaire Requirements	
Light Source	LED
Light Output	25,000 lm to 30,000 lm
Driver	As required
Wattage	160W to 190W
Color temperature	5000K
Operating temperature Range	-40°C to 40°C
Luminaire Housing	Die-cast aluminum
Vibration Testing	3G(ANSI C136.31)
Surge Suppression Rating	20kV/10kA (ANSI C136.2)
Outdoor rating for housing, wiring, and drivers	ANSI C136.25
Bug Rating	B3-U0-G4
Luminaire Housing Color	Gray
Photo Control on each luminaire	No
Tool-less Access	Yes
NEMA Label	Yes
Qualified with DesignLights Consortium	Yes



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- 772-P03 SIGNAL COMPONENT COLOR: Color the traffic signal system components as follows:
 - Signal and pedestrian head housing – black
 - Signal head mounting hardware – unpainted
 - Pedestrian pushbutton housing – black
- 772-P04 BATTERY BACKUP SYSTEM: Provide Clary Model SP1250XLE System with added generator plug. The Uninterruptible Power Supply (UPS) shall provide backup power to the system for a minimum of 2 hours in full signalized operation and a minimum of 8 hours in flash operation. Install the battery back-up system inside of the traffic signal controller cabinet.

Coordinate with video detection system manufacturer to ensure the system includes all cable connections, camera aiming and system set-up, including programming detection zones and verification of reliable operation. The location of cameras in the plans are for reference only. Install the cable, cameras and provide all labor and equipment necessary for the video detection system to be fully operational. Provide one spare camera and processor. Include all costs for labor, materials and equipment necessary for furnishing and installing this item in the price bid for “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P05 VIDEO DETECTION SYSTEM: Provide NoTraffic Brand Model NT-DET detection system. Coordinate system requirements with the City of Williston. Contact information: David Juma - City Engineer 701-577-6368.

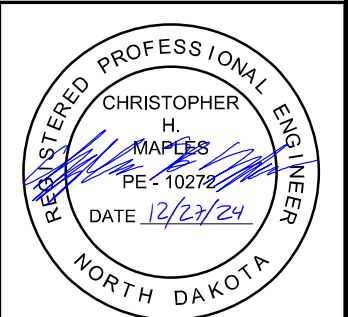
Coordinate with video detection system manufacturer to ensure the system includes all cable connections, camera aiming and system set-up, including programming detection zones and verification of reliable operation. The location of cameras in the plans are for reference only. Install the cable, cameras and provide all labor and equipment necessary for the video detection system to be fully operational. Provide one spare camera and processor. Include all costs for labor, materials and equipment necessary for furnishing and installing this item in the price bid for “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P06 EMERGENCY VEHICLE PRE-EMPTION: Provide optical emitter Opticom emergency vehicle preemption systems or approved equal. Coordinate system requirements with the City of Williston. Contact David Juma - City Engineer 701-577-6368

Place the confirmation light at the same location on the mast arm as the EVP detectors. The City of Williston is responsible for setting the range of the system. Provide all materials, labor, and equipment for a fully functioning EVP system as described. Include all costs in the bid price for “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P07 CONDUIT: Install conduit as shown on the plans. Seal all conduits with duct seal at the controller cabinet and at the traffic signal standard foundations. Install three spare 2” conduit sweeps in the controller cabinet foundation and two spare 2” conduit sweep in each traffic signal standard base. Label all spare conduits inside the cabinet, with the direction in which they exit the foundation. Label all conduits in cabinets and pull boxes with their destination. Cap spare conduits with an oil-tight plug with wing nut and label as to which direction they face. Include all costs in the bid price for “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”

- 772-P08 TERMINAL STRIP PROTECTION: Mount the terminal strip on a ½” thick white plastic backing material and provide a terminal strip protection pipe within the signal transformer base. Provide a 3” to 3½” PVC protection pipe with a minimum length of 12” and must cover the entire terminal strip. Cap one end of the PVC pipe. Place the terminal strip within the PVC pipe with the cap side up inside the transformer base.

Include all materials, labor, and equipment necessary to provide and install the terminal strip protection pipe in the bid price for “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P09 LABEL ALL FIELD CABLES: Obtain approval of the City of Williston on all labeling materials. Provide labels that are readable without moving the cables.

Use a heat-shrink labeling system. Do not strip back from the connection more than 12 to 18 inches. This work is not a separate pay item. Include costs in the price bid for: “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P10 CONTROLLER CABINET WIRING DIAGRAM: Provide a CAD drawing file of the as-built cabinet wiring diagram. Include the cost in the price bid for: “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P11 CONFLICT MONITOR TESTING: Perform a complete controller conflict monitor test prior to unveiling the traffic heads. Supply the conflict monitor maintenance record test form along with instructions that must be followed completely before the signals are put into operation. Include all materials, labor, and equipment necessary to conduct the conflict monitor testing in the bid price for: “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”
- 772-P12 PULL BOXES: Provide pull boxes that are made of a lightweight, high-density polymer concrete composite, UL listed and are resistant to sunlight exposure, weathering, chemicals, and unaffected by freeze-thaw cycles to -50 F. See standard drawing D-770-3 for details. Duct seal all conduits entering and exiting pull boxes. No splicing is allowed in pull boxes. Provide box covers that are stainless steel hex bolts and nuts and be stamped with standard logo "Traffic Signal." Include all costs, labor, materials, and equipment necessary for furnishing and installing this item in the respective bid price for: “TRAFFIC SIGNAL SYSTEM - SITE 1” or “TRAFFIC SIGNAL SYSTEM – SITE 2.”



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772-P13 ACCESSIBLE PEDESTRIAN SIGNALS (APS) PUSHBUTTON AND SIGN: Provide Polara Pedestrian Crossing System. Shall include the features, installation procedures, and be compliant with the following:			772-P15 TRAFFIC SIGNAL HOUSINGS: Provide McCain Brand traffic signal housing. Install Aero Flex backplates with 1-inch reflective tape border.			
A. Features:			772-P16 TRAFFIC SIGNAL CONTROL SYSTEM: Provide McCain Brand ATC FLEX Controller.			
1. Rapid tick WALK indication, no more than 2-5DbA above ambient sound			772-P17 TRAFFIC SIGNAL CONTROLLER CABINET: Provide McCain Brand AC 350i ATC HIGH VOLT 32 channel output (Part number 350AC32ATCN1224NNNB). Provide spare parts for all components inside of cabinets.			
2. Vibrotactile WALK indication						
3. Speaker and vibrotactile indication located at pushbutton.						
4. Pushbutton locator tone						
5. Tactile arrow on each device aligned in direction of travel on the crosswalk.						
B. Installation Procedures			910-P01 MODIFY MANHOLE: Modify existing manhole to accept new sanitary sewer line. Ensure watertight fit of new line. Work includes removing riser and replacing with a shorter section to achieve new finish grade plan elevation. Include all costs for materials, equipment, labor, maintenance, and incidentals within the unit price bid for "MODIFY MANHOLE."			
1. APS should be reachable from the level landing of the curb ramp for the crossing or from a level surface with an accessible path to the ramp (MUTCD Section 4E.08 and Proposed and Draft PROWAG).			950-P01 RETAINING WALL: A portion of the existing sign wall at Sta 1009+39 - 60' Rt is to be removed by the property owner by April 1, 2025. Coordinate with First State Bank & Trust prior to construction of retaining wall.			
2. APS should be within 5 feet of the crosswalk line furthest from the center of the intersection and within 10 feet of the curb (MUTCD Section 4E.08).			Include all costs for materials, reinforcing, equipment, labor, maintenance, and incidentals within the unit price bid for "RETAINING WALL."			
3. Tactile arrow shall be aligned parallel to the direction of travel on the crosswalk (MUTCD Section 4E.12, P1).			970-P01 TREES & SHRUBS GROUP A: Plant trees under the direction of an arborist licensed by the City of Williston. Notify the engineer for an inspection of all plant material prior to installation, acceptable plants will be approved and marked or flagged for installation. Care for all plants from the time of planting until the contract plant establishment period expires. Proper care of plants consists of supplemental watering, weeding, pruning, spraying, tightening of braces and guys, retying wrapping, re-mulching and other work as necessary to keep plants in a neat appearance and in a healthy growing condition.			
4. Pushbutton required to be located within reach range for wheelchair users (Proposed PROWAG, R406).			Perform complete watering at 5 to 7-day intervals which may be adjusted when weather conditions and soil moisture permit. Additional watering may be ordered by the Engineer at any time during the plant establishment period when soil conditions require such watering. Provide a 20-gallon slow-release supplemental water bag for each deciduous tree and a 15-gallon slow-release supplemental water bag for each shrub planted which is incidental to the cost of the unit bid price for each tree. Supplemental water bags will become the property of the City of Williston following acceptance of plant material.			
C. Code Compliance:			Remove topsoil and subsoil excavated in each proposed planting hole and backfill all tree pits with native soil excavated from the tree pit per the details.			
1. Functionality: MUTCD 2009 – 4E			REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER H. MAPLES PE - 10272 DATE 12/27/24 NORTH DAKOTA			
2. Temperature and Humidity: NEMA TS 2						
3. Transient Voltage Protection: NEMA TS 2						
4. Transient Suppression: IEC 61000-4-4, IEC 61000-4-5						
5. Electronic Noise: FCC Title 47, Part 15, Class A						
6. Mechanical Shock and Vibration: NEMA TS 2						
7. EN4 PBS Enclosure: NEMA 250 – Type 4X						
8. Electrical Reliability: NEMA TS 4						
The cost for the accessible pedestrian signals pushbutton and sign shall not be bid separately but shall be included in the item for: "TRAFFIC SIGNAL SYSTEM - SITE 1" or "TRAFFIC SIGNAL SYSTEM – SITE 2."						
772-P14 FEED POINT-COMBO LIGHTING & SIGNAL-PAD MOUNTED: Install the feed point at the location indicated in the plans. Provide underground incoming electrical service. See standards drawings D-770-2 and D-770-2A along with Section 140 for details.						
Coordinate feed point (meter) work to establish the service connection and ensure a fully operation traffic signal controller feed point at each location with Montana-Dakota Utilities (MDU), Jon Wahlgren at 701-222-7794. Include all labor, materials and equipment required to coordinate the MDU service and install conduit between MDU's transformer and the meter, the meter socket, and all signal equipment downstream of the meter in the bid price for: "TRAFFIC SIGNAL SYSTEM - SITE 1" or "TRAFFIC SIGNAL SYSTEM – SITE 2."						

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The Contractor will replace all plants that die or show evidence of dying, in the opinion of the City of Williston Forester, during the plant establishment period at the Contractor's expense at the earliest appropriate planting time after this condition becomes apparent.

The City of Williston will remove and dispose of all bracing and guying materials.

Do not install plant material when ambient temperatures may drop below 35° F or rise above 90° F within 24 hours after planting. Do not install plant material when wind velocity exceeds 30 mph.

Acceptable planting dates for warranty plantings are as follows: Spring: April 15 – June 15 Fall: September 15 – October 15.

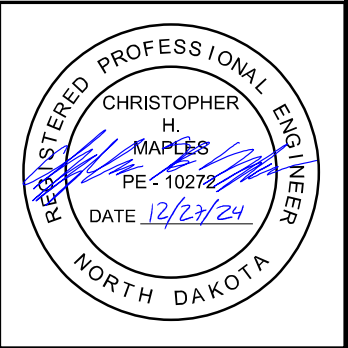
Landscape planting bid items: Trees are paid for individually and per species, ex. "Ivory Silk Lilac." which shall include plant care, maintenance, warranty, watering, supplemental water bags, wood mulch and tree guy anchoring systems.

All perennials are to be paid for in the lump sum unit price for "Shrubs Group A" which shall include plant care, maintenance, warranty, and watering.

Requests for plant substitutions must be approved prior to submitting a bid. Request all substitutions no later than one (1) week prior to bid opening to clarify with all prospective bidders in an addendum to the contract documents.

Include all costs for labor, equipment, materials necessary to install the trees and landscape plantings in the price bid for trees and plant pay items.

970-P02 FINAL ACCEPTANCE: Upon completion of the contract, the Engineer and City of Williston Forester will inspect the plant material and planting bed conditions for acceptability. Trees will be considered dead when the main leader has died back, or 25% of the crown is dead. Immediately remove designated plant material; replace immediately or as soon as possible in accordance with the planting dates and weather conditions. Perform maintenance prior to inspection. Any items of maintenance that have not been performed may make the tree unacceptable. The Engineer will inform the Contractor of any establishment procedures that have not been performed. The Engineer will provide a letter of final acceptance upon completion of any corrections notifying the Contractor of completion of the project.



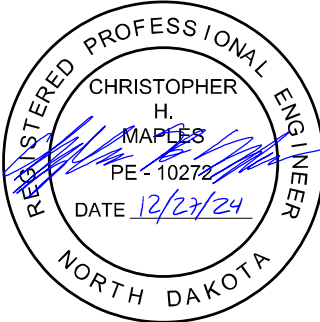
Estimated Quantities					Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
							ND	NHU-SU-CPU-7-002(178)019	8	2
SPEC	CODE	ITEM DESCRIPTION	UNIT	(A) US-2 Mainline	(B) US-2B	(C) City Streets	TOTAL			
704	1000	TRAFFIC CONTROL SIGNS	UNIT	5233	1495	748	7476			
704	1051	TYPE II BARRICADE	EA	3			3			
704	1052	TYPE III BARRICADE	EA	160	46	23	229			
704	1060	DELINEATOR DRUMS	EA	421	120	60	601			
704	1065	TRAFFIC CONES	EA			20	20			
704	1067	TUBULAR MARKERS	EA	84	24	12	120			
704	1072	FLEXIBLE DELINEATORS	EA	203	58	29	290			
704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	4			4			
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	173	50	113	336			
704	3511	STATE FURNISHED MEDIAN BARRIER	LF	140			140			
704	4011	PORTABLE CHANGEABLE MESSAGE SIGN	EA	5			5			
706	0400	FIELD OFFICE	EA	0.64	0.17	0.19	1			
706	0500	AGGREGATE LABORATORY	EA	0.64	0.17	0.19	1			
708	1540	INLET PROTECTION-SPECIAL	EA	6	26	16	48			
708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	6	26	16	48			
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY			243	243			
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY			131	131			
714	3030	END SECT-CONC REINF 30IN	EA		1		1			
714	4097	PIPE CONDUIT 15IN-STORM DRAIN	LF		28	168	196			
714	4101	PIPE CONDUIT 18IN-STORM DRAIN	LF	562		446	1008			
714	4107	PIPE CONDUIT 24IN-STORM DRAIN	LF	234	288	276	798			
714	4110	PIPE CONDUIT 30IN	LF	184		26	210			
714	4113	PIPE CONDUIT 30IN-APPROACH	LF	15		50	65			
714	4115	PIPE CONDUIT 36IN	LF	930			930			
714	4117	PIPE CONDUIT 36IN-STORM DRAIN	LF	150			150			
714	4122	PIPE CONDUIT 42IN-APPROACH	LF	916			916			
714	4125	PIPE CONDUIT 48IN	LF		816		816			
714	4126	PIPE CONDUIT 48IN-STORM DRAIN	LF			162	162			
714	4227	PIPE CONDUIT ARCH 51IN X 31IN	LF	644			644			
714	4231	PIPE CONDUIT ARCH 65IN X 40IN	LF			36	36			
714	9680	PLUG PIPE-ALL TYPES & SIZES	EA	3			3			
720	0110	RIGHT OF WAY MARKERS	EA	3			3			
720	0125	ALIGNMENT MONUMENTS	EA	14	12	7	33			
720	0130	IRON PIN R/W MONUMENTS	EA	7			7			
722	0100	MANHOLE 48IN	EA	2	2		4			
722	0107	MANHOLE 54IN	EA	1			1			
722	0130	MANHOLE 84IN	EA			1	1			
722	0200	MANHOLE 108IN	EA	1			1			
722	0317	MANHOLE CASTING TYPE 1	EA	2	2	1	5			
722	1100	MANHOLE RISER 48IN	LF	21	31		52			
722	1106	MANHOLE RISER 54IN	LF	4			4			
722	1130	MANHOLE RISER 84IN	LF			5	5			
722	1200	MANHOLE RISER 108IN	LF	7			7			
722	3291	ABANDON SANITARY SEWER MANHOLE	EA	2			2			
722	3297	ABANDON STORM SEWER	LF			96	96			
722	3495	MODIFY INLET	EA		1		1			
722	3510	INLET-TYPE 2	EA			1	1			

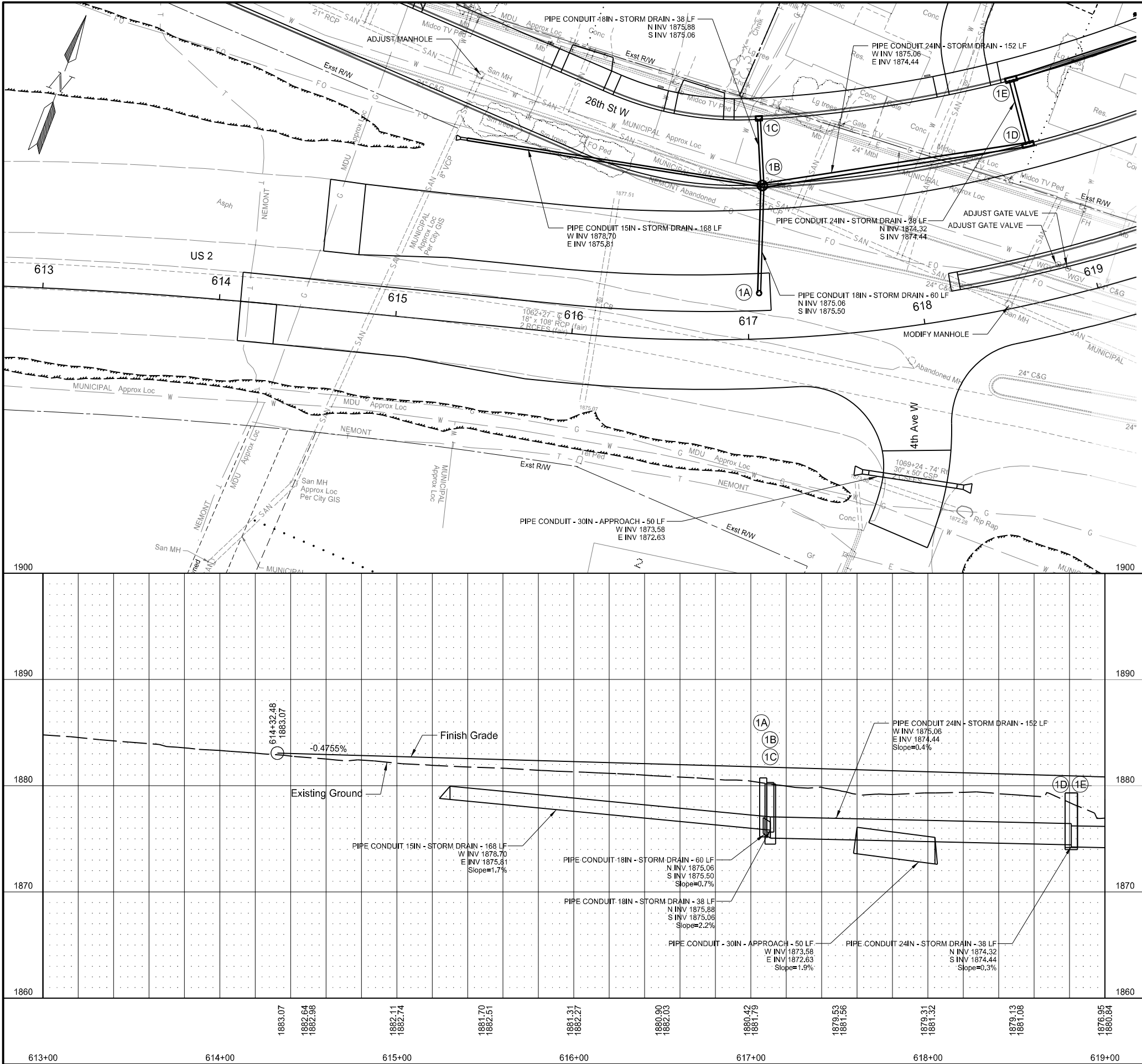
Estimated Quantities					Revised 12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
						ND	NHU-SU-CPU-7-002(178)019	8	4
SPEC	CODE	ITEM DESCRIPTION	UNIT	(A) US-2 Mainline	(B) US-2B	(C) City Streets	TOTAL		
762	1309	PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	7774	2750	2260	12784		
762	1325	PREFORMED PATTERNED PVMT MK 24IN LINE-GROOVED	LF	284	93	159	536		
766	0100	MAILBOX-ALL TYPES	EA			6	6		
770	0001	LIGHTING SYSTEM	EA	0.76	0.16	0.08	1		
770	4525	REVISE LIGHTING SYSTEM	EA			5	5		
770	4560	REMOVE LIGHT STANDARD	EA	40		17	57		
772	0004	SIGNAL STANDARD-MA FOUNDATION	EA	1			1		
772	2810	TEMPORARY TRAFFIC SIGNALS	EA	2			2		
772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1			1		
772	9812	TRAFFIC SIGNAL SYSTEM - SITE 2	EA		1		1		
900	1000	TEMPORARY STREAM DIVERSION	EA			1	1		
910	0570	MODIFY MANHOLE	EA	6	1	1	8		
920	1233	HEALTH AND SAFETY PLAN	L SUM	1			1		
930	9543	RETAINING WALL	SF		43	13	56		
970	1012	SHRUBS GROUP A	EA	24			24		
970	2028	TATARIAN MAPLE	EA	24			24		
970	2194	RED SPLENDOR CRABAPPLE	EA	13			13		
970	2392	IVORY SILK LILAC	EA	13			13		
970	2456	PRAIRIE EXPEDITION AMERICAN ELM	EA	13			13		

Utility Adjustments					
	722 - 3495 Modify Inlet	722 - 6160 Adjust Inlet	722 - 6140 Adjust Gate Valve Box	722 - 6200 Adjust Manhole	910 - 0570 Modify Manhole
(A) US-2 Mainline		Sta 646+80 - 136' Lt	Sta 618+81 - 18' Lt	Sta 647+34 - 94' Lt	Sta 618+49 - 3' Lt
		Sta 647+50 - 143' Lt	Sta 618+86 - 15' Lt	Sta 650+92 - 146' Lt	Sta 620+61 - 218' Rt
			Sta 647+08 - 111' Lt		Sta 621+17 - 163' Rt
			Sta 647+12 - 106' Lt		Sta 621+39 - 143' Rt
					Sta 621+76 - 46' Rt
					Sta 632+57 - 94' Lt
TOTALS	-	2	4	2	6
(B) US-2B	Sta 1007+32 - 8' Lt	Sta 1007+33 - 47' Rt	Sta 1007+96 - 30' Rt	Sta 1007+32 - 44' Lt	Sta 1010+11 - 87' Lt
		Sta 1007+43 - 47' Lt	Sta 1009+03 - 32' Rt		
			Sta 1009+09 - 25' Rt		
			Sta 1009+80 - 34' Rt		
			Sta 1010+05 - 136' Lt		
			Sta 1010+05 - 124' Lt		
			Sta 1010+13 - 129' Lt		
			Sta 1010+43 - 92' Rt		
			Sta 1010+46 - 68' Rt		
			Sta 1010+49 - 90' Rt		
TOTALS	1	2	10	1	1
(C) City Streets		Sta 306+38 - 30' Lt	Sta 305+54 - 32' Lt	Sta 303+20 - 16' Rt	Sta 1019+81 - 11' Lt
			Sta 305+99 - 30' Lt	Sta 305+68 - 7' Rt	
			Sta 403+24 - 17' Rt	Sta 702+96.33 - 1' Rt	
			Sta 403+29 - 17' Rt		
TOTALS	-	1	4	3	1

Utility Adjustments

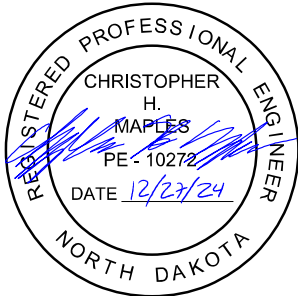
Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County

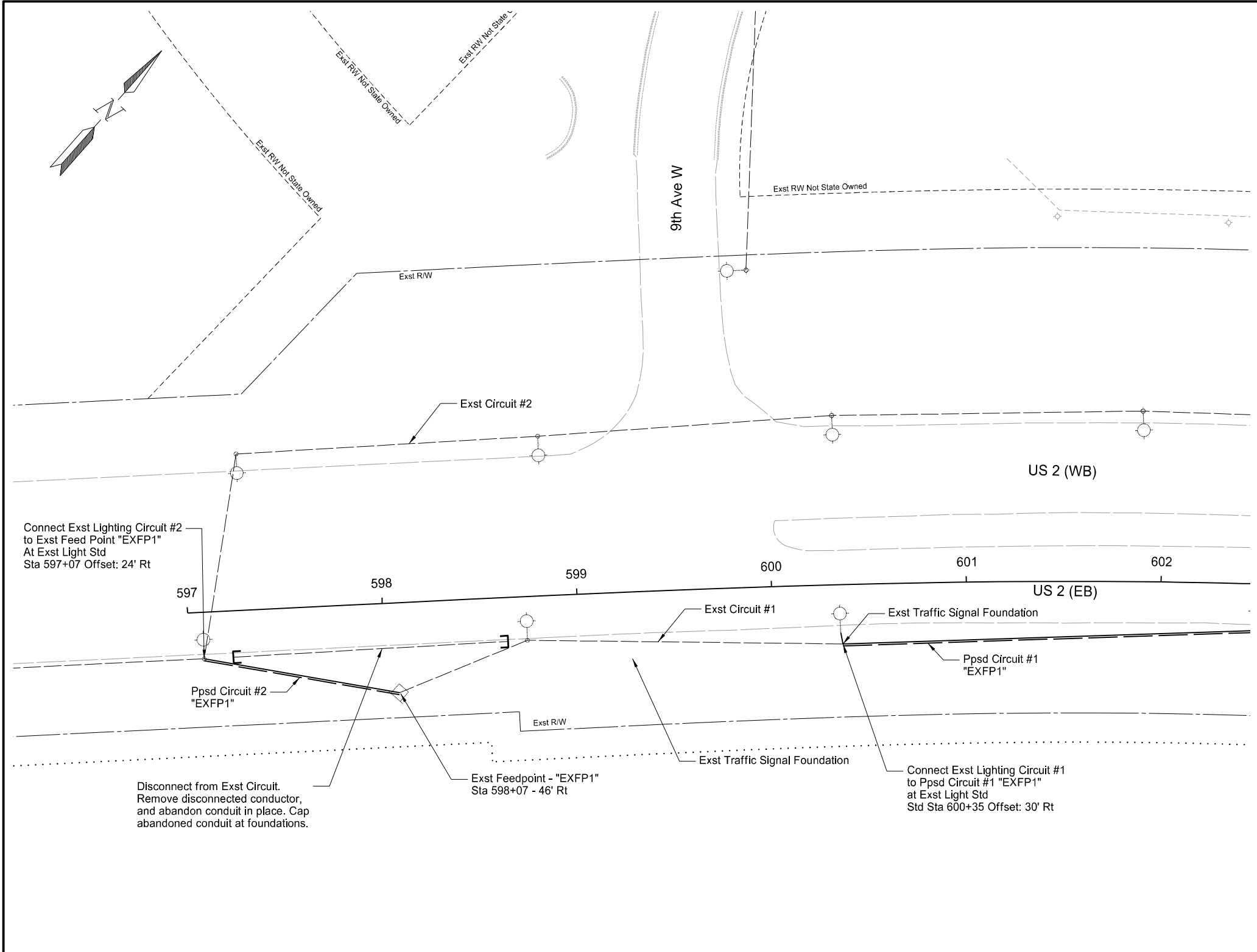




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SPEC	CODE	BID ITEM	QTY	UNIT
202	0170	REMOVAL OF CULVERTS-ALL TYPES & SIZES		
(A)		Sta 616+09 - 38' Rt to Sta 616+20 - 78' Lt	117	LF
(C)		Sta 617+60 - 84' Rt to Sta 618+01 - 106' Rt	51	LF
202	0210	REMOVAL OF MANHOLES		
(A)		Sta 617+90 - 19' Rt	1	EA
202	0235	REMOVAL OF CATCH BASIN		
(A)		Sta 616+14 - 20' Lt	1	EA
714	4097	PIPE CONDUIT 15IN-STORM DRAIN		
(C)		Sta 616+30 - 98' Lt to Sta 617+11 - 87' Lt	168	LF
714	4101	PIPE CONDUIT 18IN-STORM DRAIN		
(A)		Sta 617+07 - 26' Lt to Sta 617+11 - 87' Lt	60	LF
(C)		Sta 617+11 - 87' Lt to Sta 617+11 - 125' Lt	38	LF
714	4107	PIPE CONDUIT 24IN-STORM DRAIN		
(C)		Sta 617+11 - 87' Lt to Sta 618+81 - 88' Lt	152	LF
		Sta 618+81 - 88' Lt to Sta 618+81 - 126' Lt	38	LF
		TOTAL	190	LF
714	4113	PIPE CONDUIT 30IN-APPROACH		
(C)		Sta 617+60 - 80' Rt to Sta 618+04 - 93' Rt	50	LF
722	0317	MANHOLE CASTING TYPE 1		
(A)		Sta 618+49 - 3' Lt	1	EA
722	3510	INLET - TYPE 2		
1C (C)		Sta 617+11 - 125' Lt	1	EA
722	3520	INLET - TYPE 2 DOUBLE		
1D (C)		Sta 618+81 - 88' Lt	1	EA
1E (C)		Sta 618+81 - 126' Lt	1	EA
		TOTAL	2	EA
722	3761	INLET SPECIAL-TYPE 2 60IN		
1B (C)		Sta 617+11 - 87' Lt	1	EA
722	4020	INLET CATCH BASIN 9IN BEEHIVE		
1A (A)		Sta 617+07 - 26' Lt	1	EA

Plan & Profile	
US 2	
Sta 613+00 to Sta 619+00	
Williston US Highway 2 from	
9th Ave W to N of 34th St	
Williston, ND	
Williams County	



Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	140	1

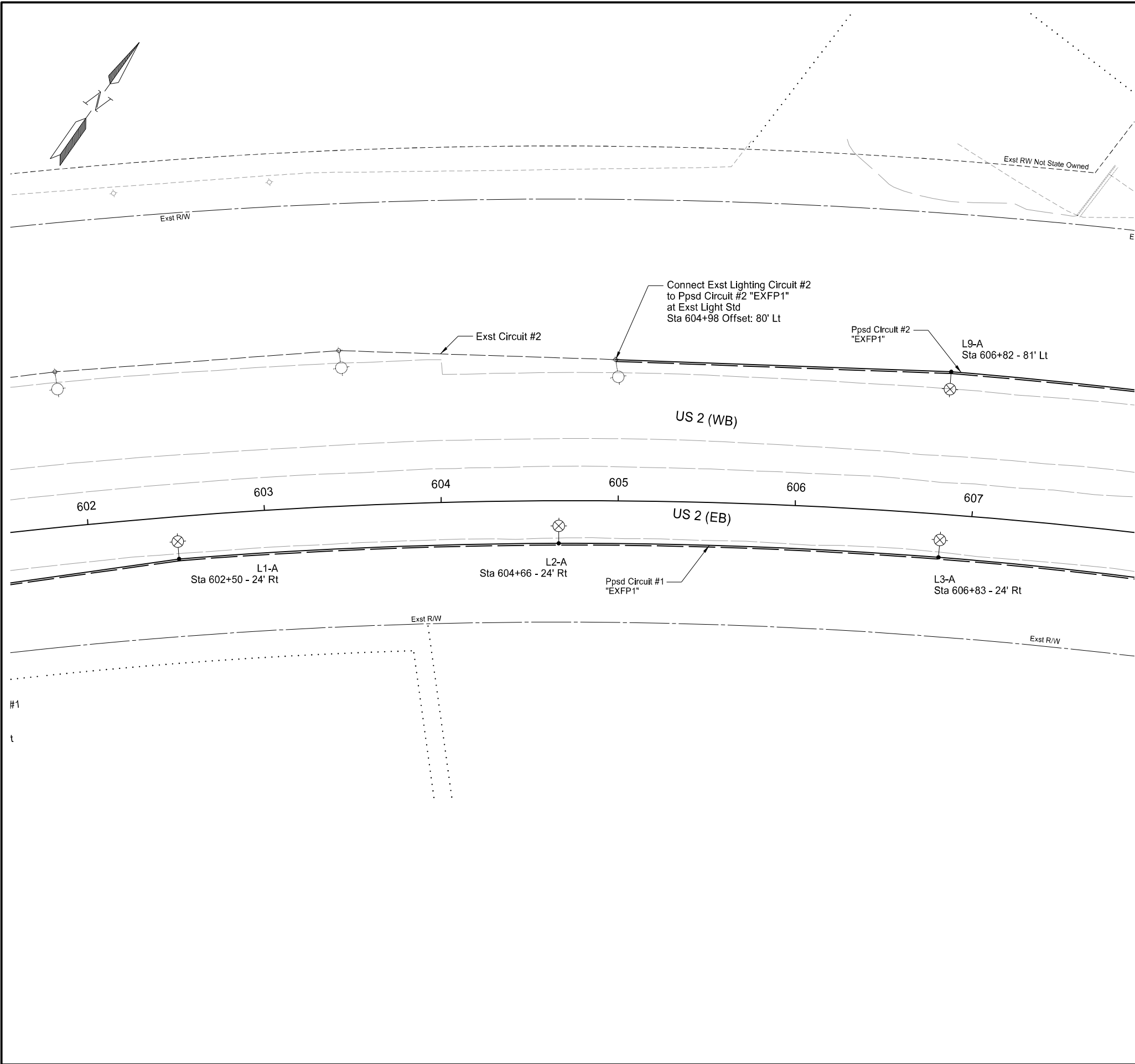
LEGEND

- Proposed LED Lighting Unit with Concrete Foundation
- Existing Lighting Unit with Concrete Foundation
- Proposed Pull Box
- Existing Pull Box
- Proposed Pad Mounted Feed Point
- Existing Pad Mounted Feed Point
- Proposed Circuit in Conduit
- Existing Conduit
- L# - X Light Number and Fixture Type

Lighting Plans
US 2
Sta 597+00 to Sta 602+00

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County





Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	140	2

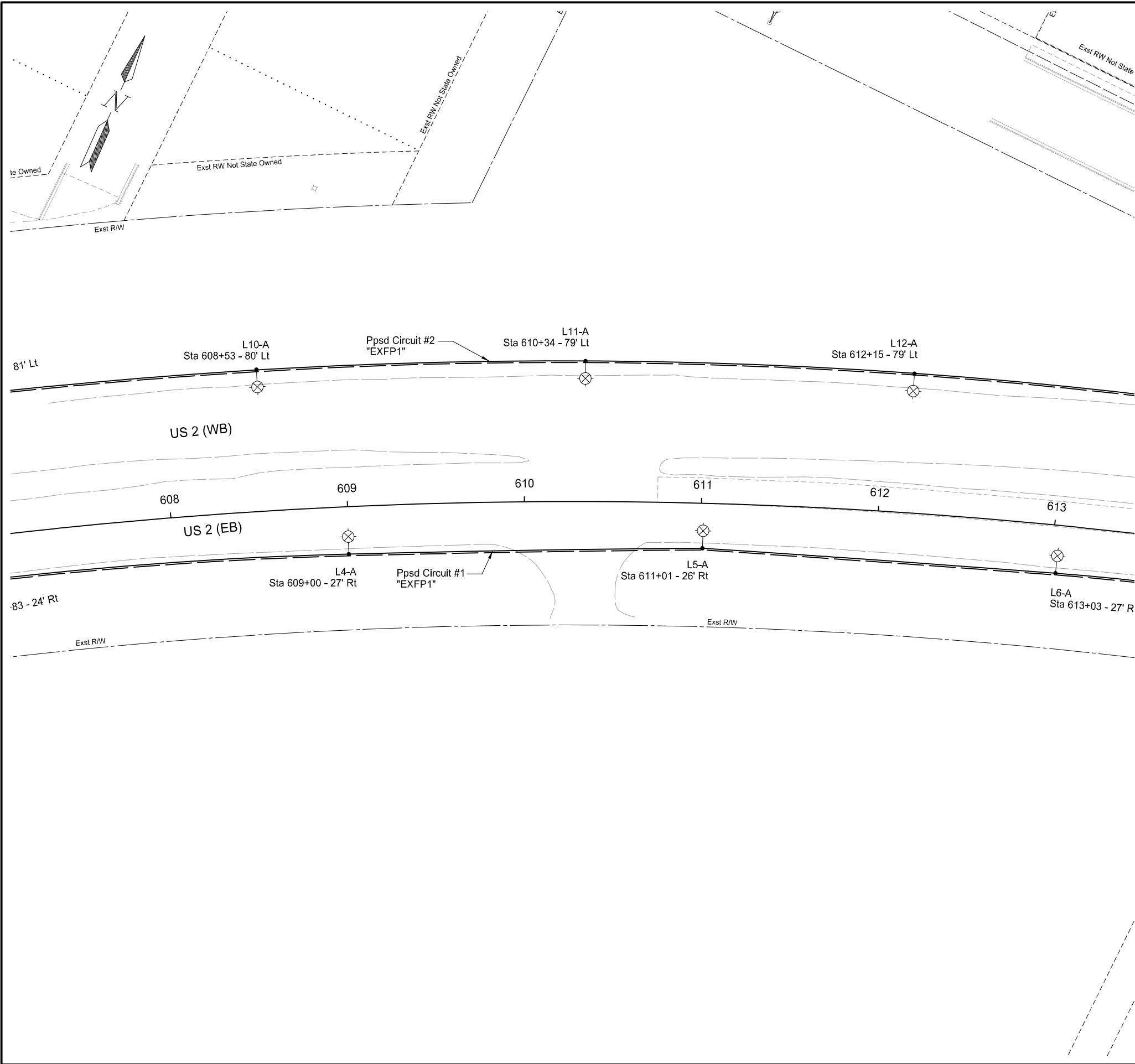
LEGEND

- Proposed LED Lighting Unit with Concrete Foundation
- Existing Lighting Unit with Concrete Foundation
- Proposed Pull Box
- Existing Pull Box
- Proposed Pad Mounted Feed Point
- Existing Pad Mounted Feed Point
- Proposed Circuit in Conduit
- Existing Conduit
- Light Number and Fixture Type

Lighting Plans
US 2
Sta 602+00 to Sta 607+50

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County





Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	140	3

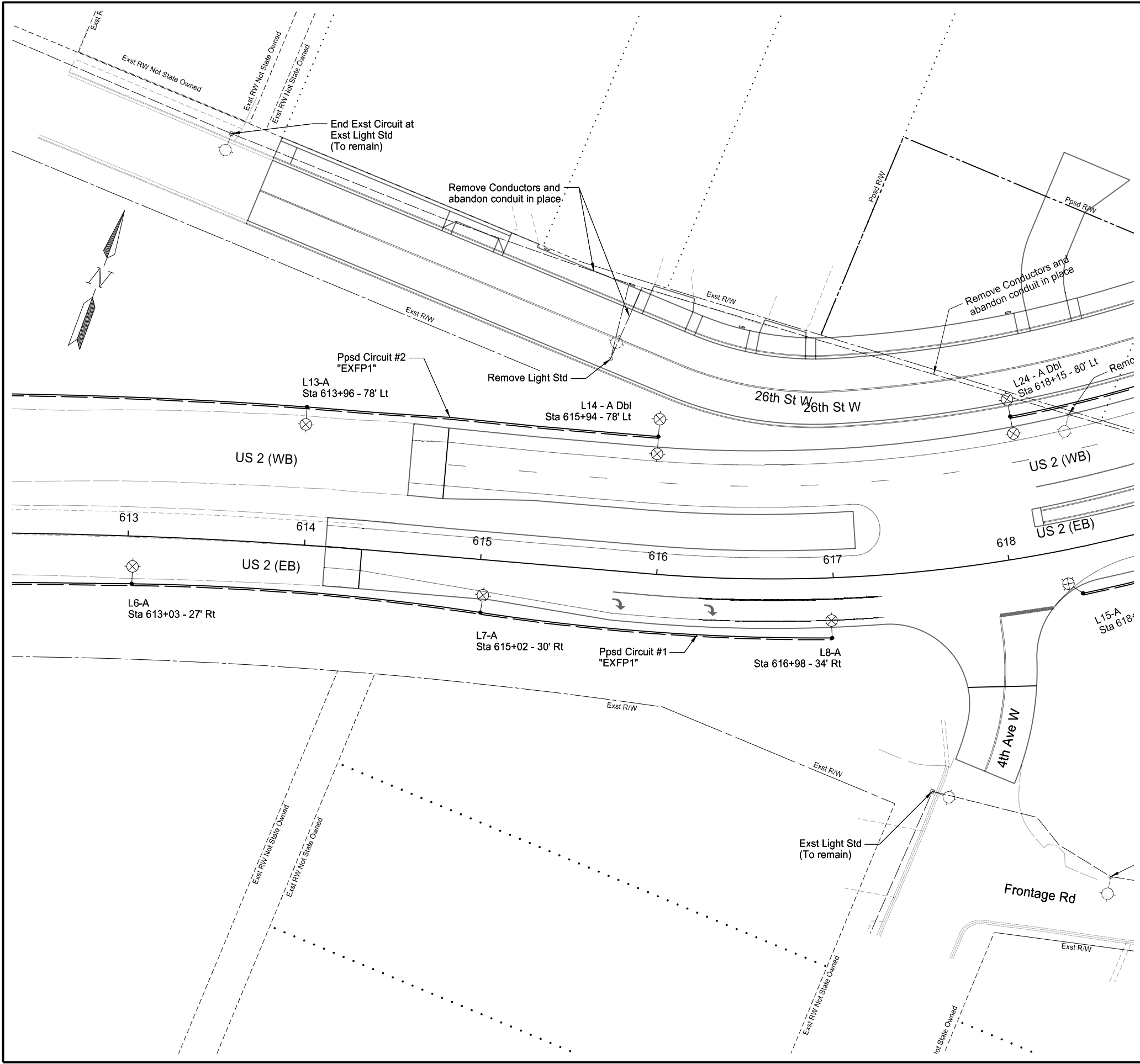
LEGEND

- Proposed LED Lighting Unit with Concrete Foundation
- Existing Lighting Unit with Concrete Foundation
- Proposed Pull Box
- Existing Pull Box
- Proposed Pad Mounted Feed Point
- Existing Pad Mounted Feed Point
- Proposed Circuit in Conduit
- Existing Conduit
- L# - X Light Number and Fixture Type

Lighting Plans
US 2
Sta 607+50 to Sta 613+00

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County





Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	140	4

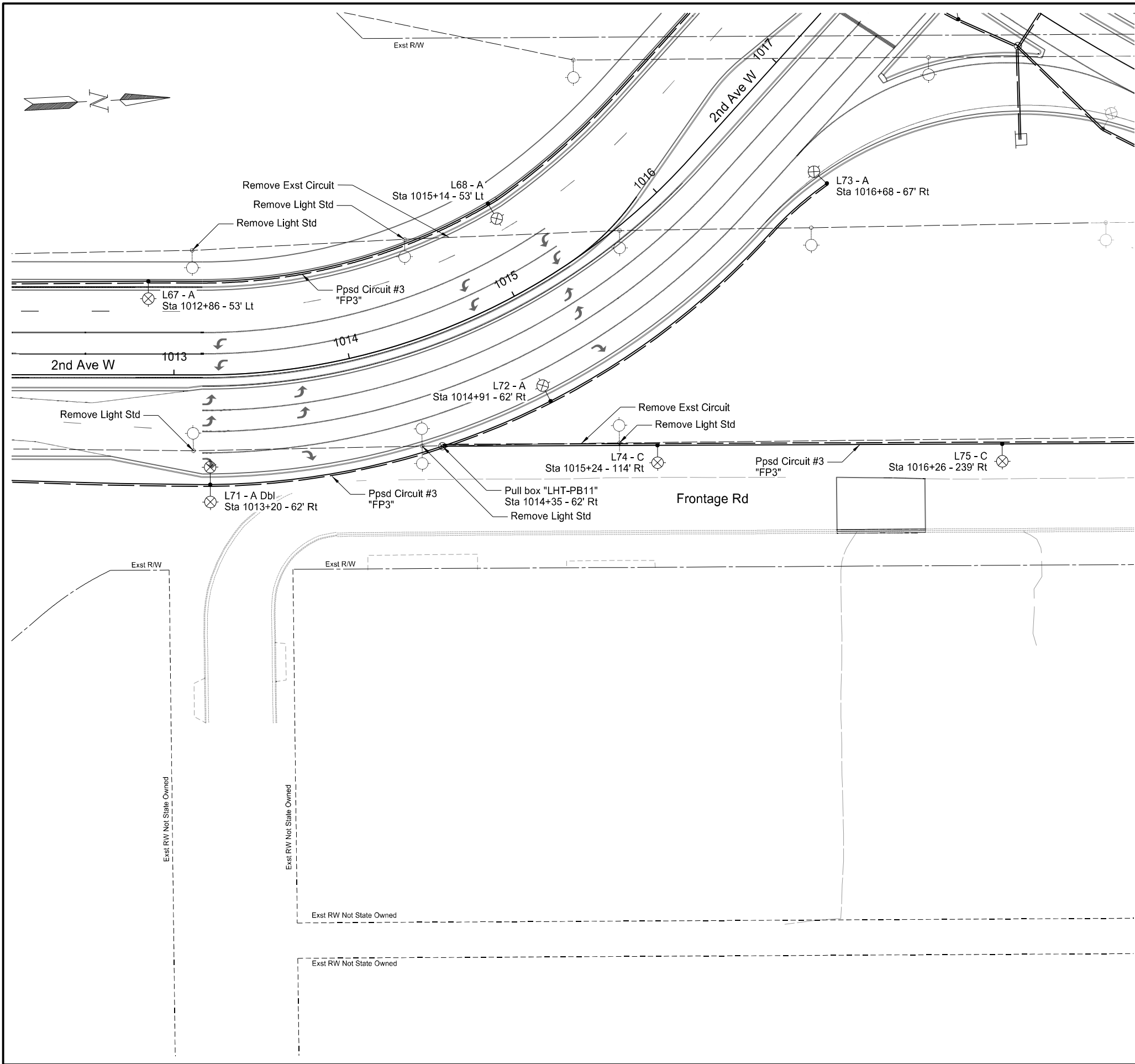
SPEC	CODE	BID ITEM	QTY	UNIT
770 (C)	4560	REMOVE LIGHT STANDARD Sta 615+64 - 119' Lt	1	EA

- LEGEND**
- Proposed LED Lighting Unit with Concrete Foundation
 - Existing Lighting Unit with Concrete Foundation
 - Proposed Pull Box
 - Existing Pull Box
 - Proposed Pad Mounted Feed Point
 - Existing Pad Mounted Feed Point
 - Proposed Circuit in Conduit
 - Existing Conduit
 - L# - X Light Number and Fixture Type

Lighting Plans
US 2
Sta 613+00 to Sta 618+00

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County





Revised 12/27/2024

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NHU-SU-CPU-7-002(178)019	140	16

SPEC	CODE	BID ITEM	QTY	UNIT
770	4560	REMOVE LIGHT STANDARD		
(A)		Sta 1013+11 - 43' Rt	1	EA
		Sta 1013+10 - 71' Lt	1	EA
		Sta 1014+25 - 59' Rt	1	EA
		Sta 1014+54 - 55' Lt	1	EA
		Sta 1015+10 - 101' Rt	1	EA
		TOTAL	5	EA

LEGEND

- Proposed LED Lighting Unit with Concrete Foundation
- Existing Lighting Unit with Concrete Foundation
- Proposed Pull Box
- Existing Pull Box
- Proposed Pad Mounted Feed Point
- Existing Pad Mounted Feed Point
- Proposed Circuit in Conduit
- Existing Conduit
- L# - X Light Number and Fixture Type

Lighting Plans

2nd Avenue W

Sta 1012+50 to Sta 1016+50

Williston US Highway 2 from

9th Ave W to N of 34th St

Williston, ND

Williams County

REGISTERED PROFESSIONAL ENGINEER

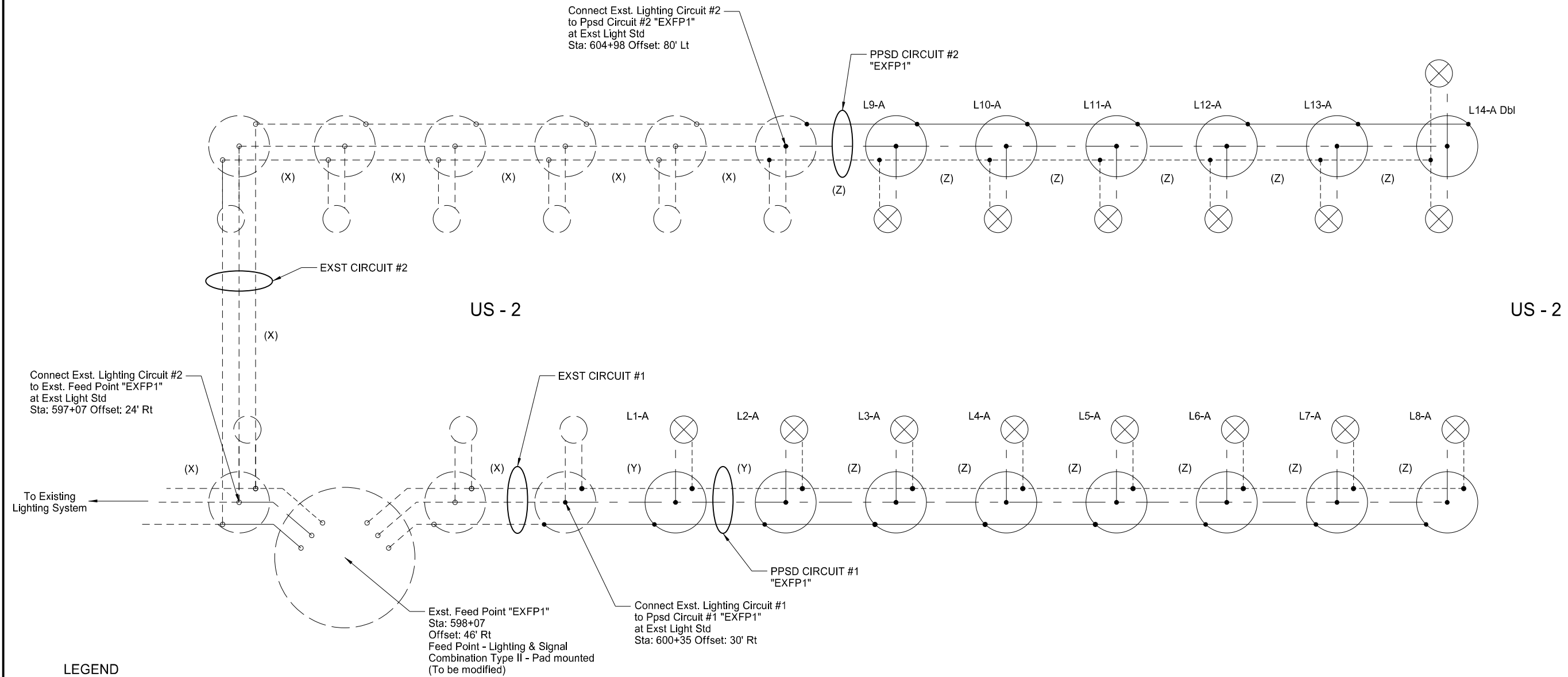
LUIS MANUEL

BLANCO SEQUERIT

PE-299115

DATE 12/27/24

NORTH DAKOTA

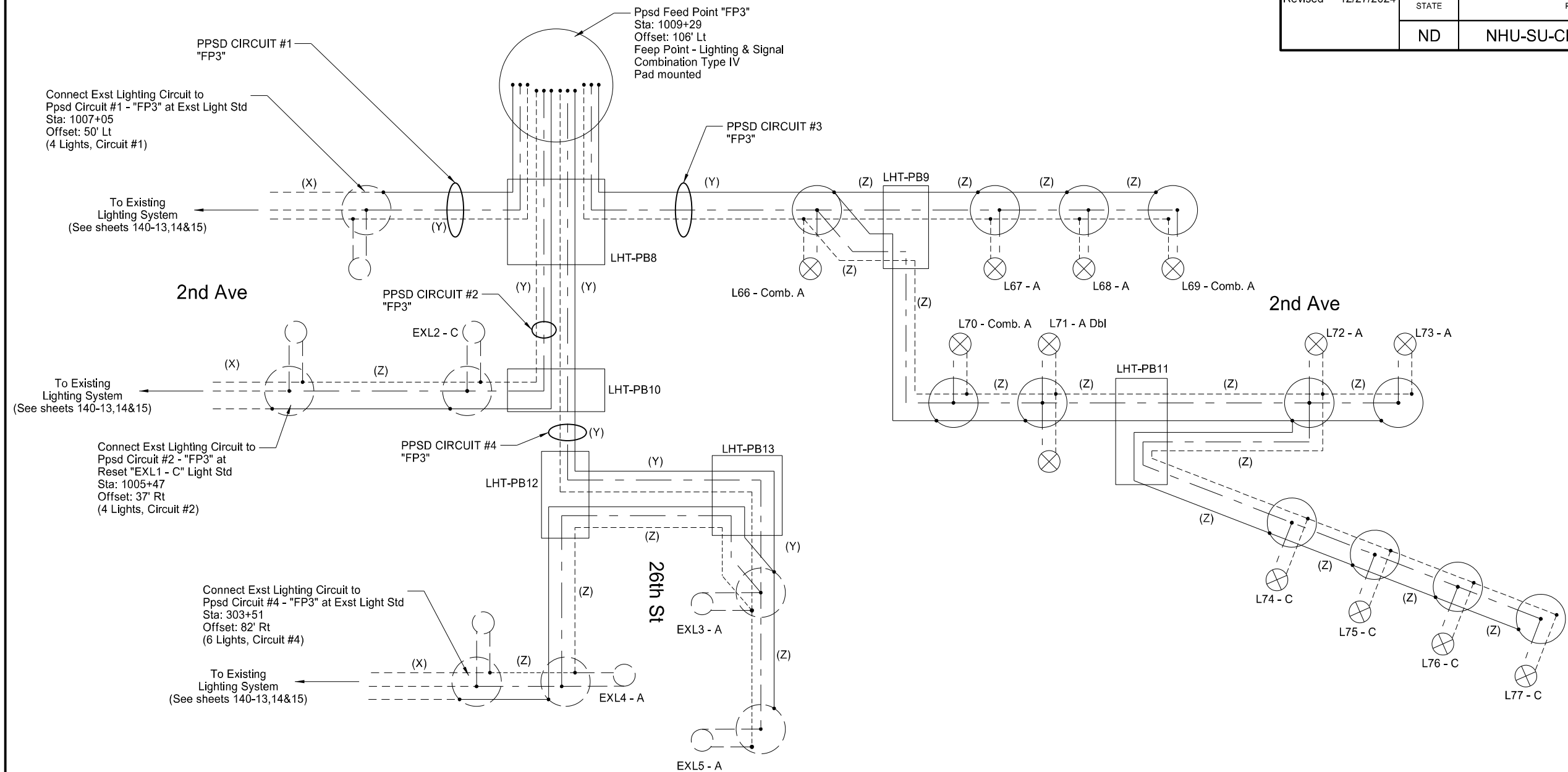


Lighting Schematic
Existing Feedpoint "EXFP1"

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	140	23



LEGEND

---	Existing Circuitry	L#-#	Fixture number and Type
(X)	Existing Conductors	---	Proposed Phase Conductor
o	Existing Splice	---	Proposed Phase Conductor
○	Existing Light Standard	---	Proposed Ground Conductor
○	Existing Luminaire	(Y)	Ppsd 2" Conduit - 2 No. 2, 1 No. 6 - Grd USE-2/RHW/RHW-2
□	Existing Pull Box	(Z)	Ppsd 2" Conduit - 2 No. 4, 1 No. 6 - Grd USE-2/RHW/RHW-2
		•	Proposed Splice
		○	Proposed Light Standard
		⊗	Proposed LED Luminaire
		□	Proposed Pull Box

Lighting Schematic
Proposed Feedpoint "FP3"

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



Existing Feedpoint "EXFP1" at US-2 & 9th Ave W								
Point to Point	Station No. to Station No.		Conduit Runs		Conductor Runs			
			Length	Size	Phase Conductors		Ground Conductors	
					Total Conductor Length	Conductor Quantity, Size, & Type	Total Conductor Length	Conductor Quantity, Size, & Type
Exst Light to EXFP1	597+07 - 24' Rt	598+07 - 46' Rt	102	2"	232	(2) #2 USE-2/RHW/RHW-1	116	(1) #6 USE-2/RHW/RHW-2
Exst Light to L1-A	600+35 - 30' Rt	602+50 - 24' Rt	215	2"	446	(2) #2 USE-2/RHW/RHW-2	223	(1) #6 USE-2/RHW/RHW-2
L1-A to L2-A	602+50 - 24' Rt	604+66 - 24' Rt	216	2"	448	(2) #2 USE-2/RHW/RHW-2	224	(1) #6 USE-2/RHW/RHW-2
L2-A to L3-A	604+66 - 24' Rt	606+83 - 24' Rt	217	2"	450	(2) #4 USE-2/RHW/RHW-2	225	(1) #6 USE-2/RHW/RHW-2
L3-A to L4-A	606+83 - 24' Rt	609+00 - 27' Rt	215	2"	446	(2) #4 USE-2/RHW/RHW-2	223	(1) #6 USE-2/RHW/RHW-2
L4-A to L5-A	609+00 - 27' Rt	611+01 - 26' Rt	202	2"	420	(2) #4 USE-2/RHW/RHW-2	210	(1) #6 USE-2/RHW/RHW-2
L5-A to L6-A	611+01 - 26' Rt	613+03 - 27' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L6-A to L7-A	613+03 - 27' Rt	615+02 - 30' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L7-A to L8-A	615+02 - 30' Rt	616+98 - 34' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
Exst Light to L9-A	604+98 - 80' Lt	606+82 - 81' Lt	184	2"	384	(2) #2 USE-2/RHW/RHW-2	192	(1) #6 USE-2/RHW/RHW-2
L9-A to L10-A	606+82 - 81' Lt	608+53 - 80' Lt	176	2"	368	(2) #4 USE-2/RHW/RHW-2	184	(1) #6 USE-2/RHW/RHW-2
L10-A to L11-A	608+53 - 80' Lt	610+34 - 79' Lt	186	2"	388	(2) #4 USE-2/RHW/RHW-2	194	(1) #6 USE-2/RHW/RHW-2
L11-A to L12-A	610+34 - 79' Lt	612+15 - 79' Lt	186	2"	388	(2) #4 USE-2/RHW/RHW-2	194	(1) #6 USE-2/RHW/RHW-2
L12-A to L13-A	612+15 - 79' Lt	613+96 - 78' Lt	186	2"	388	(2) #4 USE-2/RHW/RHW-2	194	(1) #6 USE-2/RHW/RHW-2
L13-A to L14-A Dbl	613+96 - 78' Lt	615+94 - 78' Lt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2

Light Standard Locations Fed from EXFP1 at US-2 & 9th Ave W							
Pole No.	Station	Offset	Wattage	Circuit	IES Type	Pole Height	Mast Arm
L1-A	602+50	24' Rt	175	#3	III	40'	6'
L2-A	604+66	24' Rt	175	#3	III	40'	6'
L3-A	606+83	24' Rt	175	#3	III	40'	6'
L4-A	609+00	27' Rt	175	#3	III	40'	6'
L5-A	611+01	26' Rt	175	#3	III	40'	6'
L6-A	613+03	27' Rt	175	#3	III	40'	6'
L7-A	615+02	30' Rt	175	#3	III	40'	6'
L8-A	616+98	34' Rt	175	#3	III	40'	6'
L9-A	606+82	81' Lt	175	#3	III	40'	6'
L10-A	608+53	81' Lt	175	#3	III	40'	6'
L11-A	610+34	79' Lt	175	#3	III	40'	6'
L12-A	612+15	79' Lt	175	#3	III	40'	6'
L13-A	613+96	78' Lt	175	#3	III	40'	6'
L14-A Dbl	615+94	78' Lt	175	#3	III	40'	6'

Proposed Feedpoint "FP1" at US-2 & 2nd Ave W								
Point to Point	Station No. to Station No.		Conduit Runs		Conductor Runs			
			Length	Size	Phase Conductors		Ground Conductors	
					Total Conductor Length	Conductor Quantity, Size, & Type	Total Conductor Length	Conductor Quantity, Size, & Type
FP1 to LHT-PB3	628+58 - 67' Rt	628+31 - 22' Rt	53	2"	138	(2) #2 USE-2/RHW/RHW-2	69	(1) #6 USE-2/RHW/RHW-2
LHT-PB3 to L20-Comb. A	628+31 - 22' Rt	627+94 - 28' Rt	37	2"	94	(2) #2 USE-2/RHW/RHW-2	47	(1) #6 USE-2/RHW/RHW-2
L20-Comb. A to L19-A	627+94 - 28' Rt	626+25 - 45' Rt	171	2"	358	(2) #4 USE-2/RHW/RHW-2	179	(1) #6 USE-2/RHW/RHW-2
L19-A to L18-A	626+25 - 45' Rt	624+24 - 34' Rt	201	2"	418	(2) #4 USE-2/RHW/RHW-2	209	(1) #6 USE-2/RHW/RHW-2
L18-A to L17-A	624+24 - 34' Rt	622+24 - 34' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L17-A to L16-A	622+24 - 34' Rt	620+30 - 29' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L16-A to L15-A	620+30 - 29' Rt	618+37 - 26' Rt	199	2"	414	(2) #4 USE-2/RHW/RHW-2	207	(1) #6 USE-2/RHW/RHW-2
L20-Comb. A to LHT-PB3	627+94 - 28' Rt	628+31 - 22' Rt	37	2"	94	(2) #4 USE-2/RHW/RHW-2	47	(1) #6 USE-2/RHW/RHW-2
LHT-PB3 to L21-A	628+31 - 22' Rt	628+93 - 38' Rt	67	2"	154	(2) #4 USE-2/RHW/RHW-2	77	(1) #6 USE-2/RHW/RHW-2
L21-A to L22-A	628+93 - 38' Rt	630+85 - 38' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L22A to L23A	630+85 - 38' Rt	632+76 - 38' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2

FP1 to LHT-PB3	628+58 - 67' Rt	628+31 - 22' Rt	53	2"	138	(2) #2 USE-2/RHW/RHW-2	69	(1) #6 USE-2/RHW/RHW-2
LHT-PB3 to LHT-PB4	628+31 - 22' Rt	628+32 - 139' Lt	161	2"	346	(2) #2 USE-2/RHW/RHW-2	173	(1) #6 USE-2/RHW/RHW-2
LHT-PB4 to L34-A	628+32 - 139' Lt	628+53 - 107' Lt	36	2"	92	(2) #2 USE-2/RHW/RHW-2	46	(1) #6 USE-2/RHW/RHW-2
L34-A to L35-A	628+53 - 107' Lt	631+11 - 92' Lt	234	2"	484	(2) #4 USE-2/RHW/RHW-2	242	(1) #6 USE-2/RHW/RHW-2
L35-A to L36-A	631+11 - 92' Lt	633+33 - 91' Lt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L34-A to LHT-PB4	628+53 - 107' Lt	628+32 - 139' Lt	36	2"	92	(2) #2 USE-2/RHW/RHW-2	46	(1) #6 USE-2/RHW/RHW-2
LHT-PB4 to LHT-PB5	628+32 - 139' Lt	627+04 - 128' Lt	127	2"	278	(2) #2 USE-2/RHW/RHW-2	139	(1) #6 USE-2/RHW/RHW-2
LHT-PB5 to L29-A	627+04 - 128' Lt	626+88 - 107' Lt	27	2"	74	(2) #2 USE-2/RHW/RHW-2	37	(1) #6 USE-2/RHW/RHW-2
L29-A to L28-Comb. A	626+88 - 107' Lt	626+51 - 92' Lt	40	2"	96	(2) #4 USE-2/RHW/RHW-2	48	(1) #6 USE-2/RHW/RHW-2
L28-Comb. A to L27-A	626+51 - 92' Lt	624+49 - 85' Lt	202	2"	420	(2) #4 USE-2/RHW/RHW-2	210	(1) #6 USE-2/RHW/RHW-2
L27-A to L26-A Dbl	624+49 - 85' Lt	622+49 - 84' Lt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L26-A Dbl to L25-A Dbl	622+49 - 84' Lt	620+36 - 83' Lt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2
L25-A Dbl to L24-A Dbl	620+36 - 83' Lt	618+15 - 80' Lt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2

FP1 to LHT-PB3	628+58 - 67' Rt	628+31 - 22' Rt	53	2"	138	(2) #2 USE-2/RHW/RHW-2	69	(1) #6 USE-2/RHW/RHW-2
LHT-PB3 to LHT-PB4	628+31 - 22' Rt	628+32 - 139' Lt	161	2"	346	(2) #2 USE-2/RHW/RHW-2	173	(1) #6 USE-2/RHW/RHW-2
LHT-PB4 to L33-A	628+32 - 139' Lt	628+34 - 148' Lt	9	2"	38	(2) #2 USE-2/RHW/RHW-2	19	(1) #6 USE-2/RHW/RHW-2
L33-A to L32-A	628+34 - 148' Lt	1021+69 - 48' Rt	198	2"	412	(2) #4 USE-2/RHW/RHW-2	206	(1) #6 USE-2/RHW/RHW-2
L33-A to LHT-PB4	628+34 - 148' Lt	628+32 - 139' Lt	9	2"	38	(2) #4 USE-2/RHW/RHW-2	19	(1) #6 USE-2/RHW/RHW-2
LHT-PB4 to LHT-PB5	628+32 - 139' Lt	627+04 - 128' Lt	127	2"	278	(2) #4 USE-2/RHW/RHW-2	139	(1) #6 USE-2/RHW/RHW-2
LHT-PB5 to L30-A	627+04 - 128' Lt	1021+14 - 54' Lt	191	2"	402	(2) #4 USE-2/RHW/RHW-2	201	(1) #6 USE-2/RHW/RHW-2
L30-A to L31-A	1021+14 - 54' Lt	1023+12 - 37' Lt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2

Light Standard Locations Fed from "FP1" at US-2 & 2nd Ave W							
Pole No.	Station	Offset	Wattage	Circuit	IES Type	Pole Height	Mast Arm
L15 -A	618+37	26' Rt	175	#1	III	40'	6'
L16-A	620+30	29' Rt	175	#1	III	40'	6'
L17-A	622+24	34' Rt	175	#1	III	40'	6'
L18-A	624+24	34' Rt	175	#1	III	40'	6'
L19-A	626+25	45' Rt	175	#1	III	40'	6'
L20 - Comb. A	627+94	28' Rt	175	#1	III	40'	6'
L21-A	628+93	38' Rt	175	#1	III	40'	6'
L22-A	630+85	38' Rt	175	#1	III	40'	6'
L23-A	632+76	38' Rt	175	#1	III	40'	6'
L24-A Dbl	618+15	80' Lt	175	#2	III	40'	6'
L25-A Dbl	620+36	83' Lt	175	#2	III	40'	6'
L26-A Dbl	622+49	84' Lt	175	#2	III	40'	6'
L27-A	624+49	85' Lt	175	#2	III	40'	6'
L28 - Comb. A	626+51	92' Lt	175	#2	III	40'	6'
L29-A	626+88	107' Lt	175	#2	III	40'	6'
L34-A	628+53	107' Lt	175	#2	III	40'	6'
L35-A	631+11	92' Lt	175	#2	III	40'	6'
L36-A	633+33	91' Lt	175	#2	III	40'	6'
L30-A	1021+14	54' Lt	175	#3	III	40'	6'
L31-A	1023+12	37' Lt	175	#3	III	40'	6'
L32-A	1021+69	48' Rt	175	#3	III	40'	6'
L33-A	628+34	148' Lt	175	#3	III	40'	6'

Lighting Quantities

Exst Feedpoint "EXFP1" and
Ppsd Feedpoint "FP1"

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



Proposed Feedpoint "FP3" at 2nd Ave W & 26th St W									
Point to Point	Station No. to Station No.		Conduit Runs		Conductor Runs				
			Length	Size	Total Conductor Length	Phase Conductors	Ground Conductors		
						Conductor Quantity, Size, & Type	Total Conductor Length	Conductor Quantity, Size, & Type	
FP3 to LHT-PB8	1009+29 - 106' Lt	1009+22 - 53' Lt	54	2"	140	(2) #2 USE-2/RHW/RHW-2	70	(1) #6 USE-2/RHW/RHW-2	
LHT-PB8 to Exst Light	1009+22 - 53' Lt	1007+05 - 50' Lt	217	2"	454	(2) #2 USE-2/RHW/RHW-2	227	(1) #6 USE-2/RHW/RHW-2	
FP3 to LHT-PB8	1009+29 - 106' Lt	1009+22 - 53' Lt	54	2"	140	(2) #2 USE-2/RHW/RHW-2	70	(1) #6 USE-2/RHW/RHW-2	
LHT-PB8 to LHT-PB10	1009+22 - 53' Lt	1009+22 - 47' Rt	101	2"	226	(2) #2 USE-2/RHW/RHW-2	113	(1) #6 USE-2/RHW/RHW-2	
LHT-PB10 to EXL2-C	1009+22 - 47' Rt	1008+20 - 46.5' Rt	102	2"	224	(2) #2 USE-2/RHW/RHW-2	112	(1) #6 USE-2/RHW/RHW-2	
EXL2-C to EXL1-C	1008+20 - 46.5' Rt	1005+47 - 37' Rt	269	2"	554	(2) #4 USE-2/RHW/RHW-2	277	(1) #6 USE-2/RHW/RHW-2	
FP3 to LHT-PB8	1009+29 - 106' Lt	1009+22 - 53' Lt	54	2"	140	(2) #2 USE-2/RHW/RHW-2	70	(1) #6 USE-2/RHW/RHW-2	
LHT-PB8 to L66-Comb. A	1009+22 - 53' Lt	1010+66 - 66' Lt	157	2"	334	(2) #2 USE-2/RHW/RHW-2	167	(1) #6 USE-2/RHW/RHW-2	
L66-Comb. A to LHT-PB9	1010+66 - 66' Lt	1011+26 - 52' Lt	76	2"	172	(2) #4 USE-2/RHW/RHW-2	36	(1) #6 USE-2/RHW/RHW-2	
LHT-PB9 to L67-A	1011+26 - 52' Lt	1012+86 - 53' Lt	157	2"	334	(2) #4 USE-2/RHW/RHW-2	167	(1) #6 USE-2/RHW/RHW-2	
L67-A to L68-A	1012+86 - 53' Lt	1015+14 - 53' Lt	201	2"	418	(2) #4 USE-2/RHW/RHW-2	209	(1) #6 USE-2/RHW/RHW-2	
L68-A to L69-Comb. A	1015+14 - 53' Lt	626+51 - 67' Rt	203	2"	422	(2) #4 USE-2/RHW/RHW-2	211	(1) #6 USE-2/RHW/RHW-2	
L-66-Comb. A to LHT-PB9	1010+66 - 66' Lt	1011+26 - 52' Lt	76	2"	172	(2) #4 USE-2/RHW/RHW-2	36	(1) #6 USE-2/RHW/RHW-2	
LHT-PB9 to L70-Comb. A	1011+26 - 52' Lt	1011+19 - 57' Rt	109	2"	238	(2) #4 USE-2/RHW/RHW-2	119	(1) #6 USE-2/RHW/RHW-2	
L70-Comb. A to L71-A Dbl	1011+19 - 57' Rt	1013+20 - 62' Rt	202	2"	420	(2) #4 USE-2/RHW/RHW-2	210	(1) #6 USE-2/RHW/RHW-2	
L71-A Dbl to LHT-PB11	1013+20 - 62' Rt	1014+35 - 62' Rt	134	2"	288	(2) #4 USE-2/RHW/RHW-2	144	(1) #6 USE-2/RHW/RHW-2	
LHT-PB11 to L72-A	1014+35 - 62' Rt	1014+91 - 62' Rt	67	2"	154	(2) #4 USE-2/RHW/RHW-2	77	(1) #6 USE-2/RHW/RHW-2	
L72-A to L73-A	1014+91 - 62' Rt	1016+68 - 67' Rt	200	2"	416	(2) #4 USE-2/RHW/RHW-2	208	(1) #6 USE-2/RHW/RHW-2	
L72-A to LHT-PB11	1014+91 - 62' Rt	1014+35 - 62' Rt	67	2"	154	(2) #4 USE-2/RHW/RHW-2	77	(1) #6 USE-2/RHW/RHW-2	
LHT-PB11 to L74-C	1014+35 - 62' Rt	1015+24 - 114' Rt	122	2"	264	(2) #4 USE-2/RHW/RHW-2	132	(1) #6 USE-2/RHW/RHW-2	
L74-C to L75-C	1015+24 - 114' Rt	1016+26 - 239' Rt	195	2"	406	(2) #4 USE-2/RHW/RHW-2	203	(1) #6 USE-2/RHW/RHW-2	
L75-C to L76-C	1016+26 - 239' Rt	630+70 - 150' Rt	195	2"	406	(2) #4 USE-2/RHW/RHW-2	203	(1) #6 USE-2/RHW/RHW-2	
L76-C to L77-C	630+70 - 150' Rt	632+35 - 113' Rt	195	2"	406	(2) #4 USE-2/RHW/RHW-2	203	(1) #6 USE-2/RHW/RHW-2	
FP3 to LHT-PB8	1009+29 - 106' Lt	1009+22 - 53' Lt	54	2"	140	(2) #2 USE-2/RHW/RHW-2	70	(1) #6 USE-2/RHW/RHW-2	
LHT-PB8 to LHT-PB10	1009+22 - 53' Lt	1009+22 - 47' Rt	101	2"	226	(2) #2 USE-2/RHW/RHW-2	113	(1) #6 USE-2/RHW/RHW-2	
LHT-PB10 to LHT-PB12	1009+22 - 47' Rt	301+60 - 39' Rt	148	2"	320	(2) #2 USE-2/RHW/RHW-2	160	(1) #6 USE-2/RHW/RHW-2	
LHT-PB12 to LHT-PB13	301+60 - 39' Rt	301+60 - 41' Lt	79	2"	182	(2) #2 USE-2/RHW/RHW-2	31	(1) #6 USE-2/RHW/RHW-2	
LHT-PB13 to EXL3-A	301+60 - 41' Lt	301+68 - 41' Lt	8	2"	36	(2) #2 USE-2/RHW/RHW-2	18	(1) #6 USE-2/RHW/RHW-2	
EXL3-A to EXL5-A	301+68 - 41' Lt	305+64 - 36' Lt	400	2"	816	(2) #4 USE-2/RHW/RHW-2	408	(1) #6 USE-2/RHW/RHW-2	
EXL3-A to LHT-PB13	301+68 - 41' Lt	301+60 - 41' Lt	8	2"	36	(2) #4 USE-2/RHW/RHW-2	18	(1) #6 USE-2/RHW/RHW-2	
LHT-PB13 to LHT-PB12	301+60 - 41' Lt	301+60 - 39' Rt	79	2"	182	(2) #4 USE-2/RHW/RHW-2	31	(1) #6 USE-2/RHW/RHW-2	
LHT-PB12 to EXL4-A	301+60 - 39' Rt	303+68 - 39' Rt	207	2"	434	(2) #4 USE-2/RHW/RHW-2	217	(1) #6 USE-2/RHW/RHW-2	
EXL4-A to Exst Light	303+68 - 39' Rt	303+51 - 82' Rt	52	2"	120	(2) #4 USE-2/RHW/RHW-2	30	(1) #6 USE-2/RHW/RHW-2	

Light Standard Locations Fed from FP3 at 2nd Ave W & 26th St W							
Pole No.	Station	Offset	Wattage	Circuit	IES Type	Pole Height	Mast Arm
L66-Comb. A	1010+66	66' Lt	175	#3	III	40'	6'
L67-A	1012+86	53' Lt	175	#3	III	40'	6'
L68-A	1015+14	53' Lt	175	#3	III	40'	6'
L69-Comb. A	626+51	67' Lt	175	#3	III	40'	6'
L70-Comb. A	1011+19	57' Rt	175	#3	III	40'	6'
L71-A Dbl	1013+20	62' Rt	175	#3	III	40'	6'
L72-A	1014+91	62' Rt	175	#3	III	40'	6'
L73-A	1016+68	67' Rt	175	#3	III	40'	6'
L74-C	1015+24	114' Rt	106	#3	III	29'	6'
L75-C	1016+26	239' Rt	106	#3	III	29'	6'
L76-C	630+70	150' Rt	106	#3	III	29'	6'
L77-C	632+35	113' Rt	106	#3	III	29'	6'
EXL1-C	1005+47	37' Rt	Exst	#2	Exst	29'	6'
EXL2-C	1008+20	46.5' Rt	Exst	#2	Exst	29'	6'
EXL3-A	301+68	41' Lt	Exst	#4	Exst	40'	6'
EXL4-A	303+68	39' Rt	Exst	#4	Exst	40'	6'
EXL5-A	305+64	36' Lt	Exst	#4	Exst	40'	6'

LIGHT STANDARD FOUNDATION TABLE		
Description	Footing Depth, "D" 24" & 30" Ø	Footing Depth, "D" 36" & 42" Ø
30'-35' Mounting Height	6	5
36'-44' Mounting Height	6	5
45'-50' Mounting Height	8	7

Lighting Quantities **																	Pay Item			Pay Item			Pay Item																
Pull Box	Combination Feed Point - Type III - Pad Mounted	Combination Feed Point - Type IV - Pad Mounted	Modify Existing Feed point	Concrete Foundation	2" Dia Rigid Conduit	Underground Conductor No. 2 - USE-2/RHW/RHW-2	Underground Conductor No. 4 - USE-2/RHW/RHW-2	Underground Conductor No. 6 - USE-2/RHW/RHW-2	LED Luminaire - 175 Watt (Type A)	LED Luminaire - 106 Watt (Type C)	Comb. Light Std (Type A)	Light Std (Type A)	Light Std (Type A Dbl)	Light Std (Type C)	Relocate Light Standard (Type A)	Relocate Light Standard (Type C)	Lighting System	(A)	(B)	(C)	Revise Lighting System	(A)	(B)	(C)	Remove Light Standard	(A)	(B)	(C)											
Ea	Ea	Ea	Ea	Ea	LF	LF	LF	LF	Ea	Ea	Ea	Ea	Ea	Ea	Ea	Ea													Ea	Ea	Ea	Ea	Ea	Ea	Ea	Ea	Ea	Ea	Ea
11	2	1	1	77	17136	6340	29920	18246	70	13	5	53	€	13	3	2													0.76	0.16	0.08	-	-	5	40	-	17		

** Include all items in the Pay Item "Lighting System".

Lighting Quantities

Ppsd Feedpoint "FP3"

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



QUANTITIES																											
Signal Standard Foundation*	Signal Standard-MA Foundation*	Signal Standard-MA Foundation (1)	Pull Box*	2" Dia Rigid Conduit*	2.5" Dia Rigid Conduit*	Emergency Vehicle Detector Cable (B)*	No. 16 AWG 2 Conductor Cable (A)*	No. 14 AWG 3 Conductor Cable*	No. 14 AWG 5 Conductor Cable*	No. 14 AWG 7 Conductor Cable*	Feed Point - Combo Lighting & Signal*	Type IV Combo 60FT MA Signal & Light Std Type C*	Type IV Combo 65FT MA Signal & Light Std Type C*	Type IV Signal Standard 40FT MA*	Type V Signal Standard (breakaway base)*	1-Way 3 Section Head W/12" Lens - Mast Arm Mounted*	1-Way 3 Section Head W/12" Lens - Post Mounted*	1-Way 4 Section Head W/12" Lens - Mast Arm Mounted*	1-Way 5 Section Head W/12" Lens - Post Mounted*	Pedestrian Countdown Signal Head - Post Mtd*	Pedestrian Pushbutton & Sign*	Video Detection Cable (C)*	Video Detection Equipment*	ATC Cabinet and Controller*	Battery Back-Up System*	Emergency Vehicle Pre-emption Unit*	Traffic Signal System-Site 1
EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA
2	3	1	4	773	619	1360	743	751	5326	1077	1	2	1	1	2	11	3	1	4	2	3	1465	1	1	1	1	1

*Include items in bid item "Traffic Signal System - Site 1"
(1) Foundation paid for per SP(406)23 Drilled Shaft Foundations

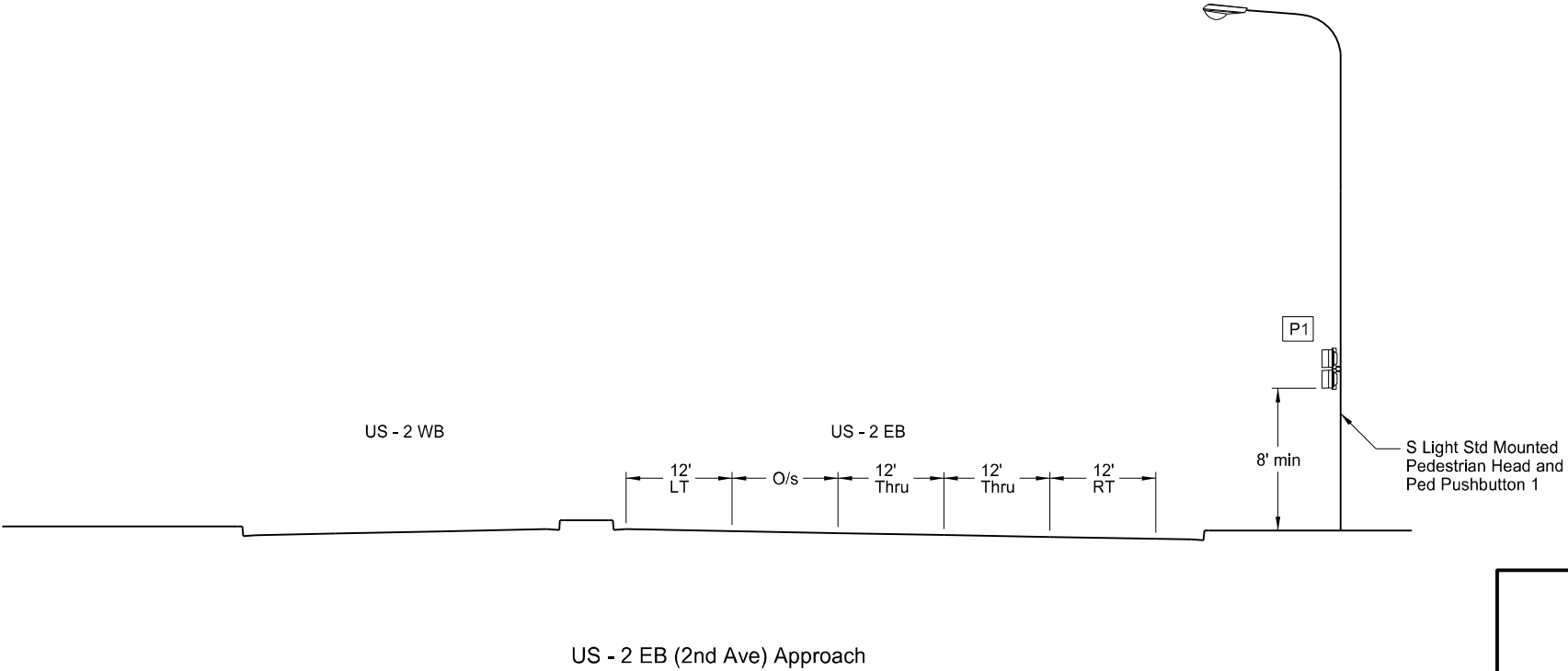
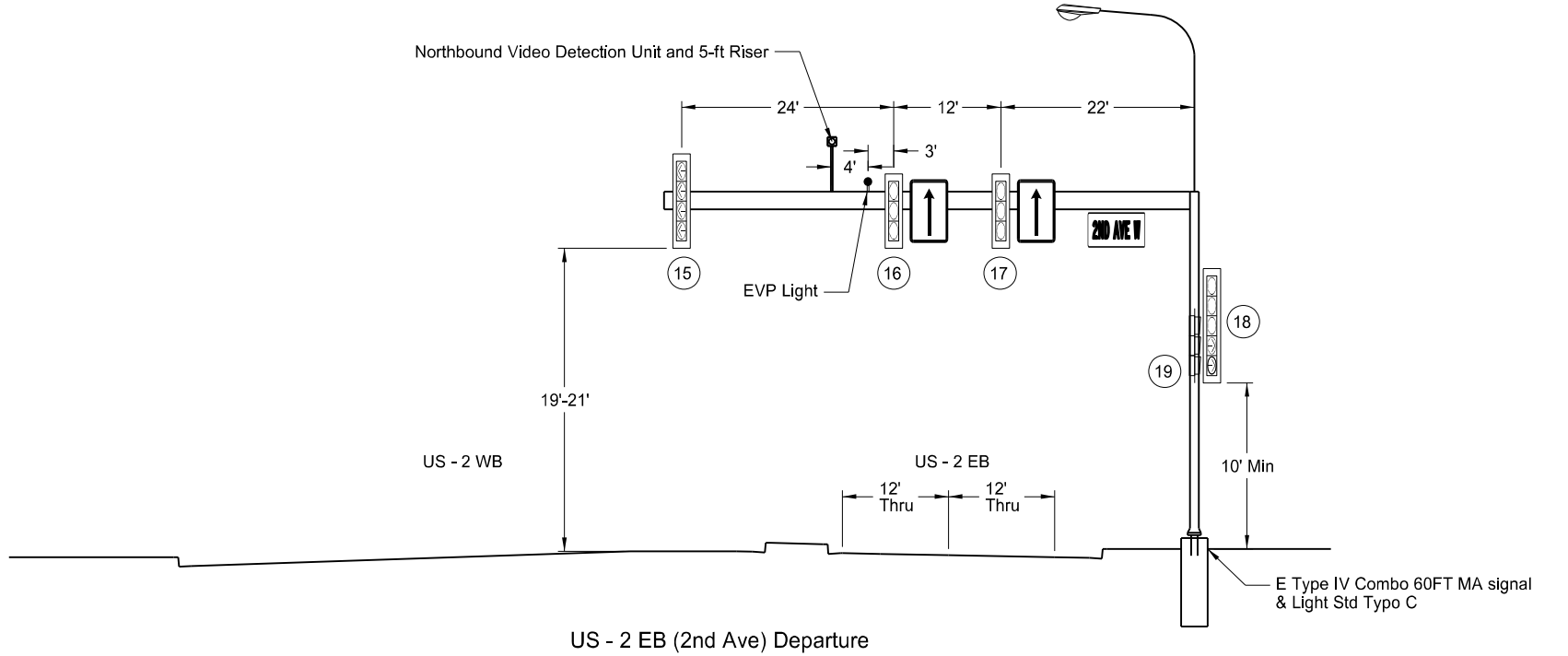
Notes:
ALL SIGNAL STANDARD FOUNDATIONS are to follow
SP (406)23 Drilled Shaft Foundations

Traffic Signal - Site 1
Summary of Quantities
US-2 & 2nd Ave

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	150	9

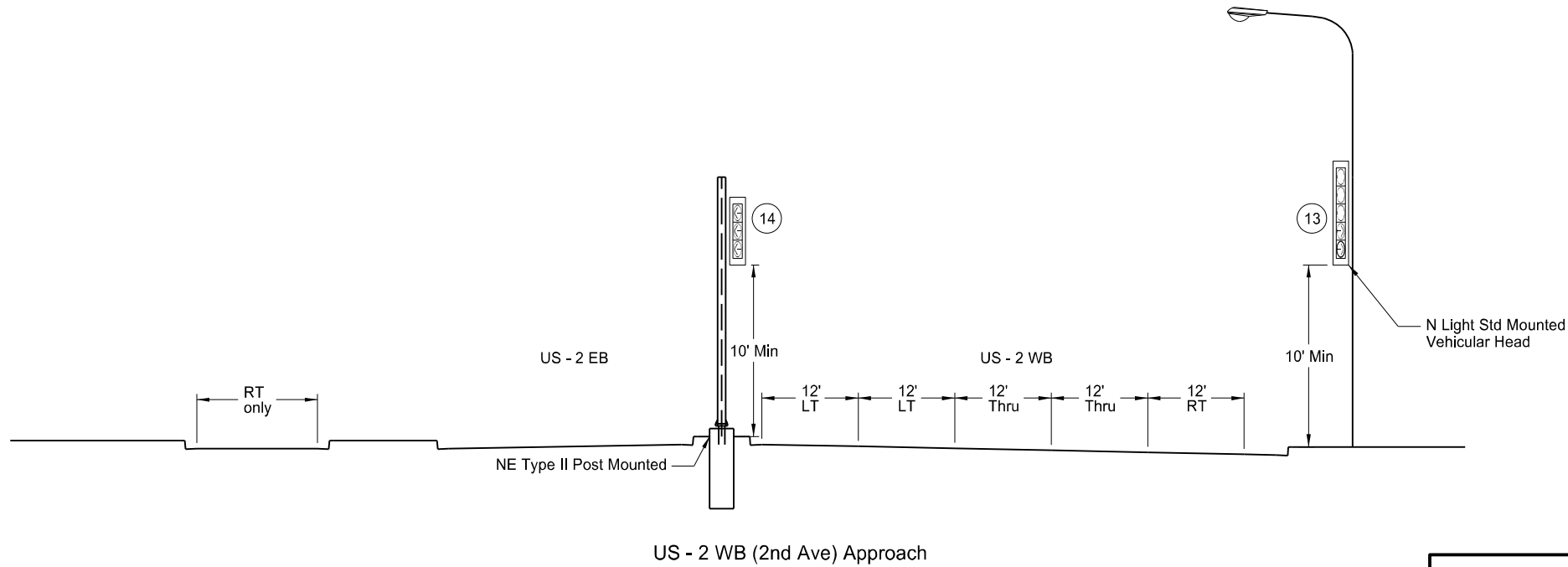
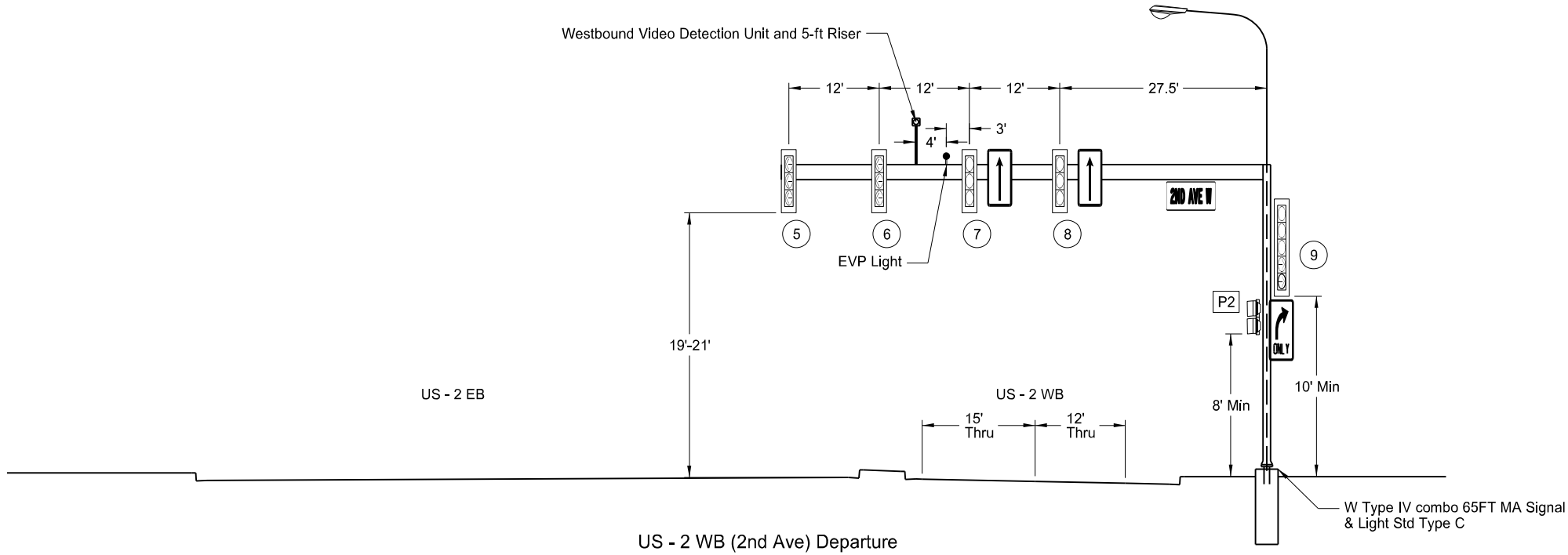


Traffic Signal - Site 1
Signal Standards & Head Locations
US-2 & 2nd Ave
US-2 EB (2nd Ave)

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	150	10

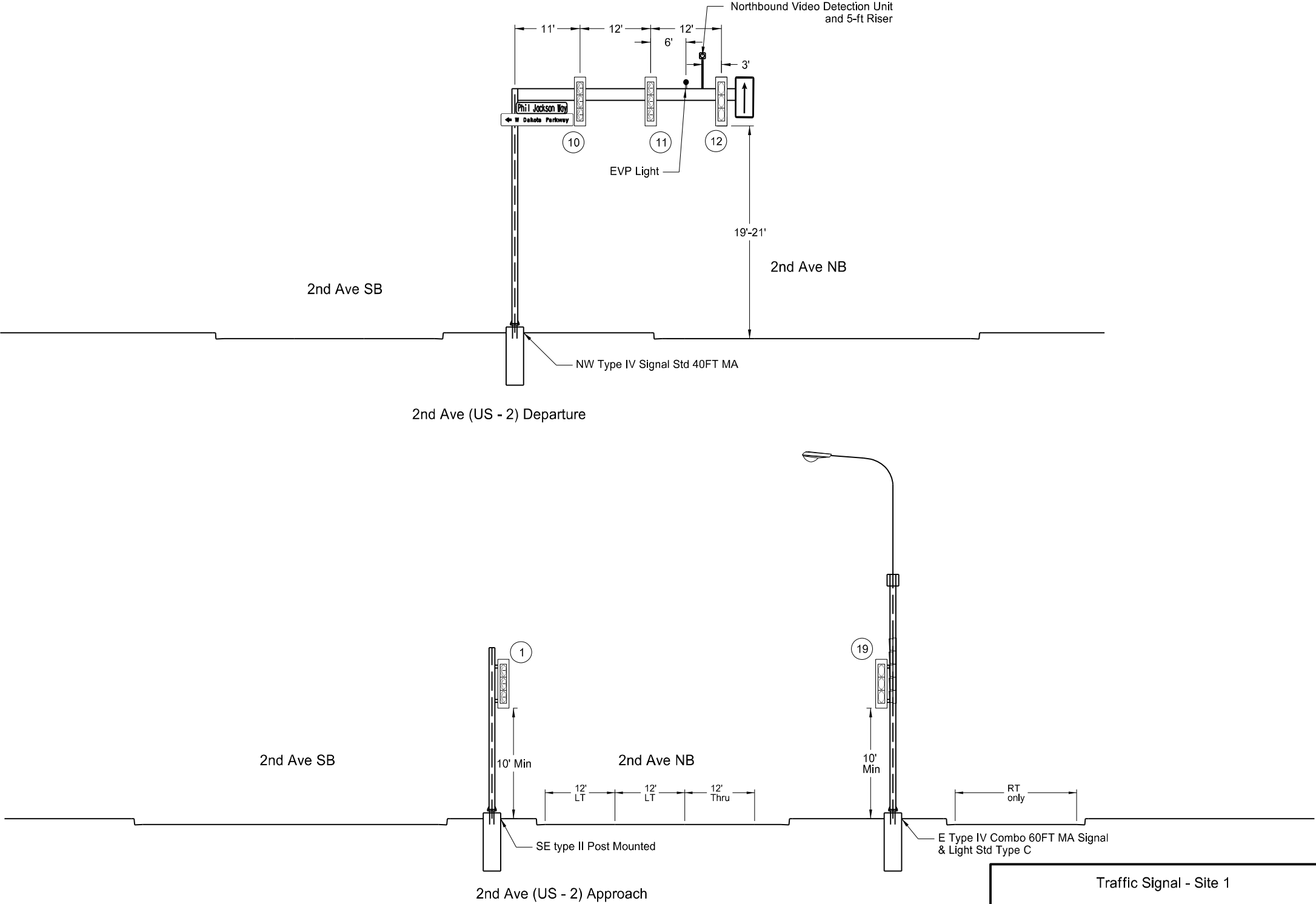


Traffic Signal - Site 1
Signal Standards & Head Locations
US-2 & 2nd Ave
US-2 WB (2nd Ave)

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



Revised	12/27/2024	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NHU-SU-CPU-7-002(178)019	150	12



Traffic Signal - Site 1
Signal Standards & Head Locations
US-2 & 2nd Ave
2nd Ave NB (US - 2)

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



		QUANTITIES																																																																																																																	
	Signal Standard Foundation*	EA	4		Signal Standard-MA Foundation*	EA	3		Pull Box*	EA	4		2" Dia Rigid Conduit*	LF	511		2.5" Dia Rigid Conduit*	LF	288		Emergency Vehicle Detector Cable (B)*	LF	786		No. 16 AWG 2 Conductor Cable (A)*	LF	1588		No. 14 AWG 3 Conductor Cable*	LF	1599		No. 14 AWG 5 Conductor Cable*	LF	2354		No. 14 AWG 7 Conductor Cable*	LF	360		Feed Point - Combo Lighting & Signal*	EA	1		Type IV Signal Standard 60FT MA*	EA	1		Type IV Combo 40FT MA Signal & Light Std Type C*	EA	1		Type IV Combo 45FT MA Signal & Light Std Type C*	EA	1		Type II Signal Standard*	EA	4		Pedestrian Pushbutton Post*	EA	1		1-Way 3 Section Head W/12" Lens - Mast Arm Mounted*	EA	8		1-Way 3 Section Head W/12" Lens - Post Mounted*	EA	1		1-Way 5 Section Head W/12" Lens - Post Mounted*	EA	1		Pedestrian Countdown Signal Head - Post Mid*	EA	6		Pedestrian Pushbutton & Sign*	EA	7		Video Detection Cable (C)*	LF	798		Video Detection Equipment*	EA	1		ATC Cabinet and Controller*	EA	1		Battery Back-Up System*	EA	1		Emergency Vehicle Pre-emption Unit*	EA	1		Remove Traffic Signal Standard*	EA	5		Remove Traffic Signal Controller*	EA	1		Traffic Signal System-Site 2	Ea	1

*Include items in bid item "Traffic Signal System - Site 2"

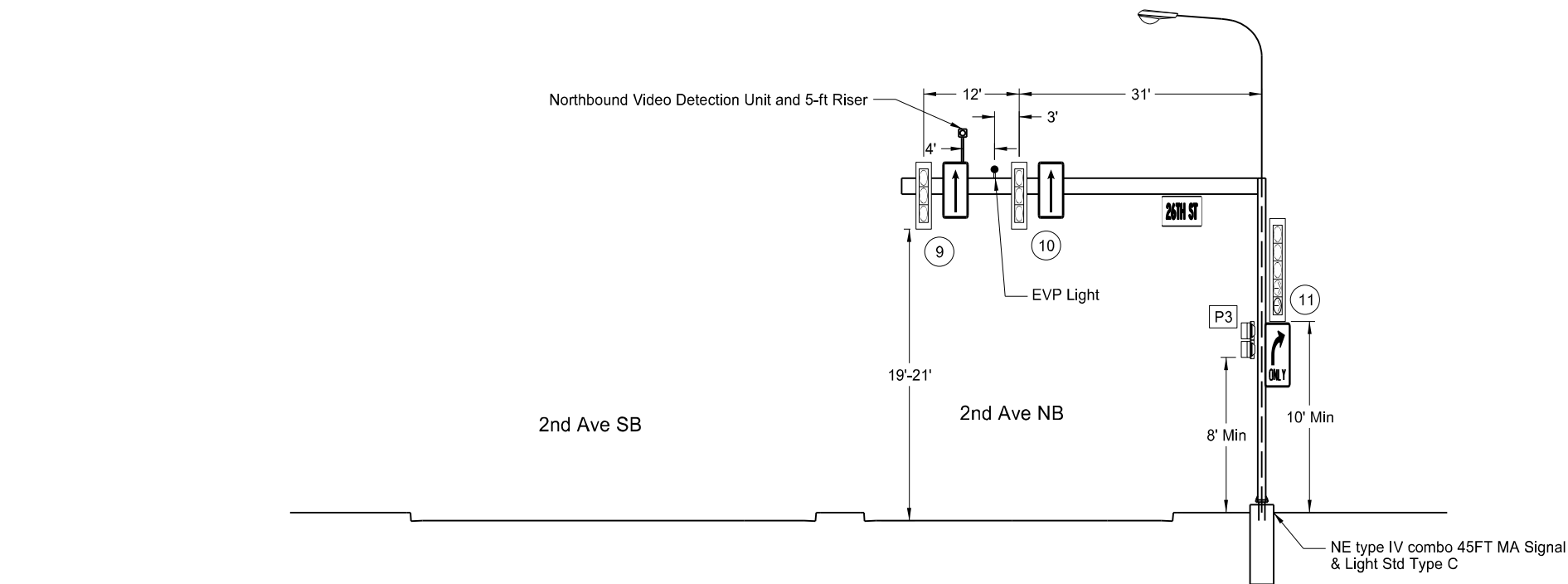
Notes:
ALL SIGNAL STANDARD FOUNDATIONS are to follow
SP (406)23 Drilled Shaft Foundations

Traffic Signal - Site 2
Summary of Quantities
2nd Ave & 26th St E

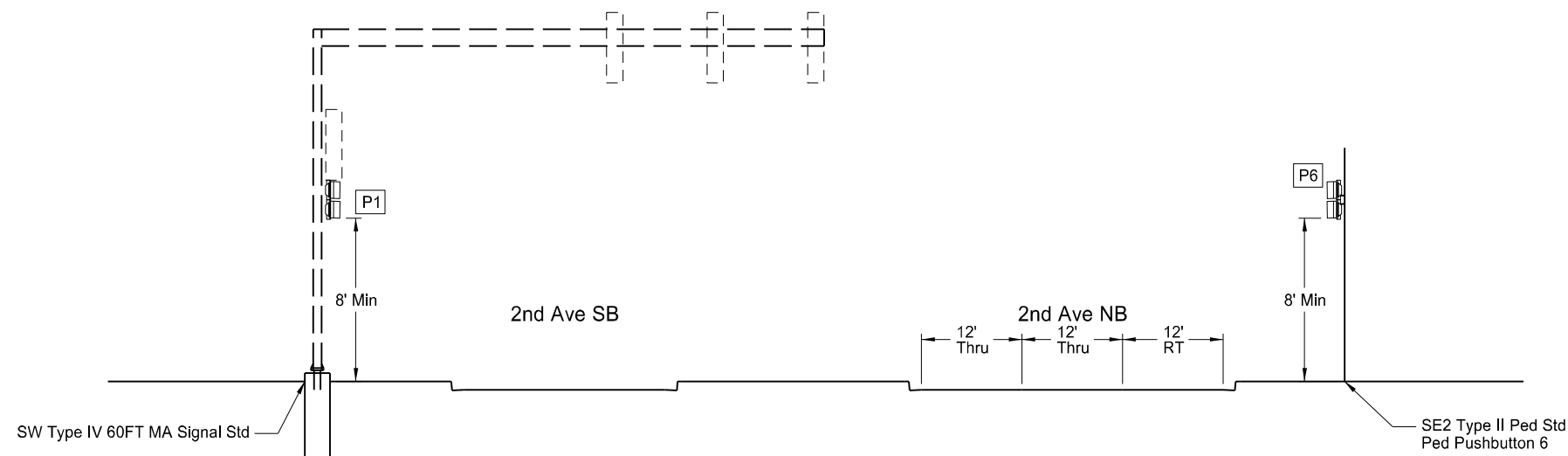
Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
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		ND	NHU-SU-CPU-7-002(178)019	150	22



2nd Ave NB (26th St) Departure

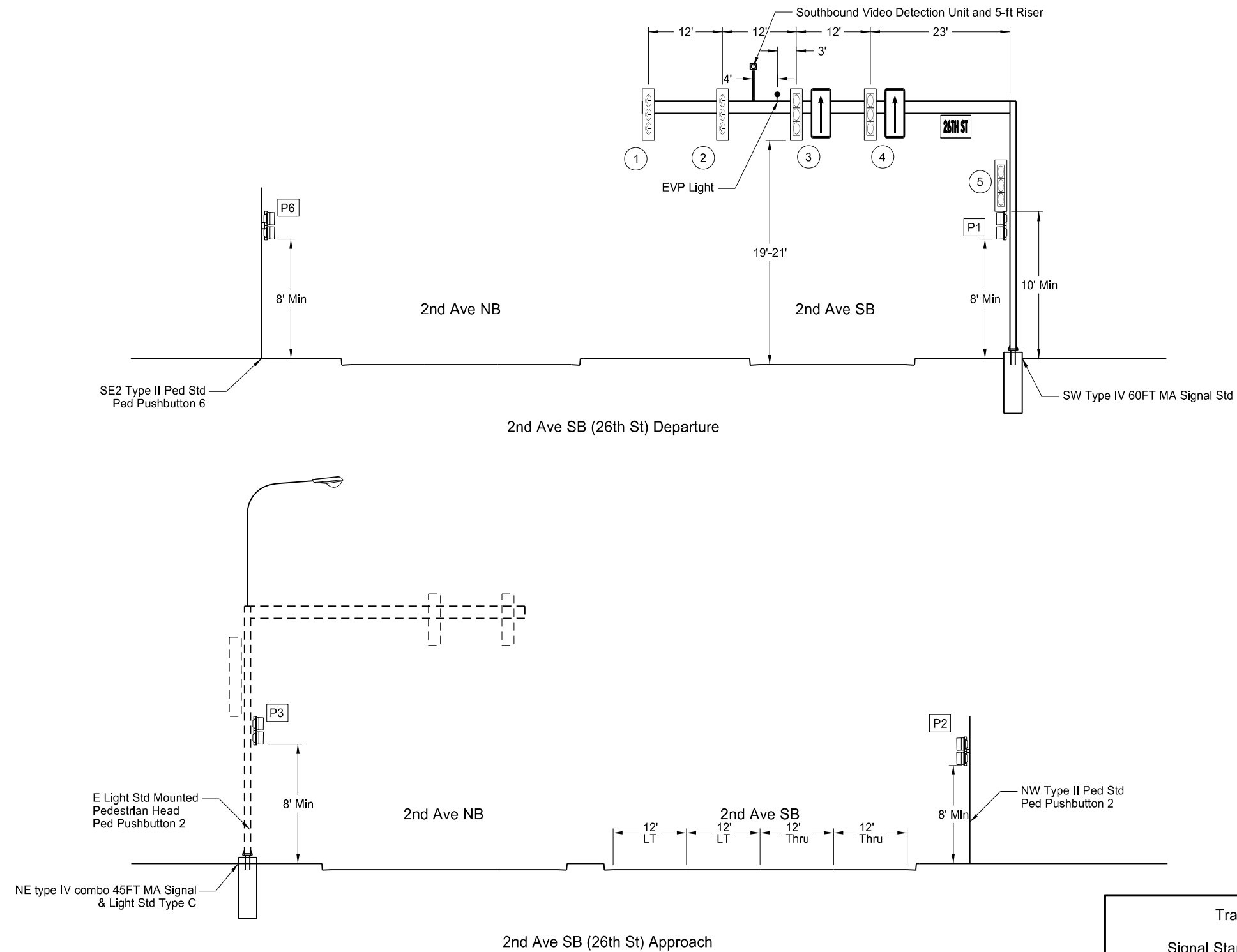


2nd Ave NB (26th St) Approach

Traffic Signal - Site 2
Signal Standards & Head Locations
2nd Ave & 26th St
2nd Ave NB (26th St)
Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County



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Traffic Signal - Site 2
Signal Standards & Head Locations
2nd Ave & 26th St
2nd Ave SB (26th St)

Williston US Highway 2 from
9th Ave W to N of 34th St
Williston, ND
Williams County

