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	ND	TAU-7-993(068)	24661	1	1

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

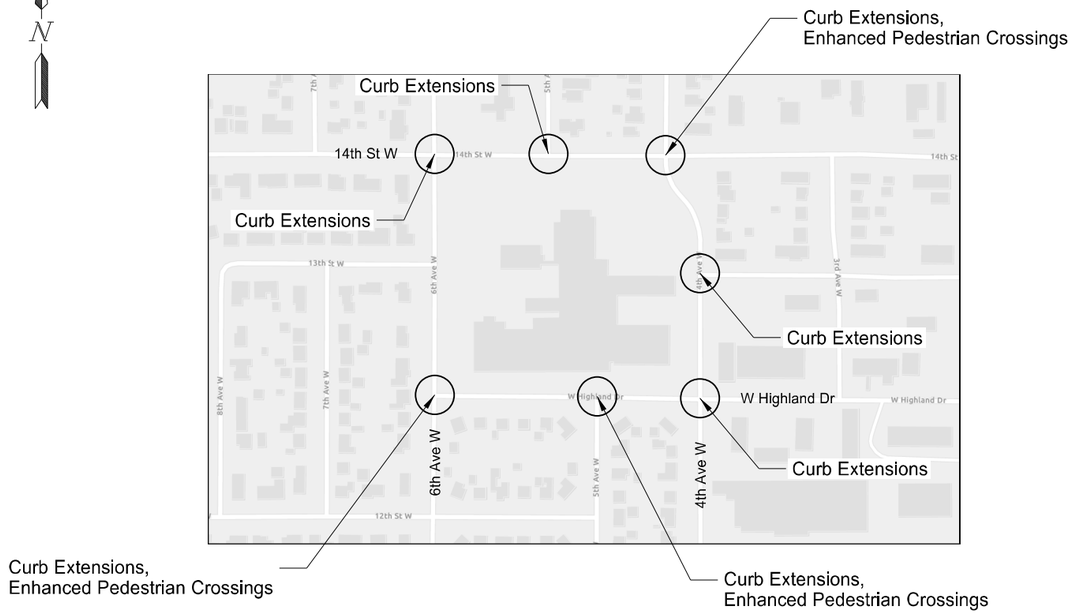
TAU-7-993(068)

Williams County
Williston Middle School Central Campus

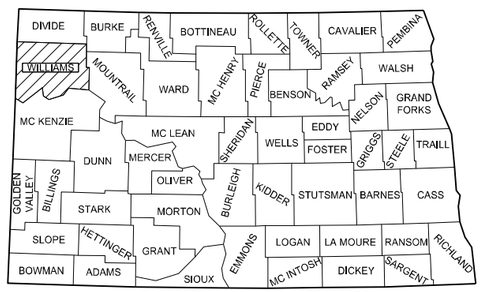
Curb Extensions
Enhanced Pedestrian Crossings

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	7/1/2025
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
TAU-7-993(068)	N/A	N/A



Note:
All coordinates on this project are Williams County ground coordinates. They are derived from NAD83(2011) reference frame; North Dakota North Zone



STATE COUNTY MAP

DESIGNER	Adrian Potter
DESIGNER	Zach Thelen
DESIGNER	Trey Haberlock

CITY OF WILLISTON

David Juma 8/25/2026

City Engineer

SRF CONSULTING GROUP INC.

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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20	1 - 14	General Details
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77	1 - 6	Permanent Erosion Control
82	1 - 13	Survey Data Layouts
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100	1 - 2	Work Zone Traffic Control
120	1 - 7	Signing and Pavement Marking
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LIST OF STANDARD DRAWINGS

Number	Description
D-101-1, 2,3,4	NDDOT Abbreviations
D-101-20, 21	Line Styles
D-101-30, 31,32,33	Symbols
D-704-9	Construction Sign Details - Terminal And Guide Signs
D-704-10	Construction Sign Details - Regulatory Signs
D-704-11, 11A	Construction Sign Details - Warning Signs
D-704-13	Barricade And Channelizing Device Details
D-704-14	Construction Sign Punching And Mounting Details
D-704-22	Construction Truck And Temporary Detour Layouts
D-704-25	Lane Closures On Urban Streets Layouts
D-704-26	Miscellaneous Sign Layouts
D-704-27	Mobile Operation (Pavement Marking)
D-704-50	Portable Sign Support Assembly
D-722-1	Inlet - Type 1
D-748-1	Curb & Gutter And Valley Gutter
D-750-2	Sidewalk
D-750-3	Curb Ramp Retrofit Details
D-750-4	Curb Ramp Retrofit Transitional Area Details
D-762-4	Pavement Marking
D-762-11	Short-Term Pavement Marking
D-770-1	Concrete Foundations (Traffic Signals & Highway Lighting)
D-772-2	Traffic Signal Standards

SPECIAL PROVISIONS

Number	Description
556(25)	Commercial Grade Hot Mix Asphalt Without Density



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LEGEND

- Pedestrian Improvements
- Roadway Profile Improvements
- Rectangular Rapid Flashing Beacon

Scope of Work

Enhanced Pedestrian Crossings
Williston Central Campus

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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NOTES

GENERAL NOTES

105-P01 COMPLETION DATE: The project will be complete by August 11, 2027.

202-P01 REMOVAL OF BITUMINOUS SURFACING: Removal of bituminous surfacing quantity includes removal of the existing bituminous at all intersections excluding the intersection of W Highland Dr and 6th Ave W. At the intersection of W Highland Dr and 6th Ave W, removal of bituminous surfacing includes the removal of the asphalt pavement, removal of aggregate base and trim the embankment to grade prior to placing new aggregate base. Include the cost for removal of materials, equipment, labor, embankment trimming and incidentals in the contract price for “Removal of Bituminous Surfacing”.

203-P01 COMMON EXCVATION-TYPE C: 150 CY of common excavation is included for the grade preparation and shaping of subgrade of the bump-outs, sidewalk, and curb ramp locations.

230-P01 SUBGRADE PREPARATION TYPE-A-12IN: Perform 12” subgrade preparation compacted to 95% plus 2 minus 3 of an ASTM 1557 modified proctor.

430-P01 COMMERCIAL GRADE HOT MIX ASPHALT: Tack all curb faces prior to paving and maintain a curb reveal of up to ¼”.

704-P01 TRAFFIC CONTROL DEVICES: The Traffic Control Devices List has been developed using the following Standard Drawing layouts:

D-704-22 Type K, Trucks Entering Roadway
D-704-22 Type L, Trucks Crossing Roadway
D-704-25 Type V, W and X, Lane Closures on urban streets

Traffic control device quantities are provided for each layout to have work done on 3 intersections.

Additional traffic control devices are included for the following:

- For the reconstruction at the intersection of 6th Ave W and W Highland Dr road/sidewalk closure signage, Type III barricades, and pedestrian barricades are included.

- Where road width allows during lane closures, additional tubular markers, delineator drums, and traffic movement arrows to be mounted on delineator drums are included to delineate the centerline to accommodate short term head-to-head traffic in lieu of flagging.

Approval must be obtained from Engineer if more than 3 intersections are to be worked on simultaneously. If approved, the City of Williston will pay for all necessary deployed devices to accommodate additional setups of the listed layouts.

722-P01 ADJUST GATE VALVE: Gate valves affected by project improvements will be adjusted by the City of Williston. Contact the City of Williston two (2) working days prior to required revisions to gate valves. Affected gate valves are shown in Section 90; verify all locations in the field.

Contact:
Wayne Wiedrich
Phone: 701-577-6368
Email: waynew@ci.williston.nd.us

722-P02 ADJUST MANHOLE: Remove existing casting and install new adjustment rings and casting. Provide Neenah Foundry No. R1733 manhole casting and Neenah Foundry Type C lid with two open pick holes, EJ Model 1205 solid assembly with type 2 open pick holes lid or approved equal. Include all materials, equipment, labor, and incidentals to remove the existing casting, replace adjustment rings, and place manhole casting to finished sidewalk elevation in the contact unit price for “Adjust Manhole”.

762-P01 OBLITERATERATION OF PAVEMENT MARKING: Remove existing pedestrian crossing pavement markings at all crosswalk locations prior to placement of proposed pavement markings. Include the cost for materials, equipment, labor, and incidentals in the contract price for “PVMT MK Painted 6IN Line”.

772-P01 FLASHING BEACON-POST MOUNTED-SCHOOL: Use a Rectangular Rapid Flashing Beacon (RRFB) for the flashing beacon. Meet the conditions set forth by the FHWA for interim approval for optional use of RRFBs as well as all current FHWA interpretations for the RRFB. Include two fluorescent yellow-green S1-1 signs and two W16-7P plaques mounted back to back for each direction of travel and a single-sided LED-array-based light source for each RRFB assembly. Mount flashing beacons and signs on a Type II signal standard as shown in the detail.

Program the RRFB to normally be dark, with operations initiated only upon pedestrian actuation, and operations ceasing at a predetermined, but an adjustable time of at least 22 seconds after the pedestrian actuation. All RRFBs associated with a given crosswalk will, when activated, simultaneously commence operation of their alternating rapid flashing indications and cease operation simultaneously. Assemblies will flash according to MUTCD specifications.

Install solar-powered/wireless flashing beacons and control enclosures as shown on the plans. Use one control enclosure to power each RRFB pedestal assembly or as required by the manufacturer.

Include two SAE J595 class 1 certified, rectangular array, yellow LED light sources with side-mounted LEDs for

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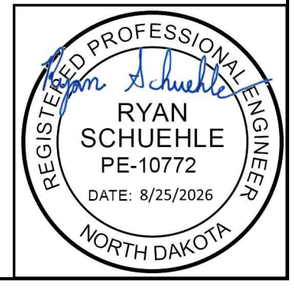
NOTES

indication to pedestrians for each beacon light bar. The LEDs will not allow for dimming.

Include wires only for the pedestrian pushbuttons - the rest of the system must operate wirelessly. Provide pedestrian pushbutton cable as required by the manufacturer; consider this as incidental. Mount equipment as recommended by the manufacturer. Ensure all enclosures and equipment meet the standards for being considered as outdoor rated.

Measure and pay for each flashing beacon assembly as individual systems (four total). Include Type II signal standards and foundations, flasher controller cabinets, solar panels, LED flashers, pedestrian pushbuttons, signs, and any other material and labor needed to complete the RRFB installations. Include all costs for labor, equipment, and materials associated with supplying and installing functional flashing beacon assemblies in the unit bid price for “FLASHING BEACON-POST MOUNTED".

970-P01 LANDSCAPE PERPARATION: Grading will be required adjacent to the locations designated for sidewalk and curb & gutter replacement. Blend the existing topsoil adjacent to the sidewalk and or curb & gutter to eliminate any steep slopes or vertical edges. Any excess topsoil will become property of the Contractor and must be removed from the project site. Any needed topsoil shall be imported to the project if necessary.



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Estimated Quantities

SPEC	CODE	ITEM DESCRIPTION	UNIT	Mainline	TOTAL
103	0100	CONTRACT BOND	L SUM	1	1
202	0114	REMOVAL OF CONCRETE PAVEMENT	SY	556	556
202	0130	REMOVAL OF CURB & GUTTER	LF	1287	1287
202	0132	REMOVAL OF BITUMINOUS SURFACING	SY	1751	1751
203	0103	COMMON EXCAVATION-TYPE C	CY	150	150
216	0100	WATER	M GAL	10	10
230	0165	SUBGRADE PREPARATION-TYPE A-12IN	STA	2.1	2.1
252	0100	SOD	SY	82	82
302	0120	AGGREGATE BASE COURSE CL 5	TON	580	580
411	0114	MILLING PAVEMENT SURFACE - 2 INCH	SY	75	75
430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	296	296
702	0100	MOBILIZATION	L SUM	1	1
704	0100	FLAGGING	MHR	1400	1400
704	1000	TRAFFIC CONTROL SIGNS	UNIT	1289	1289
704	1052	TYPE III BARRICADE	EA	6	6
704	1054	SIDEWALK BARRICADE	EA	12	12
704	1060	DELINEATOR DRUMS	EA	6	6
704	1067	TUBULAR MARKERS	EA	21	21
708	1540	INLET PROTECTION-SPECIAL	EA	16	16
708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	16	16
709	0161	GEOSYNTHETIC MATERIAL TYPE S1	SY	914	914
722	6200	ADJUST MANHOLE	EA	1	1
748	0100	CURB & GUTTER	LF	1456	1456
750	0140	SIDEWALK CONCRETE 6IN	SY	917	917
750	2115	DETECTABLE WARNING PANELS	SF	417	417
754	0170	FLEXIBLE DELINEATORS	EA	121	121
754	0592	RESET SIGN PANEL	EA	10	10
754	0593	RESET SIGN SUPPORT	EA	10	10
762	1106	PVMT MK PAINTED 6IN LINE	LF	1166	1166
762	1124	PVMT MK PAINTED 24IN LINE	LF	234	234
772	2120	FLASHING BEACON-POST MOUNTED-SCHOOL	EA	8	8
970	0008	LANDSCAPE PREPARATION	SY	82	82

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BASIS OF ESTIMATE

Basis of Estimate
Commercial Grade Hot Mix Asphalt @ 2 Ton/CY
Aggregate @ 1.875 Ton/CY
Tack Coat @ 0.05 GAL/SY

Water		
Material	**Basis**	**Quantity**
Aggregates	20 Gal/Ton	8
Watering	5.58 Gal/SY/Week	2

Spec	Code	Bid Item	Quantity	Unit
216	0100	Water		
			10	MGal



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Legend

: Detectable Warning Panel

: Pedestrian Access Route

: Transitional tie-in to nearest joint, if needed.

: 4' long x width of Existing Pedestrian Facility (EPF) or
4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

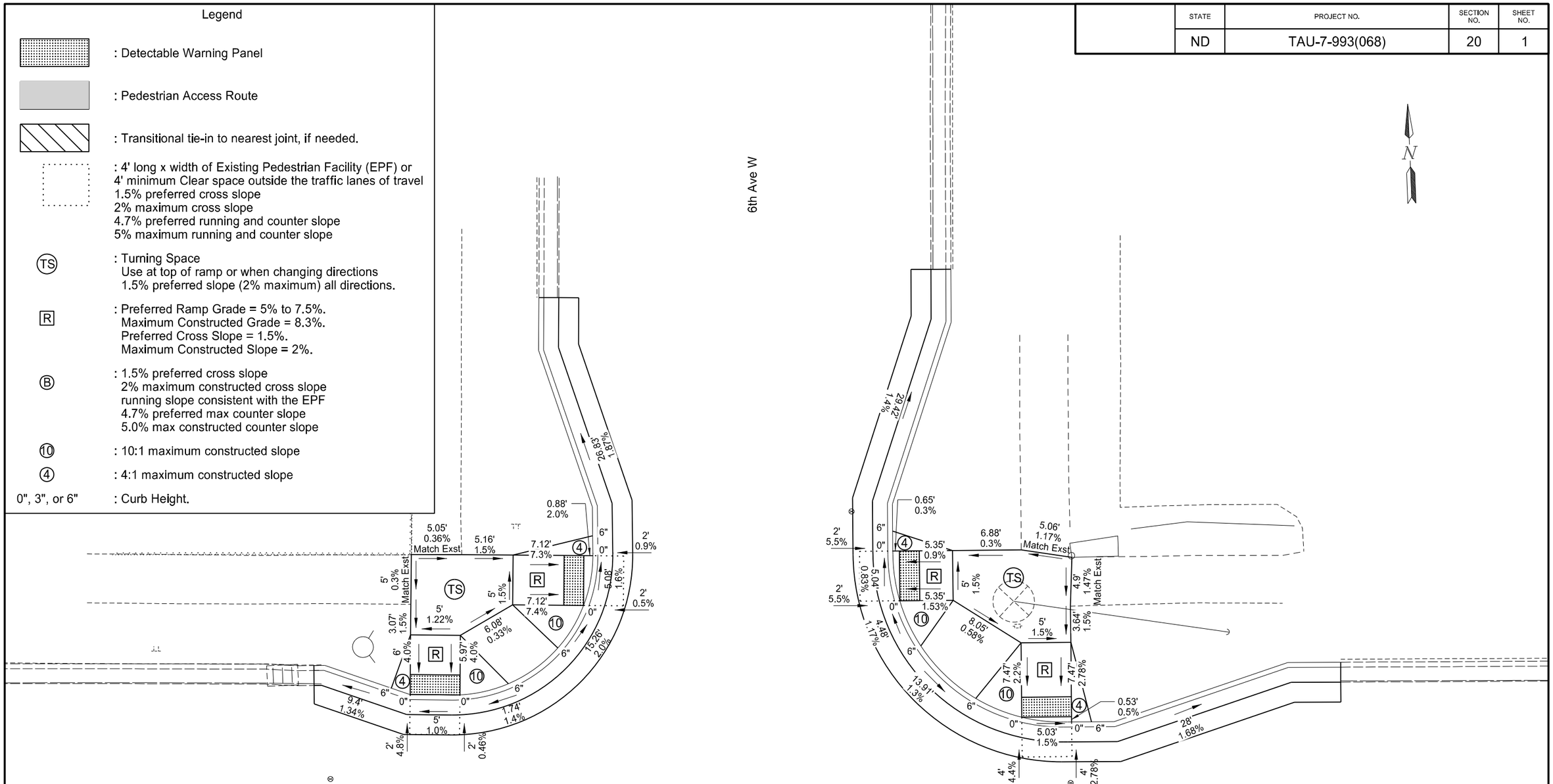
R : Preferred Ramp Grade = 5% to 7.5%.
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0", 3", or 6" : Curb Height.



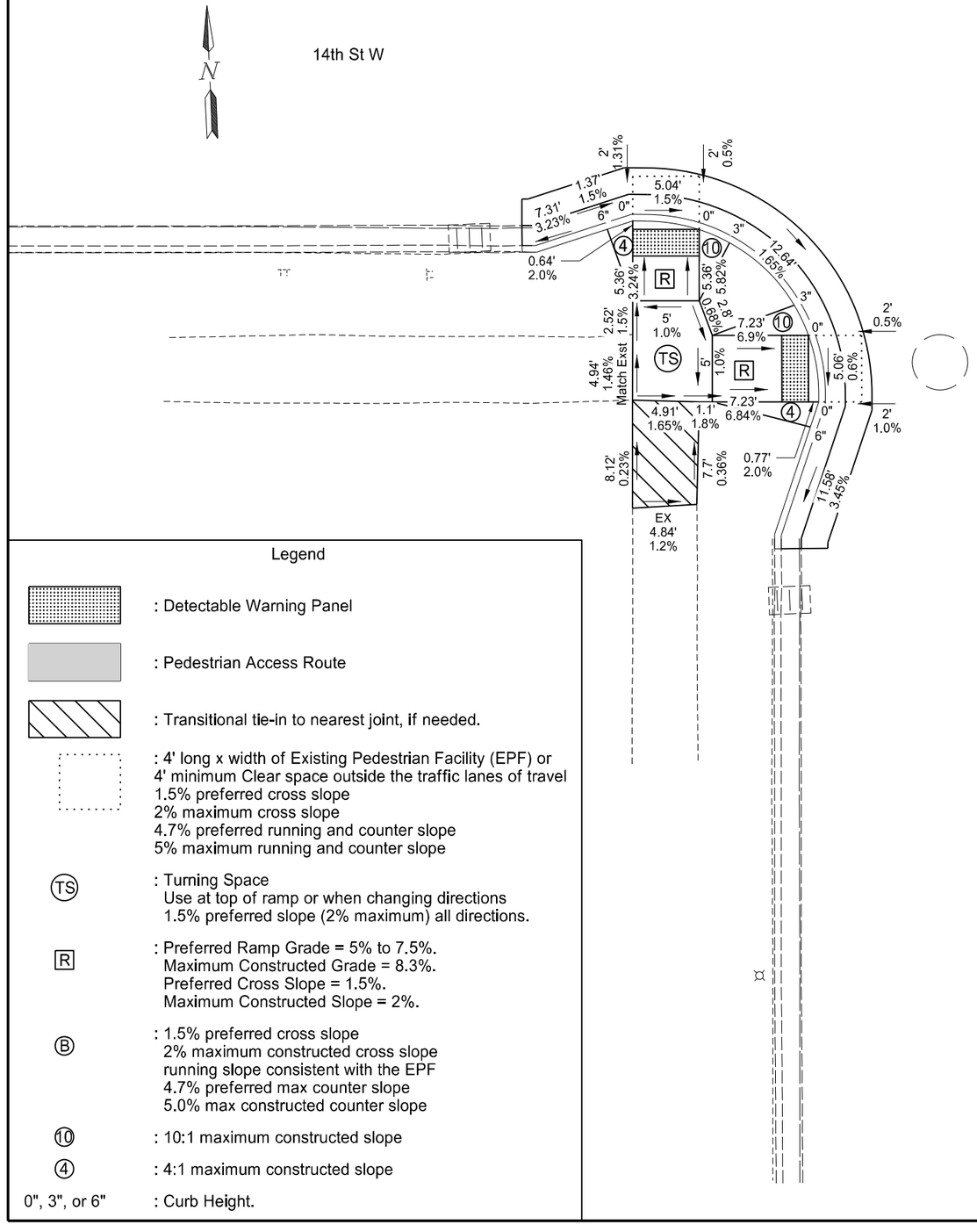
ADA Ramp Detail Sheets

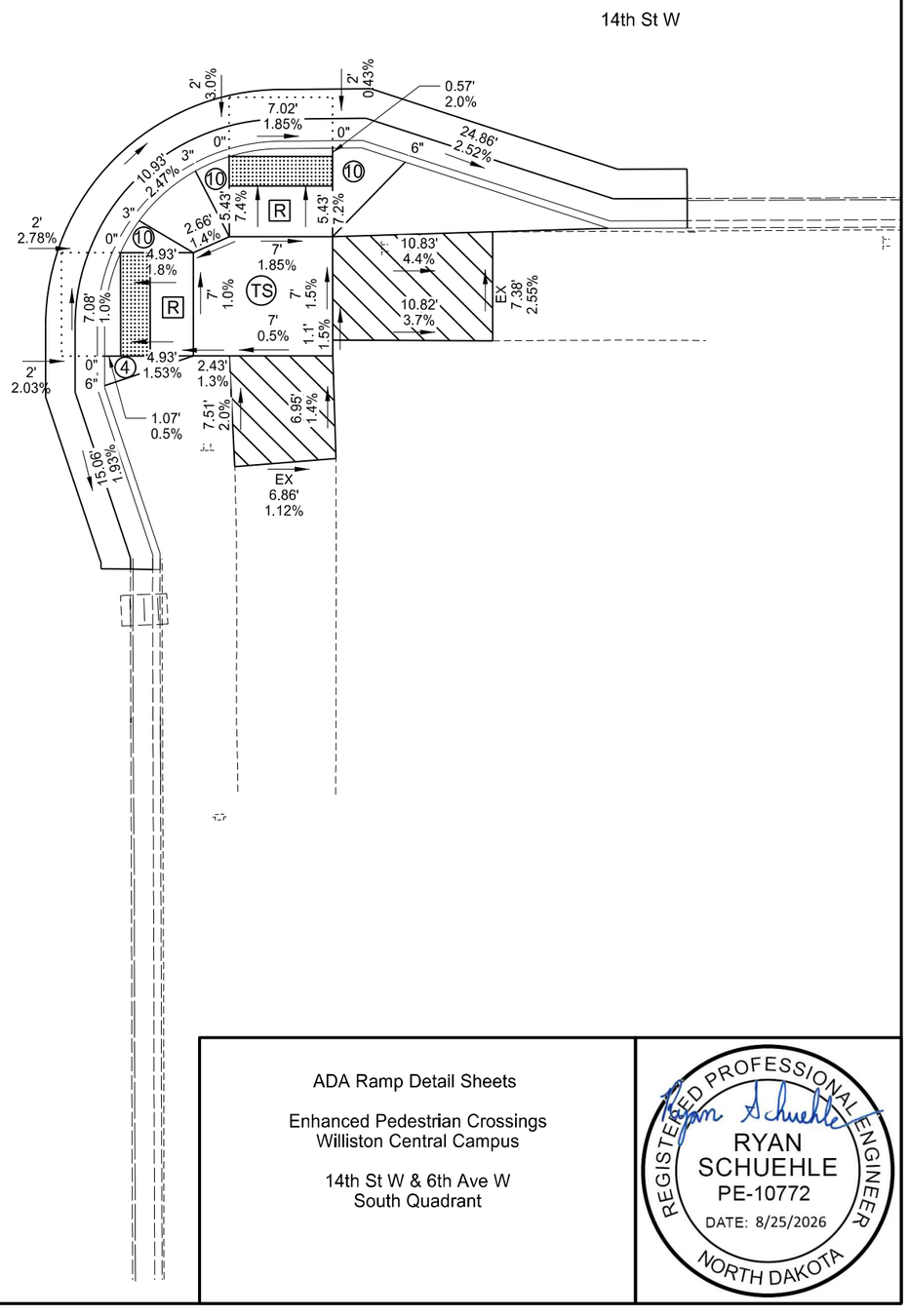
Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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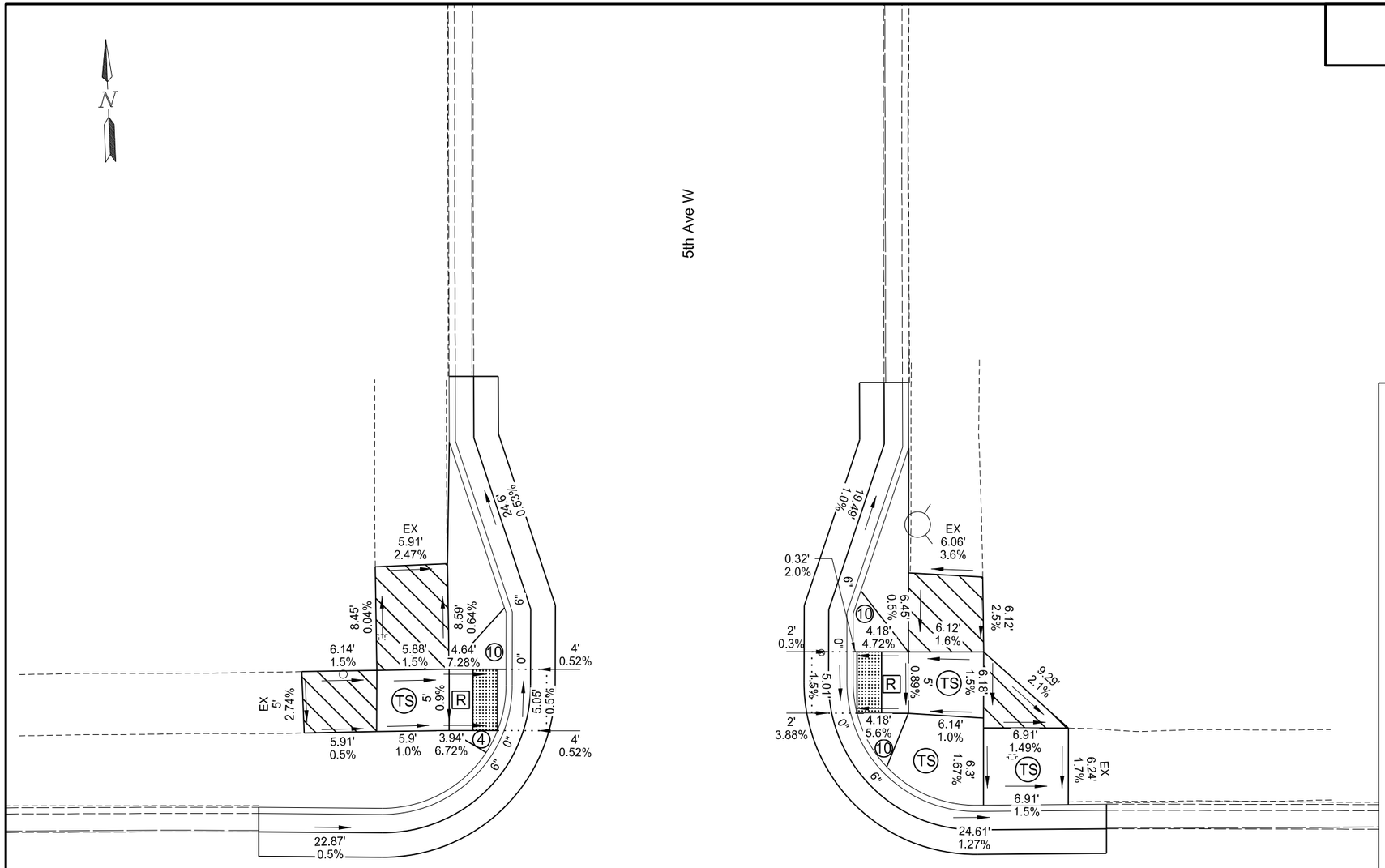
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W
South Quadrant

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14th St W

Legend

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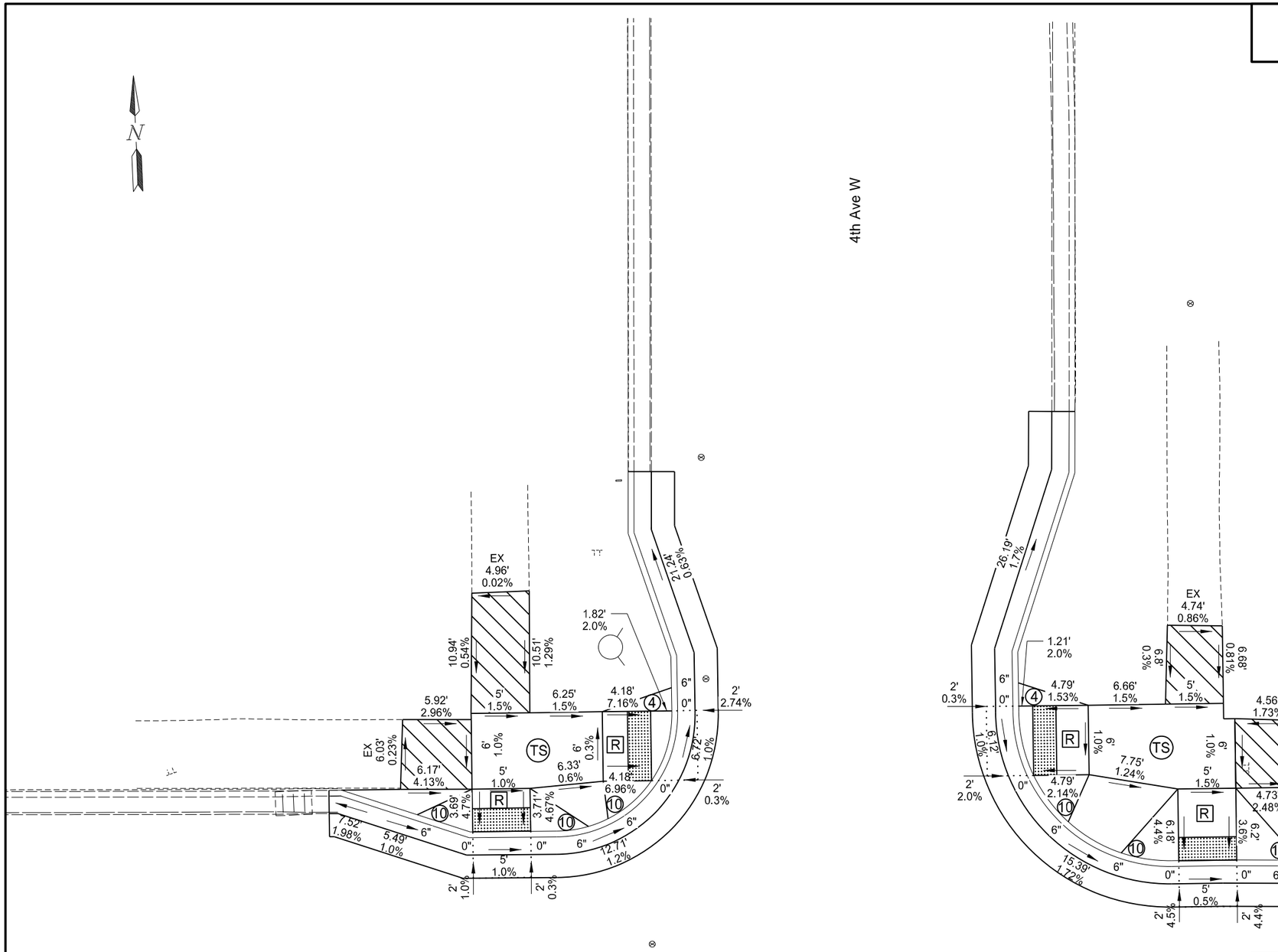
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 5th Ave W

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DATE: 8/25/2026
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Legend

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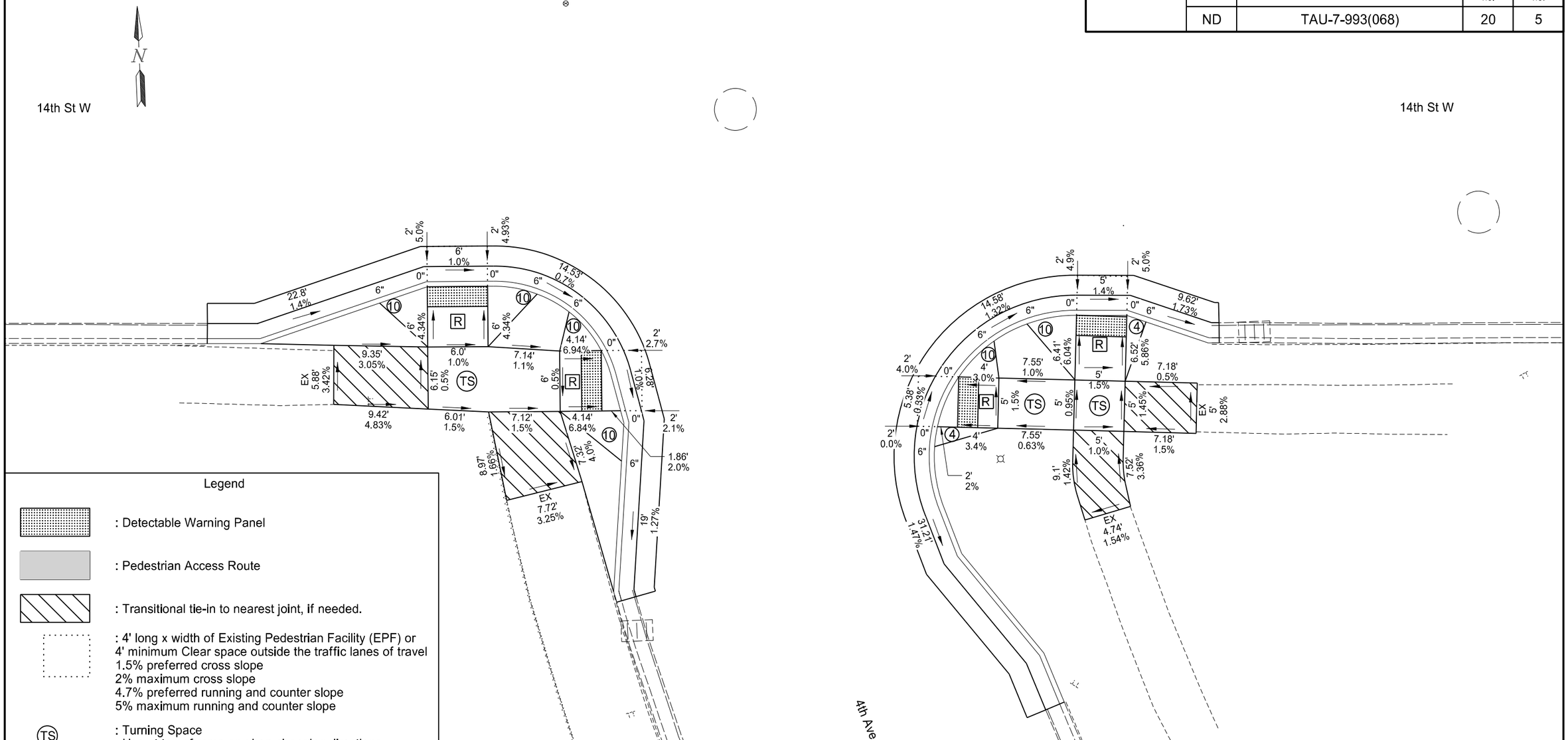
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 4th Ave W
North Quadrant

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RYAN SCHUEHLE
PE-10772
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Legend

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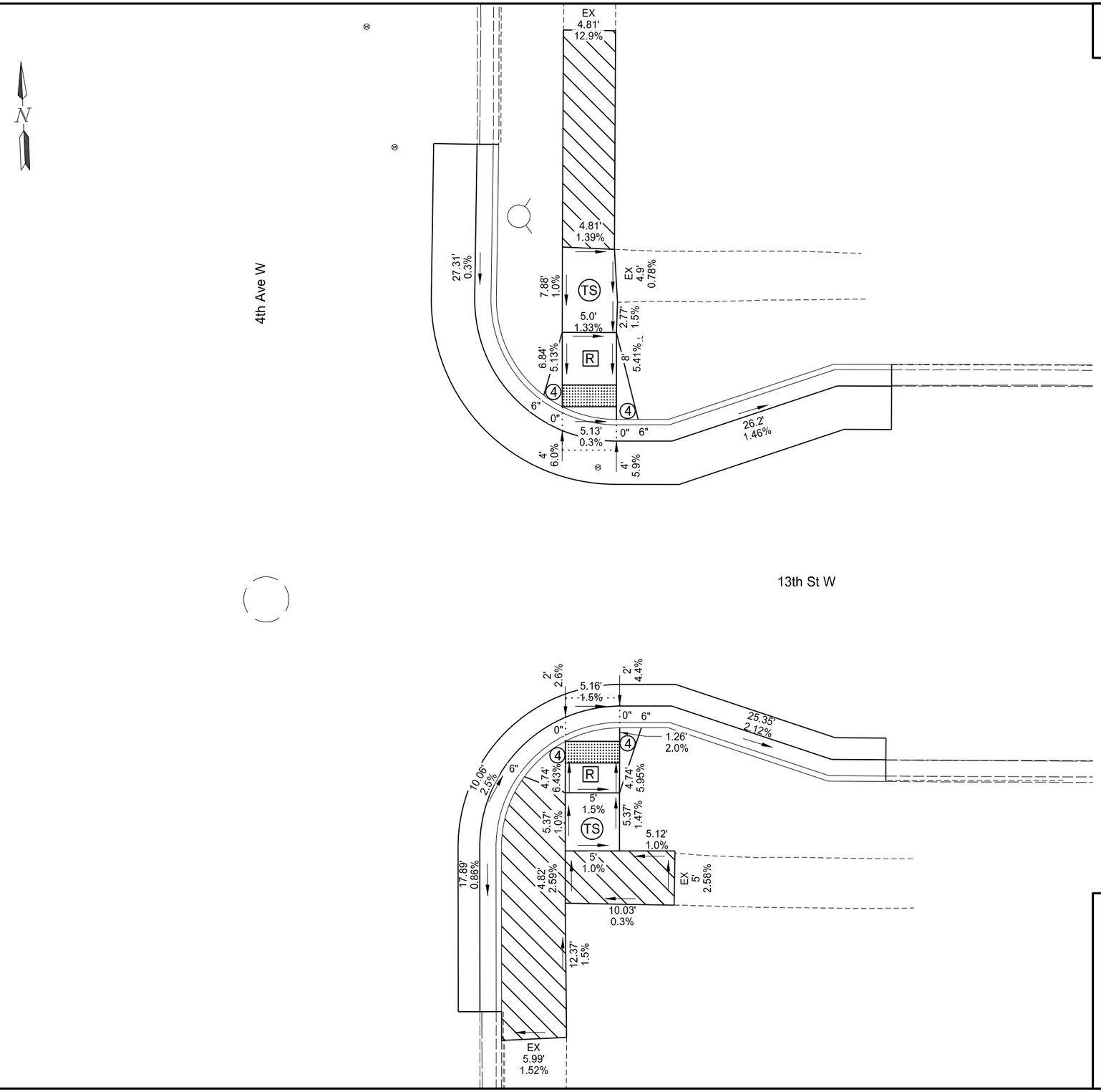
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 4th Ave W
South Quadrant

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PE-10772
DATE: 8/25/2026
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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Legend

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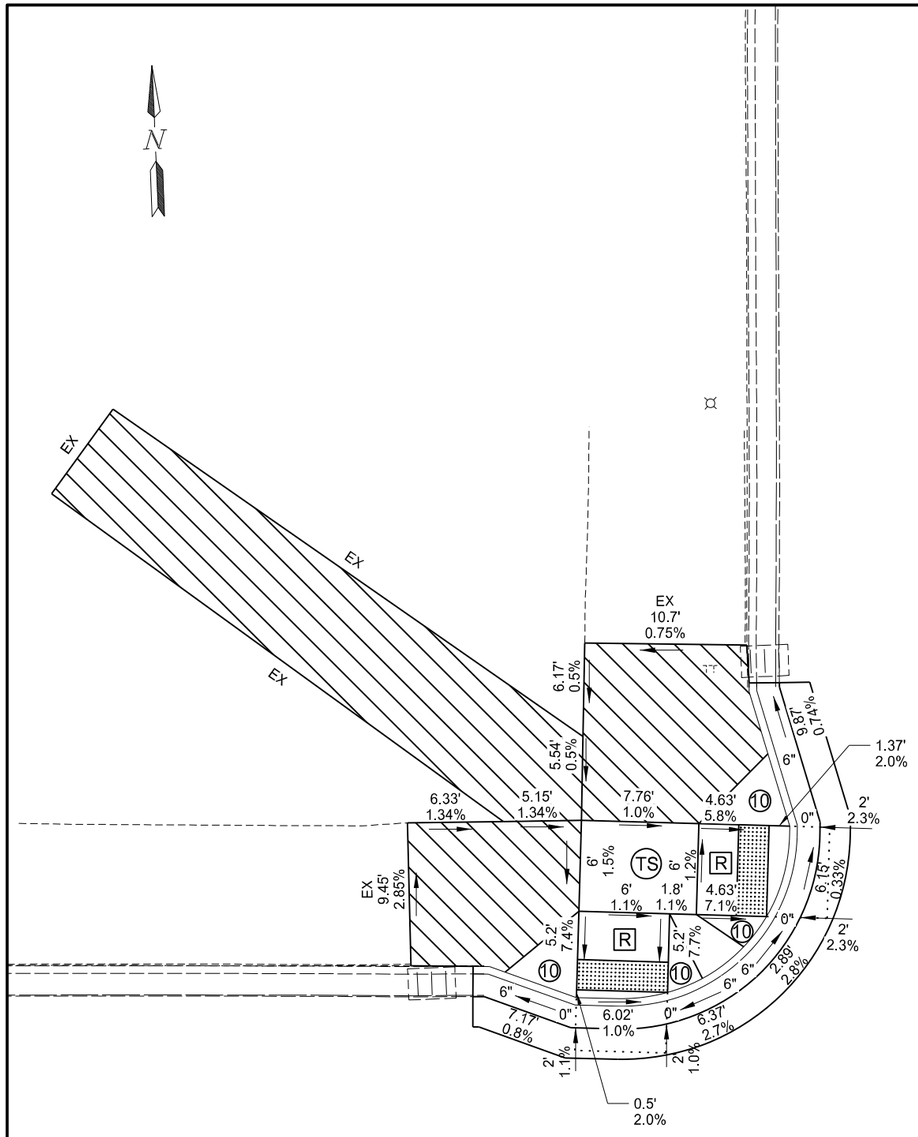
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Cetral Campus

13th St W & 4th Ave W

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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Legend

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⑩ : 10:1 maximum constructed slope

④ : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W
North Quadrant

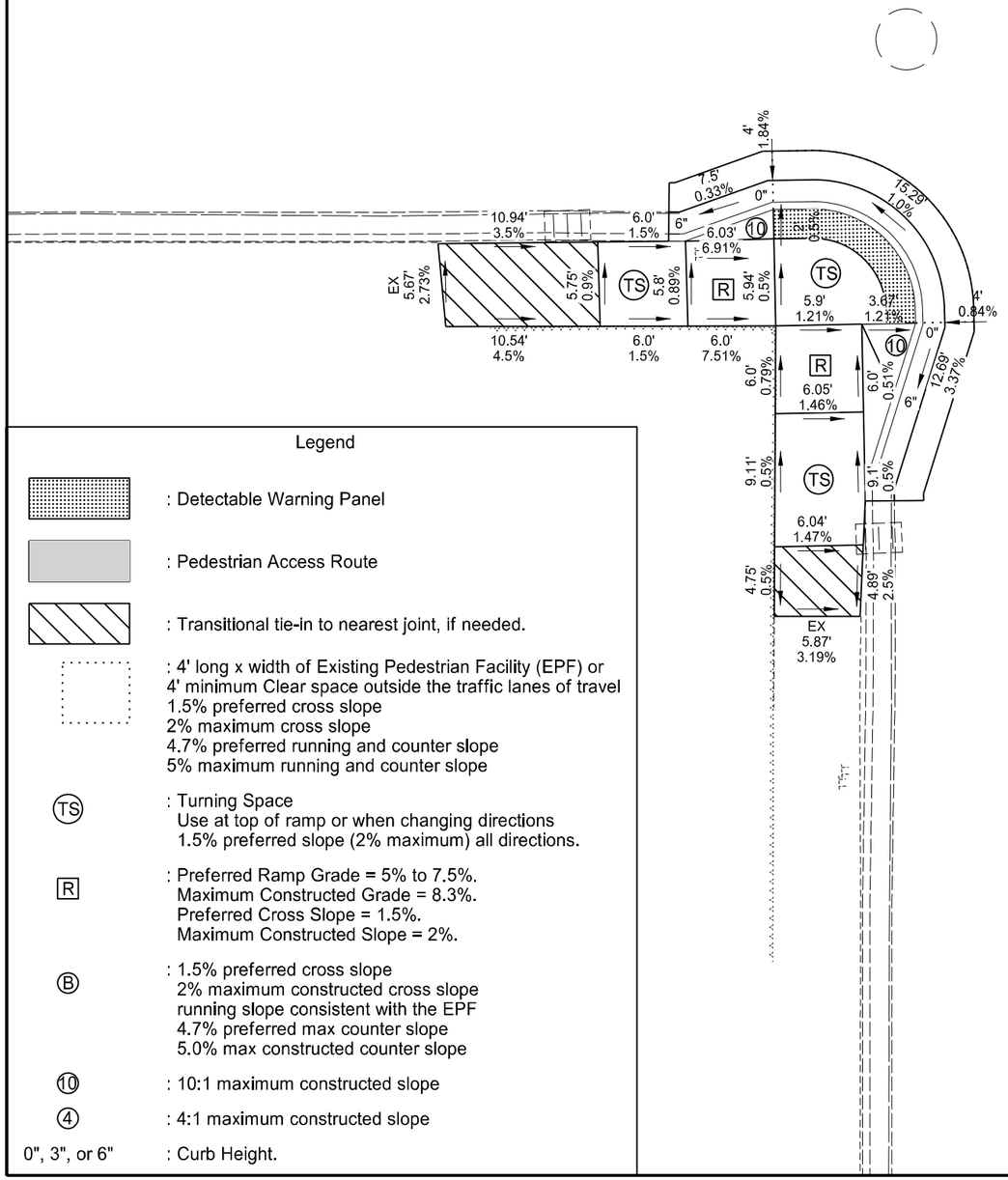
REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

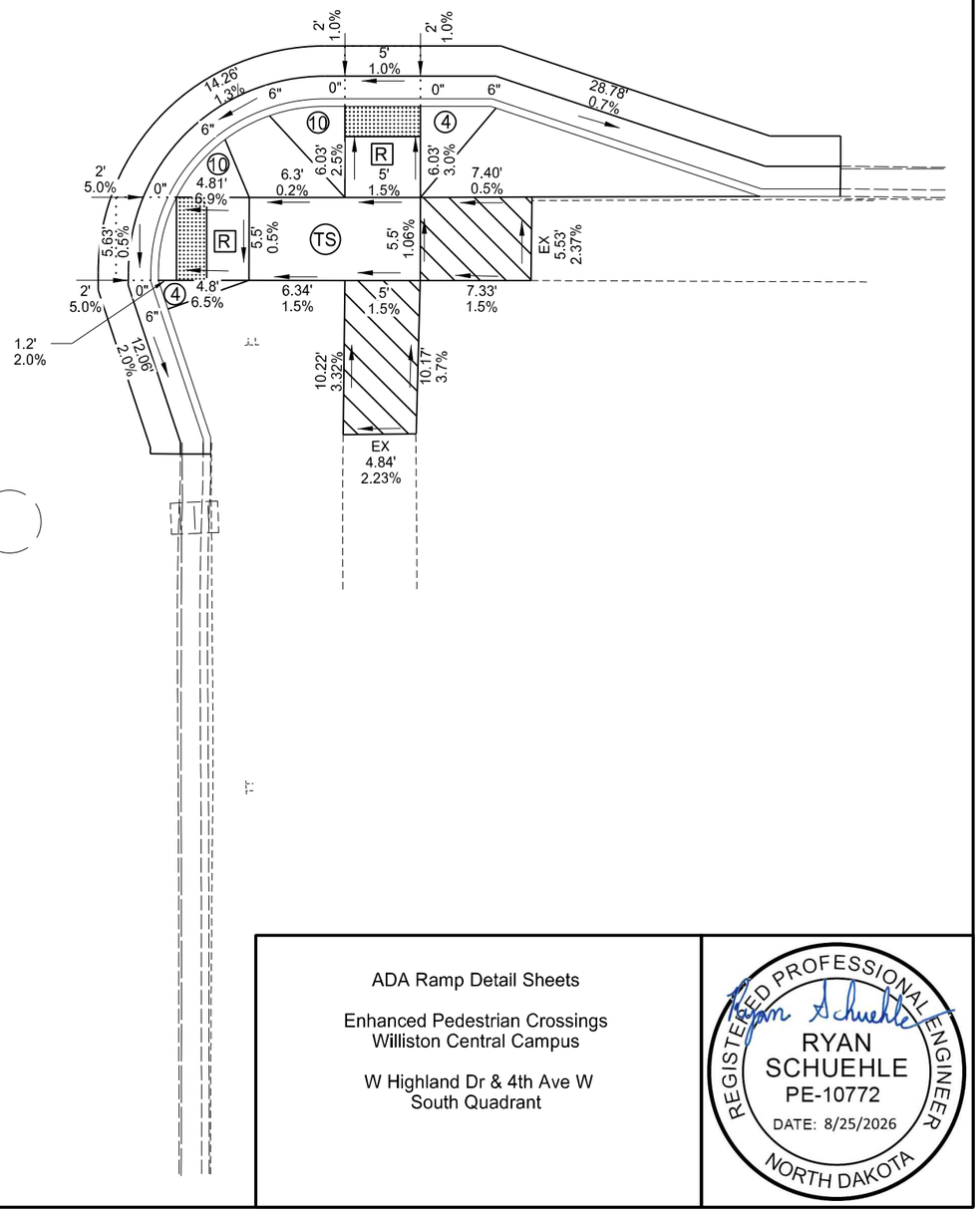
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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W Highland Dr





Legend

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2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

[R] : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.

Ⓑ : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

⑩ : 10:1 maximum constructed slope

④ : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

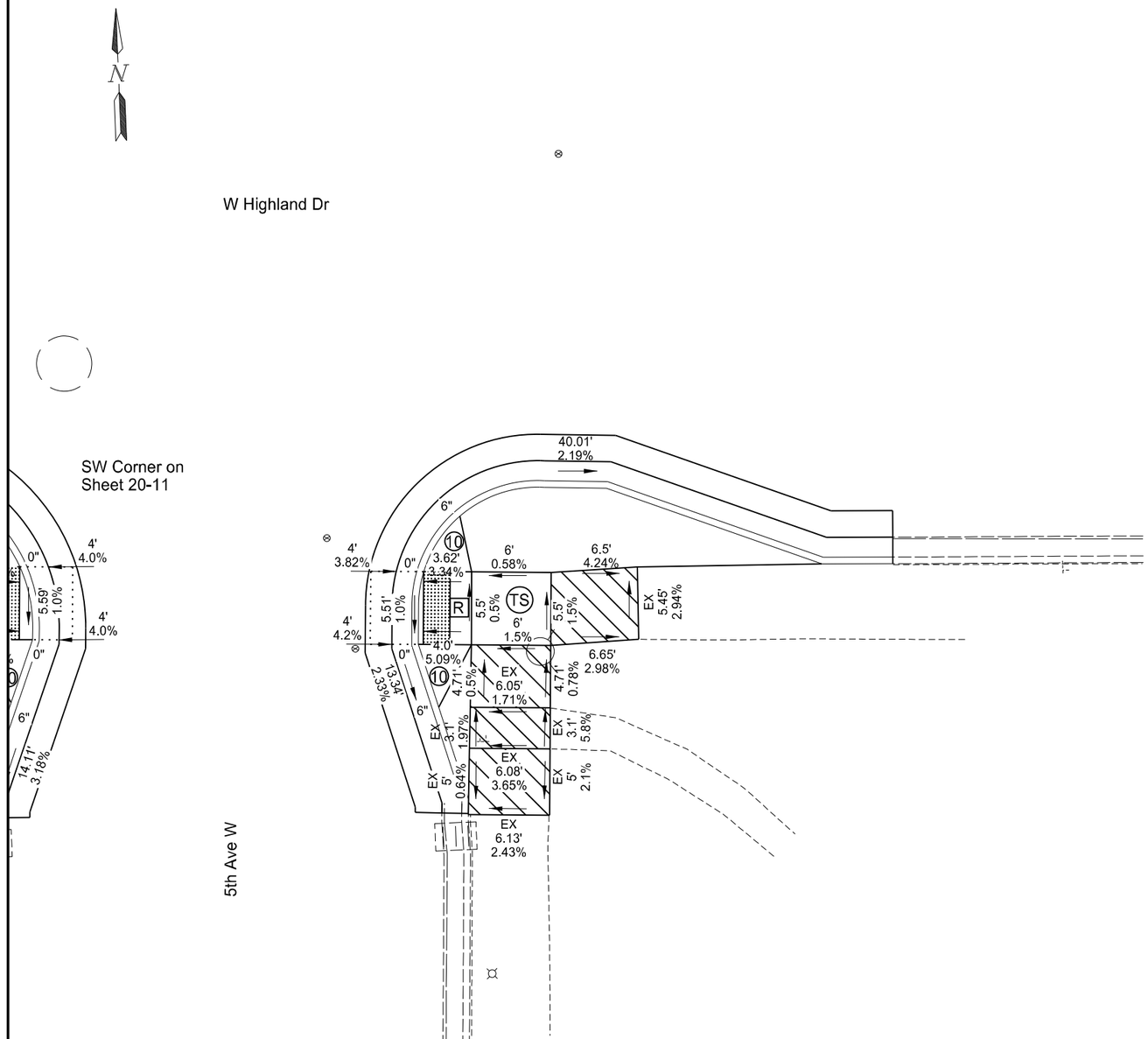
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W
South Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	20	9



Legend

: Detectable Warning Panel

: Pedestrian Access Route

: Transitional tie-in to nearest joint, if needed.

: 4' long x width of Existing Pedestrian Facility (EPF) or
4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

[R] : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.

(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

(4) : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

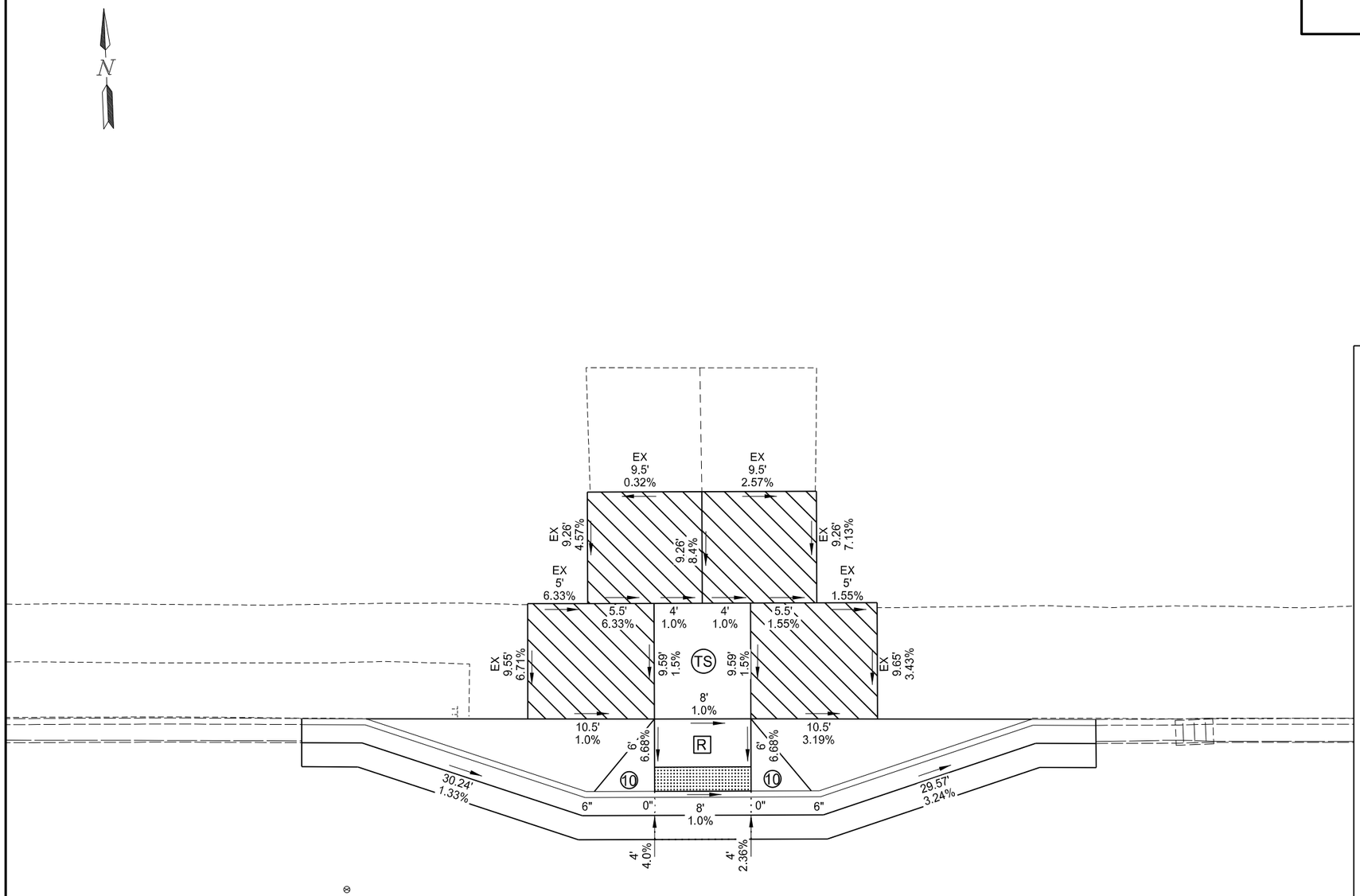
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W
South East Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	20	10



Legend

: Detectable Warning Panel

: Pedestrian Access Route

: Transitional tie-in to nearest joint, if needed.

: 4' long x width of Existing Pedestrian Facility (EPF) or
4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

TS : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

R : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.

Ⓑ : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

⑩ : 10:1 maximum constructed slope

④ : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

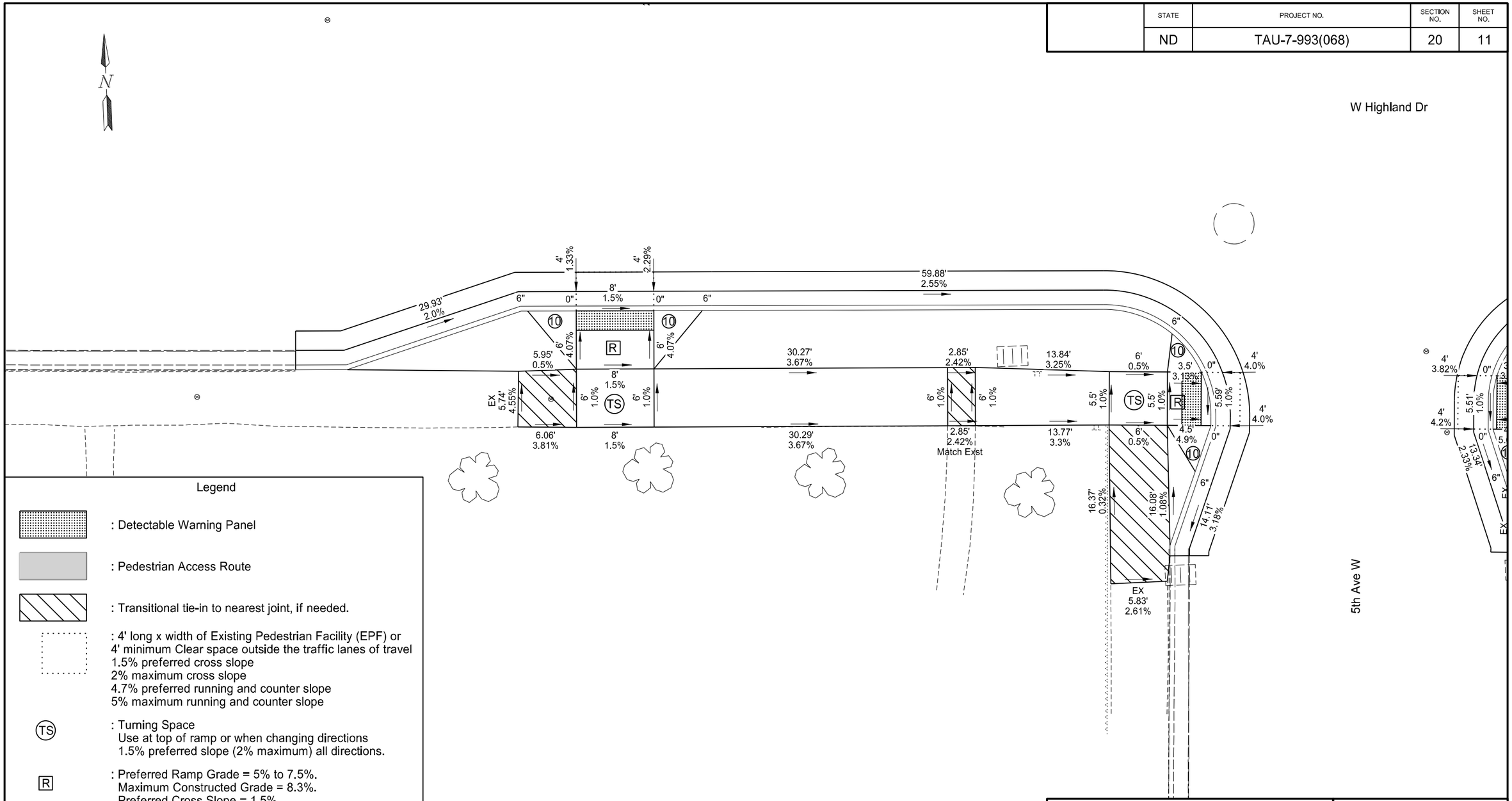
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	20	11



Legend

: Detectable Warning Panel

: Pedestrian Access Route

: Transitional tie-in to nearest joint, if needed.

: 4' long x width of Existing Pedestrian Facility (EPF) or
4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

[R] : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.

(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

(4) : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

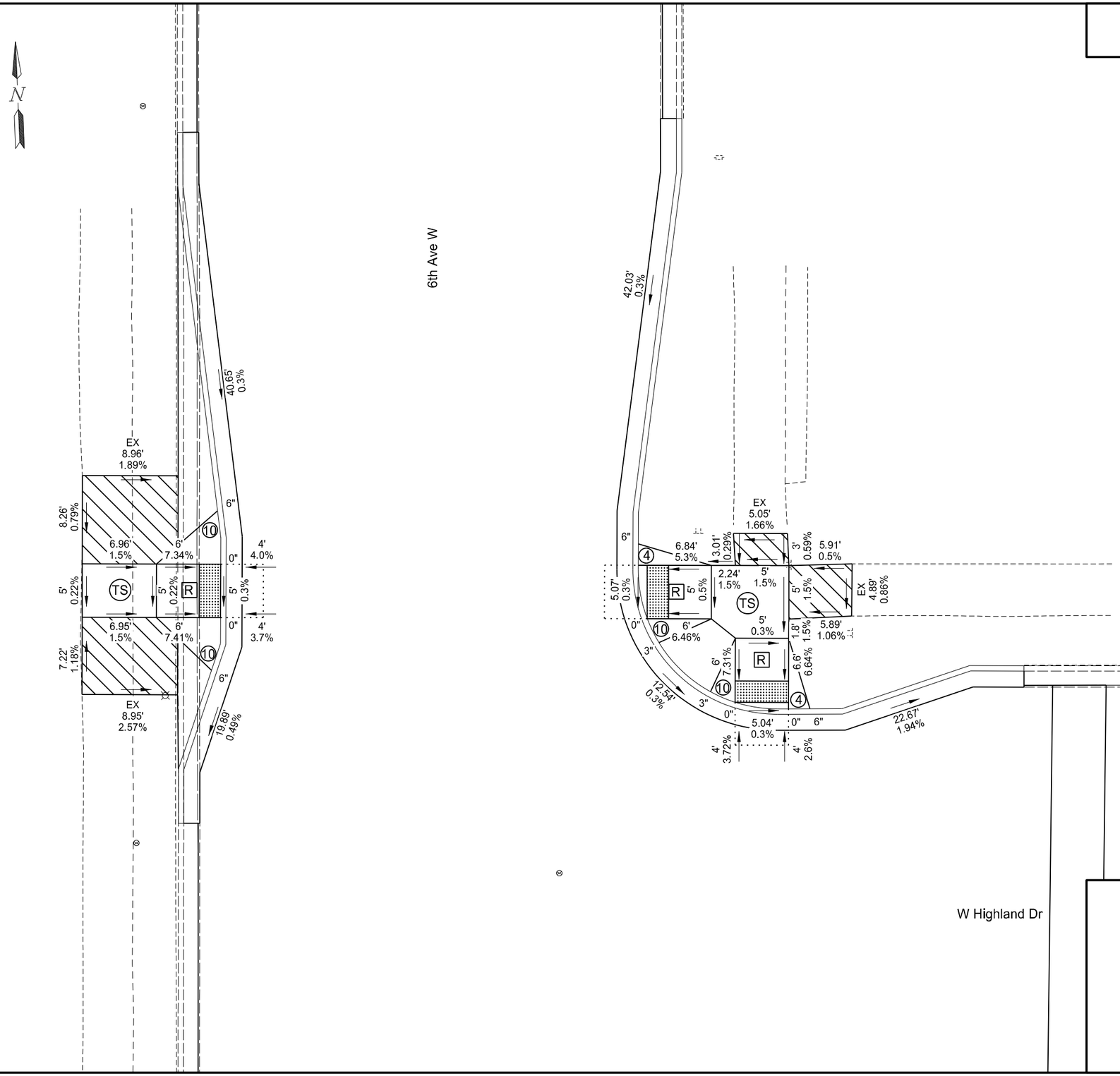
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W
South Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	20	12



Legend

: Detectable Warning Panel

: Pedestrian Access Route

: Transitional tie-in to nearest joint, if needed.

: 4' long x width of Existing Pedestrian Facility (EPF) or
4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

(R) : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.

(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

(4) : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

ADA Ramp Detail Sheets

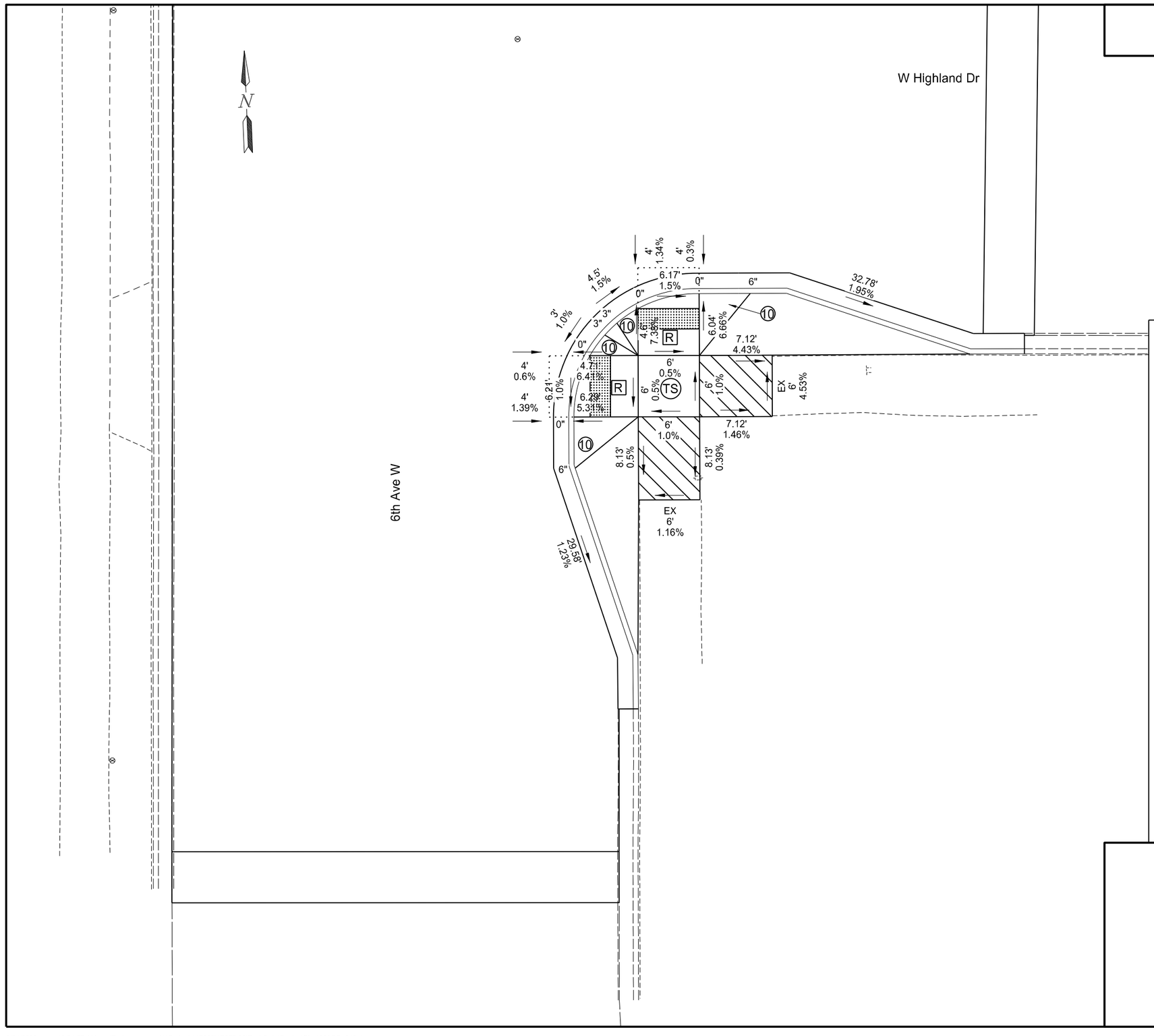
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TAU-7-993(068)	20	13



Legend

: Detectable Warning Panel

: Pedestrian Access Route

: Transitional tie-in to nearest joint, if needed.

: 4' long x width of Existing Pedestrian Facility (EPF) or
4' minimum Clear space outside the traffic lanes of travel
1.5% preferred cross slope
2% maximum cross slope
4.7% preferred running and counter slope
5% maximum running and counter slope

(TS) : Turning Space
Use at top of ramp or when changing directions
1.5% preferred slope (2% maximum) all directions.

[R] : Preferred Ramp Grade = 5% to 7.5%.
Maximum Constructed Grade = 8.3%.
Preferred Cross Slope = 1.5%.
Maximum Constructed Slope = 2%.

(B) : 1.5% preferred cross slope
2% maximum constructed cross slope
running slope consistent with the EPF
4.7% preferred max counter slope
5.0% max constructed counter slope

(10) : 10:1 maximum constructed slope

(4) : 4:1 maximum constructed slope

0", 3", or 6" : Curb Height.

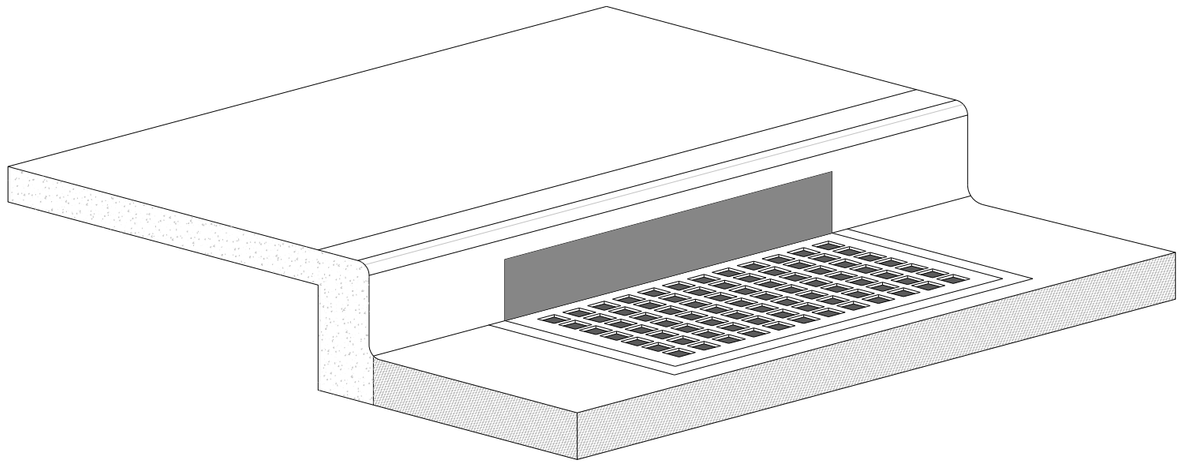
ADA Ramp Detail Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W
South Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	20	14



Inlet Protection Device

Installation Notes:

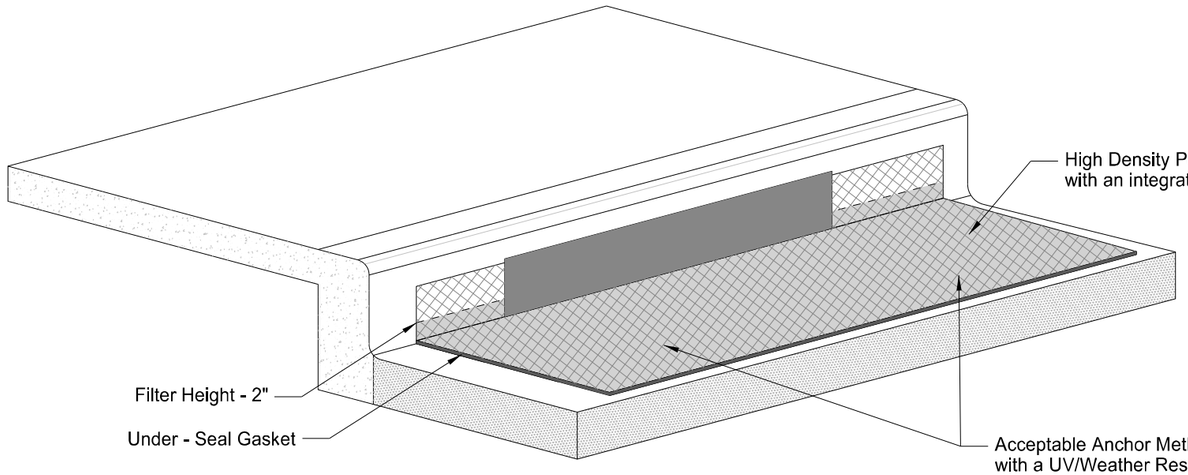
1. Place device tightly against drain opening and cover entire grate. Extend the device at least 2 inches past the grate toward the street.

2. Overlap the segments at longer openings.

3. Anchor the device so that water cannot flow behind it.

General Notes:

1. Remove material that falls into the inlet during maintenance or removal of the device.

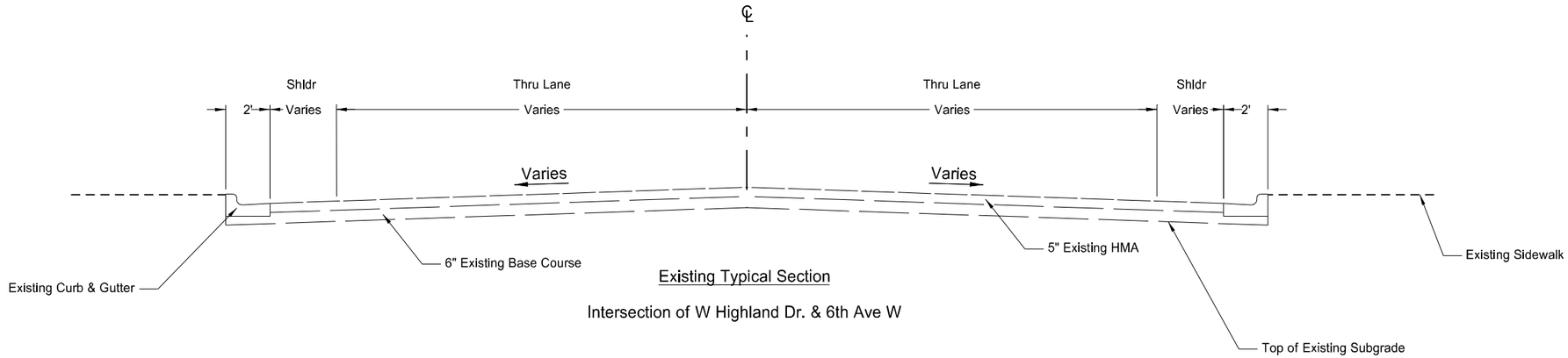


Inlet Protection Device

Enhanced Pedestrian Crossings
Williston Central Campus

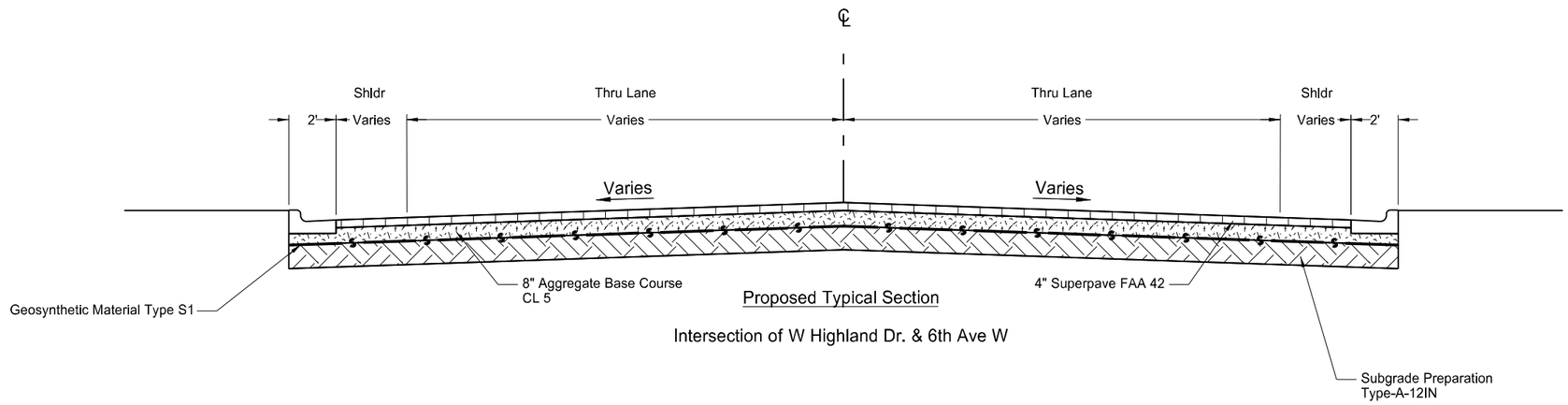
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	30	1



Existing Typical Section

Intersection of W Highland Dr. & 6th Ave W



Proposed Typical Section

Intersection of W Highland Dr. & 6th Ave W

Typical Sections

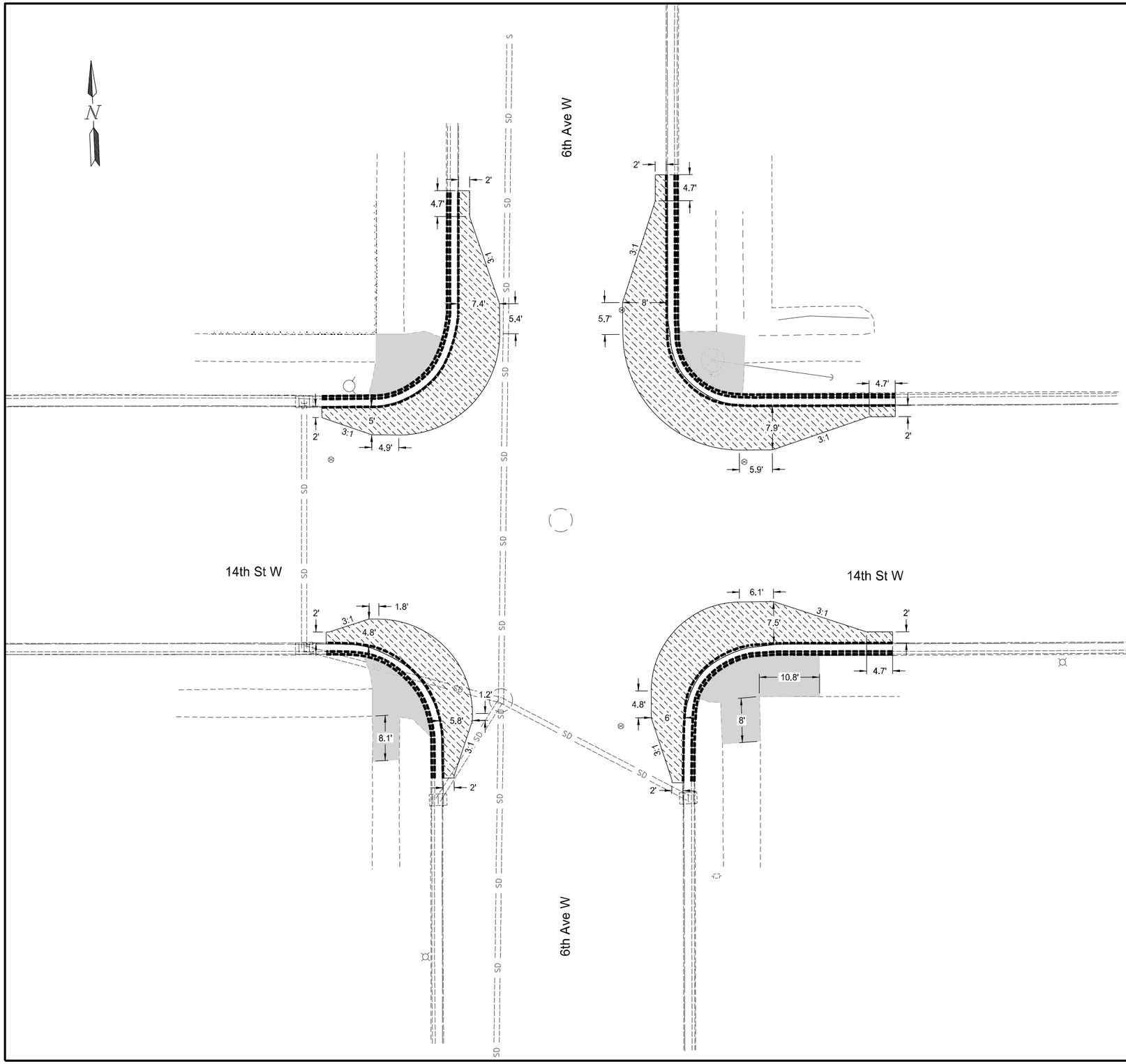
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W

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RYAN SCHUEHLE
PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	1



Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		Southwest Quadrant	13	SY
		Northwest Quadrant	12	SY
		Southeast Quadrant	22	SY
		Northeast Quadrant	12	SY
202	0130	Removal of Curb & Gutter		
		Southwest Quadrant	36	LF
		Northwest Quadrant	55	LF
		Southeast Quadrant	55	LF
		Northeast Quadrant	75	LF
202	0132	Removal of Bituminous Surfacing		
		Southwest Quadrant	26	SY
		Northwest Quadrant	41	SY
		Southeast Quadrant	42	SY
		Northeast Quadrant	58	SY

LEGEND

- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

Removal Layouts

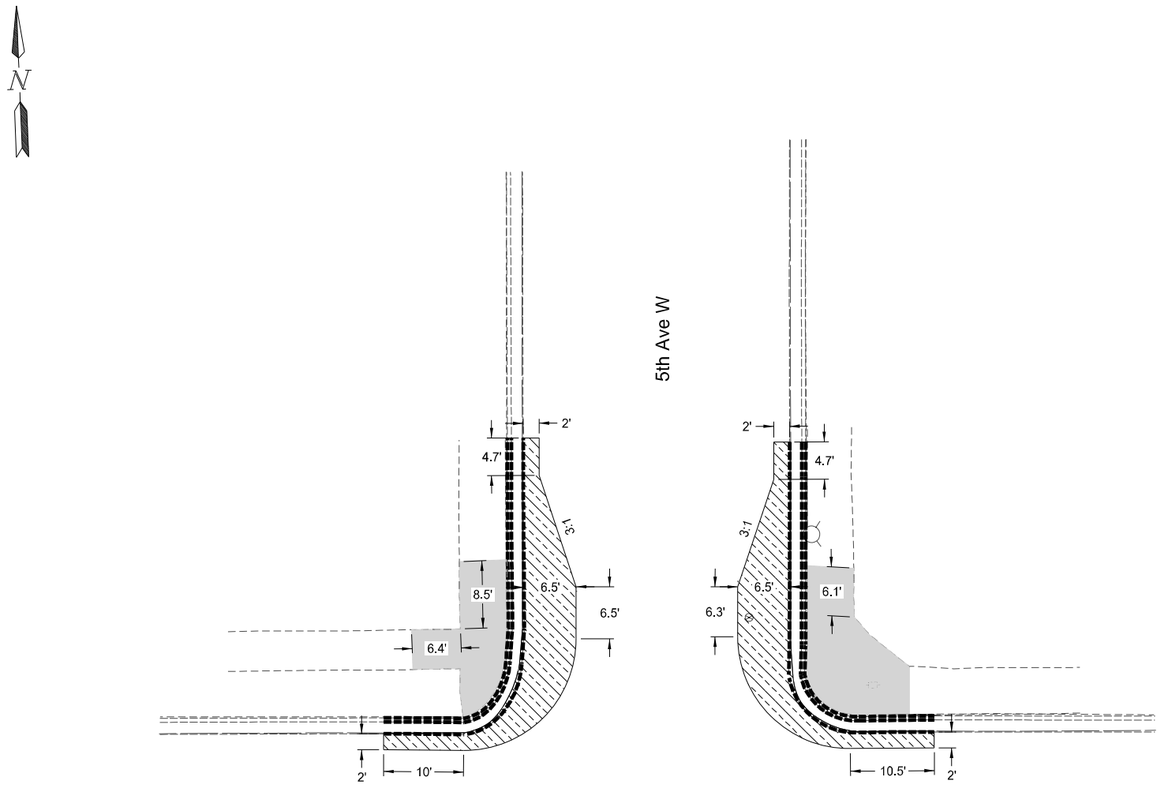
Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W

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RYAN SCHUEHLE
PE-10772
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	2



Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		Northwest Quadrant	15	SY
		Northeast Quadrant	19	SY
202	0130	Removal of Curb & Gutter		
		Northwest Quadrant	49	LF
		Northeast Quadrant	49	LF
202	0132	Removal of Bituminous Surfacing		
		Northwest Quadrant	26	SY
		Northeast Quadrant	24	SY

LEGEND

- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

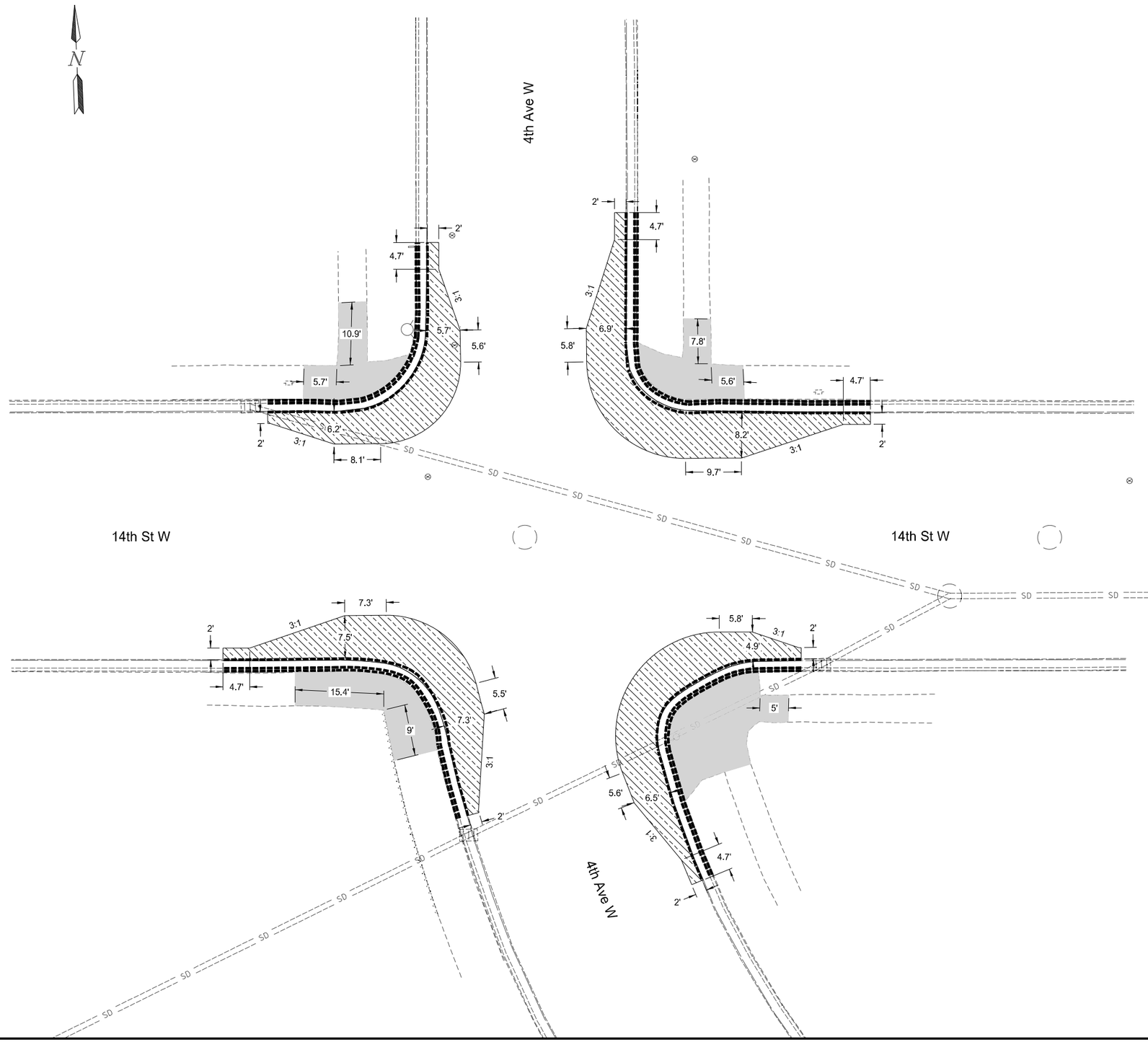
Removal Layouts

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 5th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	3



Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		Southwest Quadrant	21	SY
		Northwest Quadrant	17	SY
		Southeast Quadrant	28	SY
		Northeast Quadrant	17	SY
202	0130	Removal of Curb & Gutter		
		Southwest Quadrant	59	LF
		Northwest Quadrant	49	LF
		Southeast Quadrant	56	LF
		Northeast Quadrant	71	LF
202	0132	Removal of Bituminous Surfacing		
		Southwest Quadrant	45	SY
		Northwest Quadrant	35	SY
		Southeast Quadrant	42	SY
		Northeast Quadrant	53	SY

LEGEND

- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

Removal Layouts

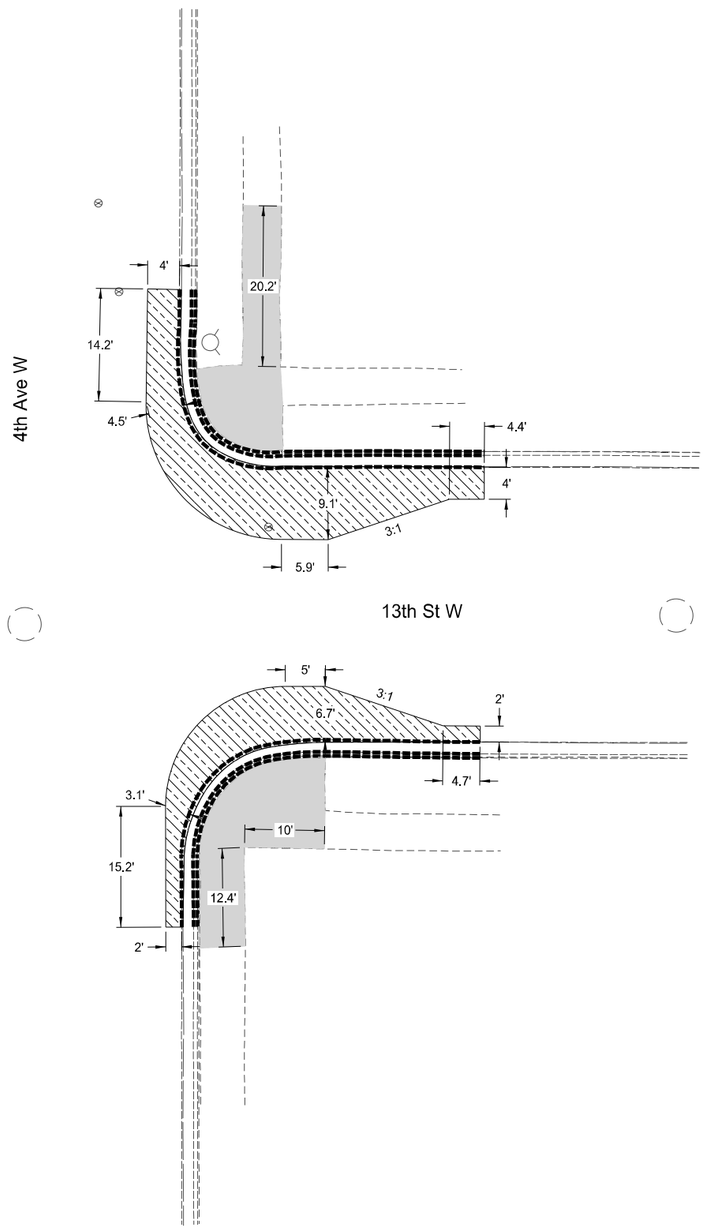
Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 4th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	4

Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		Southeast Quadrant	25	SY
		Northeast Quadrant	22	SY
202	0130	Removal of Curb & Gutter		
		Southeast Quadrant	53	LF
		Northeast Quadrant	54	LF
202	0132	Removal of Bituminous Surfacing		
		Southeast Quadrant	30	SY
		Northeast Quadrant	44	SY

LEGEND

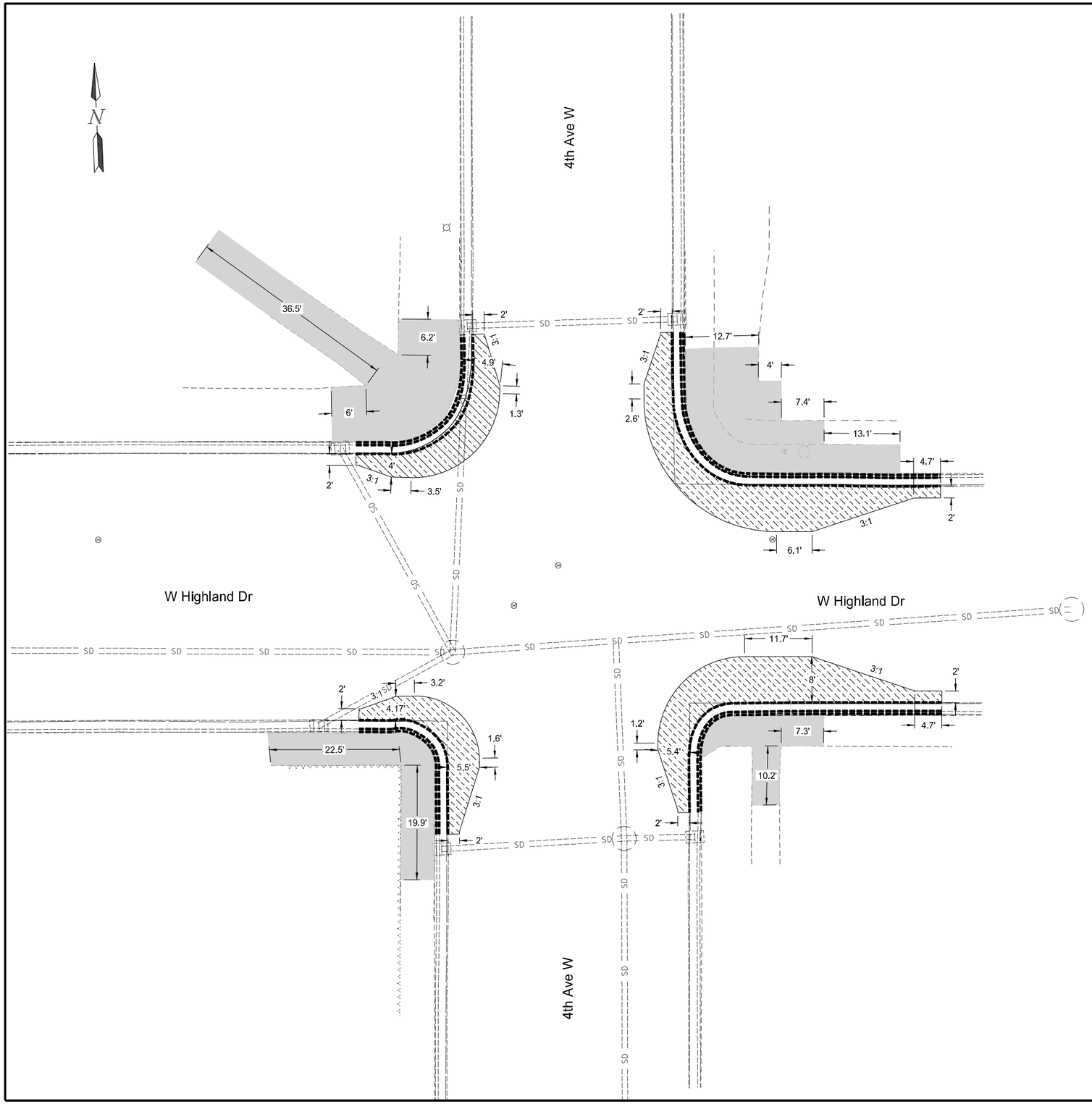
- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

Removal Layouts

Enhanced Pedestrian Crossings
Williston Central Campus

13th St W & 4th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	5

Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		Southwest Quadrant	31	SY
		Northwest Quadrant	65	SY
		Southeast Quadrant	18	SY
		Northeast Quadrant	49	SY
202	0130	Removal of Curb & Gutter		
		Southwest Quadrant	30	LF
		Northwest Quadrant	33	LF
		Southeast Quadrant	57	LF
		Northeast Quadrant	65	LF
202	0132	Removal of Bituminous Surfacing		
		Southwest Quadrant	18	SY
		Northwest Quadrant	21	SY
		Southeast Quadrant	41	SY
		Northeast Quadrant	44	SY

LEGEND

- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

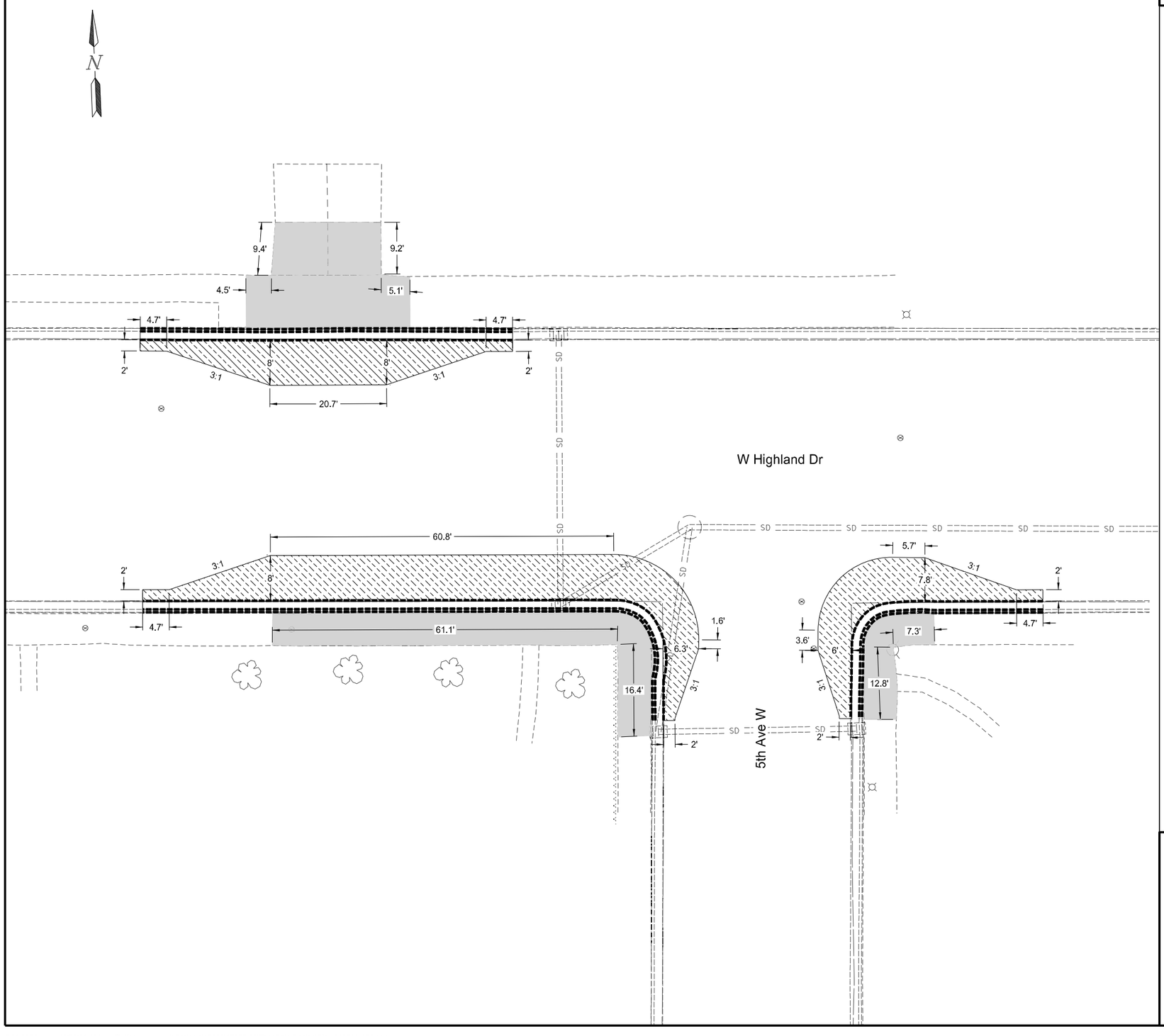
Removal Layouts

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	6



Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		Southwest Quadrant	54	SY
		Southeast Quadrant	16	SY
		North Quadrant	50	SY
202	0130	Removal of Curb & Gutter		
		Southwest Quadrant	108	LF
		Southeast Quadrant	49	LF
		North Quadrant	66	LF
202	0132	Removal of Bituminous Surfacing		
		Southwest Quadrant	89	SY
		Southeast Quadrant	36	SY
		North Quadrant	42	SY

LEGEND

- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

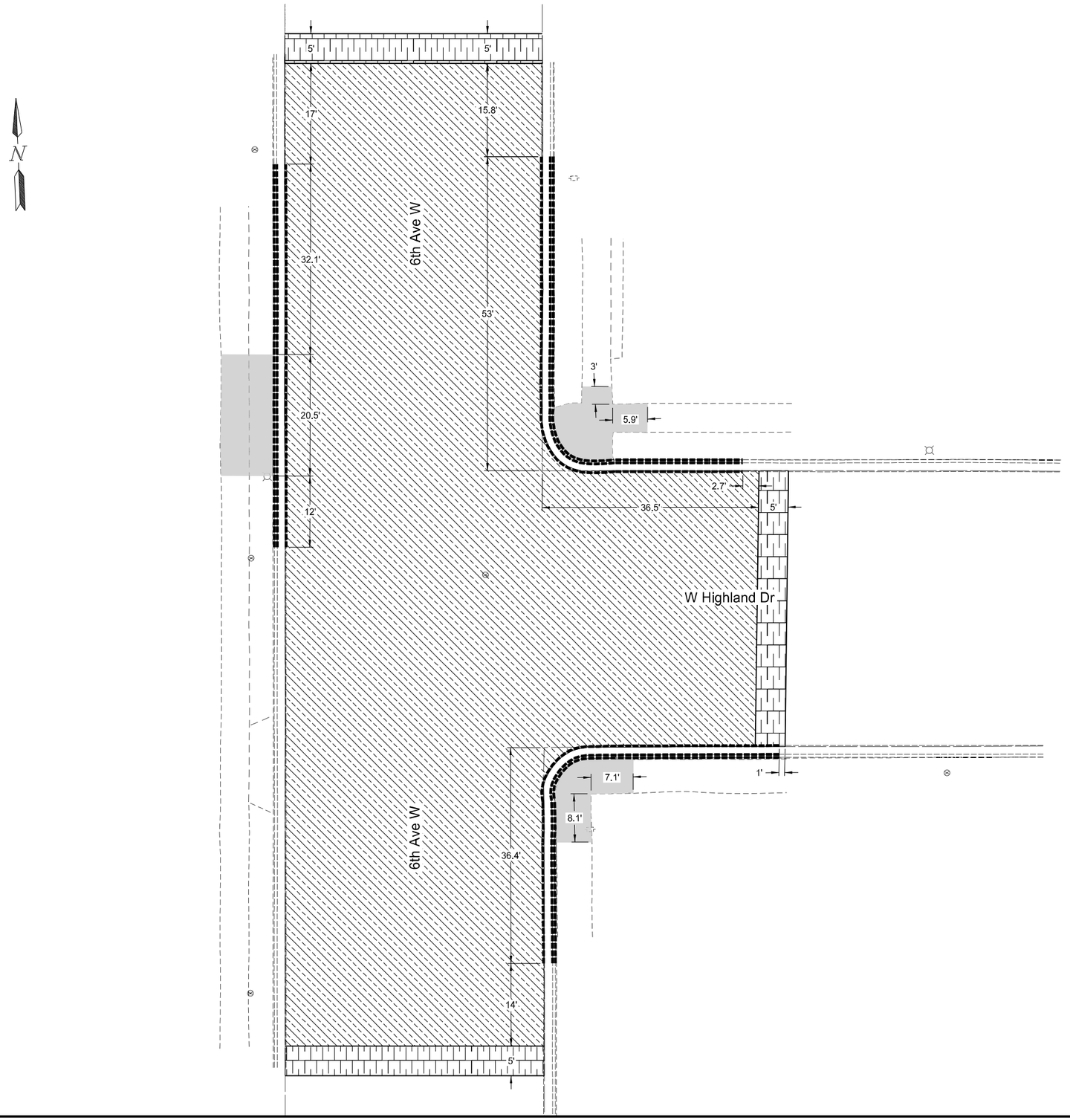
Removal Layouts

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	40	7

Spec	Code	Item Description	QTY	Unit
202	0114	Removal of Concrete Pavement		
		West Quadrant	21	SY
		Southeast Quadrant	14	SY
		Northeast Quadrant	15	SY
202	0130	Removal of Curb & Gutter		
		West Quadrant	65	LF
		Southeast Quadrant	71	LF
		Northeast Quadrant	82	LF
202	0132	Removal of Bituminous Surfacing		
			994	SY
411	0114	Milling Pavement Surface - 2 Inch		
			75	SY

LEGEND

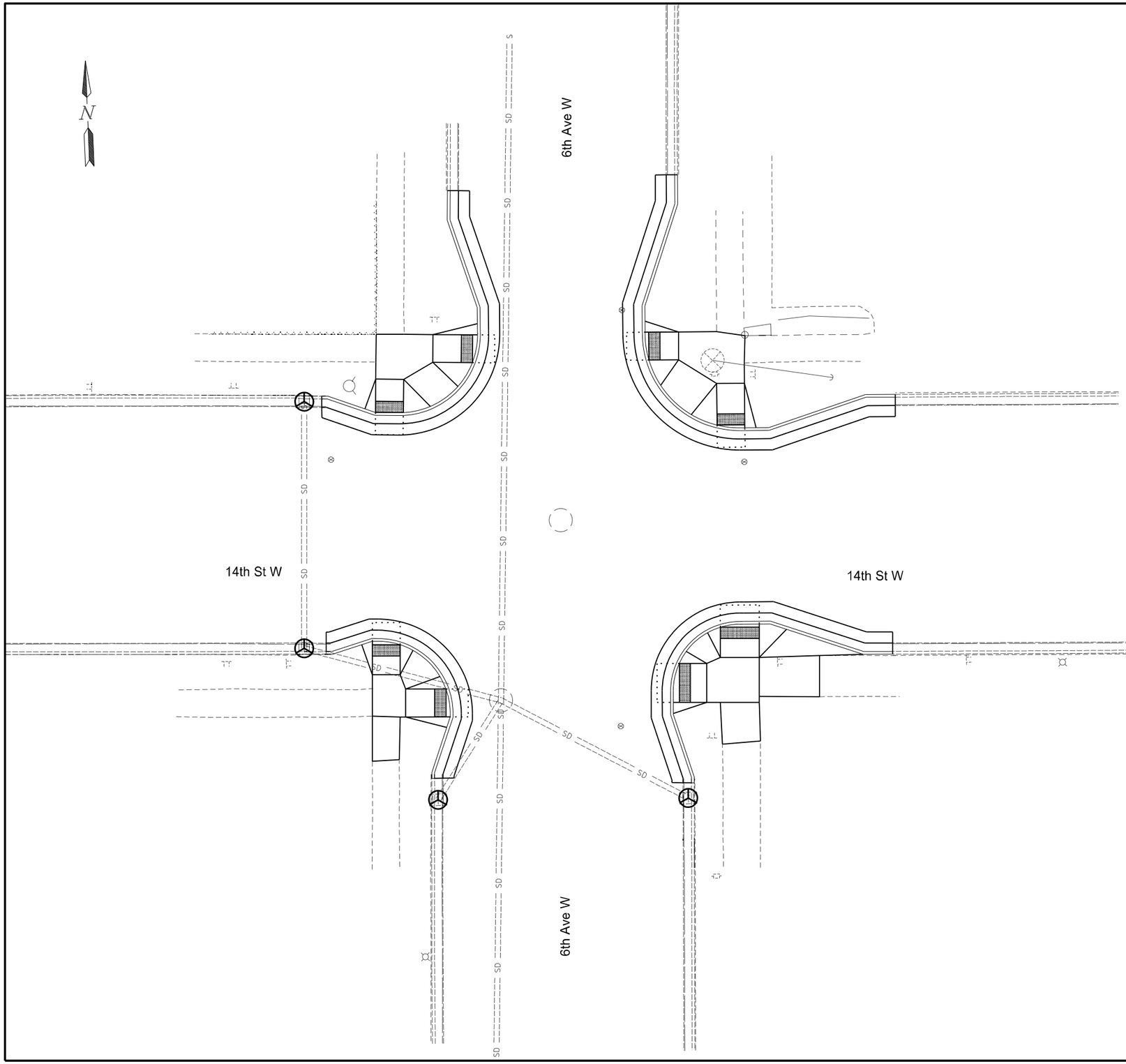
- Removal of Bituminous Surfacing
- Removal of Concrete Pavement
- Removal of Curb & Gutter
- Milling Pavement Surface - 2 Inch

Removal Layouts

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W

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PE-10772
DATE: 8/25/2026
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	76	1

Spec	Code	Item Description	QTY	Unit
708	1540	Inlet Protection-Special		
		Southwest Quadrant	2	EA
		Northwest Quadrant	1	EA
		Southeast Quadrant	1	EA
708	1541	Remove Inlet Protection-Special		
		Southwest Quadrant	2	EA
		Northwest Quadrant	1	EA
		Southeast Quadrant	1	EA

LEGEND

Inlet Protection - Special

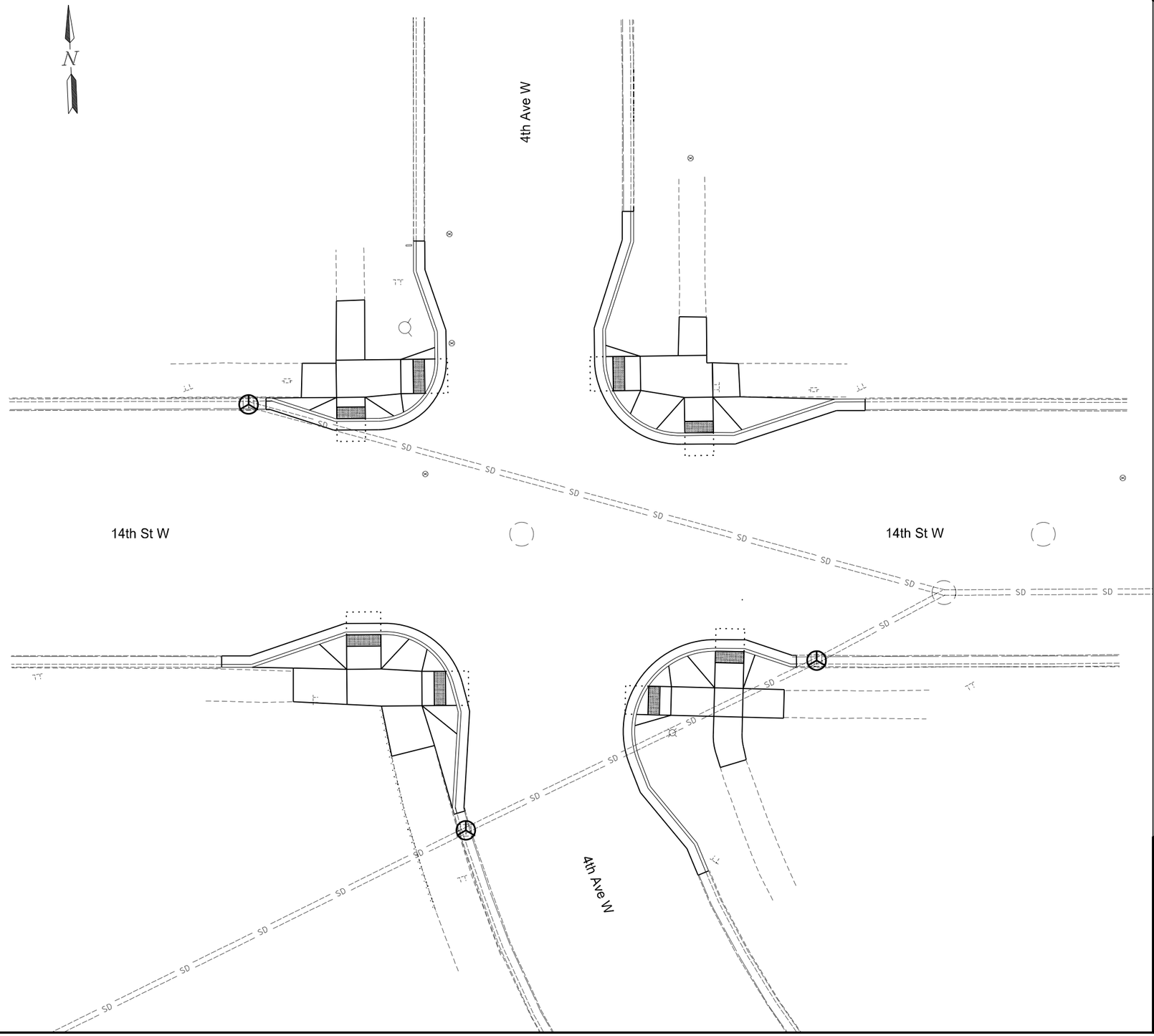
Temporary Erosion Control

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	76	2

Spec	Code	Item Description	QTY	Unit
708	1540	Inlet Protection-Special		
		Southwest Quadrant	1	EA
		Northwest Quadrant	1	EA
		Southeast Quadrant	1	EA
708	1541	Remove Inlet Protection-Special		
		Southwest Quadrant	1	EA
		Northwest Quadrant	1	EA
		Southeast Quadrant	1	EA

LEGEND

Inlet Protection - Special

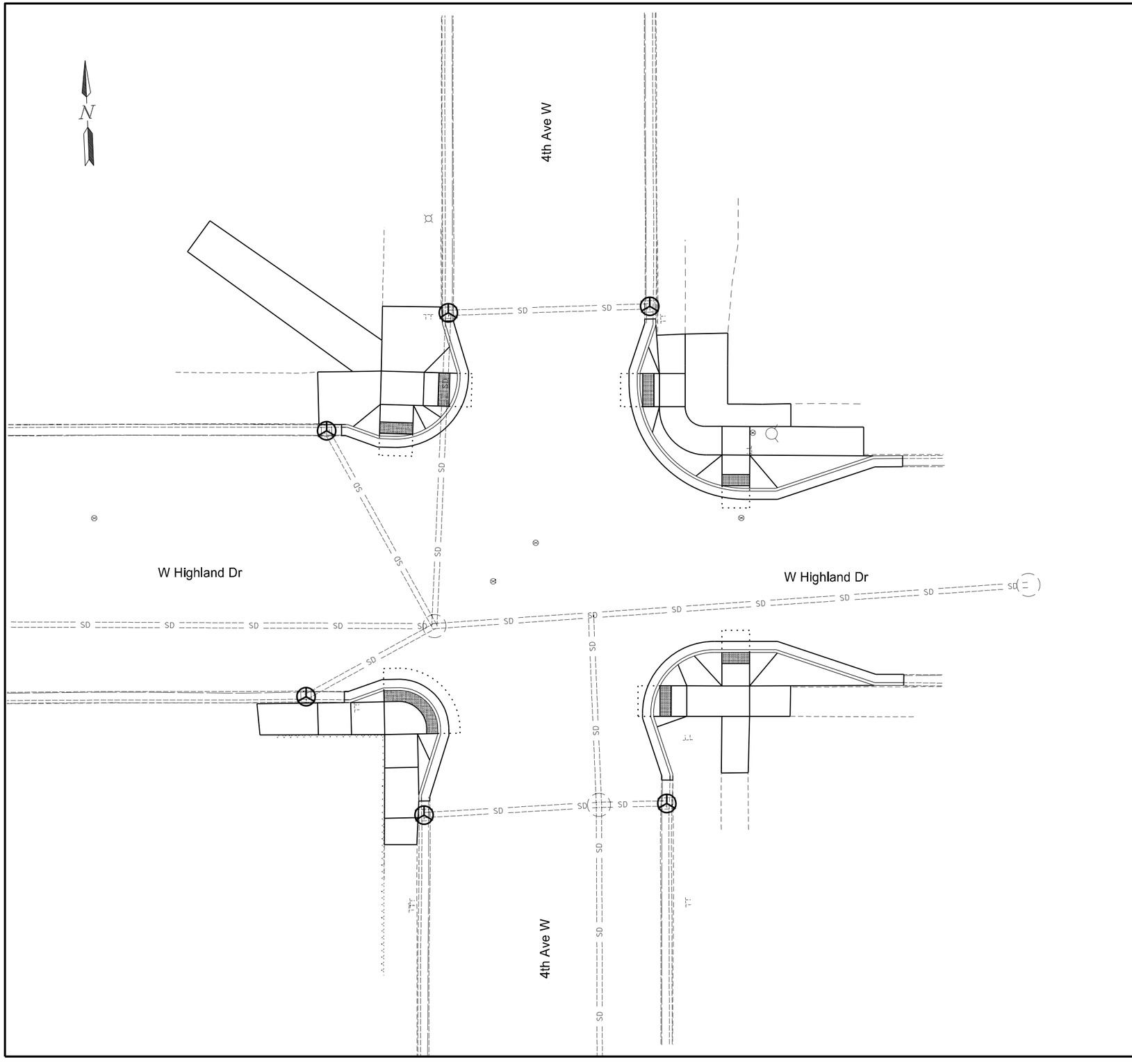
Temporary Erosion Control

Enhanced Pedestrian Crossings
Williston Central Campus

14th St & 4th Ave W

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PE-10772
DATE: 8/25/2026
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	76	3

Spec	Code	Item Description	QTY	Unit
708	1540	Inlet Protection-Special		
		Southwest Quadrant	2	EA
		Northwest Quadrant	2	EA
		Southeast Quadrant	1	EA
		Northeast Quadrant	1	EA
708	1541	Remove Inlet Protection-Special		
		Southwest Quadrant	2	EA
		Northwest Quadrant	2	EA
		Southeast Quadrant	1	EA
		Northeast Quadrant	1	EA

LEGEND

Inlet Protection - Special

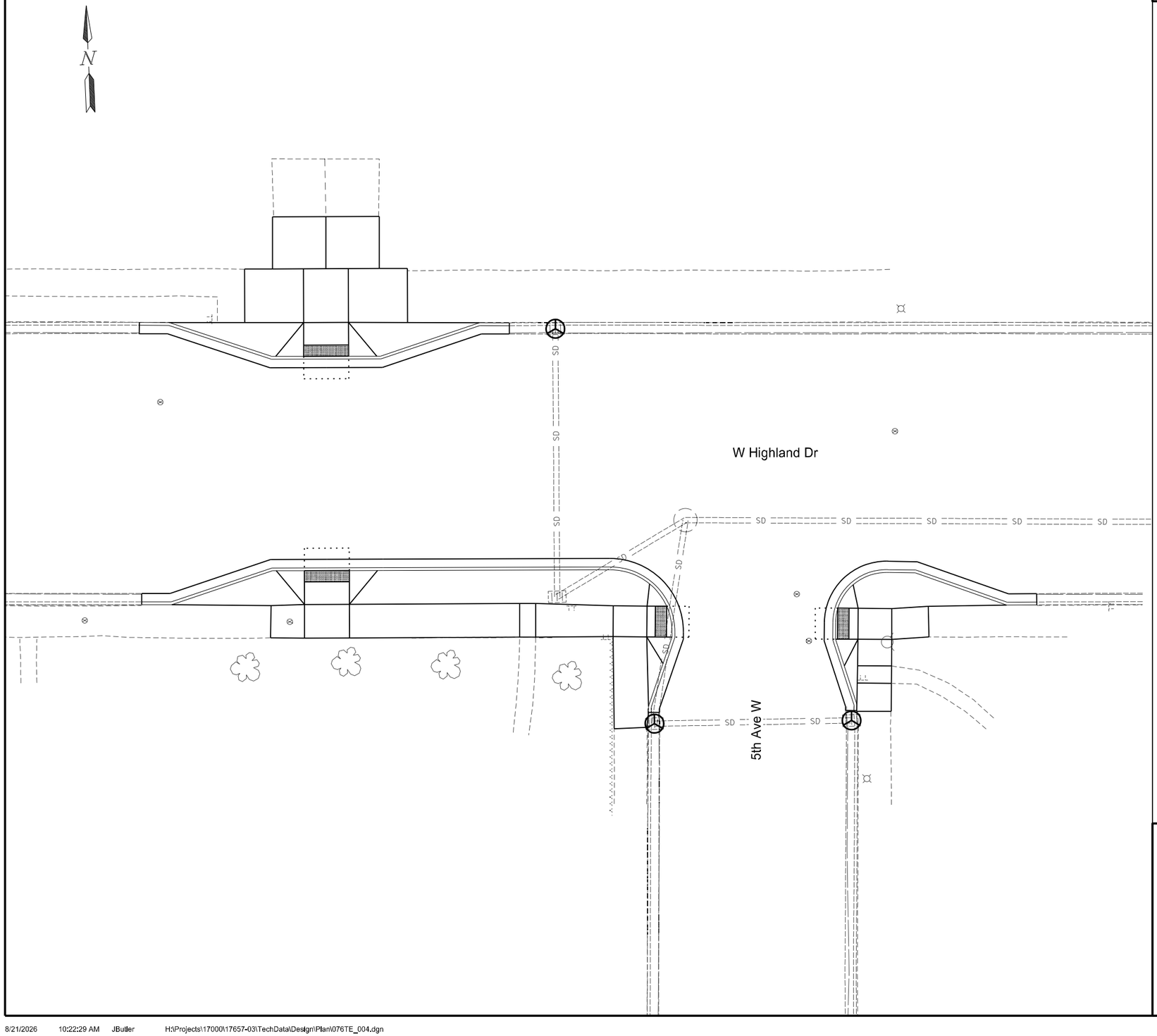
Temporary Erosion Control

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	76	4

Spec	Code	Item Description	QTY	Unit
708	1540	Inlet Protection-Special		
		Southwest Quadrant	1	EA
		North Quadrant	1	EA
		Southeast Quadrant	1	EA
708	1541	Remove Inlet Protection-Special		
		Southwest Quadrant	1	EA
		North Quadrant	1	EA
		Southeast Quadrant	1	EA

LEGEND

Inlet Protection - Special

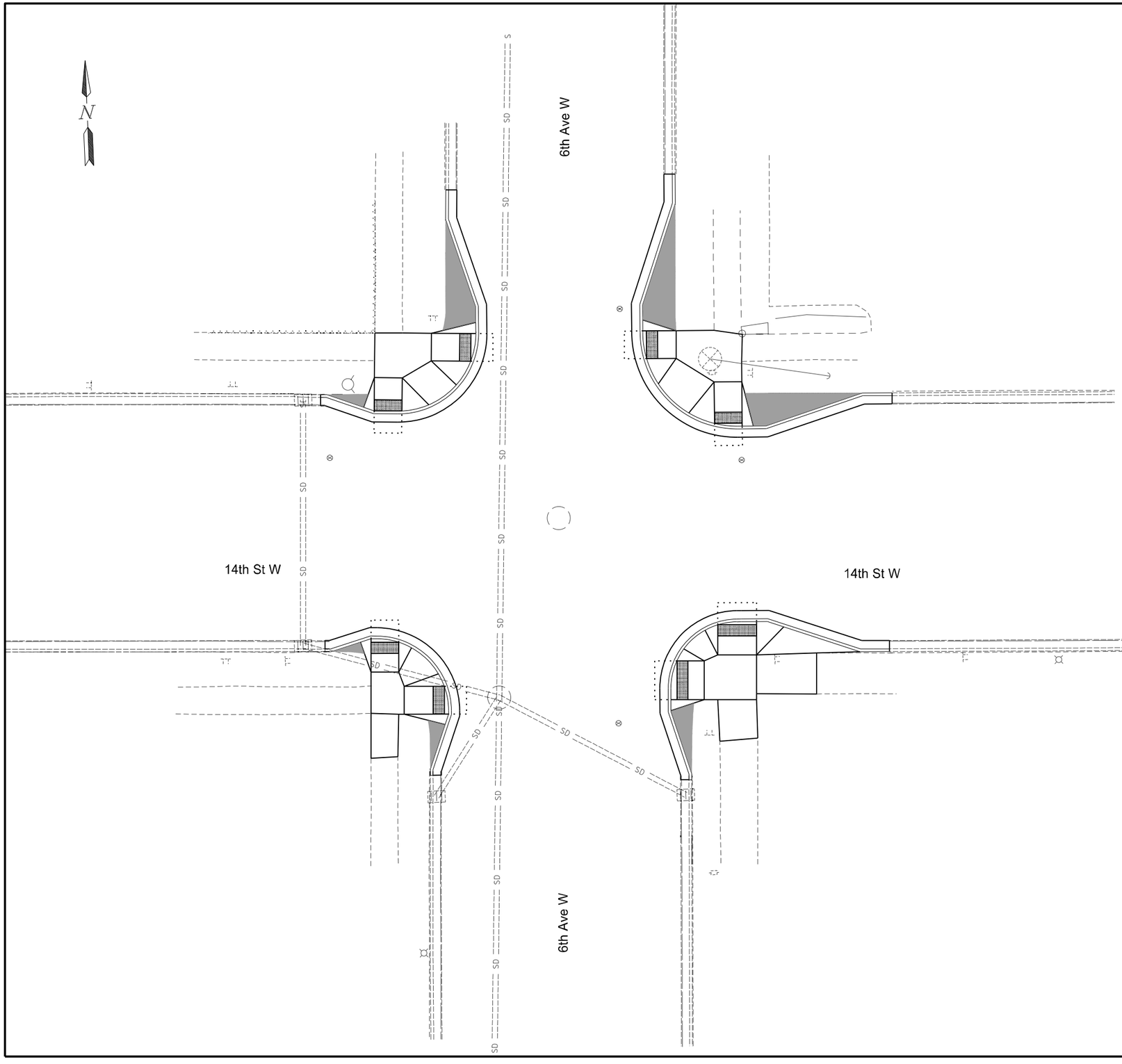
Temporary Erosion Control

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	77	1

Spec	Code	Item Description	QTY	Unit
252	0100	Sod		
		Southwest Quadrant	3	SY
		Northwest Quadrant	8	SY
		Southeast Quadrant	3	SY
		Northeast Quadrant	17	SY
970	0008	Landscape Preparation		
		Southwest Quadrant	3	SY
		Northwest Quadrant	8	SY
		Southeast Quadrant	3	SY
		Northeast Quadrant	17	SY

LEGEND

Landscape Preparation and Sod

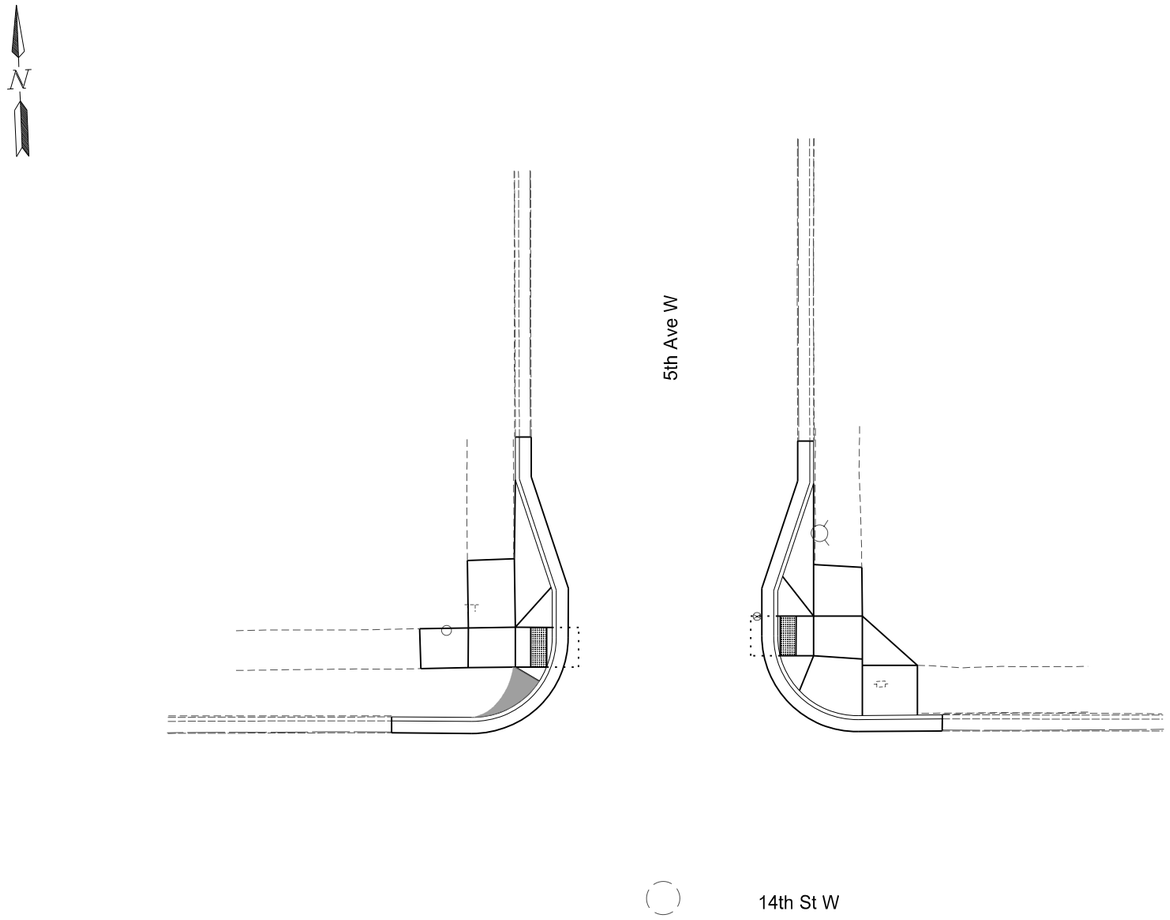
Permanent Erosion Control

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Williston Central Campus

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	77	2

Spec	Code	Item Description	QTY	Unit
252	0100	Sod		
		Northwest Quadrant	2	SY
970	0008	Landscape Preparation		
		Northwest Quadrant	2	SY

LEGEND

Landscape Preparation and Sod

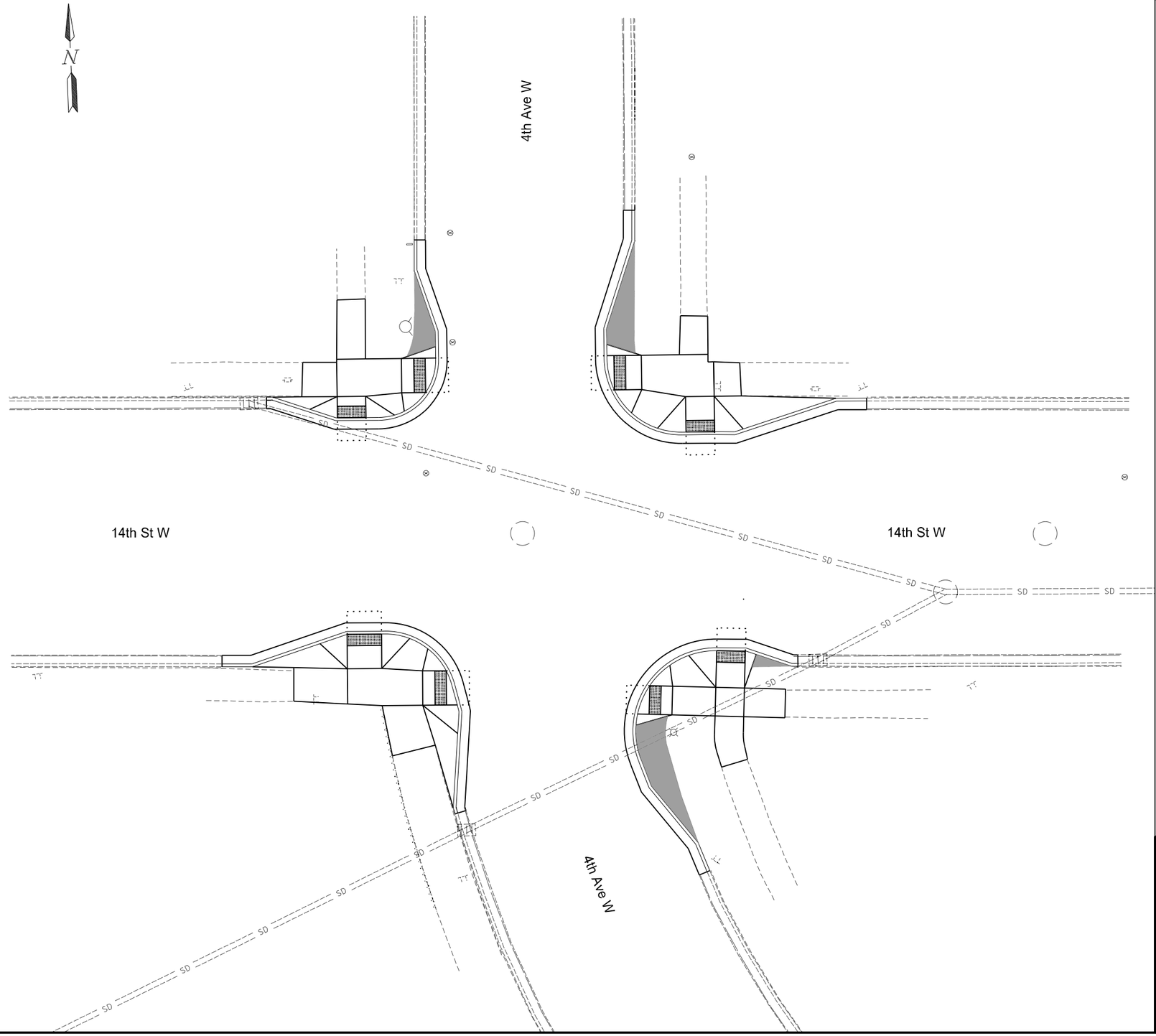
Permanent Erosion Control

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	77	3



Spec	Code	Item Description	QTY	Unit
252	0100	Sod		
		Northwest Quadrant	4	SY
		Southeast Quadrant	10	SY
		Northeast Quadrant	7	SY
970	0008	Landscape Preparation		
		Northwest Quadrant	4	SY
		Southeast Quadrant	10	SY
		Northeast Quadrant	7	SY

LEGEND

Landscape Preparation and Sod

Permanent Erosion Control

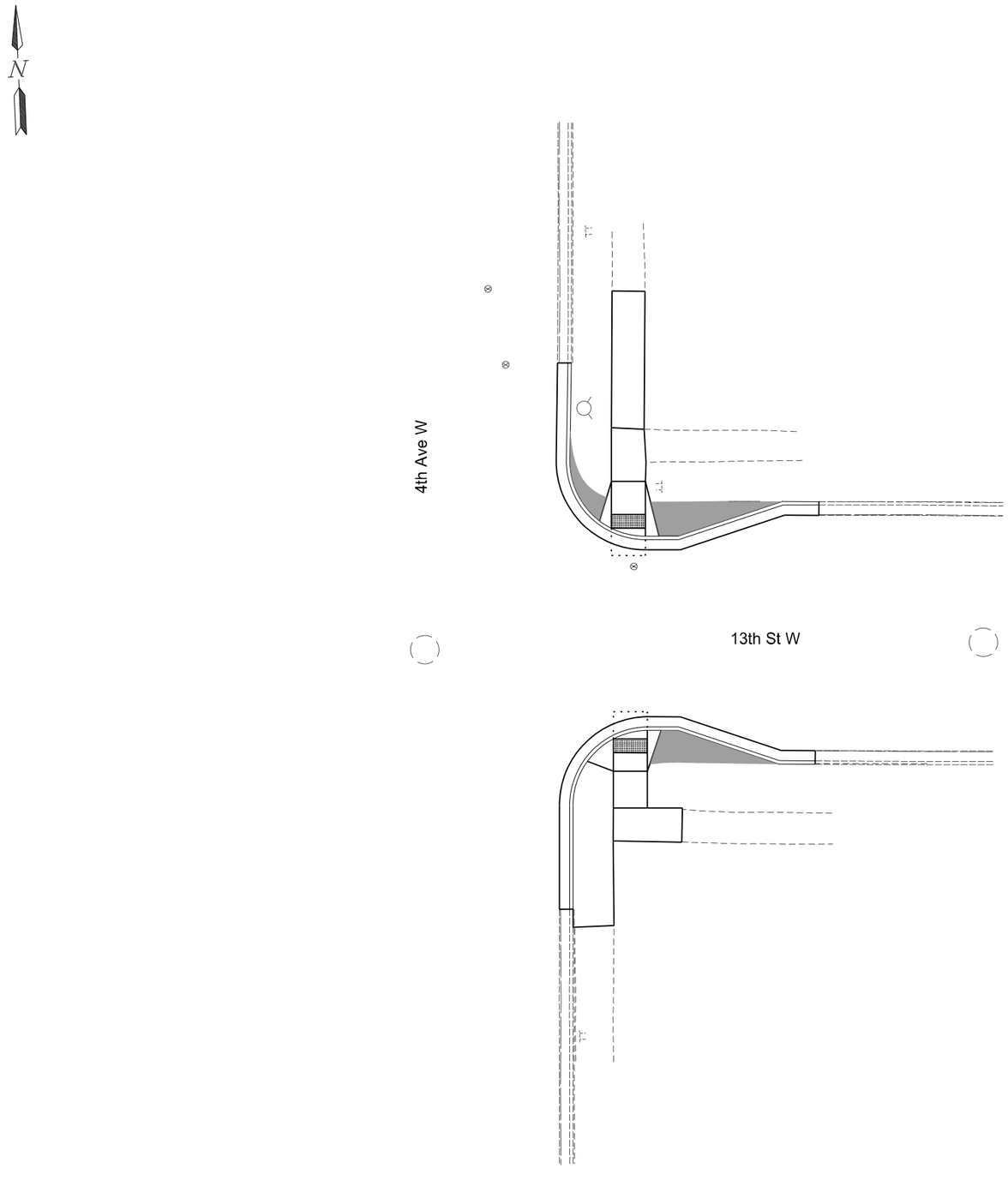
Enhanced Pedestrian Crossings
Williston Central Campus

14th St & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	77	4



Spec	Code	Item Description	QTY	Unit
252	0100	Sod		
		Southeast Quadrant	6	SY
		Northeast Quadrant	9	SY
970	0008	Landscape Preparation		
		Southeast Quadrant	6	SY
		Northeast Quadrant	9	SY

LEGEND

Landscape Preparation and Sod

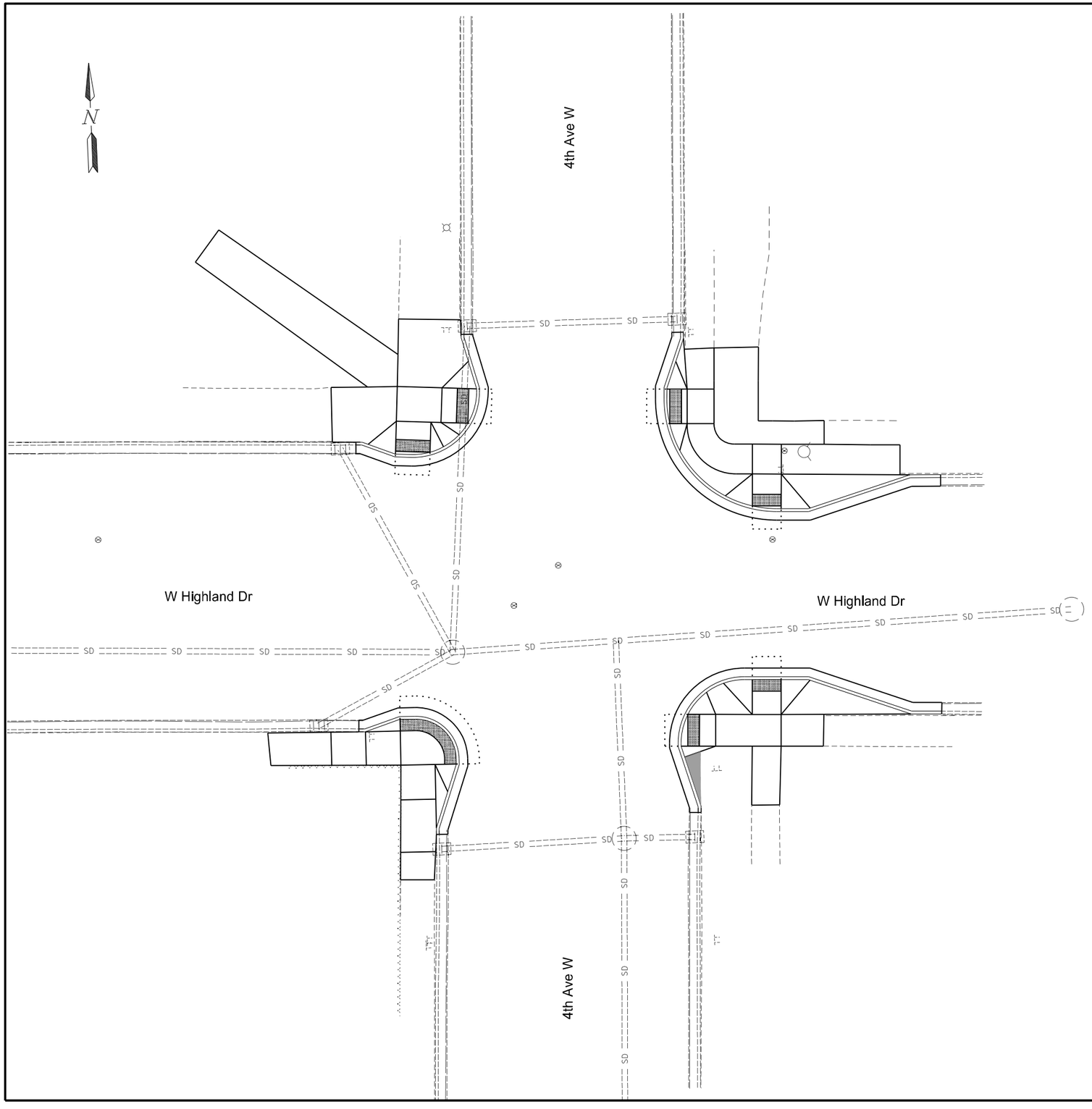
Permanent Erosion Control

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Williston Central Campus

13th St W & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	77	5



Spec	Code	Item Description	QTY	Unit
252	0100	Sod		
		Southeast Quadrant	2	SY
970	0008	Landscape Preparation		
		Southeast Quadrant	2	SY

LEGEND

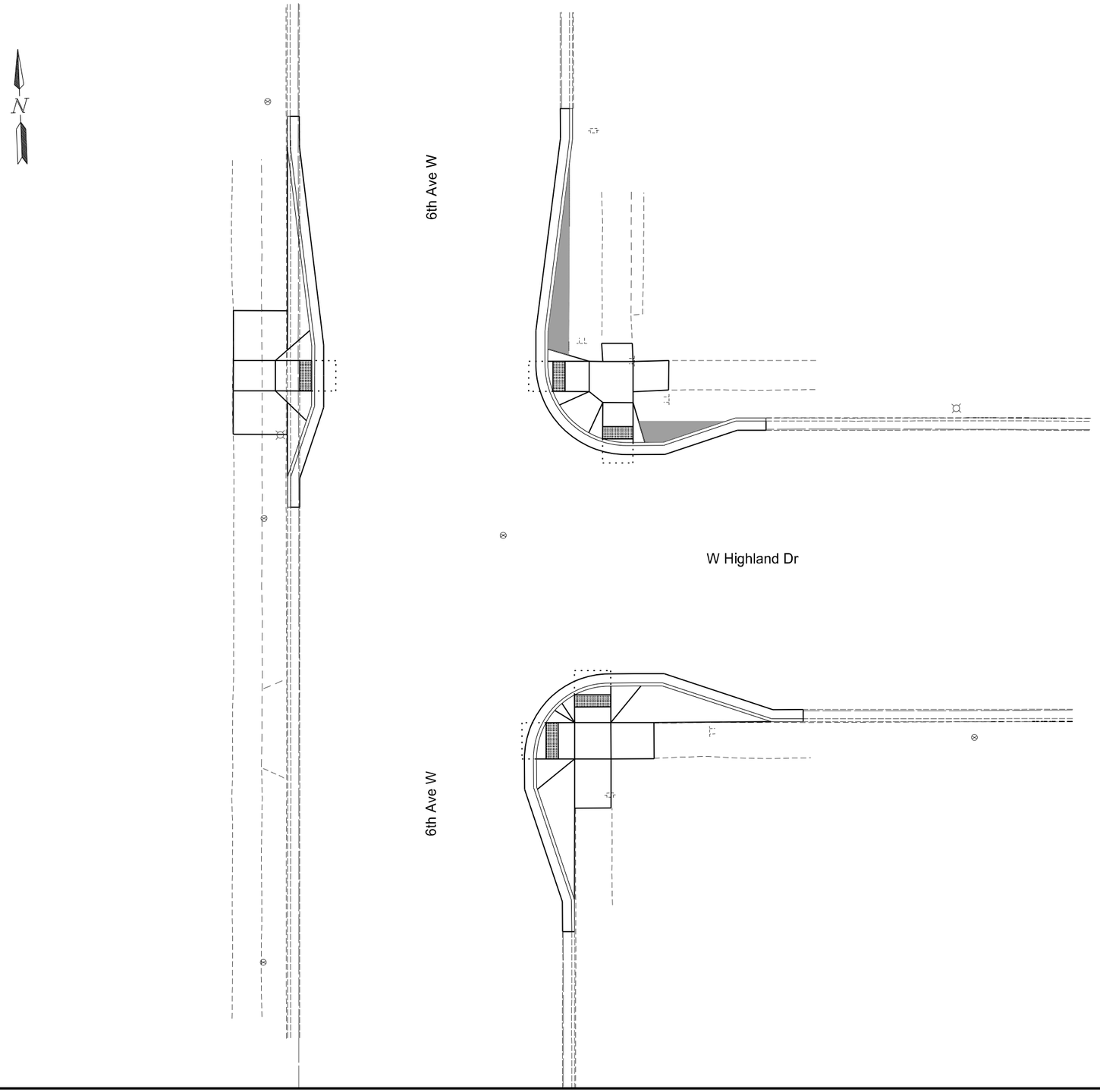
Landscape Preparation and Sod

Permanent Erosion Control

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	77	6

Spec	Code	Item Description	QTY	Unit
252	0100	Sod		
		Northeast Quadrant	11	SY
970	0008	Landscape Preparation		
		Northeast Quadrant	11	SY

LEGEND

Landscape Preparation and Sod

Permanent Erosion Control

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W

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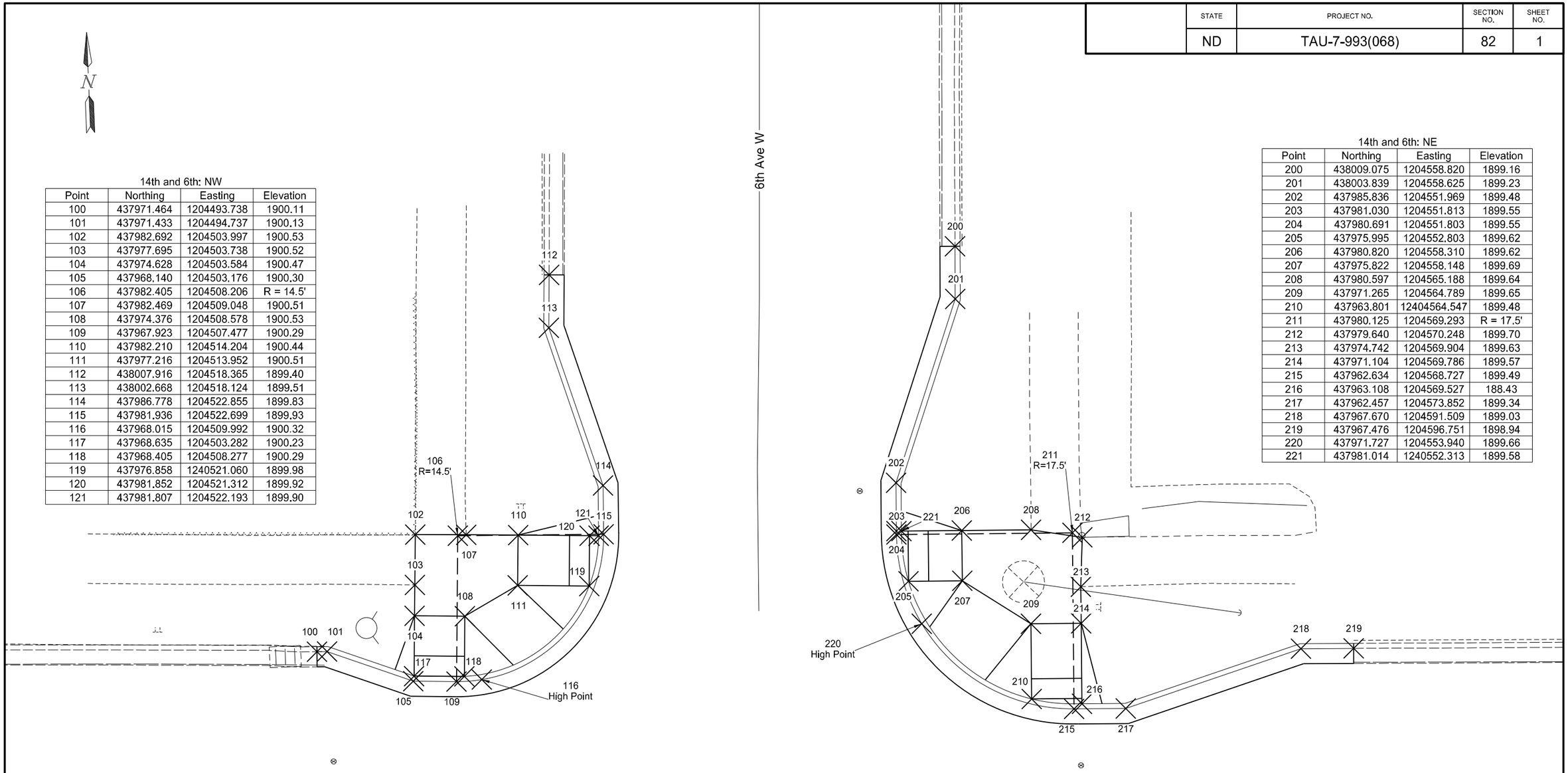
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TAU-7-993(068)	82	1

14th and 6th: NW

Point	Northing	Easting	Elevation
100	437971.464	1204493.738	1900.11
101	437971.433	1204494.737	1900.13
102	437982.692	1204503.997	1900.53
103	437977.695	1204503.738	1900.52
104	437974.628	1204503.584	1900.47
105	437968.140	1204503.176	1900.30
106	437982.405	1204508.206	R = 14.5'
107	437982.469	1204509.048	1900.51
108	437974.376	1204508.578	1900.53
109	437967.923	1204507.477	1900.29
110	437982.210	1204514.204	1900.44
111	437977.216	1204513.952	1900.51
112	438007.916	1204518.365	1899.40
113	438002.668	1204518.124	1899.51
114	437986.778	1204522.855	1899.83
115	437981.936	1204522.699	1899.93
116	437968.015	1204509.992	1900.32
117	437968.635	1204503.282	1900.23
118	437968.405	1204508.277	1900.29
119	437976.858	1240521.060	1899.98
120	437981.852	1204521.312	1899.92
121	437981.807	1204522.193	1899.90

14th and 6th: NE

Point	Northing	Easting	Elevation
200	438009.075	1204558.820	1899.16
201	438003.839	1204558.625	1899.23
202	437985.836	1204551.969	1899.48
203	437981.030	1204551.813	1899.55
204	437980.691	1204551.803	1899.55
205	437975.995	1204552.803	1899.62
206	437980.820	1204558.310	1899.62
207	437975.822	1204558.148	1899.69
208	437980.597	1204565.188	1899.64
209	437971.265	1204564.789	1899.65
210	437963.801	12404564.547	1899.48
211	437980.125	1204569.293	R = 17.5'
212	437979.640	1204570.248	1899.70
213	437974.742	1204569.904	1899.63
214	437971.104	1204569.786	1899.57
215	437962.634	1204568.727	1899.49
216	437963.108	1204569.527	188.43
217	437962.457	1204573.852	1899.34
218	437967.670	1204591.509	1899.03
219	437967.476	1204596.751	1898.94
220	437971.727	1204553.940	1899.66
221	437981.014	1240552.313	1899.58



ADA Ramp Survey Data Points

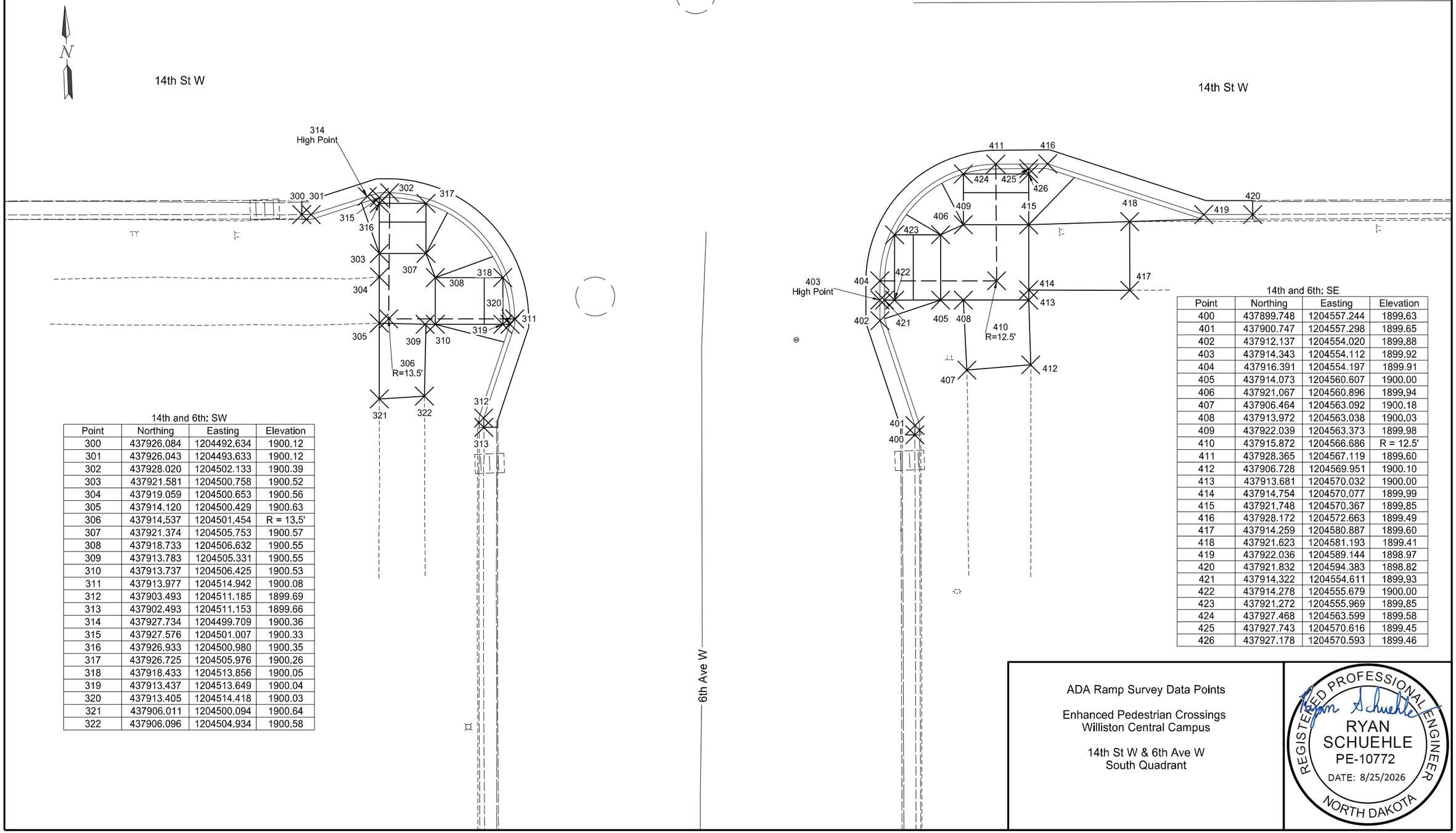
Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
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PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	2



14th and 6th: SW

Point	Northing	Easting	Elevation
300	437926.084	1204492.634	1900.12
301	437926.043	1204493.633	1900.12
302	437928.020	1204502.133	1900.39
303	437921.581	1204500.758	1900.52
304	437919.059	1204500.653	1900.56
305	437914.120	1204500.429	1900.63
306	437914.537	1204501.454	R = 13.5'
307	437921.374	1204505.753	1900.57
308	437918.733	1204506.632	1900.55
309	437913.783	1204505.331	1900.55
310	437913.737	1204506.425	1900.53
311	437913.977	1204514.942	1900.08
312	437903.493	1204511.185	1899.69
313	437902.493	1204511.153	1899.66
314	437927.734	1204499.709	1900.36
315	437927.576	1204501.007	1900.33
316	437926.933	1204500.980	1900.35
317	437926.725	1204505.976	1900.26
318	437918.433	1204513.856	1900.05
319	437913.437	1204513.649	1900.04
320	437913.405	1204514.418	1900.03
321	437906.011	1204500.094	1900.64
322	437906.096	1204504.934	1900.58

14th and 6th: SE

Point	Northing	Easting	Elevation
400	437899.748	1204557.244	1899.63
401	437900.747	1204557.298	1899.65
402	437912.137	1204554.020	1899.88
403	437914.343	1204554.112	1899.92
404	437916.391	1204554.197	1899.91
405	437914.073	1204560.607	1900.00
406	437921.067	1204560.896	1899.94
407	437906.464	1204563.092	1900.18
408	437913.972	1204563.038	1900.03
409	437922.039	1204563.373	1899.98
410	437915.872	1204566.686	R = 12.5'
411	437928.365	1204567.119	1899.60
412	437906.728	1204569.951	1900.10
413	437913.681	1204570.032	1900.00
414	437914.754	1204570.077	1899.99
415	437921.748	1204570.367	1899.85
416	437928.172	1204572.663	1899.49
417	437914.259	1204580.887	1899.60
418	437921.623	1204581.193	1899.41
419	437922.036	1204589.144	1898.97
420	437921.832	1204594.383	1898.82
421	437914.322	1204554.611	1899.93
422	437914.278	1204555.679	1900.00
423	437921.272	1204555.969	1899.85
424	437927.468	1204563.599	1899.58
425	437927.743	1204570.616	1899.45
426	437927.178	1204570.593	1899.46

ADA Ramp Survey Data Points

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W
South Quadrant

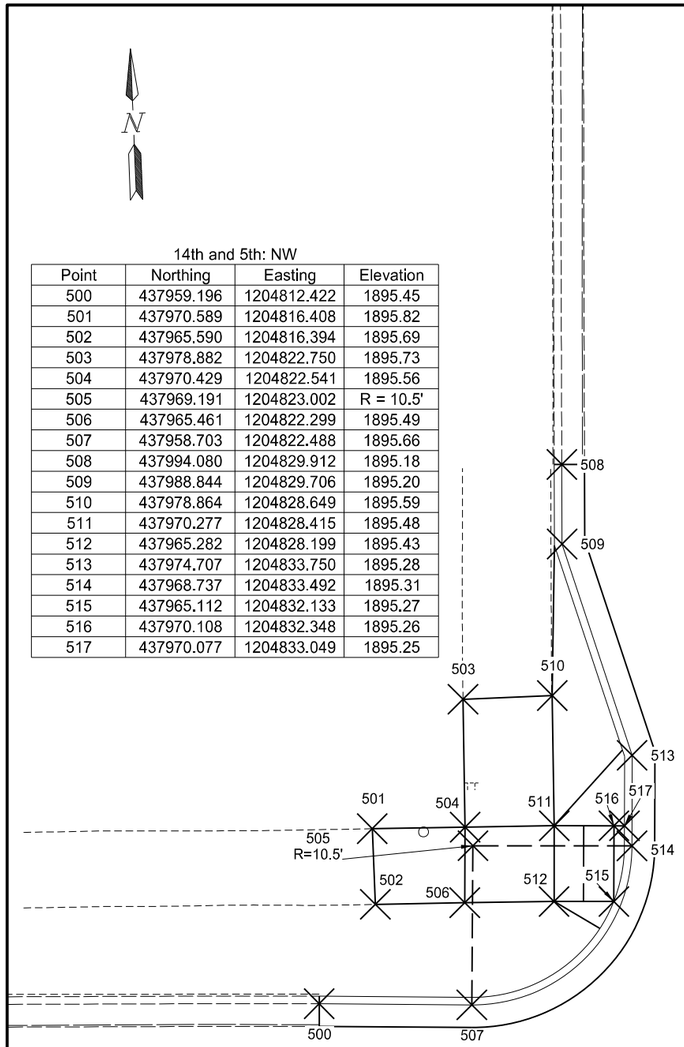
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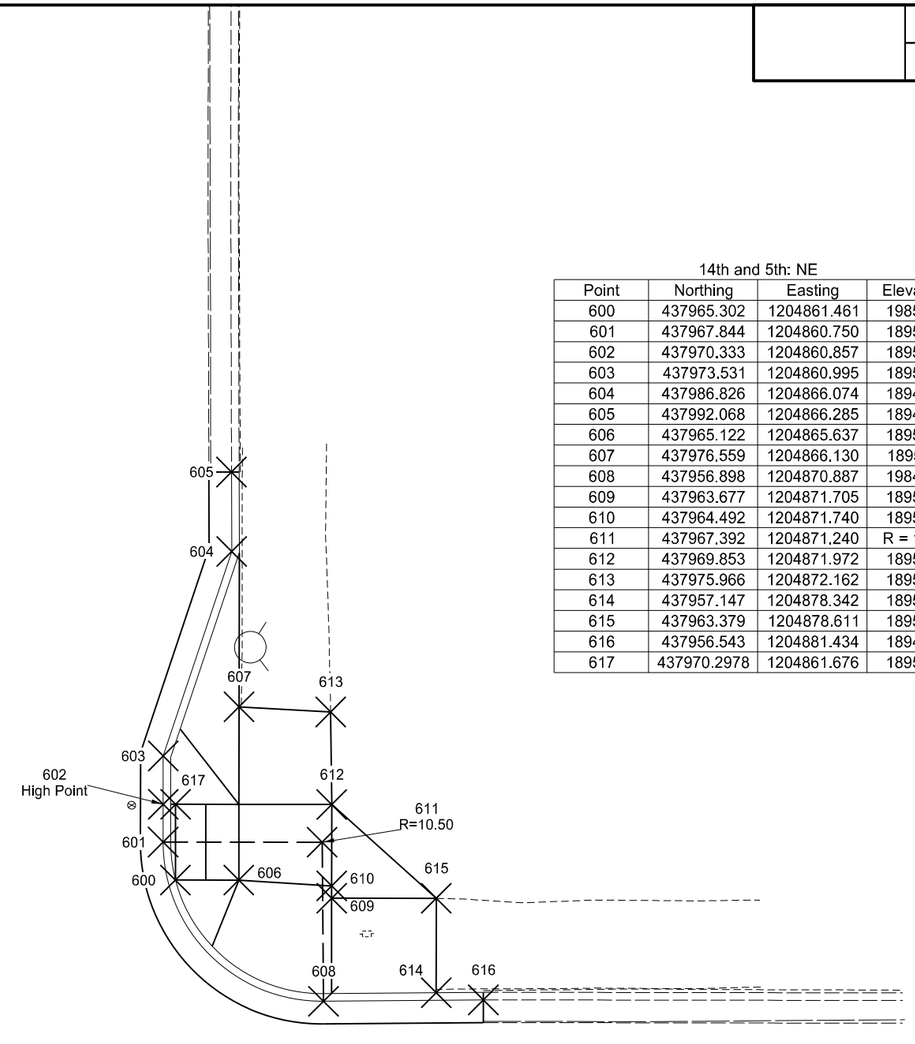
14th and 5th: NW

Point	Northing	Easting	Elevation
500	437959.196	1204812.422	1895.45
501	437970.589	1204816.408	1895.82
502	437965.590	1204816.394	1895.69
503	437978.882	1204822.750	1895.73
504	437970.429	1204822.541	1895.56
505	437969.191	1204823.002	R = 10.5'
506	437965.461	1204822.299	1895.49
507	437958.703	1204822.488	1895.66
508	437994.080	1204829.912	1895.18
509	437988.844	1204829.706	1895.20
510	437978.864	1204828.649	1895.59
511	437970.277	1204828.415	1895.48
512	437965.282	1204828.199	1895.43
513	437974.707	1204833.750	1895.28
514	437968.737	1204833.492	1895.31
515	437965.112	1204832.133	1895.27
516	437970.108	1204832.348	1895.26
517	437970.077	1204833.049	1895.25



14th and 5th: NE

Point	Northing	Easting	Elevation
600	437965.302	1204861.461	1985.00
601	437967.844	1204860.750	1895.10
602	437970.333	1204860.857	1895.14
603	437973.531	1204860.995	1895.10
604	437986.826	1204866.074	1894.95
605	437992.068	1204866.285	1894.88
606	437965.122	1204865.637	1895.23
607	437976.559	1204866.130	1895.31
608	437956.898	1204870.887	1984.84
609	437963.677	1204871.705	1895.28
610	437964.492	1204871.740	1895.29
611	437967.392	1204871.240	R = 10.5'
612	437969.853	1204871.972	1895.37
613	437975.966	1204872.162	1895.53
614	437957.147	1204878.342	1895.07
615	437963.379	1204878.611	1895.18
616	437956.543	1204881.434	1894.69
617	437970.2978	1204861.676	1895.08



14th St W

ADA Ramp Survey Data Points

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 5th Ave W

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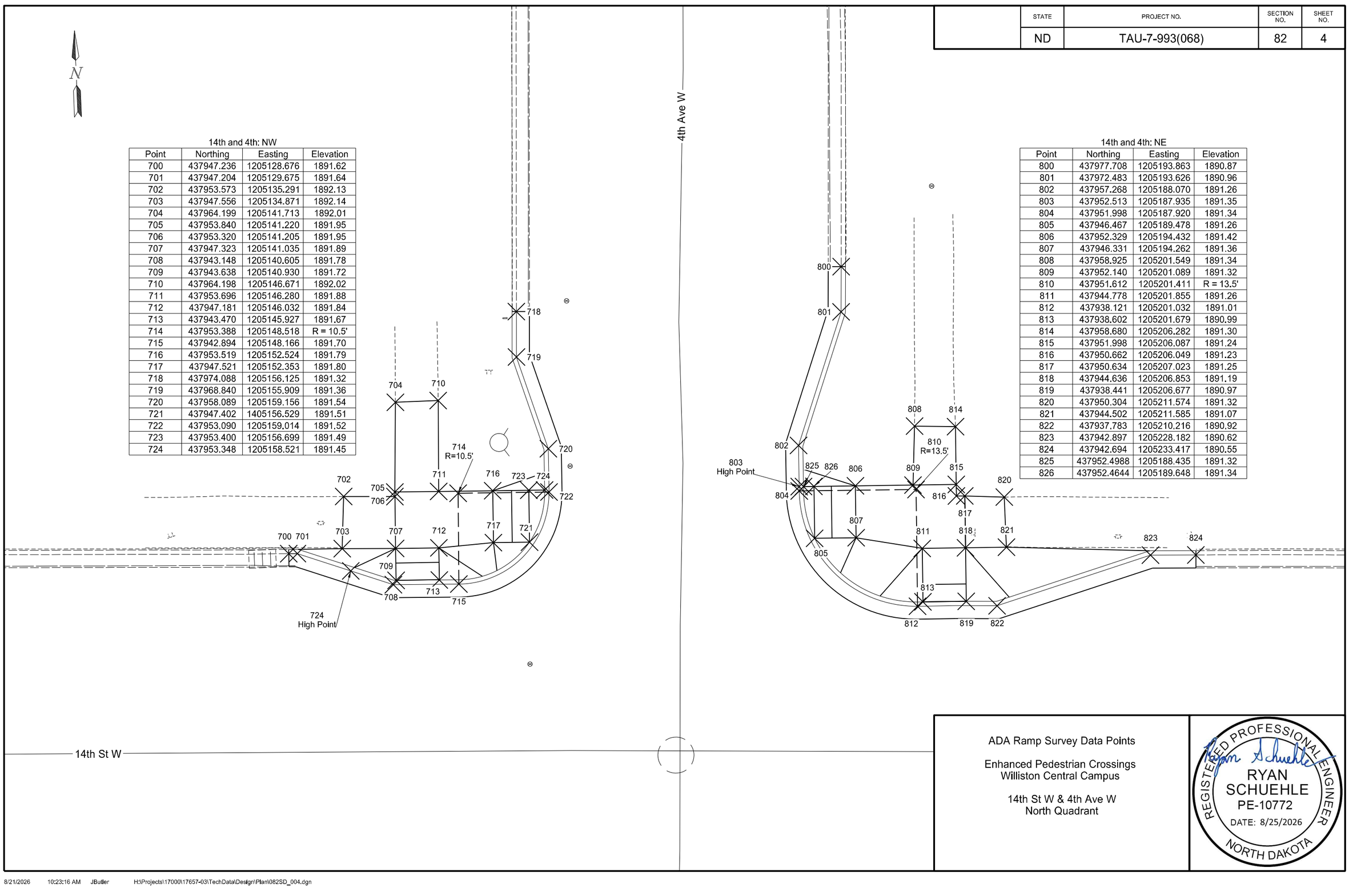
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TAU-7-993(068)	82	4

14th and 4th: NW

Point	Northing	Easting	Elevation
700	437947.236	1205128.676	1891.62
701	437947.204	1205129.675	1891.64
702	437953.573	1205135.291	1892.13
703	437947.556	1205134.871	1892.14
704	437964.199	1205141.713	1892.01
705	437953.840	1205141.220	1891.95
706	437953.320	1205141.205	1891.95
707	437947.323	1205141.035	1891.89
708	437943.148	1205140.605	1891.78
709	437943.638	1205140.930	1891.72
710	437964.198	1205146.671	1892.02
711	437953.696	1205146.280	1891.88
712	437947.181	1205146.032	1891.84
713	437943.470	1205145.927	1891.67
714	437953.388	1205148.518	R = 10.5'
715	437942.894	1205148.166	1891.70
716	437953.519	1205152.524	1891.79
717	437947.521	1205152.353	1891.80
718	437974.088	1205156.125	1891.32
719	437968.840	1205155.909	1891.36
720	437958.089	1205159.156	1891.54
721	437947.402	1405156.529	1891.51
722	437953.090	1205159.014	1891.52
723	437953.400	1205156.699	1891.49
724	437953.348	1205158.521	1891.45

14th and 4th: NE

Point	Northing	Easting	Elevation
800	437977.708	1205193.863	1890.87
801	437972.483	1205193.626	1890.96
802	437957.268	1205188.070	1891.26
803	437952.513	1205187.935	1891.35
804	437951.998	1205187.920	1891.34
805	437946.467	1205189.478	1891.26
806	437952.329	1205194.432	1891.42
807	437946.331	1205194.262	1891.36
808	437958.925	1205201.549	1891.34
809	437952.140	1205201.089	1891.32
810	437951.612	1205201.411	R = 13.5'
811	437944.778	1205201.855	1891.26
812	437938.121	1205201.032	1891.01
813	437938.602	1205201.679	1890.99
814	437958.680	1205206.282	1891.30
815	437951.998	1205206.087	1891.24
816	437950.662	1205206.049	1891.23
817	437950.634	1205207.023	1891.25
818	437944.636	1205206.853	1891.19
819	437938.441	1205206.677	1890.97
820	437950.304	1205211.574	1891.32
821	437944.502	1205211.585	1891.07
822	437937.783	1205210.216	1890.92
823	437942.897	1205228.182	1890.62
824	437942.694	1205233.417	1890.55
825	437952.4988	1205188.435	1891.32
826	437952.4644	1205189.648	1891.34



ADA Ramp Survey Data Points

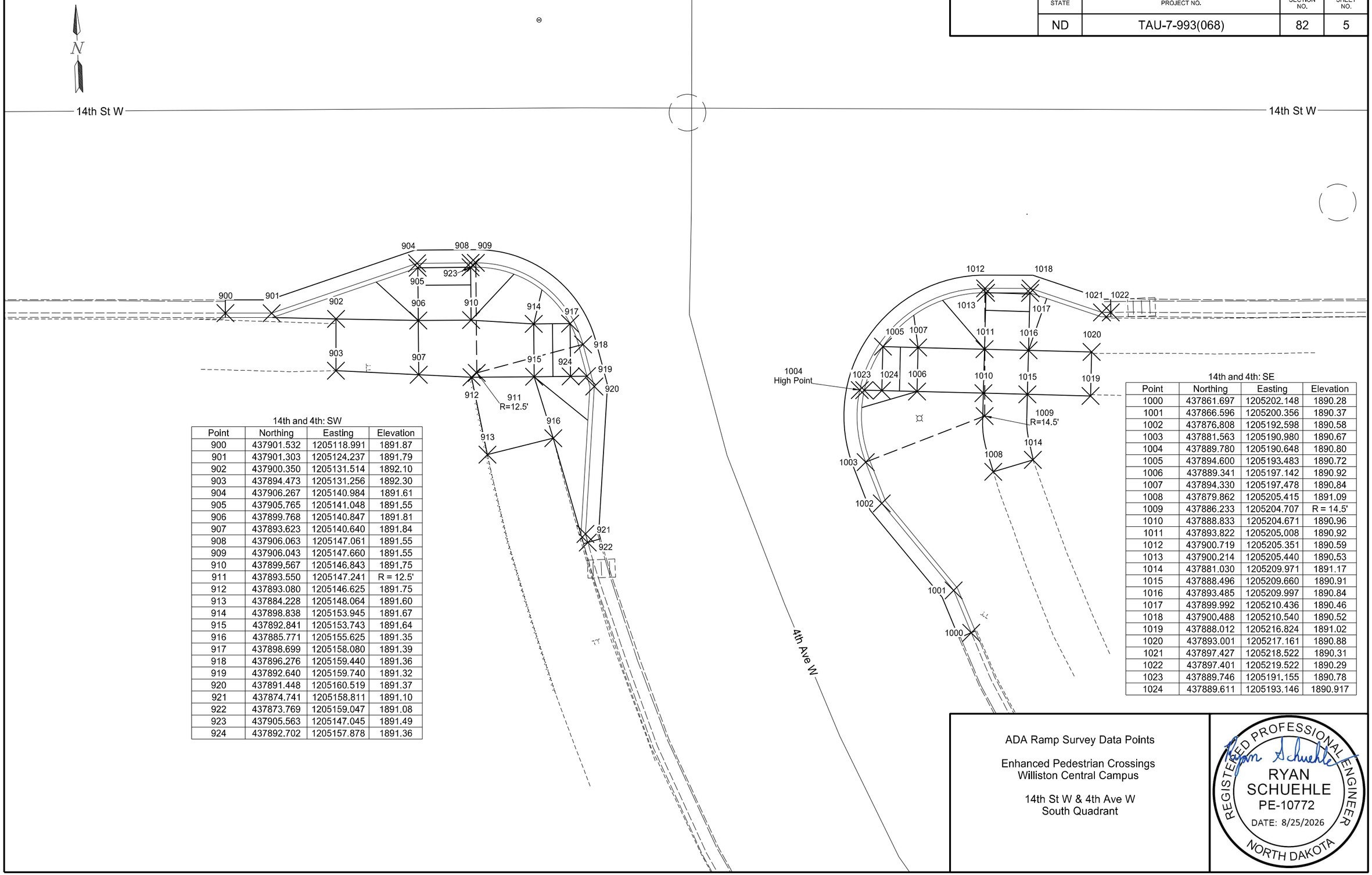
Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 4th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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14th and 4th: SW

Point	Northing	Easting	Elevation
900	437901.532	1205118.991	1891.87
901	437901.303	1205124.237	1891.79
902	437900.350	1205131.514	1892.10
903	437894.473	1205131.256	1892.30
904	437906.267	1205140.984	1891.61
905	437905.765	1205141.048	1891.55
906	437899.768	1205140.847	1891.81
907	437893.623	1205140.640	1891.84
908	437906.063	1205147.061	1891.55
909	437906.043	1205147.660	1891.55
910	437899.567	1205146.843	1891.75
911	437893.550	1205147.241	R = 12.5'
912	437893.080	1205146.625	1891.75
913	437884.228	1205148.064	1891.60
914	437898.838	1205153.945	1891.67
915	437892.841	1205153.743	1891.64
916	437885.771	1205155.625	1891.35
917	437898.699	1205158.080	1891.39
918	437896.276	1205159.440	1891.36
919	437892.640	1205159.740	1891.32
920	437891.448	1205160.519	1891.37
921	437874.741	1205158.811	1891.10
922	437873.769	1205159.047	1891.08
923	437905.563	1205147.045	1891.49
924	437892.702	1205157.878	1891.36

14th and 4th: SE

Point	Northing	Easting	Elevation
1000	437861.697	1205202.148	1890.28
1001	437866.596	1205200.356	1890.37
1002	437876.808	1205192.598	1890.58
1003	437881.563	1205190.980	1890.67
1004	437889.780	1205190.648	1890.80
1005	437894.600	1205193.483	1890.72
1006	437889.341	1205197.142	1890.92
1007	437894.330	1205197.478	1890.84
1008	437879.862	1205205.415	1891.09
1009	437886.233	1205204.707	R = 14.5'
1010	437888.833	1205204.671	1890.96
1011	437893.822	1205205.008	1890.92
1012	437900.719	1205205.351	1890.59
1013	437900.214	1205205.440	1890.53
1014	437881.030	1205209.971	1891.17
1015	437888.496	1205209.660	1890.91
1016	437893.485	1205209.997	1890.84
1017	437899.992	1205210.436	1890.46
1018	437900.488	1205210.540	1890.52
1019	437888.012	1205216.824	1891.02
1020	437893.001	1205217.161	1890.88
1021	437897.427	1205218.522	1890.31
1022	437897.401	1205219.522	1890.29
1023	437889.746	1205191.155	1890.78
1024	437889.611	1205193.146	1890.917

ADA Ramp Survey Data Points

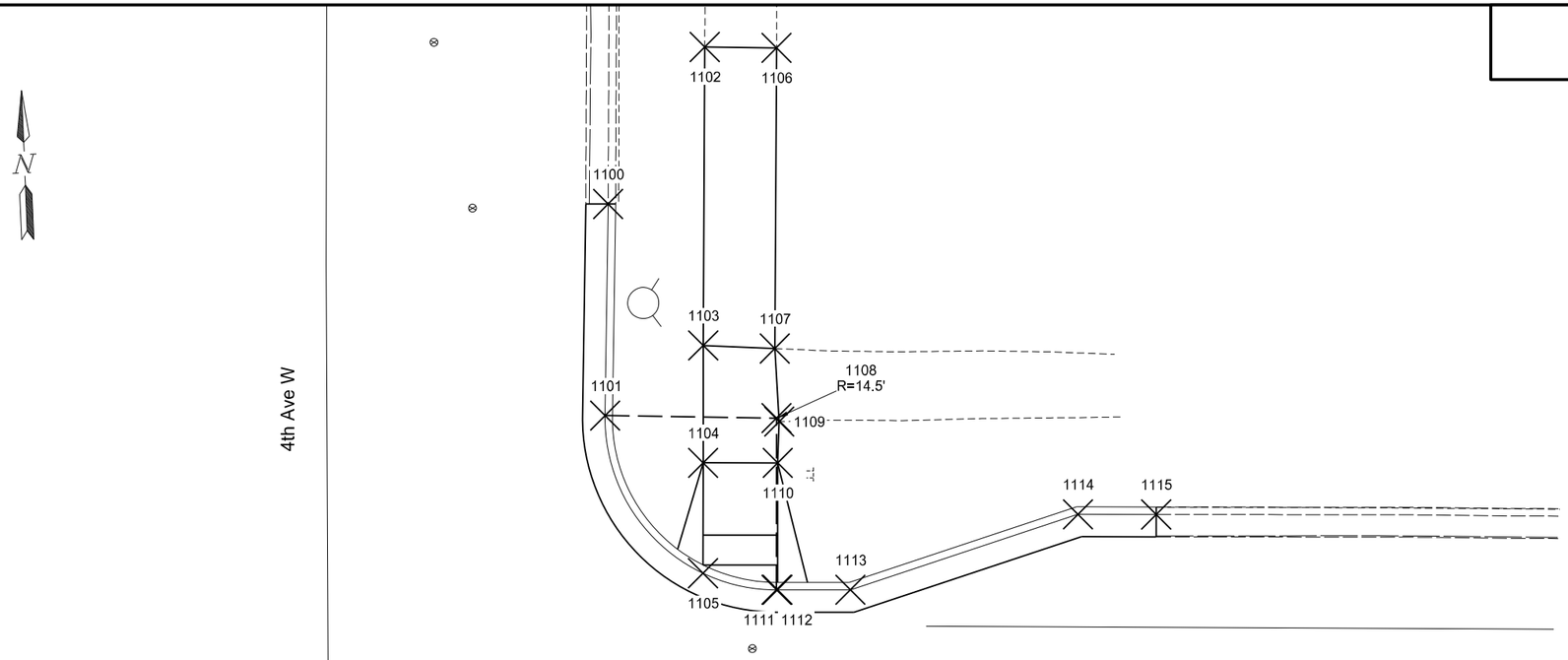
Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 4th Ave W
South Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	6



13th and 4th: NE

Point	Northing	Easting	Elevation
1100	437629.616	1205271.838	1889.30
1101	437615.462	1205271.030	1889.26
1102	437639.865	1205278.749	1889.62
1103	437619.887	1205277.804	1889.65
1104	437612.019	1205277.467	1889.57
1105	437604.632	1205277.151	1889.22
1106	437639.603	1205283.551	1890.24
1107	437619.472	1205282.595	1889.72
1108	437614.806	1205282.511	R = 14.5'
1109	437614.570	1205282.675	1889.68
1110	437611.805	1205282.462	1889.64
1111	437603.316	1205282.019	1889.21
1112	437603.313	1205282.099	1889.21
1113	437603.104	1205286.983	1889.13
1114	437607.528	1205302.429	1888.90
1115	437607.297	1205307.666	1888.82

13th and 4th: SE

Point	Northing	Easting	Elevation
1200	437547.053	1205269.143	1890.09
1201	437549.727	1205268.758	1889.64
1202	437564.872	1205269.376	1889.77
1203	437547.075	1205275.137	1890.18
1204	437559.436	1205275.539	1890.00
1205	437564.251	1205275.744	1889.90
1206	437569.613	1205275.973	1889.84
1207	437574.350	1205276.175	1889.54
1208	437564.038	1205280.738	1889.85
1209	437564.401	1205280.866	R = 11.5'
1210	437569.396	1205280.966	1889.77
1211	437575.395	1205281.224	1889.46
1212	437575.890	1205281.361	1889.52
1213	437558.827	1205285.548	1890.03
1214	437563.817	1205285.850	1889.90
1215	437575.701	1205285.812	1889.34
1216	437570.161	1205300.330	1889.06
1217	437569.912	1205305.563	1888.92
1218	437567.556	1205269.807	1889.79
1219	437574.136	1205281.170	1889.49

ADA Ramp Survey Data Points

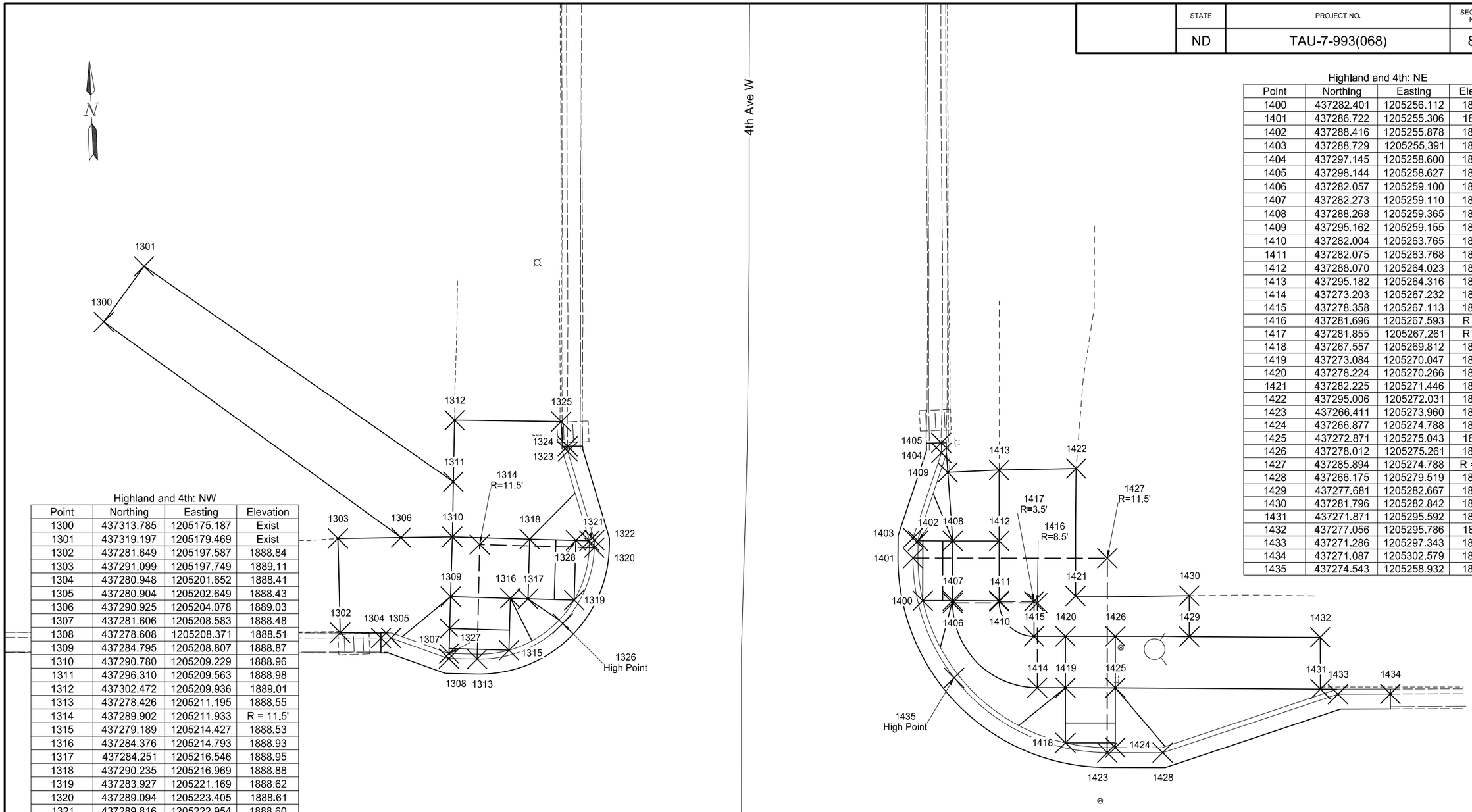
Enhanced Pedestrian Crossings
Williston Cetral Campus

13th St W & 4th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	7



Highland and 4th: NW

Point	Northing	Easting	Elevation
1300	437313.785	1205175.187	Exist
1301	437319.197	1205179.469	Exist
1302	437281.649	1205197.587	1888.84
1303	437291.099	1205197.749	1889.11
1304	437280.948	1205201.652	1888.41
1305	437280.904	1205202.649	1888.43
1306	437290.925	1205204.078	1889.03
1307	437281.606	1205208.583	1888.48
1308	437278.608	1205208.371	1888.51
1309	437284.795	1205208.807	1888.87
1310	437290.780	1205209.229	1888.96
1311	437296.310	1205209.563	1888.98
1312	437302.472	1205209.936	1889.01
1313	437278.426	1205211.195	1888.55
1314	437289.902	1205211.933	R = 11.5'
1315	437279.189	1205214.427	1888.53
1316	437284.376	1205214.793	1888.93
1317	437284.251	1205216.546	1888.95
1318	437290.235	1205216.969	1888.88
1319	437283.927	1205221.169	1888.62
1320	437289.094	1205223.405	1888.61
1321	437289.816	1205222.954	1888.60
1322	437289.860	1205223.457	1888.60
1323	437298.861	1205221.146	1888.53
1324	437299.365	1205221.159	1888.53
1325	437301.876	1205220.619	1888.94
1326	437281.641	1205219.933	1888.73
1327	437279.103	1205208.406	1888.47
1328	437289.912	1205221.591	1888.61

Highland and 4th: NE

Point	Northing	Easting	Elevation
1400	437282.401	1205256.112	1888.27
1401	437286.722	1205255.306	1888.31
1402	437288.416	1205255.878	1888.25
1403	437288.729	1205255.391	1888.24
1404	437297.145	1205258.600	1888.18
1405	437298.144	1205258.627	1888.17
1406	437282.057	1205259.100	1888.48
1407	437282.273	1205259.110	1888.48
1408	437288.268	1205259.365	1888.45
1409	437295.162	1205259.155	1888.63
1410	437282.004	1205263.765	1888.55
1411	437282.075	1205263.768	1888.55
1412	437288.070	1205264.023	1888.52
1413	437295.182	1205264.316	1888.76
1414	437273.203	1205267.232	1888.52
1415	437278.358	1205267.113	1888.56
1416	437281.696	1205267.593	R = 8.5'
1417	437281.855	1205267.261	R = 3.5'
1418	437267.557	1205269.812	1888.28
1419	437273.084	1205270.047	1888.52
1420	437278.224	1205270.266	1888.57
1421	437282.225	1205271.446	1888.53
1422	437295.006	1205272.031	1889.03
1423	437266.411	1205273.960	1888.30
1424	437266.877	1205274.788	1888.26
1425	437272.871	1205275.043	1888.51
1426	437278.012	1205275.261	1888.56
1427	437285.894	1205274.788	R = 11.5'
1428	437266.175	1205279.519	1888.24
1429	437277.681	1205282.667	1888.60
1430	437281.796	1205282.842	1888.86
1431	437271.871	1205295.592	1888.62
1432	437277.056	1205295.786	1888.61
1433	437271.286	1205297.343	1888.19
1434	437271.087	1205302.579	1888.17
1435	437274.543	1205258.932	1888.33

ADA Ramp Survey Data Points

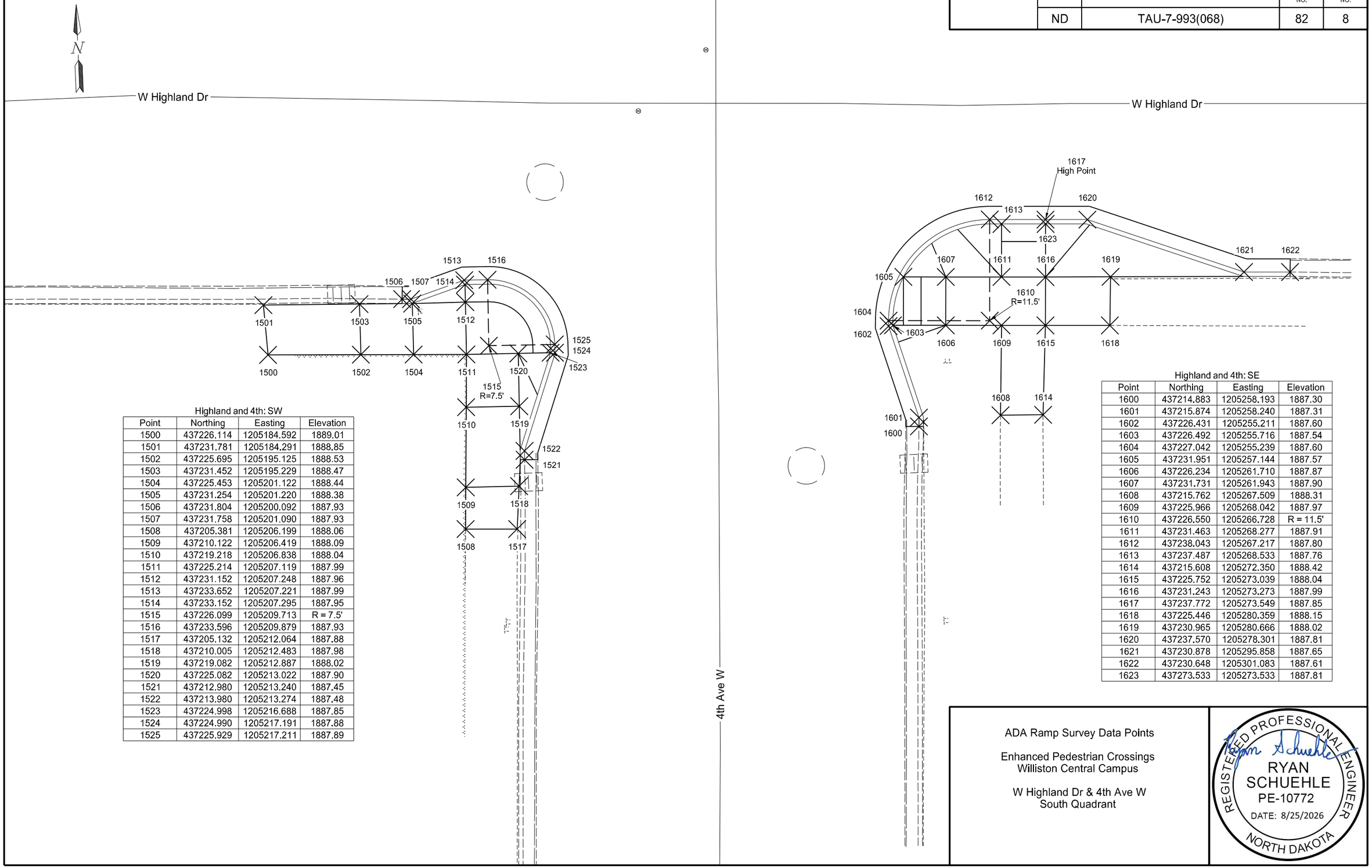
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	8



Highland and 4th: SW

Point	Northing	Easting	Elevation
1500	437226.114	1205184.592	1889.01
1501	437231.781	1205184.291	1888.85
1502	437225.695	1205195.125	1888.53
1503	437231.452	1205195.229	1888.47
1504	437225.453	1205201.122	1888.44
1505	437231.254	1205201.220	1888.38
1506	437231.804	1205200.092	1887.93
1507	437231.758	1205201.090	1887.93
1508	437205.381	1205206.199	1888.06
1509	437210.122	1205206.419	1888.09
1510	437219.218	1205206.838	1888.04
1511	437225.214	1205207.119	1887.99
1512	437231.152	1205207.248	1887.96
1513	437233.652	1205207.221	1887.99
1514	437233.152	1205207.295	1887.95
1515	437226.099	1205209.713	R = 7.5'
1516	437233.596	1205209.879	1887.93
1517	437205.132	1205212.064	1887.88
1518	437210.005	1205212.483	1887.98
1519	437219.082	1205212.887	1888.02
1520	437225.082	1205213.022	1887.90
1521	437212.980	1205213.240	1887.45
1522	437213.980	1205213.274	1887.48
1523	437224.998	1205216.688	1887.85
1524	437224.990	1205217.191	1887.88
1525	437225.929	1205217.211	1887.89

Highland and 4th: SE

Point	Northing	Easting	Elevation
1600	437214.883	1205258.193	1887.30
1601	437215.874	1205258.240	1887.31
1602	437226.431	1205255.211	1887.60
1603	437226.492	1205255.716	1887.54
1604	437227.042	1205255.239	1887.60
1605	437231.951	1205257.144	1887.57
1606	437226.234	1205261.710	1887.87
1607	437231.731	1205261.943	1887.90
1608	437215.762	1205267.509	1888.31
1609	437225.966	1205268.042	1887.97
1610	437226.550	1205266.728	R = 11.5'
1611	437231.463	1205268.277	1887.91
1612	437238.043	1205267.217	1887.80
1613	437237.487	1205268.533	1887.76
1614	437215.608	1205272.350	1888.42
1615	437225.752	1205273.039	1888.04
1616	437231.243	1205273.273	1887.99
1617	437237.772	1205273.549	1887.85
1618	437225.446	1205280.359	1888.15
1619	437230.965	1205280.666	1888.02
1620	437237.570	1205278.301	1887.81
1621	437230.878	1205295.858	1887.65
1622	437230.648	1205301.083	1887.61
1623	437273.533	1205273.533	1887.81

ADA Ramp Survey Data Points

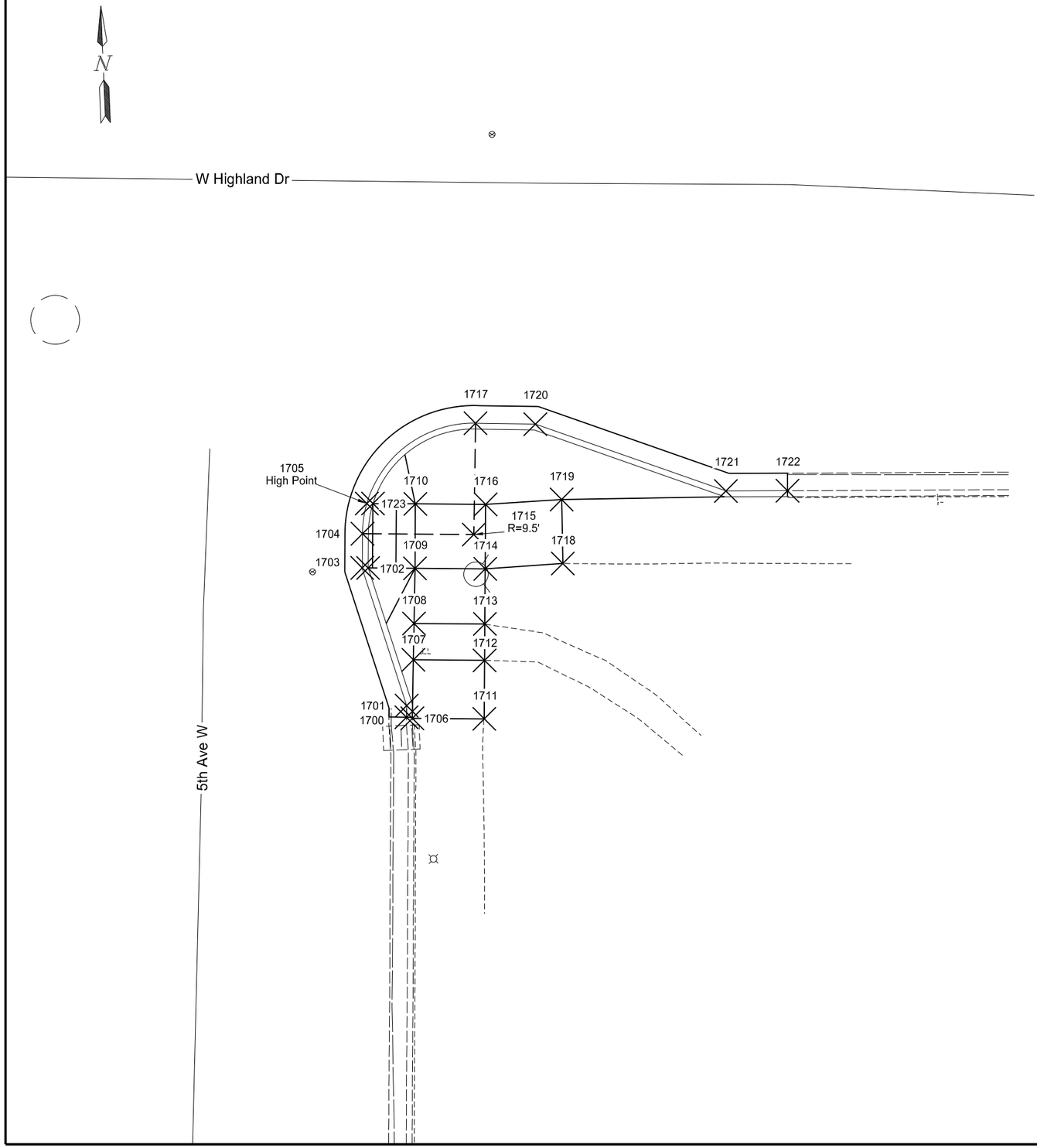
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W
South Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	9



Highland and 5th: SE

Point	Northing	Easting	Elevation
1700	437221.779	1204971.677	1892.96
1701	437222.777	1204971.737	1892.96
1702	437234.445	1204972.929	1893.28
1703	437234.664	1204968.434	1893.34
1704	437237.586	1204968.577	1893.37
1705	437240.140	1204969.057	1893.38
1706	437221.661	1204972.171	1893.53
1707	437226.650	1204972.471	1893.56
1708	437229.748	1204972.650	1893.50
1709	437234.445	1204972.929	1893.47
1710	437239.939	1204973.197	1893.45
1711	437221.362	1204978.299	1893.68
1712	437226.355	1204978.542	1893.78
1713	437229.453	1204978.693	1893.60
1714	437234.153	1204978.922	1893.56
1715	437237.124	1204978.066	R = 9.5'
1716	437239.647	1204979.190	1893.48
1717	437246.608	1204978.612	1893.11
1718	437234.330	1204985.566	1893.37
1719	437239.782	1204985.685	1893.21
1720	437246.314	1204983.712	1893.00
1721	437239.928	1204999.731	1892.56
1722	437239.730	1205004.987	1892.45
1723	437240.115	1204969.577	1893.32

ADA Ramp Survey Data Points

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W
South East Quadrant

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RYAN SCHUEHLE
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NORTH DAKOTA

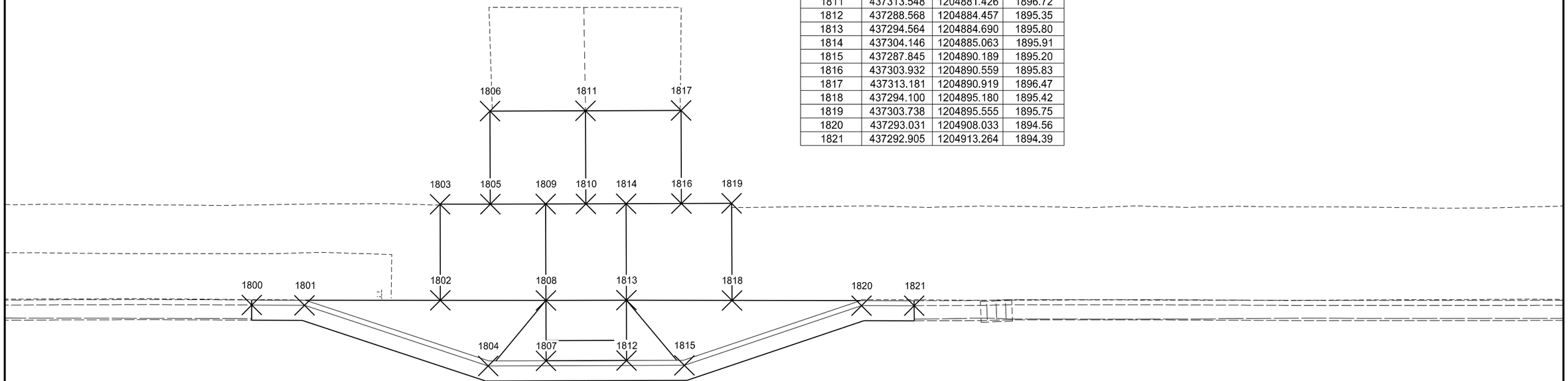
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	10

N

Highland and 5th: N

Point	Northing	Easting	Elevation
1800	437295.639	1204847.454	1895.83
1801	437295.394	1204852.686	1895.76
1802	437295.320	1204866.206	1895.94
1803	437304.866	1204866.577	1896.58
1804	437288.603	1204870.691	1895.59
1805	437304.671	1204871.574	1896.34
1806	437313.920	1204871.933	1896.69
1807	437288.879	1204876.463	1895.47
1808	437294.875	1204876.696	1895.90
1809	437304.457	1204877.069	1896.03
1810	437304.302	1204881.066	1895.97
1811	437313.548	1204881.426	1896.72
1812	437288.568	1204884.457	1895.35
1813	437294.564	1204884.690	1895.80
1814	437304.146	1204885.063	1895.91
1815	437287.845	1204890.189	1895.20
1816	437303.932	1204890.559	1895.83
1817	437313.181	1204890.919	1896.47
1818	437294.100	1204895.180	1895.42
1819	437303.738	1204895.555	1895.75
1820	437293.031	1204908.033	1894.56
1821	437292.905	1204913.264	1894.39



W Highland Dr

ADA Ramp Survey Data Points

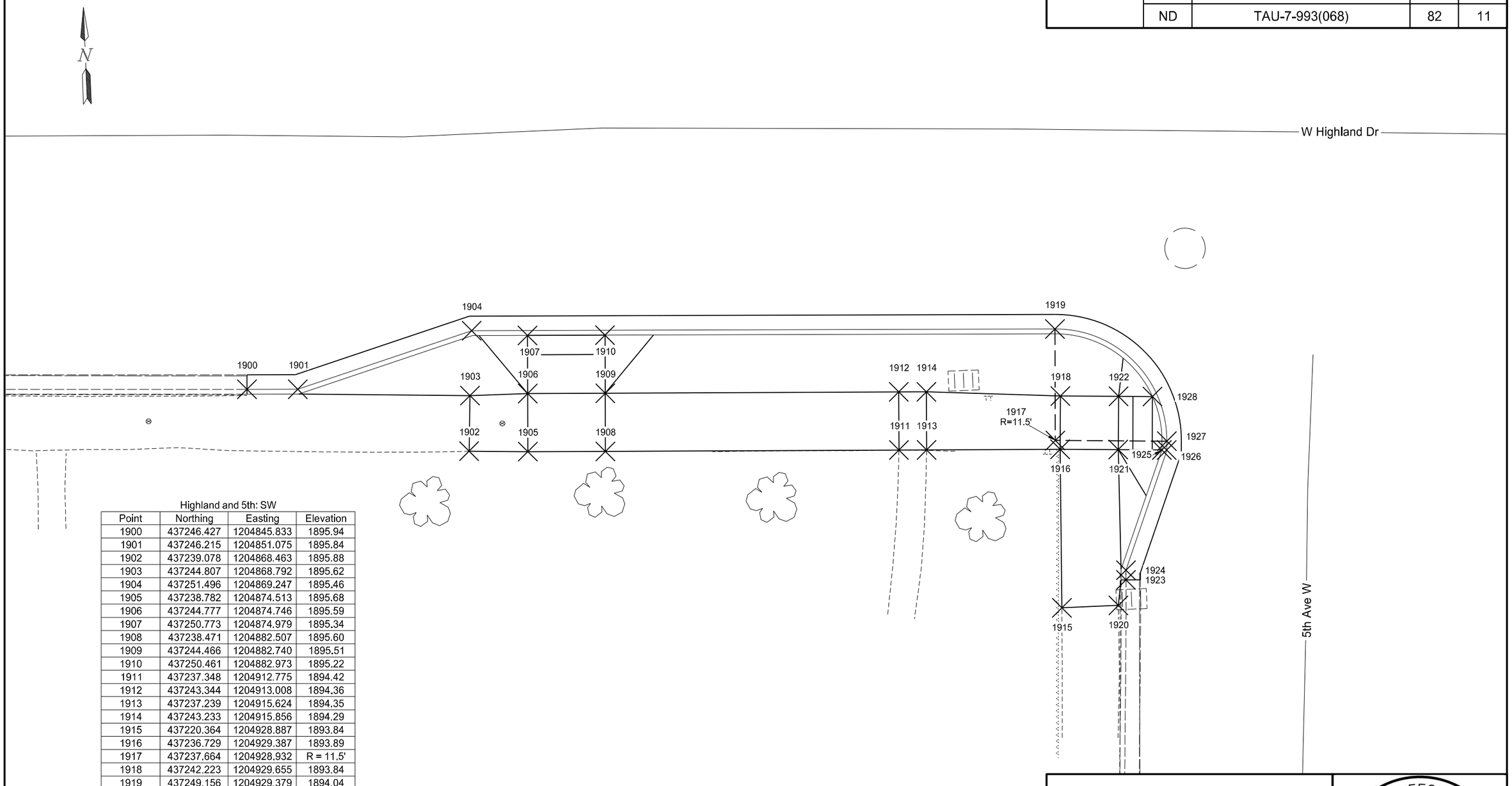
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	11



Highland and 5th: SW

Point	Northing	Easting	Elevation
1900	437246.427	1204845.833	1895.94
1901	437246.215	1204851.075	1895.84
1902	437239.078	1204868.463	1895.88
1903	437244.807	1204868.792	1895.62
1904	437251.496	1204869.247	1895.46
1905	437238.782	1204874.513	1895.68
1906	437244.777	1204874.746	1895.59
1907	437250.773	1204874.979	1895.34
1908	437238.471	1204882.507	1895.60
1909	437244.466	1204882.740	1895.51
1910	437250.461	1204882.973	1895.22
1911	437237.348	1204912.775	1894.42
1912	437243.344	1204913.008	1894.36
1913	437237.239	1204915.624	1894.35
1914	437243.233	1204915.856	1894.29
1915	437220.364	1204928.887	1893.84
1916	437236.729	1204929.387	1893.89
1917	437237.664	1204928.932	R = 11.5'
1918	437242.223	1204929.655	1893.84
1919	437249.156	1204929.379	1894.04
1920	437220.373	1204934.714	1893.69
1921	437236.437	1204935.380	1893.86
1922	437241.931	1204935.648	1893.81
1923	437222.972	1204935.615	1893.19
1924	437223.972	1204935.655	1893.22
1925	437236.218	1204939.875	1893.65
1926	437236.194	1204940.374	1893.70
1927	437237.104	1204940.418	1893.71
1928	437241.761	1204939.141	1893.70

ADA Ramp Survey Data Points

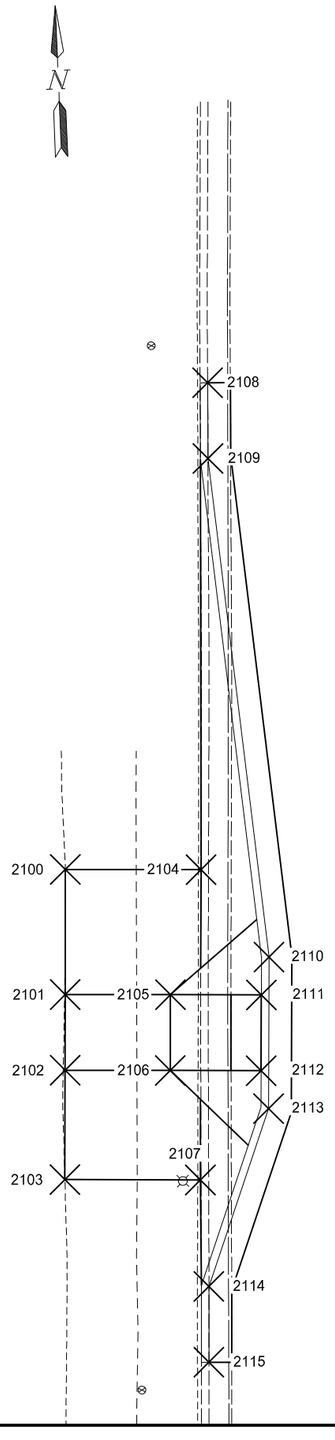
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W
South Quadrant

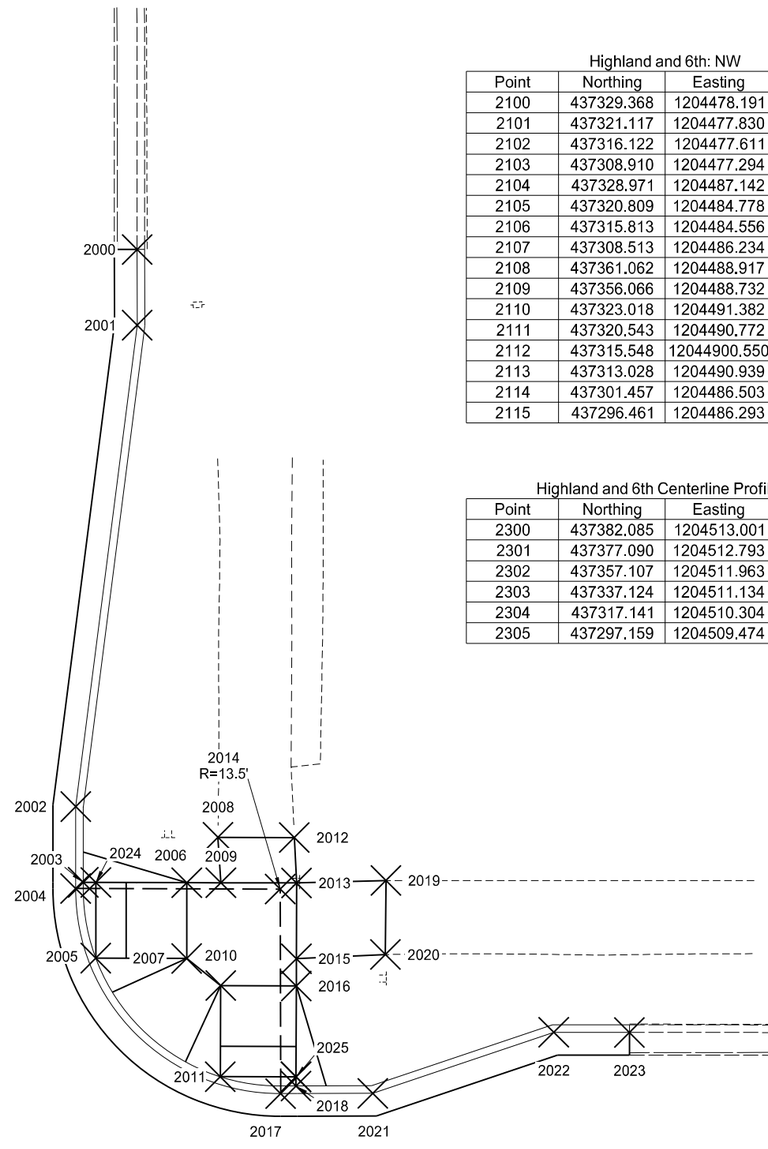
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RYAN SCHUEHLE
PE-10772
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	12







Highland and 6th: NW

Point	Northing	Easting	Elevation
2100	437329.368	1204478.191	1900.60
2101	437321.117	1204477.830	1900.53
2102	437316.122	1204477.611	1900.52
2103	437308.910	1204477.294	1900.61
2104	437328.971	1204487.142	1900.43
2105	437320.809	1204484.778	1900.43
2106	437315.813	1204484.556	1900.42
2107	437308.513	1204486.234	1900.38
2108	437361.062	1204488.917	1900.11
2109	437356.066	1204488.732	1900.09
2110	437323.018	1204491.382	1900.00
2111	437320.543	1204490.772	1899.99
2112	437315.548	12044900.550	1899.97
2113	437313.028	1204490.939	1900.02
2114	437301.457	1204486.503	1899.96
2115	437296.461	1204486.293	1899.88

Highland and 6th Centerline Profile:N

Point	Northing	Easting	Elevation
2300	437382.085	1204513.001	1900.96
2301	437377.090	1204512.793	1900.94
2302	437357.107	1204511.963	1900.61
2303	437337.124	1204511.134	1900.57
2304	437317.141	1204510.304	1900.52
2305	437297.159	1204509.474	1900.49

Highland and 6th: NE

Point	Northing	Easting	Elevation
2000	437360.402	1204535.108	1900.27
2001	437355.406	1204534.902	1900.25
2002	437323.828	1204529.524	1900.16
2003	437318.811	1204529.802	1900.14
2004	437318.425	1204529.285	1900.20
2005	437313.779	1204530.418	1900.13
2006	437318.508	1204536.633	1900.54
2007	437313.513	1204536.412	1900.52
2008	437321.415	1204538.808	1900.55
2009	437318.409	1204538.874	1900.54
2010	437311.609	1204538.572	1900.53
2011	437305.618	1204538.306	1900.09
2012	437321.191	1204543.856	1900.63
2013	437318.187	1204543.869	1900.62
2014	437317.827	1204542.771	R = 13.5'
2015	437313.192	1204543.647	1900.54
2016	437311.390	1204543.567	1900.51
2017	437304.337	1204542.244	1900.13
2018	437304.797	1204543.275	1900.07
2019	437318.105	1204549.776	1900.65
2020	437313.216	1204549.537	1900.60
2021	437304.100	1204548.322	1899.98
2022	437307.614	1204560.421	1899.73
2023	437307.402	1204565.416	1899.64
2024	437318.774	1204530.639	1900.15
2025	437305.396	1204543.301	1900.08

ADA Ramp Survey Data Points

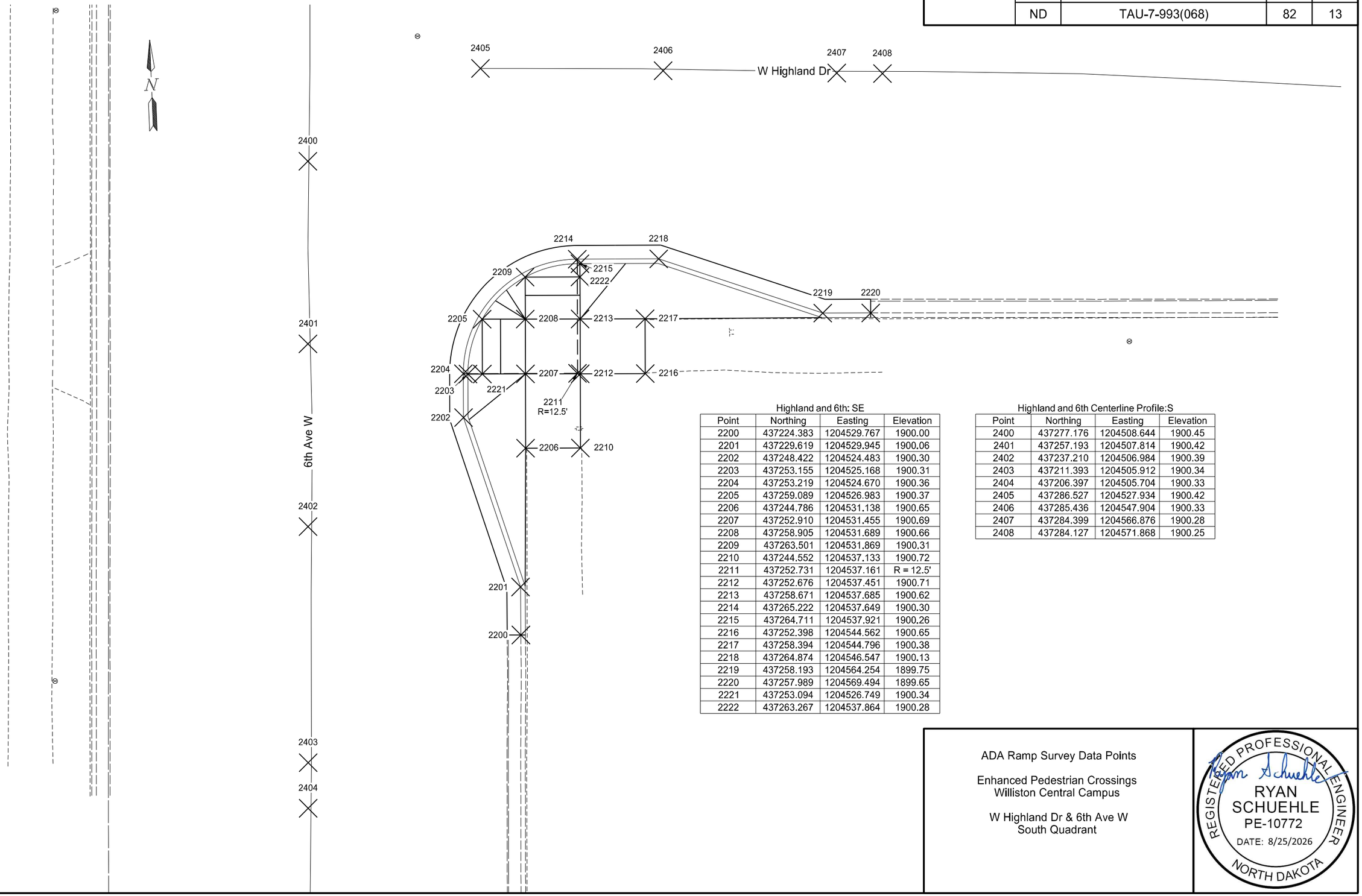
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W
North Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	82	13



Highland and 6th: SE

Point	Northing	Easting	Elevation
2200	437224.383	1204529.767	1900.00
2201	437229.619	1204529.945	1900.06
2202	437248.422	1204524.483	1900.30
2203	437253.155	1204525.168	1900.31
2204	437253.219	1204524.670	1900.36
2205	437259.089	1204526.983	1900.37
2206	437244.786	1204531.138	1900.65
2207	437252.910	1204531.455	1900.69
2208	437258.905	1204531.689	1900.66
2209	437263.501	1204531.869	1900.31
2210	437244.552	1204537.133	1900.72
2211	437252.731	1204537.161	R = 12.5'
2212	437252.676	1204537.451	1900.71
2213	437258.671	1204537.685	1900.62
2214	437265.222	1204537.649	1900.30
2215	437264.711	1204537.921	1900.26
2216	437252.398	1204544.562	1900.65
2217	437258.394	1204544.796	1900.38
2218	437264.874	1204546.547	1900.13
2219	437258.193	1204564.254	1899.75
2220	437257.989	1204569.494	1899.65
2221	437253.094	1204526.749	1900.34
2222	437263.267	1204537.864	1900.28

Highland and 6th Centerline Profile:S

Point	Northing	Easting	Elevation
2400	437277.176	1204508.644	1900.45
2401	437257.193	1204507.814	1900.42
2402	437237.210	1204506.984	1900.39
2403	437211.393	1204505.912	1900.34
2404	437206.397	1204505.704	1900.33
2405	437286.527	1204527.934	1900.42
2406	437285.436	1204547.904	1900.33
2407	437284.399	1204566.876	1900.28
2408	437284.127	1204571.868	1900.25

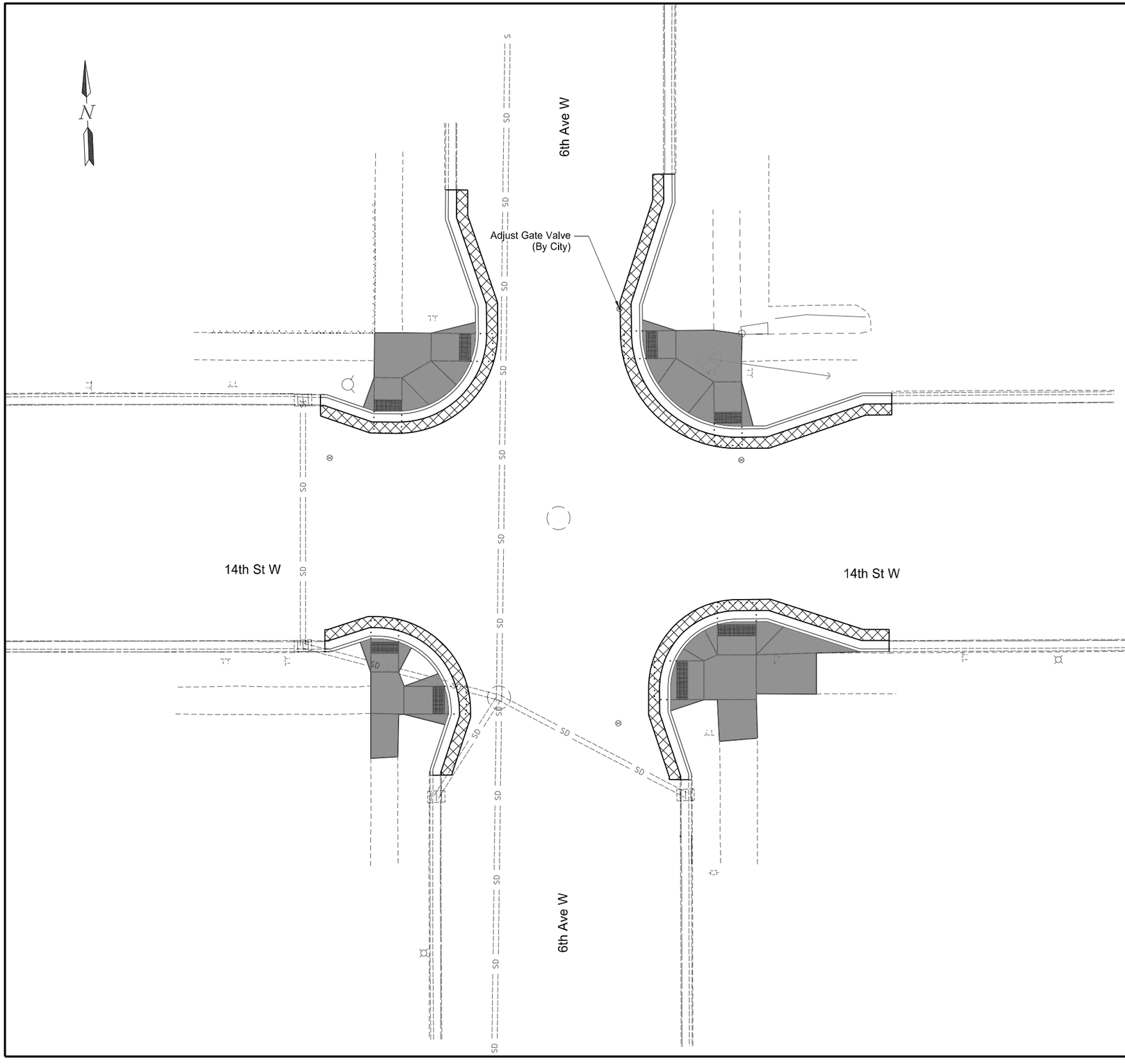
ADA Ramp Survey Data Points

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W
South Quadrant

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
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NORTH DAKOTA

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	1

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Southwest Quadrant	5	TON
		Northwest Quadrant	6	TON
		Southeast Quadrant	9	TON
		Northeast Quadrant	6	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Southwest Quadrant	2.9	TON
		Northwest Quadrant	4.2	TON
		Southeast Quadrant	4.3	TON
		Northeast Quadrant	5.6	TON
748	0100	Curb & Gutter		
		Southwest Quadrant	44	LF
		Northwest Quadrant	65	LF
		Southeast Quadrant	66	LF
		Northeast Quadrant	86	LF
750	0140	Sidewalk Concrete 6IN		
		Southwest Quadrant	20	SY
		Northwest Quadrant	26	SY
		Southeast Quadrant	43	SY
		Northeast Quadrant	29	SY
750	2115	Detectable Warning Panels		
		Southwest Quadrant	20	SF
		Northwest Quadrant	20	SF
		Southeast Quadrant	28	SF
		Northeast Quadrant	20	SF

LEGEND

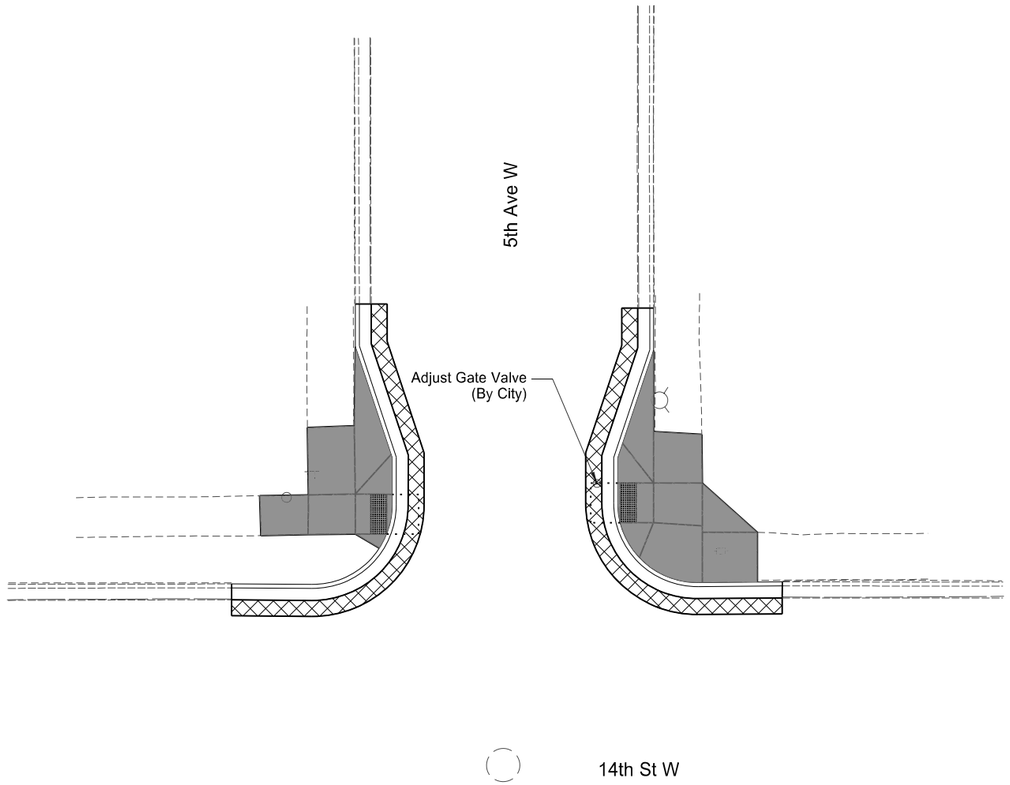
- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

Paving Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W

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NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	2

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Northwest Quadrant	5	TON
		Northeast Quadrant	6	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Northwest Quadrant	3.5	TON
		Northeast Quadrant	3.5	TON
748	0100	Curb & Gutter		
		Northwest Quadrant	53	LF
		Northeast Quadrant	53	LF
750	0140	Sidewalk Concrete 6IN		
		Northwest Quadrant	22	SY
		Northeast Quadrant	29	SY
750	2115	Detectable Warning Panels		
		Northwest Quadrant	10	SF
		Northeast Quadrant	10	SF

LEGEND

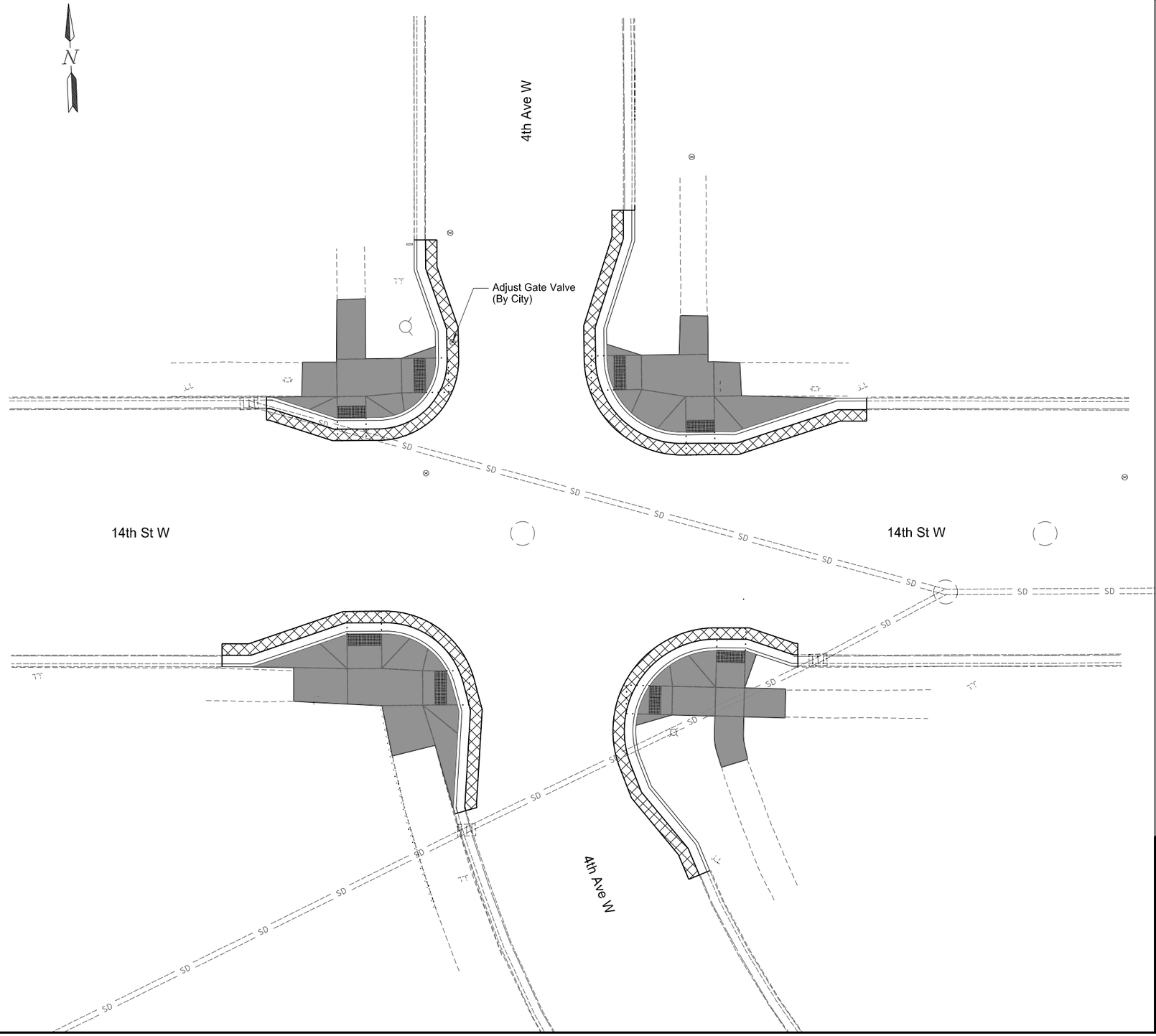
- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

Paving Sheets

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 5th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	3

Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Southwest Quadrant	10	TON
		Northwest Quadrant	7	TON
		Southeast Quadrant	7	TON
		Northeast Quadrant	9	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Southwest Quadrant	4.5	TON
		Northwest Quadrant	3.9	TON
		Southeast Quadrant	4.4	TON
		Northeast Quadrant	5.3	TON
748	0100	Curb & Gutter		
		Southwest Quadrant	69	LF
		Northwest Quadrant	59	LF
		Southeast Quadrant	66	LF
		Northeast Quadrant	82	LF
750	0140	Sidewalk Concrete 6IN		
		Southwest Quadrant	47	SY
		Northwest Quadrant	31	SY
		Southeast Quadrant	30	SY
		Northeast Quadrant	40	SY
750	2115	Detectable Warning Panels		
		Southwest Quadrant	24	SF
		Northwest Quadrant	22	SF
		Southeast Quadrant	20	SF
		Northeast Quadrant	22	SF

LEGEND

- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

Paving Layout

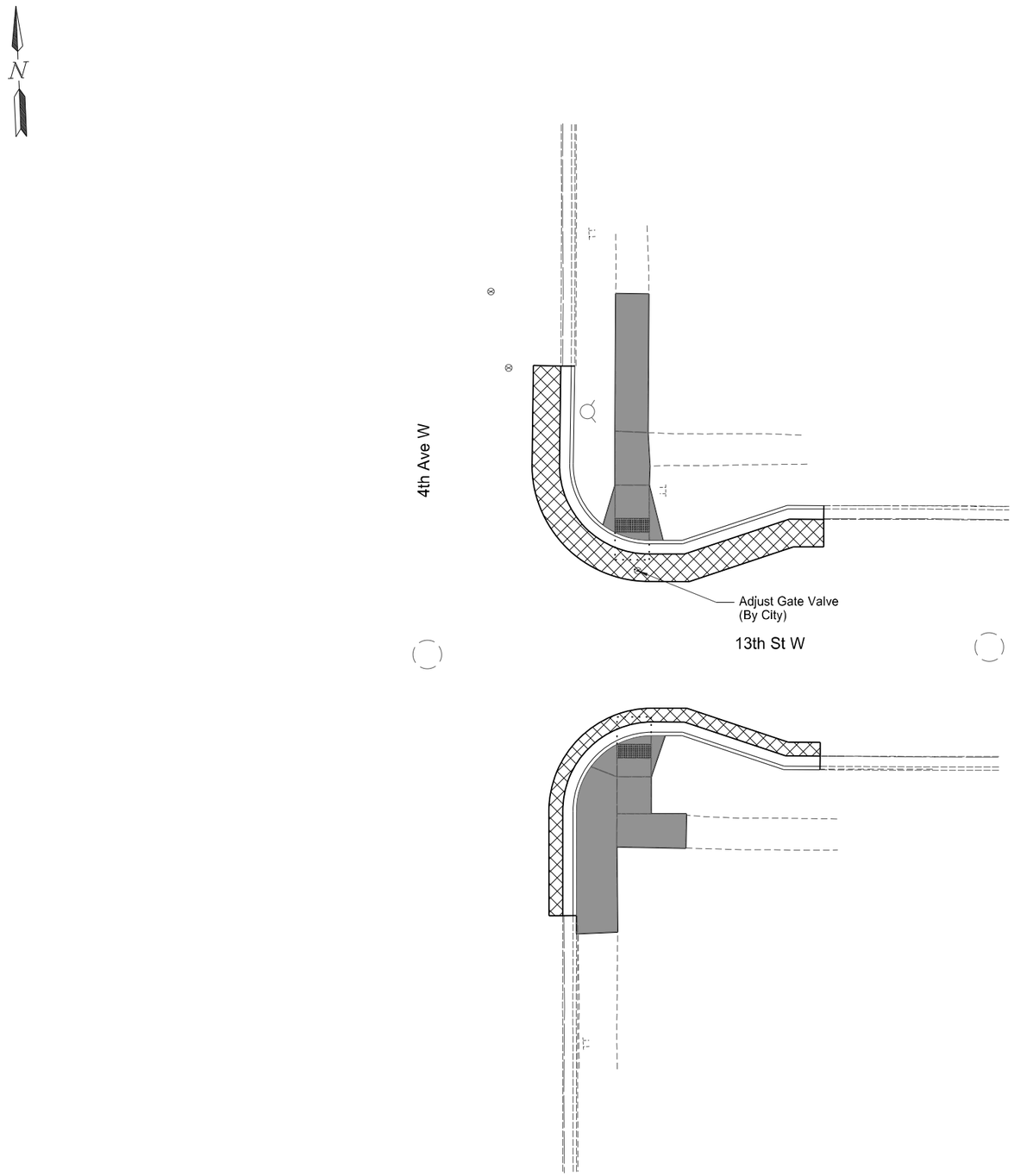
Enhanced Pedestrian Crossings
Williston Central Campus

14th St & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	4



Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Southeast Quadrant	6	TON
		Northeast Quadrant	5	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Southeast Quadrant	3.9	TON
		Northeast Quadrant	8	TON
748	0100	Curb & Gutter		
		Southeast Quadrant	59	LF
		Northeast Quadrant	59	LF
750	0140	Sidewalk Concrete 6IN		
		Southeast Quadrant	29	SY
		Northeast Quadrant	21	SY
750	2115	Detectable Warning Panels		
		Southeast Quadrant	10	SF
		Northeast Quadrant	10	SF

LEGEND

- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

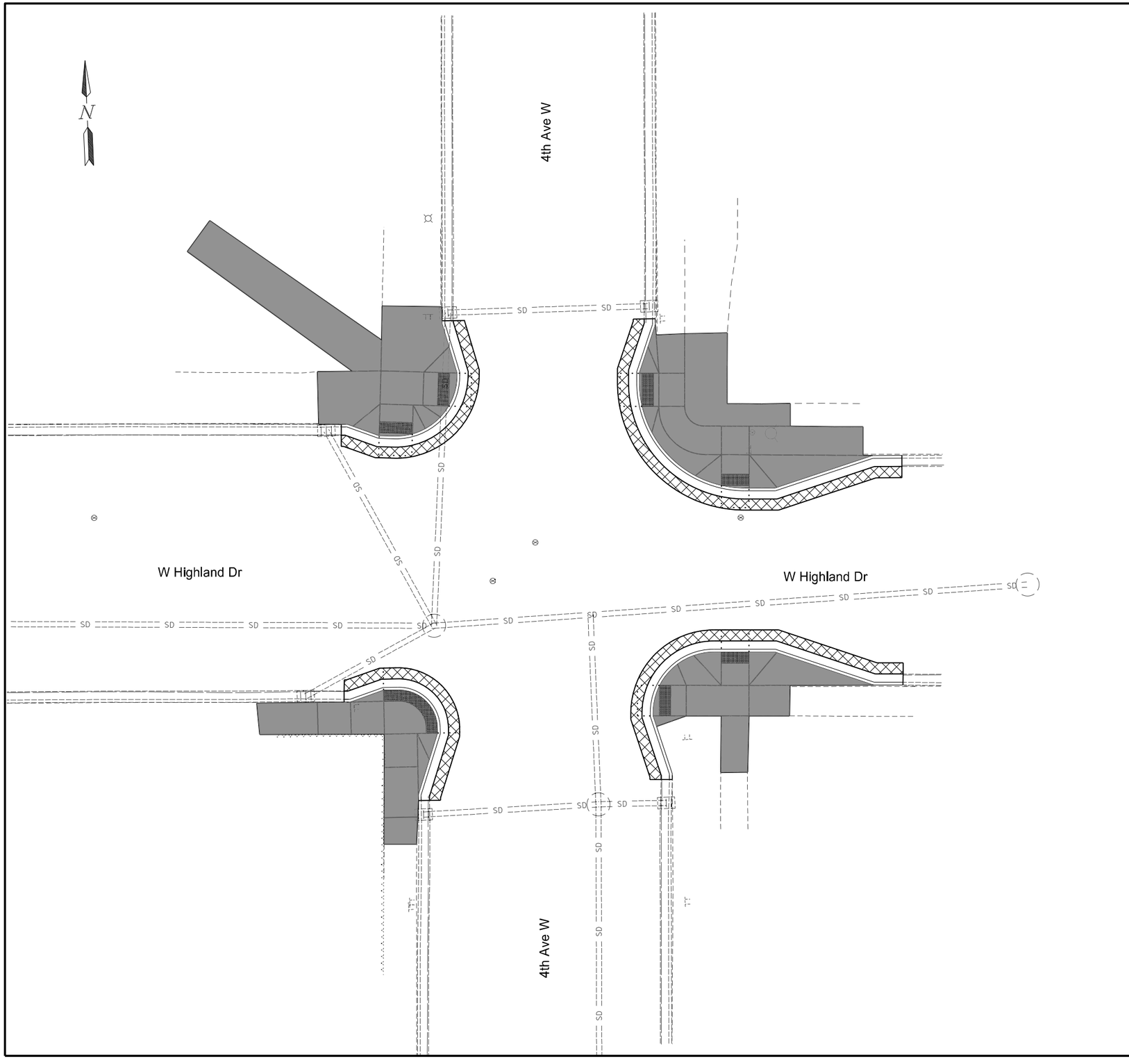
Paving Layout

Enhanced Pedestrian Crossings
Williston Central Campus

13th St W & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	5



Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Southwest Quadrant	8	TON
		Northwest Quadrant	15	TON
		Southeast Quadrant	9	TON
		Northeast Quadrant	15	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Southwest Quadrant	2.5	TON
		Northwest Quadrant	2.7	TON
		Southeast Quadrant	4.4	TON
		Northeast Quadrant	4.7	TON
748	0100	Curb & Gutter		
		Southwest Quadrant	36	LF
		Northwest Quadrant	39	LF
		Southeast Quadrant	66	LF
		Northeast Quadrant	72	LF
750	0140	Sidewalk Concrete 6IN		
		Southwest Quadrant	39	SY
		Northwest Quadrant	72	SY
		Southeast Quadrant	40	SY
		Northeast Quadrant	71	SY
750	2115	Detectable Warning Panels		
		Southwest Quadrant	26	SF
		Northwest Quadrant	24	SF
		Southeast Quadrant	21	SF
		Northeast Quadrant	22	SF

LEGEND

- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

Paving Layout

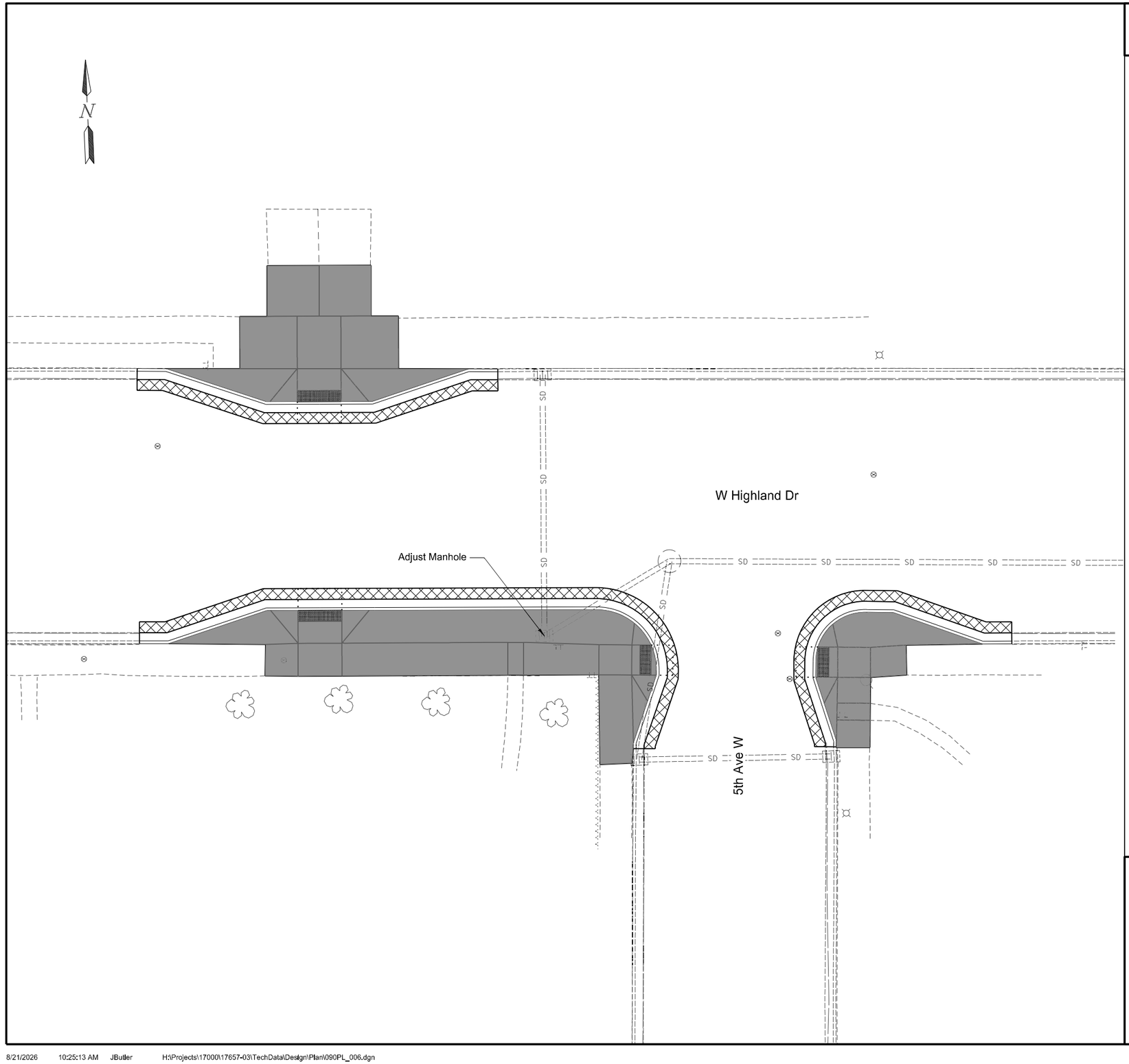
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	6



Spec	Code	Item Description	QTY	Unit
302	0120	Aggregate Base Course CL 5		
		Southwest Quadrant	24	TON
		North Quadrant	16	TON
		Southeast Quadrant	8	TON
430	0500	Commercial Grade Hot Mix Asphalt		
		Southwest Quadrant	7.5	TON
		North Quadrant	4.2	TON
		Southeast Quadrant	3.9	TON
722	6200	Adjust Manhole		
		Southwest Quadrant	1	EA
748	0100	Curb & Gutter		
		Southwest Quadrant	118	LF
		North Quadrant	68	LF
		Southeast Quadrant	59	LF
750	0140	Sidewalk Concrete 6IN		
		Southwest Quadrant	113	SY
		North Quadrant	76	SY
		Southeast Quadrant	35	SY
750	2115	Detectable Warning Panels		
		Southwest Quadrant	27	SF
		North Quadrant	16	SF
		Southeast Quadrant	11	SF

LEGEND

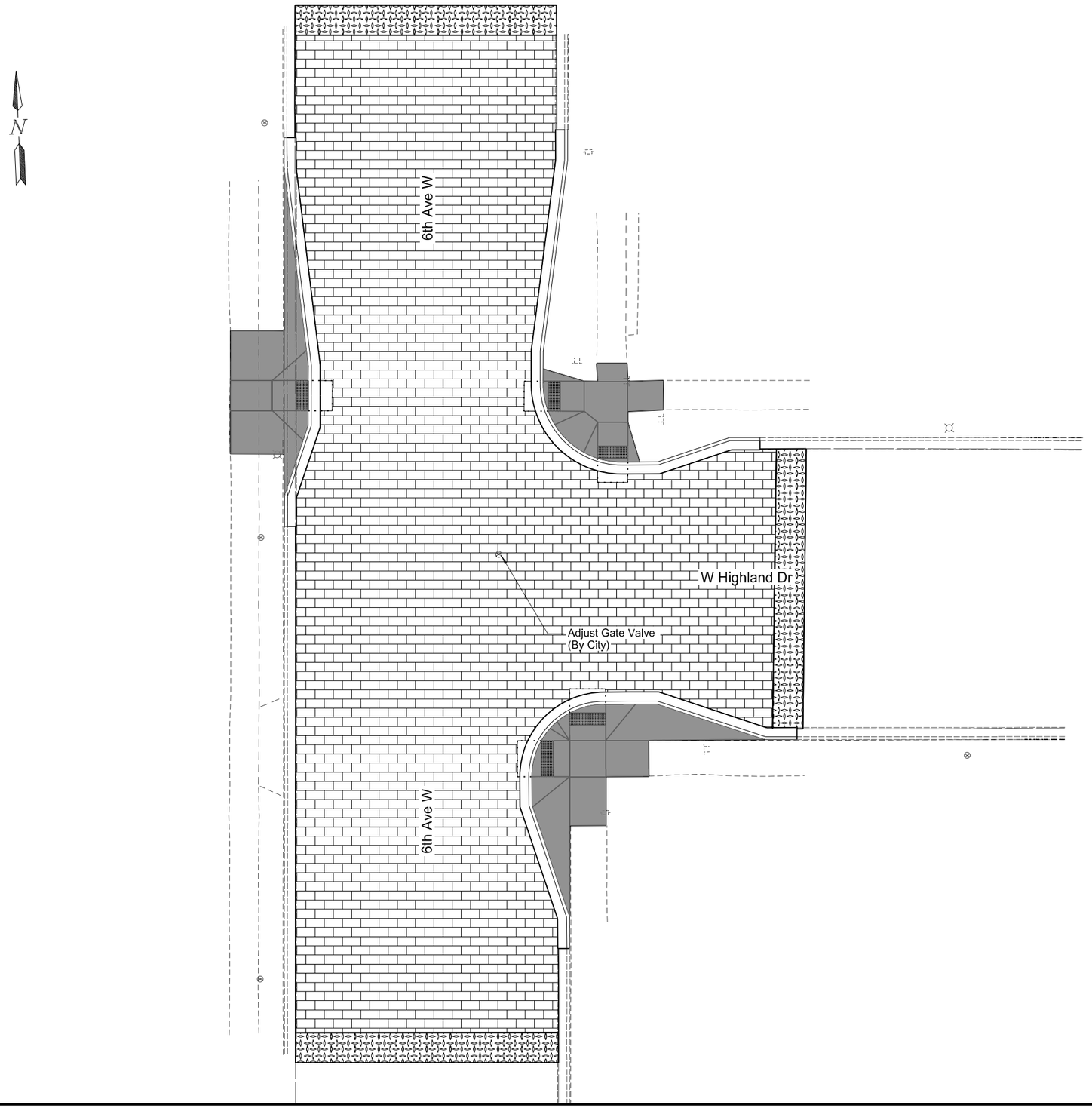
- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

Paving Layout

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W

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DATE: 8/25/2026
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	90	7

Spec	Code	Item Description	QTY	Unit
230	0165	Subgrade Preparation-Type-A-12IN		
		6th Ave W	1.7	STA
		W Highland Dr	0.4	STA
302	0120	Aggregate Base Course CL 5		
			381	TON
		West Quadrant	8	TON
		Southeast Quadrant	10	TON
		Northeast Quadrant	5	TON
430	0500	Commercial Grade Hot Mix Asphalt		
			212	TON
709	0161	Geosynthetic Material Type S1		
			914	SY
748	0100	Curb & Gutter		
		West Quadrant	66	LF
		Southeast Quadrant	83	LF
		Northeast Quadrant	88	LF
750	0140	Sidewalk Concrete 6IN		
		West Quadrant	35	SY
		Southeast Quadrant	45	SY
		Northeast Quadrant	24	SY
750	2115	Detectable Warning Panels		
		West Quadrant	10	SF
		Southeast Quadrant	24	SF
		Northeast Quadrant	20	SF

LEGEND

- Sidewalk Concrete 6IN, 4" Aggregate Base Course CL 5
- 2" Commercial Grade Hot Mix Asphalt
- 4" Commercial Grade Hot Mix Asphalt, 8" Aggregate Base Course CL 5, Geosynthetic Material Type S1, Subgrade Preparation-Type-A-12IN
- 5" Commercial Grade Hot Mix Asphalt
- Detectable Warning Pannels
- Curb & Gutter

Paving Layout

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
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DATE: 8/25/2026
NORTH DAKOTA

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TAU-7-993(068)	100	1

SIGN NUMBER	SIGN SIZE	DESCRIPTION	AMOUNT REQUIRED	UNITS PER AMOUNT	UNITS SUB TOTAL
E5-1-48	48"x48"	EXIT GORE		35	
G20-1-60	60"x24"	ROAD WORK NEXT ___ MILES		28	
G20-1b-60	60"x24"	NO WORK IN PROGRESS (Sign and installation only)		18	
G20-2-48	**48"x24"**	**END ROAD WORK**	**7**	**26**	**182**
G20-4-36	36"x18"	PILOT CAR FOLLOW ME (Mounted to back of pilot car)		18	
G20-4b-36	36"x30"	WAIT FOR PILOT CAR		18	
G20-50a-72	72"x36"	ROAD WORK NEXT ___ MILES RT & LT ARROWS		43	
G20-52a-72	72"x24"	ROAD WORK NEXT ___ MILES RT or LT ARROW		36	
G20-55-96	96"x48"	SPEED LIMIT ENFORCED - MINIMUM FEE $150 WHEN WORKERS PRESENT		59	
M1-1-36	36"x36"	INTERSTATE ROUTE MARKER (Post and installation only)		11	
M1-4-24	24"x24"	U.S. ROUTE MARKER (Post and installation only)		10	
M1-5-24	24"x24"	STATE ROUTE MARKER (Post and installation only)		10	
M3-1-24	24"x12"	NORTH (Mounted on route marker post)		7	
M3-2-24	24"x12"	EAST (Mounted on route marker post)		7	
M3-3-24	24"x12"	SOUTH (Mounted on route marker post)		7	
M3-4-24	24"x12"	WEST (Mounted on route marker post)		7	
M4-8-24	24"x12"	DETOUR (Mounted on route marker post)		7	
M4-9-30	30"x24"	DETOUR ARROW RIGHT or LEFT/AHD AND RT or LT		15	
M4-10-48	48"x18"	DETOUR (INSIDE ARROW) RIGHT or LEFT (Mounted on barricade)		7	
M5-1-21	21"x15"	ADVANCE TURN ARROW RT or LT(Mounted on route marker post)		7	
M5-1-30	30"x21"	ADVANCE TURN ARROW RT or LT(Mounted on route marker post)		9	
M6-1-21	**21"x15"**	**DIRECTIONAL ARROW RT or LT (Mounted on route marker post)**	**6**	**7**	**42**
M6-1-30	30"x21"	DIRECTIONAL ARROW RT or LT (Mounted on route marker post)		9	
M6-3-21	21"x15"	DIRECTIONAL ARROW UP (Mounted on route marker post)		7	
R1-1-48	**48"x48"**	**STOP**	**2**	**32**	**64**
R1-2-60	60"x60"	YIELD		29	
R2-1-36	**36"x48"**	**SPEED LIMIT __ (Portable only)**	**4**	**30**	**120**
R2-1-48	48"x60"	SPEED LIMIT __		39	
R2-1aP-24	**24"x18"**	**MINIMUM FEE $150 (Mounted on Speed Limit post)**	**2**	**10**	**20**
R3-2-48	48"x48"	NO LEFT TURN		35	
R4-1-48	48"x60"	DO NOT PASS		39	
R4-7-48	48"x60"	KEEP RIGHT		39	
R5-1-48	48"x48"	DO NOT ENTER		35	
R6-1-54	54"x18"	ONE WAY RIGHT or LEFT (Mounted on STOP or DO NOT ENTER post)		14	
R7-1-12	12"x18"	NO PARKING ANY TIME		11	
R9-10-24	**24"x12"**	**SIDEWALK CLOSED**	**12**	**13**	**156**
R10-6-24	24"x36"	STOP HERE ON RED		16	
R11-2-48	48"x30"	ROAD CLOSED (Mounted on barricade)		12	
R11-2a-48	48"x30"	STREET CLOSED (Mounted on barricade)		12	
R11-3a-60	60"x30"	ROAD CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY (Mtd on barricade)		15	
R11-3c-60	60"x30"	STREET CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY (Mtd on barricade)		15	
R11-4a-60	**60"x30"**	**STREET CLOSED TO THRU TRAFFIC (Mounted on barricade)**	**6**	**15**	**90**
W1-3-48	48"x48"	REVERSE TURN RIGHT or LEFT		35	
W1-4-48	48"x48"	REVERSE CURVE RIGHT or LEFT		35	
W1-4b-48	48"x48"	TWO LANE REVERSE CURVE RIGHT or LEFT		35	
W1-6-48	48"x24"	ONE DIRECTION LARGE ARROW		26	
W3-1-48	48"x48"	STOP AHEAD		35	
W3-3-48	48"x48"	SIGNAL AHEAD		35	
W3-4-48	48"x48"	BE PREPARED TO STOP		35	
W3-5-48	48"x48"	SPEED REDUCTION AHEAD		35	
W4-2-48	48"x48"	LANE ENDS RIGHT or LEFT		35	
W5-1-48	48"x48"	ROAD NARROWS		35	
W5-8-48	48"x48"	THRU TRAFFIC RIGHT LANE		35	
W5-9-48	48"x48"	ROAD WORK TRAFFIC ONLY DOWN & LT or RT ARROW		35	
W6-3-48	48"x48"	TWO WAY TRAFFIC		35	
W8-1-48	48"x48"	BUMP		35	
W8-3-48	48"x48"	PAVEMENT ENDS		35	
W8-7-48	48"x48"	LOOSE GRAVEL		35	
W8-11-48	48"x48"	UNEVEN LANES		35	
W8-12-48	48"x48"	NO CENTER LINE		35	
W8-17-48	48"x48"	SHOULDER DROP-OFF SYMBOL		35	
W8-53-48	48"x48"	TRUCKS ENTERING HIGHWAY		35	
W8-54-48	**48"x48"**	**TRUCKS ENTERING AHEAD or __ FT or _ MILE**	**2**	**35**	**70**
W8-55-48	**48"x48"**	**TRUCKS CROSSING AHEAD or __ FT or _ MILE**	**2**	**35**	**70**
W8-56-48	48"x48"	TRUCKS EXITING HIGHWAY		35	
W9-3a-48	48"x48"	CENTER LANE CLOSED SYMBOL		35	
W13-1P-30	30"x30"	__ MPH ADVISORY SPEED PLAQUE (Mounted on warning sign post)		14	
W14-3-64	64"x48"	NO PASSING ZONE		28	
W16-2P-30	30"x24"	__ FEET PLAQUE (Mounted on warning sign post)		10	
W20-1-48	**48"x48"**	**ROAD WORK AHEAD or _FT or _ MILE**	**7**	**35**	**245**
W20-2-48	48"x48"	DETOUR AHEAD or __FT or _ MILE		35	
W20-3-48	48"x48"	ROAD or STREET CLOSED AHEAD or __ FT or _ MILE		35	
W20-4-48	48"x48"	ONE LANE ROAD AHEAD or __ FT or _ MILE		35	
W20-5-48	48"x48"	RIGHT or CENTER or LEFT LANE CLOSED AHEAD or __ FT or _ MILE		35	
W20-7-48	**48"x48"**	**FLAGGER**	**4**	**35**	**140**
W20-8-18	**18"x18"**	**STOP - SLOW PADDLE Back to Back**	**4**	**5**	**20**
W20-52P-54	54"x12"	NEXT __ MILES (Mounted on warning sign post)		12	
W21-1-48	**48"x48"**	**WORKERS**	**2**	**35**	**70**
W21-2-48	48"x48"	FRESH OIL		35	
W21-3-48	48"x48"	ROAD MACHINERY AHEAD or __ FT or _ MILE		35	
W21-5-48	48"x48"	SHOULDER WORK		35	
W21-5a-48	48"x48"	RIGHT or LEFT SHOULDER CLOSED		35	
W21-5b-48	48"x48"	RIGHT or LEFT SHOULDER CLOSED AHEAD or __ FT or _ MILE		35	
W21-6-48	48"x48"	SURVEY CREW		35	
W21-50-48	48"x48"	BRIDGE PAINTING AHEAD or __ FT		35	
W21-51-48	48"x48"	MATERIAL ON ROADWAY		35	
W21-52-48	48"x48"	PAVEMENT BREAKS		35	
W21-53-48	48"x48"	RUMBLE STRIPS AHEAD		35	
W22-8-48	48"x48"	FRESH OIL LOOSE ROCK		35	
W24-1-48	48"x48"	DOUBLE REVERSE CURVE		35	

SPECIAL SIGNS

SPEC & CODE

704-1000	**TRAFFIC CONTROL SIGNS**	**TOTAL UNITS**	**1289**

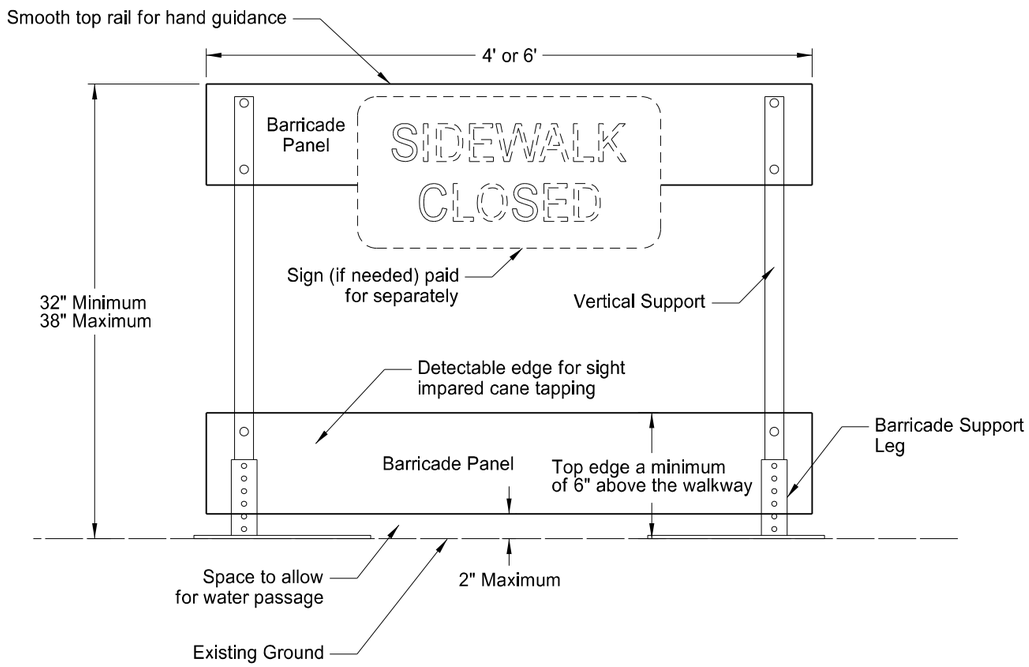
SPEC & CODE	DESCRIPTION	UNIT	QUANTITY
704-0100	**FLAGGING**	**MHR**	**1400**
704-1048	PORTABLE RUMBLE STRIPS	EACH	
704-1050	TYPE I BARRICADES	EACH	
704-1052	**TYPE III BARRICADES**	**EACH**	**6**
704-1054	**SIDEWALK BARRICADE**	**EACH**	**12**
704-1060	**DELINEATOR DRUMS**	**EACH**	**6**
704-1065	TRAFFIC CONES	EACH	
704-1067	**TUBULAR MARKERS**	**EACH**	**21**
704-1070	DELINEATOR	EACH	
704-1072	FLEXIBLE DELINEATORS	EACH	
704-1080	STACKABLE VERTICAL PANELS	EACH	
704-1081	VERTICAL PANELS - BACK TO BACK	EACH	
704-1085	SEQUENCING ARROW PANEL - TYPE A	EACH	
704-1086	SEQUENCING ARROW PANEL - TYPE B	EACH	
704-1087	SEQUENCING ARROW PANEL - TYPE C	EACH	
704-1500	OBLITERATION OF PVMT MK	SF	
704-3501	PORTABLE PRECAST CONCRETE MED BARRIER	LF	
704-3510	PRECAST CONCRETE MED BARRIER - STATE FURNISHED	EACH	
762-0200	RAISED PAVEMENT MARKERS	EACH	
762-0420	SHORT TERM 4IN LINE - TYPE R	LF	
762-0430	SHORT TERM 4IN LINE - TYPE NR	LF	

NOTE:
If additional signs are required, units will be calculated using the formula from Section III-18.06 of the Design Manual.
http://www.dot.nd.gov/

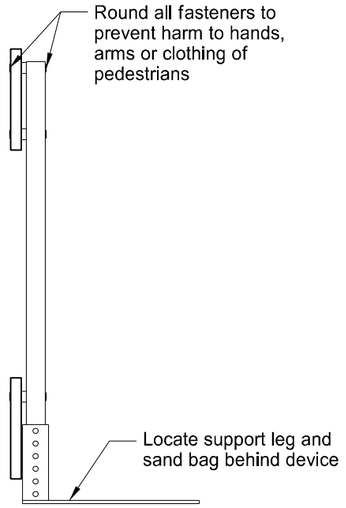
REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

Traffic Control Devices List

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	100	2



Front View

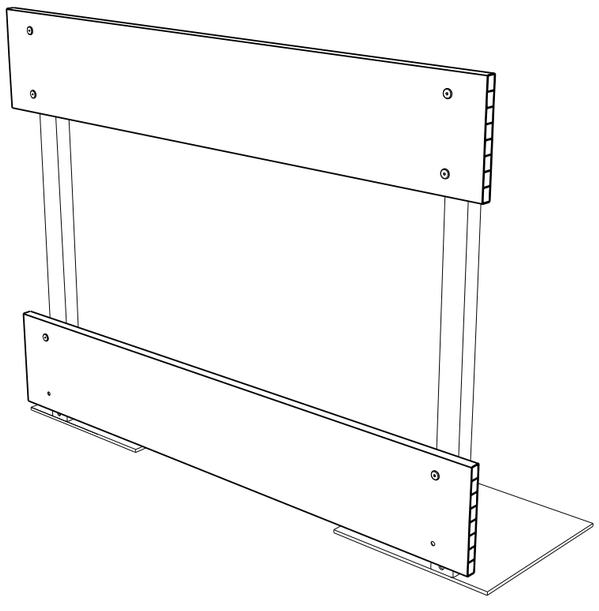


End View

NOTES:

Sidewalk Barricades

1. Provide self standing sidewalk barricade with no supports extending into the pedestrians path.
2. Use orange or orange and white diagonal striped barricade panels contrasting with the walkway surface.
3. Provide ADA compliant and NCHRP 350 or Mash Test Level 3 (TL3) approved sidewalk barricades.
4. Include all costs to furnish, maintain and remove sidewalk barricades in the price bid for "Sidewalk Barricade".



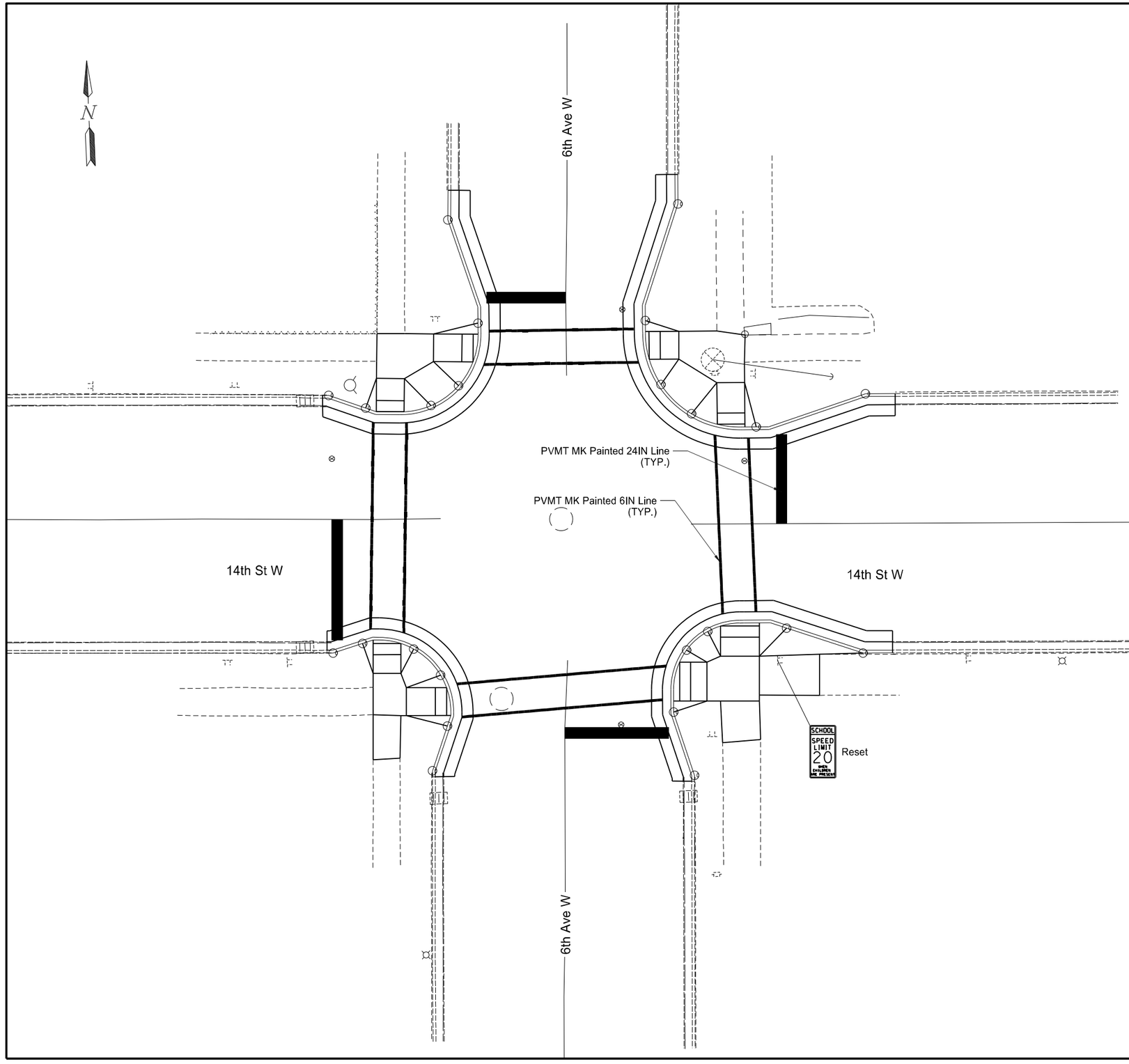
Perspective View

Sidewalk Barricade

Enhanced Pedestrian Crossings
Williston Central Campus

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
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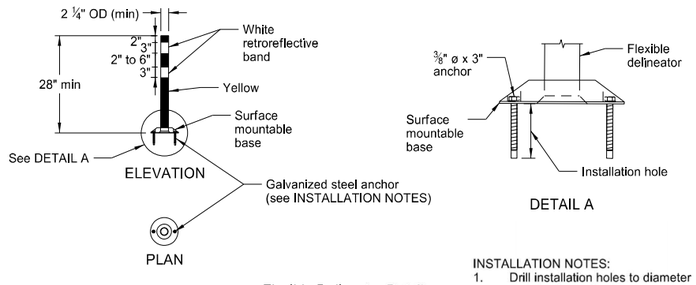
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	120	1



Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		Southwest Quadrant	6	EA
		Northwest Quadrant	6	EA
		Southeast Quadrant	6	EA
		Northeast Quadrant	6	EA
754	0952	Reset Sign Panel		
		Southeast Quadrant	1	EA
754	0953	Reset Sign Support		
		Southeast Quadrant	1	EA
762	1106	PVMT MK Painted 6IN Line		
		West Approach	76	LF
		North Approach	54	LF
		East Approach	64	LF
		South Approach	75	LF
762	1124	PVMT MK Painted 24IN Line		
		West Approach	22	LF
		North Approach	15	LF
		East Approach	17	LF
		South Approach	19	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

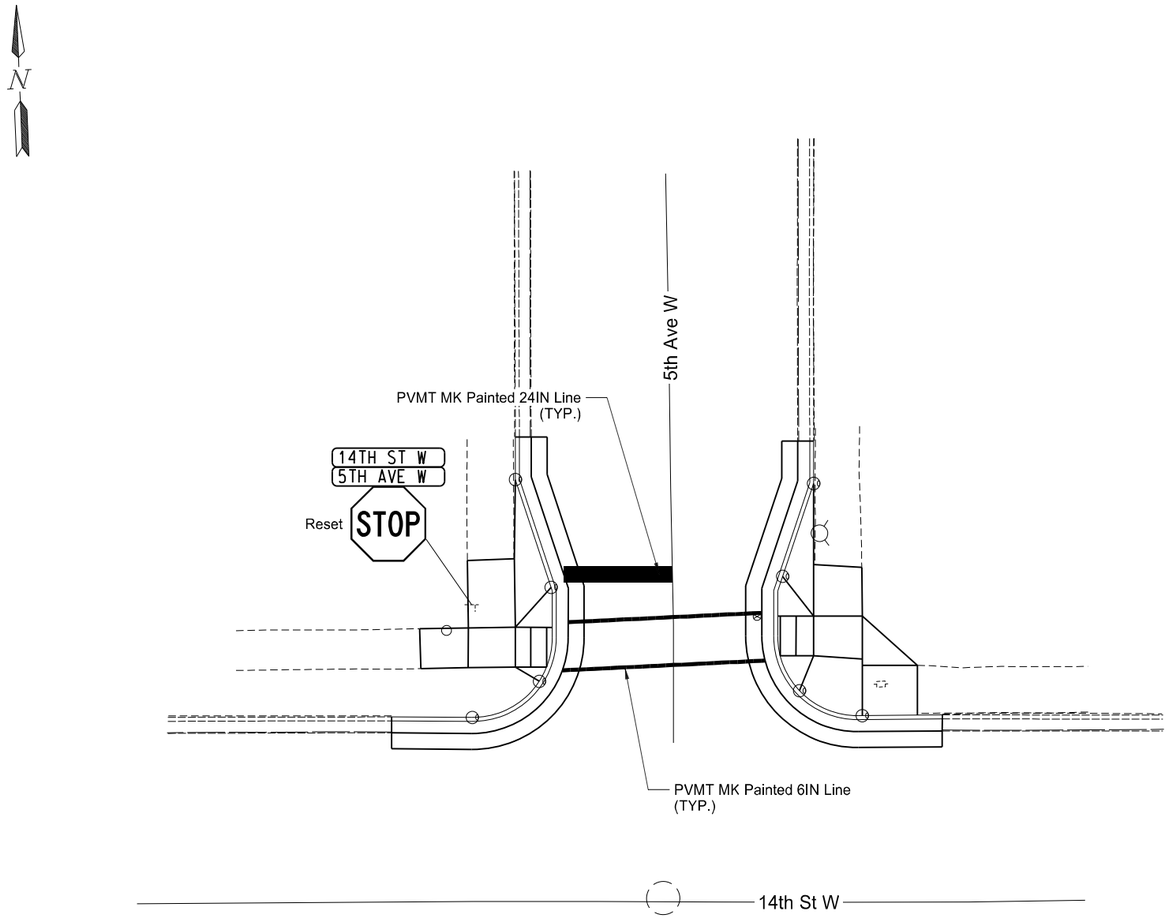
INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

Marking and Signing Layout

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 6th Ave W

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
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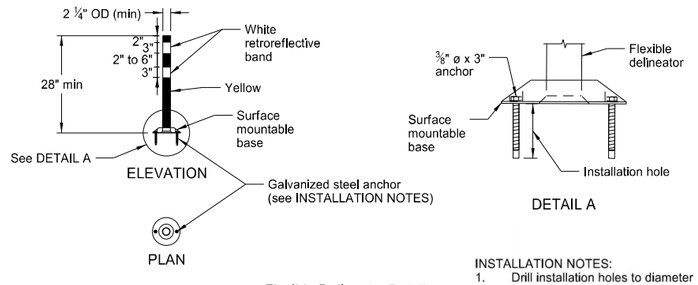


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	120	2

Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		Northwest Quadrant	4	EA
		Northeast Quadrant	4	EA
754	0952	Reset Sign Panel		
		Northwest Quadrant	1	EA
754	0953	Reset Sign Support		
		Northwest Quadrant	1	EA
762	1106	PVMT MK Painted 6IN Line		
		North Approach	50	LF
762	1124	PVMT MK Painted 24IN Line		
		North Approach	14	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

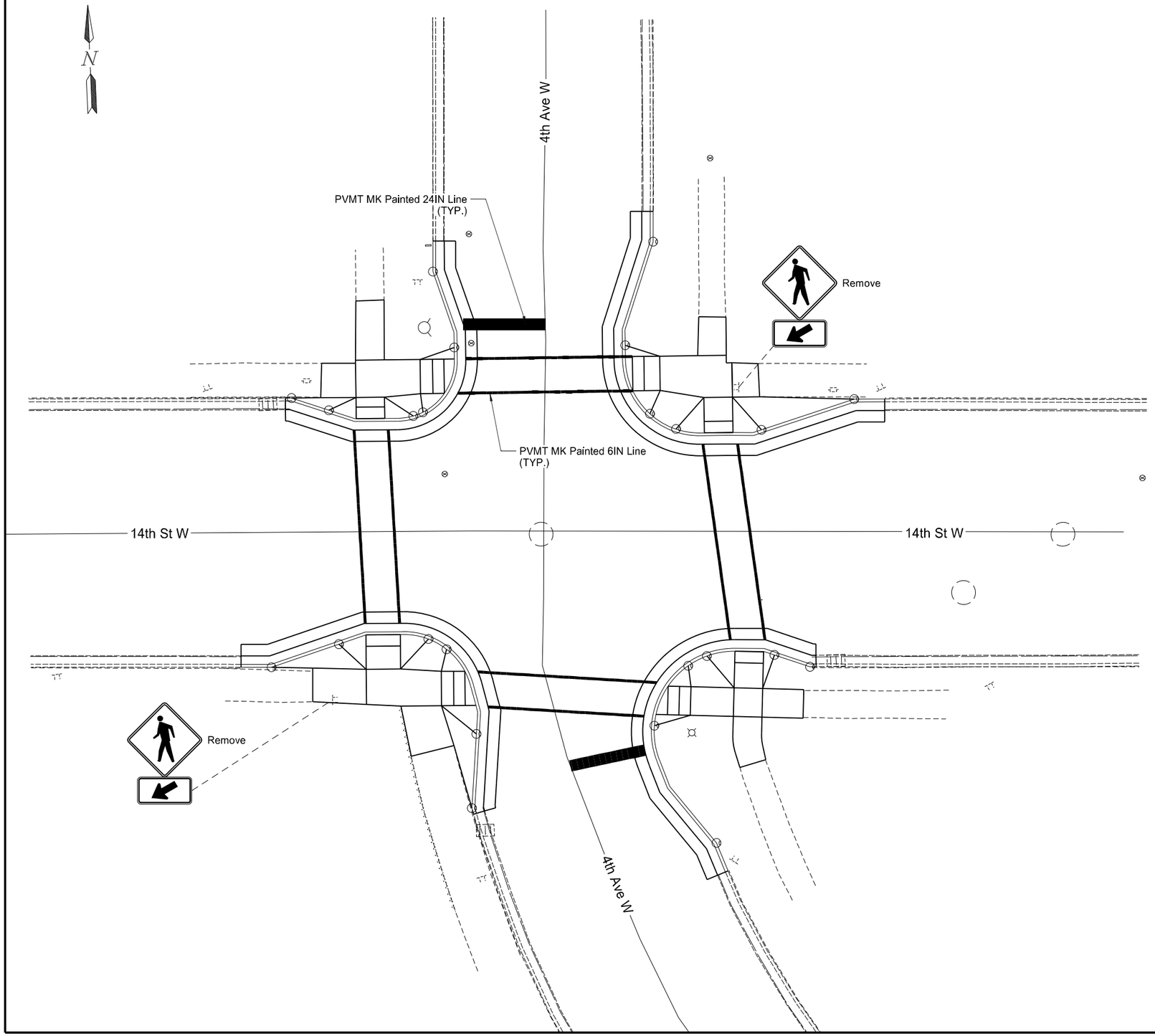
Marking and Signing Layout

Enhanced Pedestrian Crossings
Williston Central Campus

14th St W & 5th Ave W

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PE-10772
DATE: 8/25/2026
NORTH DAKOTA

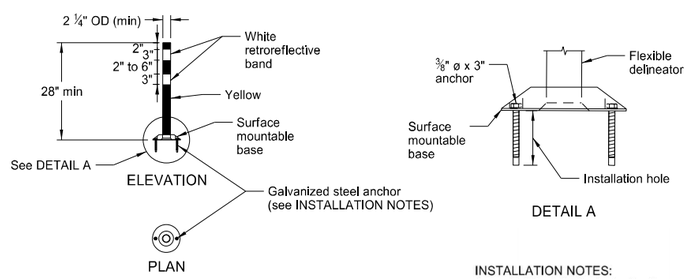
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	ND	TAU-7-993(068)	120	3



Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		Southwest Quadrant	6	EA
		Northwest Quadrant	6	EA
		Southeast Quadrant	6	EA
		Northeast Quadrant	6	EA
762	1106	PVMT MK Painted 6IN Line		
		West Approach	68	LF
		North Approach	60	LF
		East Approach	70	LF
		South Approach	59	LF
762	1124	PVMT MK Painted 24IN Line		
		North Approach	15	LF
		South Approach	14	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

Marking and Signing Layout

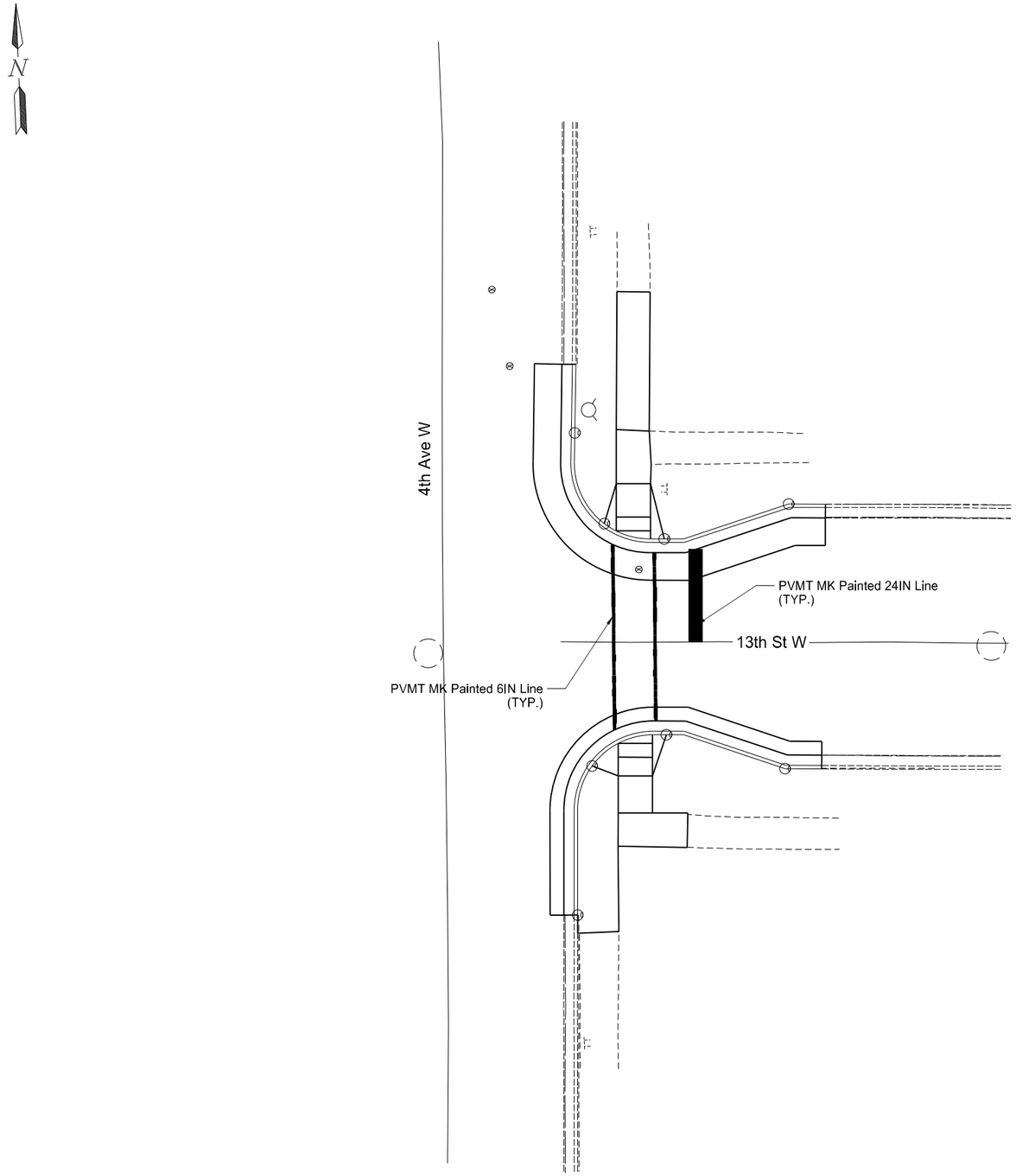
Enhanced Pedestrian Crossings
Williston Central Campus

14th St & 4th Ave W

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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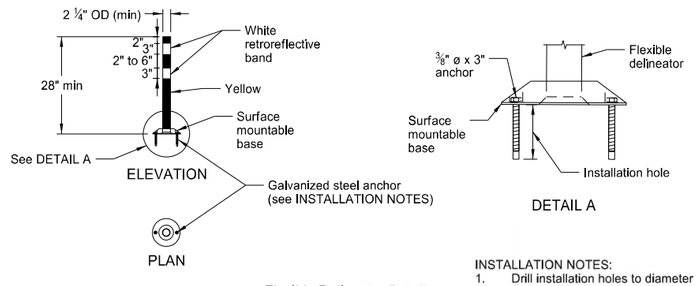
	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	120	4



Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		Southeast Quadrant	4	EA
		Northeast Quadrant	4	EA
762	1106	PVMT MK Painted 6IN Line		
		East Approach	52	LF
762	1124	PVMT MK Painted 24IN Line		
		East Approach	14	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

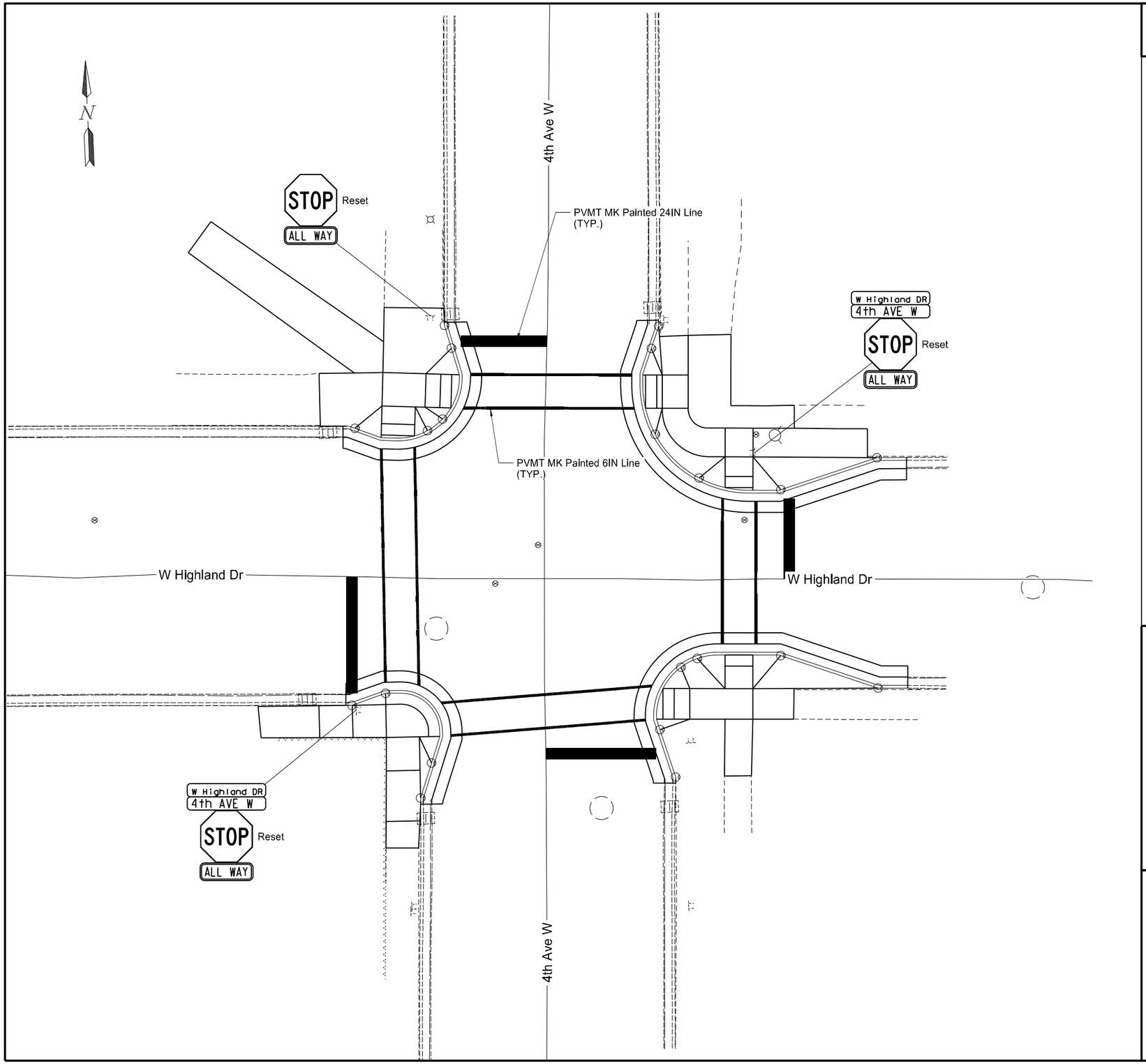
Marking and Signing Layout

Enhanced Pedestrian Crossings
Williston Central Campus

13th St W & 4th Ave W

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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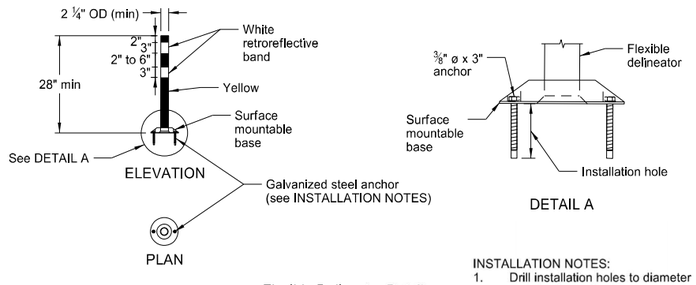


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	120	5

Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		Southwest Quadrant	4	EA
		Northwest Quadrant	5	EA
		Southeast Quadrant	6	EA
		Northeast Quadrant	6	EA
754	0952	Reset Sign Panel		
		Southwest Quadrant	1	EA
		Northwest Quadrant	1	EA
		Northeast Quadrant	1	EA
754	0953	Reset Sign Support		
		Southwest Quadrant	1	EA
		Northwest Quadrant	1	EA
		Northeast Quadrant	1	EA
762	1106	PVMT MK Painted 6IN Line		
		West Approach	85	LF
		North Approach	60	LF
		East Approach	52	LF
		South Approach	73	LF
762	1124	PVMT MK Painted 24IN Line		
		West Approach	21	LF
		North Approach	16	LF
		East Approach	15	LF
		South Approach	20	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

Marking and Signing Layout

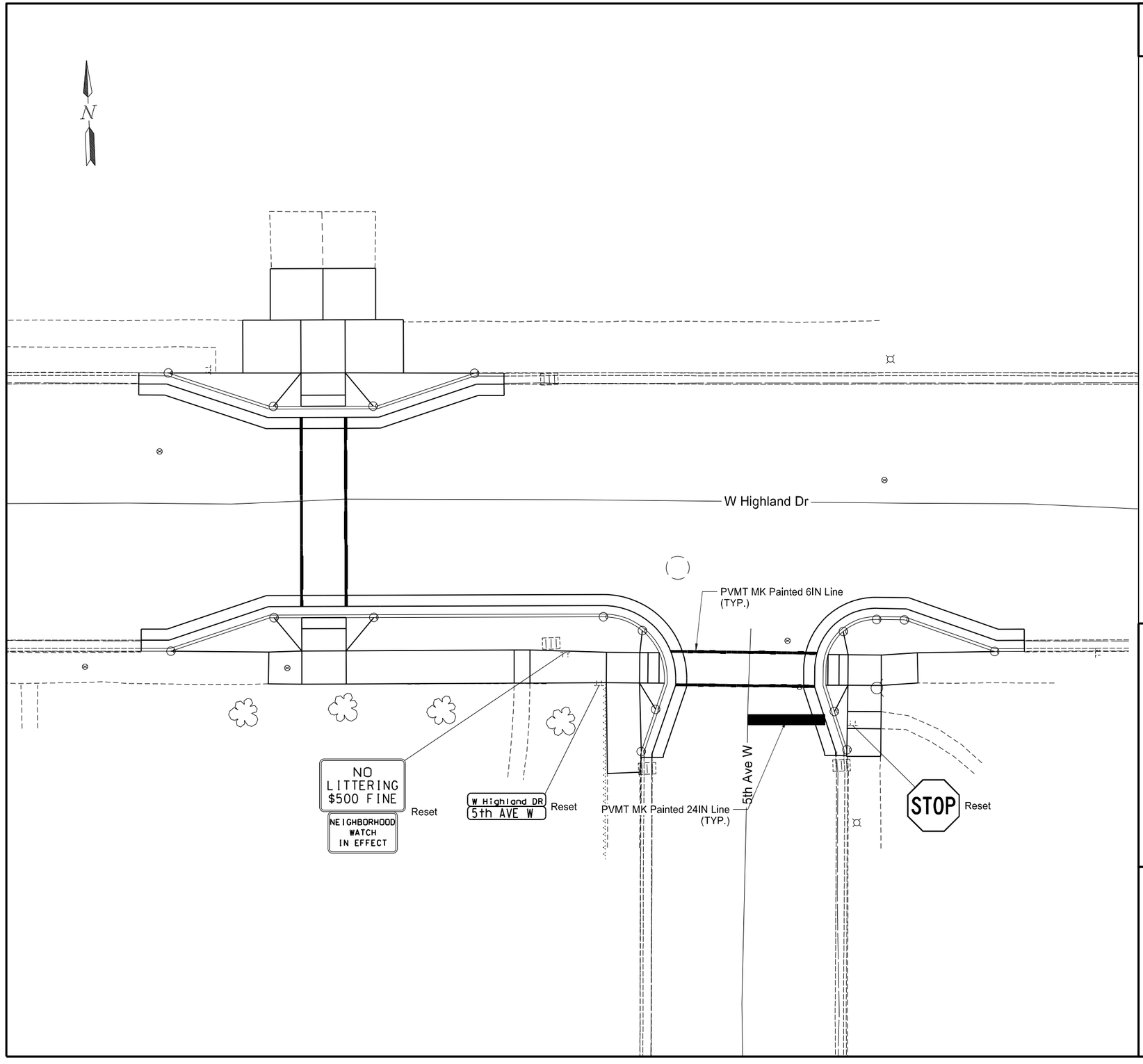
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 4th Ave W

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA

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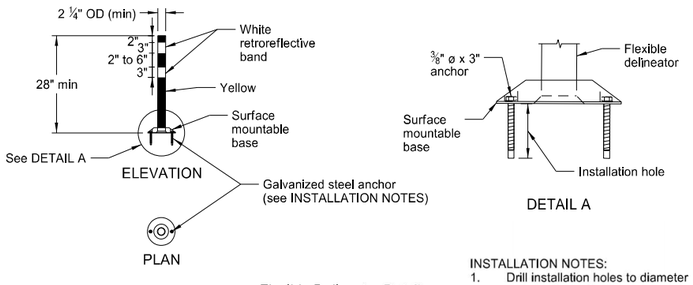
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	TAU-7-993(068)	120	6



Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		Southwest Quadrant	7	EA
		North Quadrant	4	EA
		Southeast Quadrant	6	EA
754	0952	Reset Sign Panel		
		Southwest Quadrant	2	EA
		Southeast Quadrant	1	EA
754	0953	Reset Sign Support		
		Southwest Quadrant	2	EA
		Southeast Quadrant	1	EA
762	1106	PVMT MK Painted 6IN Line		
		West Approach	69	LF
		South Approach	52	LF
762	1124	PVMT MK Painted 24IN Line		
		South Approach	15	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

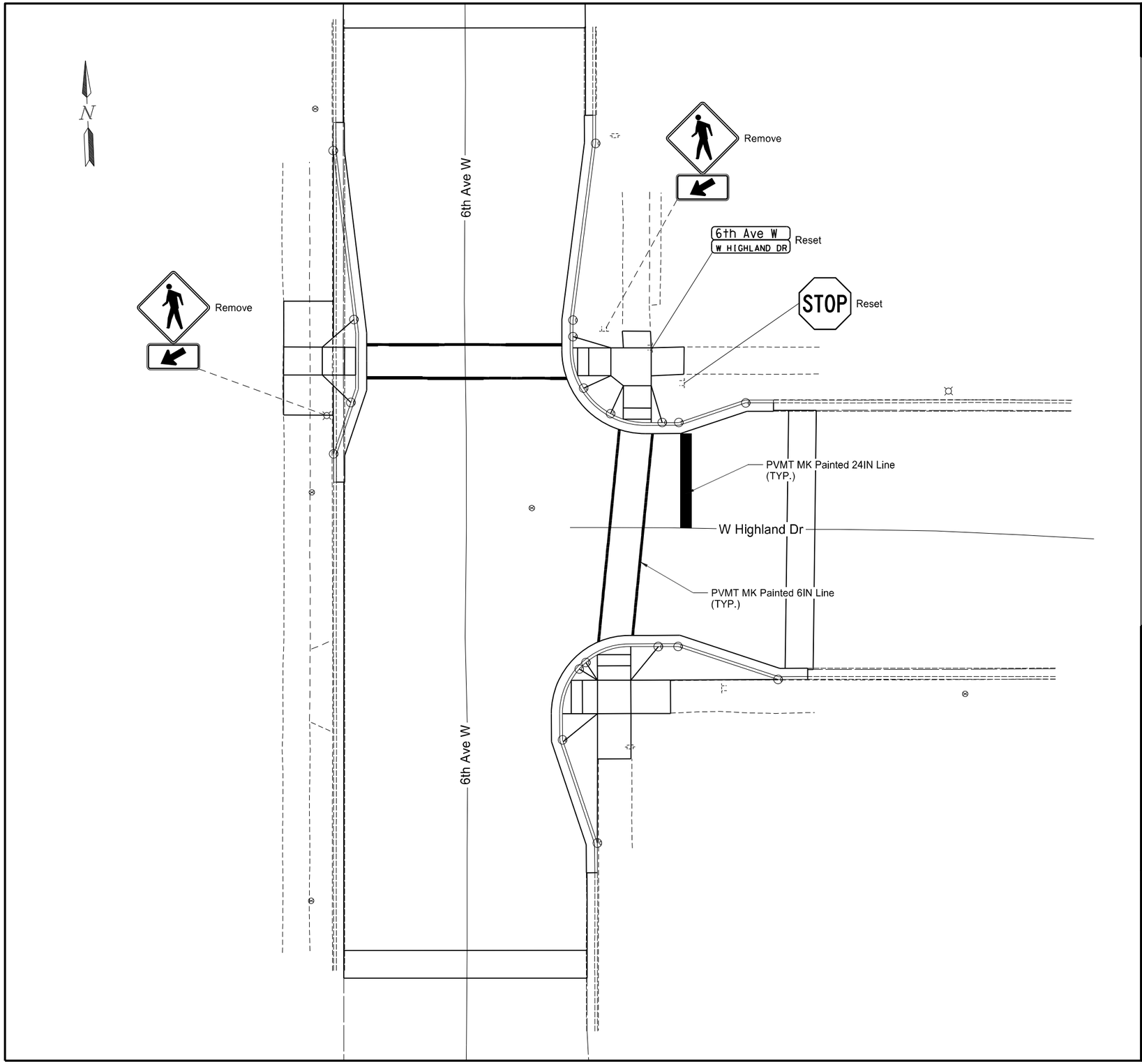
Marking and Signing Layout

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W

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RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
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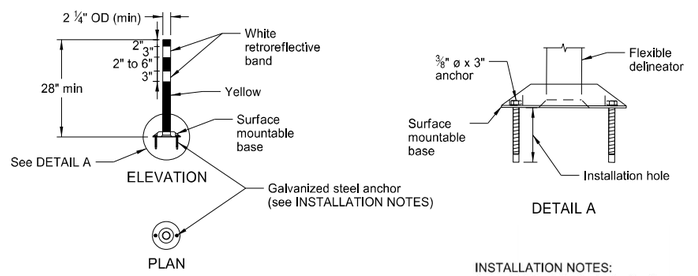


	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	120	7

Spec	Code	Item Description	QTY	Unit
754	0170	Flexible Delineators		
		West Quadrant	4	EA
		Southeast Quadrant	7	EA
		Northeast Quadrant	8	EA
754	0952	Reset Sign Panel		
		Northeast Quadrant	2	EA
754	0953	Reset Sign Support		
		Northeast Quadrant	2	EA
762	1106	PVMT MK Painted 6IN Line		
		North Approach	72	LF
		East Approach	75	LF
762	1124	PVMT MK Painted 24IN Line		
		West Approach	17	LF

LEGEND

Flexible Delineators



Flexible Delineator Details

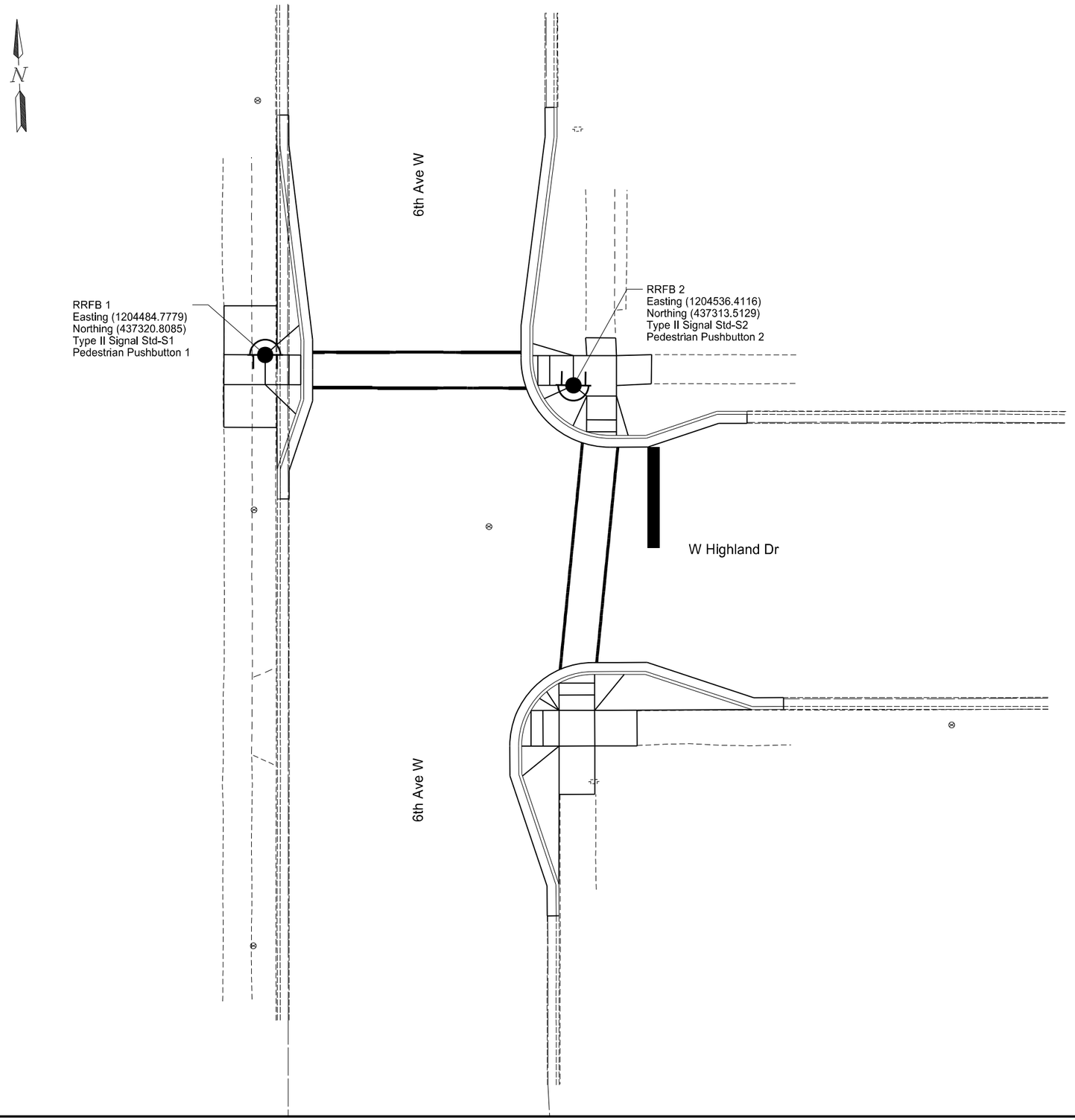
INSTALLATION NOTES:
1. Drill installation holes to diameter and depth required by manufacturer's specifications.

Marking and Signing Layout

Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W

REGISTERED PROFESSIONAL ENGINEER
RYAN SCHUEHLE
PE-10772
DATE: 8/25/2026
NORTH DAKOTA



	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	150	1

Notes:

1. See Sheet 4 for RRFB Detail.
2. RRFBs and signing are single-sided.

Legend

Pedestrian Flasher

QUANTITIES

SPEC	CODE	BID TIEM	UNIT	QUANTITY
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING		
		EASTING (1204484.7779) & NORTHING (437320.8085)(6TH AVE W)	SF	8.75
		EASTING (1204536.4116) & NORTHING (437313.5129)(6TH AVE W)	SF	8.75
772	0003	SIGNAL STANDARD FOUNDATION	EA	2
772	0601	TYPE II SIGNAL STANDARD	EA	2
772	2215	PEDESTRIAN PUSHBUTTON & SIGN	EA	2
772		RRFB CONTROL EQUIPMENT & SOLAR PANEL	EA	2
772	2120	FLASHING BEACON-POST MOUNTED-SCHOOL	EA	2

ITEMS SHOWN ABOVE ARE FOR INFORMATION PURPOSES; CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY FOR THE FLASHING BEACON TO BE FULLY OPERATIONAL AS SHOWN IN THE PLANS. ITEMS SHALL BE INCLUDED IN THE CORRESPONDING PRICE BID FOR "FLASHING BEACON-POST MOUNTED-SCHOOL."

Flashing Beacon Post-Mounted - Site 1

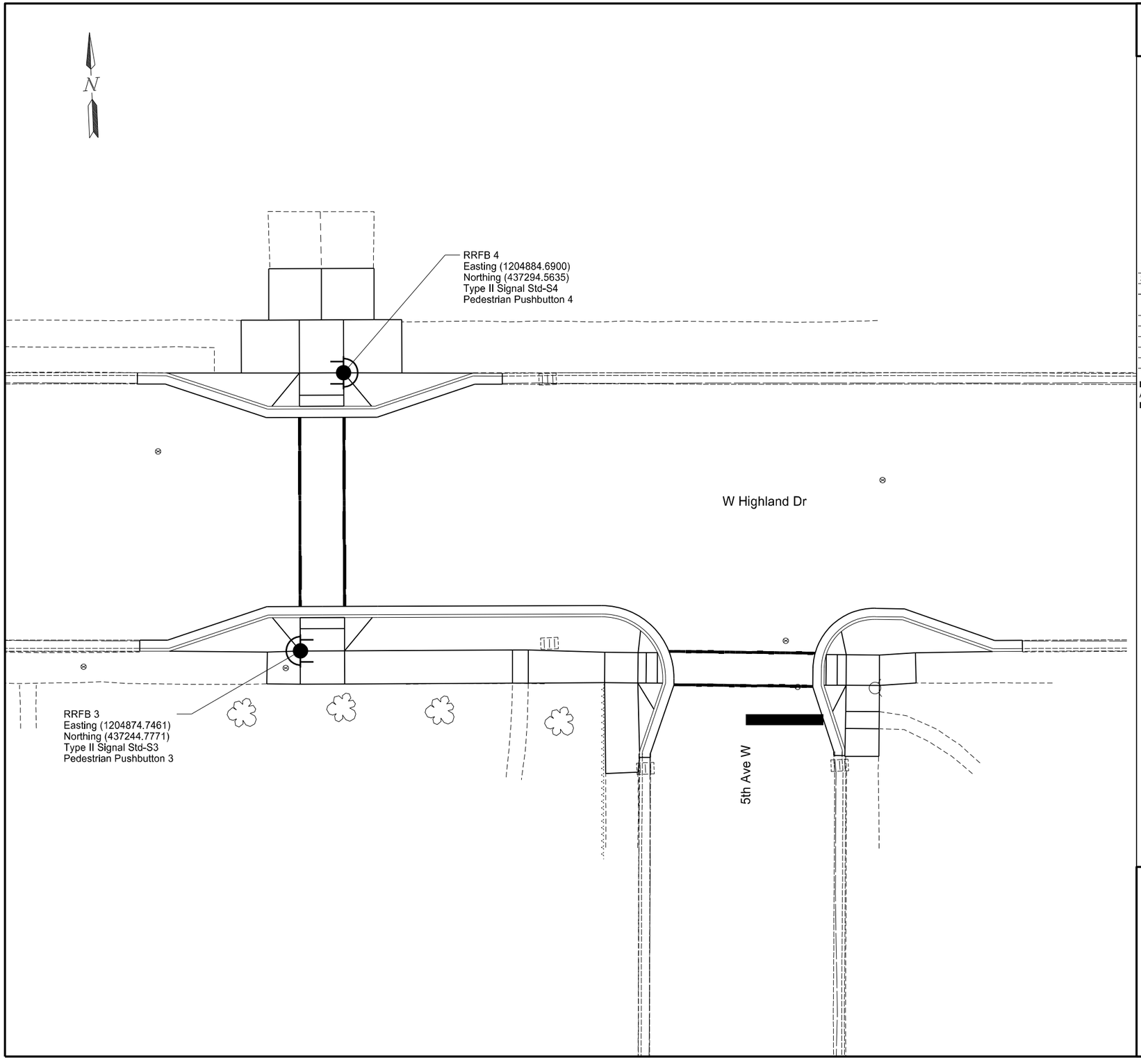
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 6th Ave W

REGISTERED PROFESSIONAL ENGINEER
ADRIAN
STEVEN POTTER
PE-27453
DATE:08/24/2026
NORTH DAKOTA

8/21/2026 10:25:35 AM JButler H:\Projects\17000\17657-03\TechData\Design\Plan\150LS_LSGNL_001.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	150	2



Notes:

1. See Sheet 4 for RRFB Detail.
2. RRFBs and signing are single-sided.

Legend

Pedestrian Flasher

QUANTITIES

SPEC	CODE	BID TIEM	UNIT	QUANTITY
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING		
		EASTING (1204874.7461) & NORTHING (437244.7771)(W HIGHLAND DR)	SF	8.75
		EASTING (1204884.6900) & NORTHING (437294.5635)(W HIGHLAND DR)	SF	8.75
772	0003	SIGNAL STANDARD FOUNDATION	EA	2
772	0601	TYPE II SIGNAL STANDARD	EA	2
772	2215	PEDESTRIAN PUSHBUTTON & SIGN	EA	2
772		RRFB CONTROL EQUIPMENT & SOLAR PANEL	EA	2
772	2120	FLASHING BEACON-POST MOUNTED-SCHOOL	EA	2

ITEMS SHOWN ABOVE ARE FOR INFORMATION PURPOSES; CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY FOR THE FLASHING BEACON TO BE FULLY OPERATIONAL AS SHOWN IN THE PLANS. ITEMS SHALL BE INCLUDED IN THE CORRESPONDING PRICE BID FOR "FLASHING BEACON-POST MOUNTED-SCHOOL."

Flashing Beacon Post-Mounted - Site 2

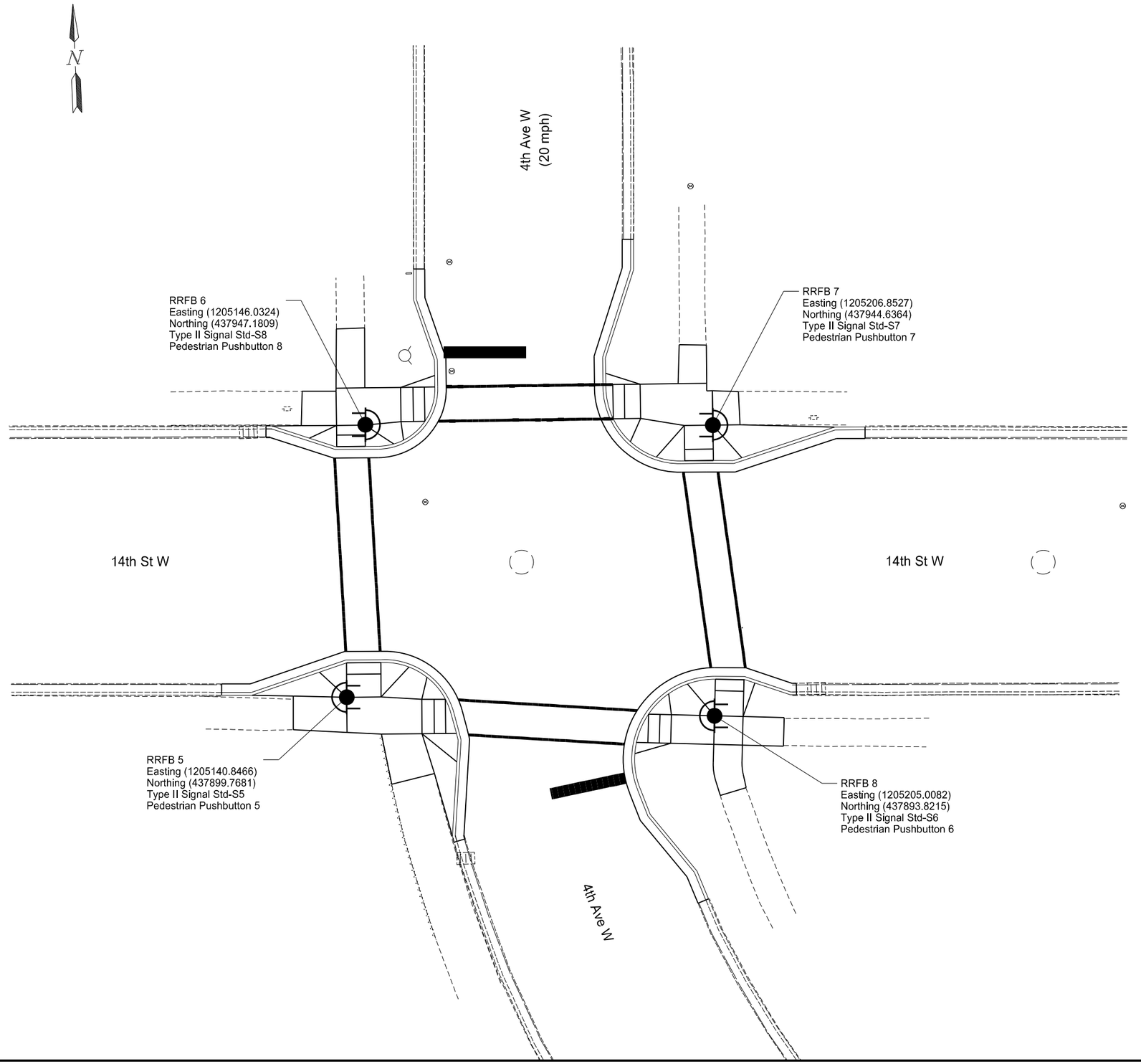
Enhanced Pedestrian Crossings
Williston Central Campus

W Highland Dr & 5th Ave W

REGISTERED PROFESSIONAL ENGINEER
ADRIAN
STEVEN POTTER
PE-27453
DATE: 08/24/2026
NORTH DAKOTA

8/21/2026 10:25:36 AM JButler H:\Projects\17000\17657-03\TechData\Design\Plan\150LS_LSGNL_002.dgn

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	150	3



Notes:

1. See Sheet 4 for RRFB Detail.
2. RRFBs and signing are single-sided.

Legend

Pedestrian Flasher

QUANTITIES

SPEC	CODE	BID TIEM	UNIT	QUANTITY
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING		
		EASTING (1205140.8466) & NORTHING (437899.7681)(14TH ST W)	SF	8.75
		EASTING (1205146.0324) & NORTHING (437947.1809)(14TH ST W)	SF	8.75
		EASTING (1205206.8527) & NORTHING (437944.6364)(14TH ST W)	SF	8.75
		EASTING (1205205.0082) & NORTHING (437893.8215)(14TH ST W)	SF	8.75
772	0003	SIGNAL STANDARD FOUNDATION	EA	4
772	0601	TYPE II SIGNAL STANDARD	EA	4
772	2215	PEDESTRIAN PUSHBUTTON & SIGN	EA	4
772		RRFB CONTROL EQUIPMENT & SOLAR PANEL	EA	4
772	2120	FLASHING BEACON-POST MOUNTED-SCHOOL	EA	4

ITEMS SHOWN ABOVE ARE FOR INFORMATION PURPOSES; CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY FOR THE FLASHING BEACON TO BE FULLY OPERATIONAL AS SHOWN IN THE PLANS. ITEMS SHALL BE INCLUDED IN THE CORRESPONDING PRICE BID FOR "FLASHING BEACON-POST MOUNTED-SCHOOL."

Flashing Beacon Post-Mounted-Site 3

Enhanced Pedestrian Crossings
WIlliston Central Campus

14th St W & 4th Ave W

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	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	TAU-7-993(068)	150	4

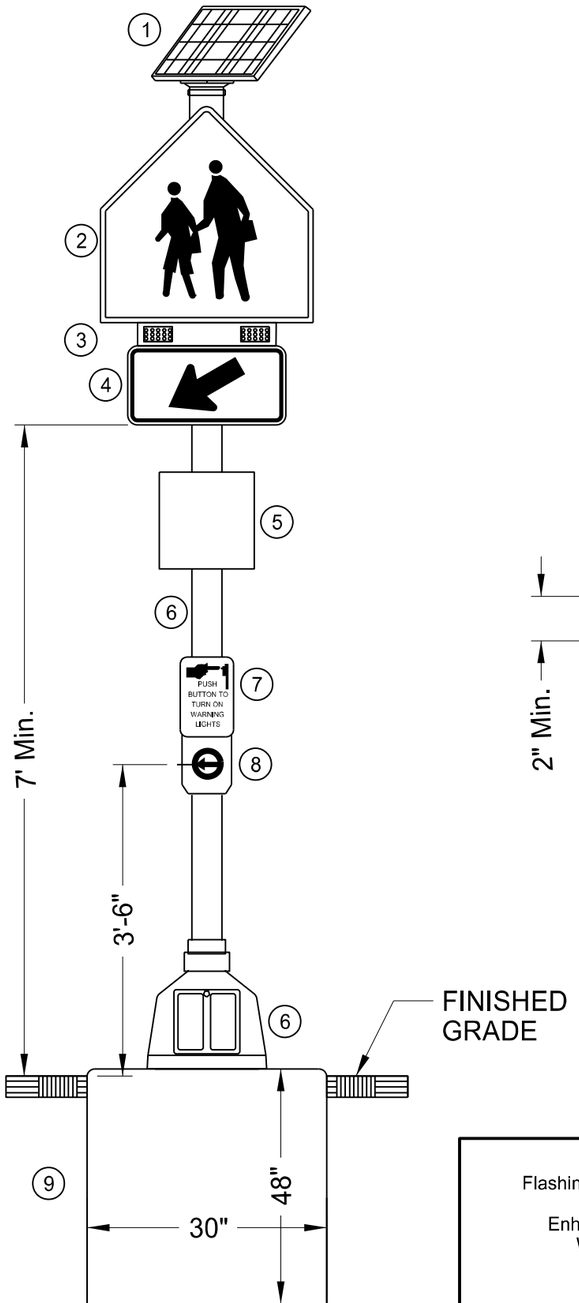
PEDESTAL MOUNTED
RECTANGULAR RAPID FLASHING BEACON

SPECIFIC NOTES

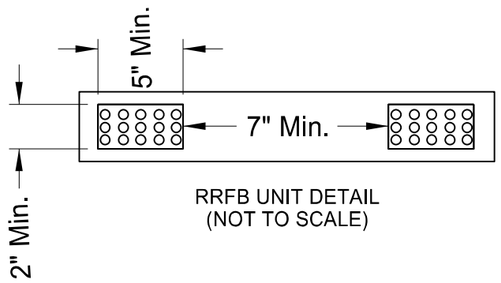
1. SOLAR PANEL MOUNTED AT 45° AND 60°. SOLAR PANEL TO BE POSITIONTED FACING SOUTH.
2. 1-S1-1 FLUORESCENT YELLOW-GREEN (36"X36")
3. SINGLE-SIDED RECTANGULAR RAPID-FLASHING BEACON (RRFB) UNIT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL.
4. 1-W16-7PR FLUORESCENT YELLOW-GREEN (24" X 12") (MOUNTED WITH ARROWS POINTING TOWARD CROSSWALK).
5. RRFB CONTROLLER CABINET. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
6. SEE NDDOT STANDARD DRAWING D-772-2 TYPE II TRAFFIC SIGNAL STANDARD FOR PEDESTAL DETAILS.
7. R10-25 BLACK ON WHITE (9" X 12")
8. ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTON
9. SEE NDDOT STANDARD DRAWING D-770-1 "SIGNAL STANDARD FOUNDATION" FOR TYPE II SIGNAL STANDARD FOUNDATION DETAILS.

GENERAL NOTES

1. ALL WIRING SHALL BE KEPT INSIDE POLE. POLE OPENINGS SHALL BE MADE WATER TIGHT USING APPROVED GASKETS, GROMMETS & SEALANT.
2. PEDESTRIAN PUSHBUTTON & RRFB CONTROLLER CABINET SHALL BE MOUNTED PER MANUFACTURER SPECIFICATION USING VANDAL PROOF HARDWARE.
3. PAID FOR UNDER ITEM "FLASHING BEACON-POST MOUNTED-SCHOOL". ALL WIRING AND HARDWARE REQUIRED TO PROVIDE A FUNCTIONING SYSTEM SHALL BE INCIDENTAL.
4. EACH CROSSWALK SHALL OPERATE INDEPENDENTLY.
5. DURATION OF FLASHING WARNING INTERVAL DISPLAYED UPON PEDESTRIAN ACTIVATION SHALL BE AT LEAST 22 SECONDS.



PEDESTAL MOUNTED RRFB ASSEMBLY DETAIL
(NOT TO SCALE)



RRFB UNIT DETAIL
(NOT TO SCALE)

Flashing Beacon Post-Mounted - Detail

Enhanced Pedestrian Crossings
Williston Central Campus

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NDDOT ABBREVIATIONS

?	This is a special text character used in the labeling of existing features. It indicates a feature that has an unknown characteristic, potentially based on: lack of description, location accuracy or purpose.
Abn	abandoned
Abut	abutment
Adj	adjusted
Aggr	aggregate
Ahd	ahead
ARV	air release valve
Align	alignment
Al	alley
Alt	alternate
Alum	aluminum
ADA	Americans with Disabilities Act
&	and
Appr	approach
Approx	approximate
ACP	asbestos cement pipe
Asph	asphalt
AC	asphalt cement
Assmd	assumed
@	at
Atten	attenuation
ATR	automatic traffic recorder
Ave	Avenue
Avg	average
ADT	average daily traffic
Bk	back
BF	back face
Balc	balcony
B Wire	barbed wire
Barr	barricade
Btry	battery
BI	beehive inlet
Beg	begin
BG	below grade
BM	bench mark
Bkwy	bikeway
Bit	bituminous
Blk	block
BH	bore hole
Bot	bottom
Blvd	Boulevard
Bndry	boundary
Brkwy	breakaway
Br	bridge
Bldg	building
Bus.	business
BV	butterfly valve
Byp	bypass
C Gdrl	cable guardrail
Calc	calculate
CIP	cast iron pipe
CB	catch basin
CRS	cationic rapid setting
C Gd	cattle guard
C To C	center to center
CL or ℄	centerline
Ch	chain
Chnlk	chain-link
Ch Blk	channel block
Ch Ch	channel change
Chk	check
Chsld	chiseled
Cir	circle
Cl	class
Clnt	clean-out
Clr	clear
Cl&gr	clearing & grubbing
Comb.	combination
Coml	commercial
Compr	compression
CADD	computer aided drafting & design
Conc	concrete
CECB	concrete erosion control blanket
Cond	conductor
Const	construction
Cont	continuous
CSB	continuous split barrel sample
Contr	contraction
Contr	contractor
CP	control point
Coord	coordinate
Cor	corner
Corr	corrected
CAES	corrugated aluminum end section
CAP	corrugated aluminum pipe
CMES	corrugated metal end section
CMP	corrugated metal pipe
CPVCP	corrugated poly-vinyl chloride pipe
CSES	corrugated steel end section
CSFES	corrugated steel flared end section
CSP	corrugated steel pipe
CSTES	corrugated steel traversable end section
Co	County
Crse	course
Ct	Court
Xarm	cross arm
Xbuck	cross buck
Xsec	cross sections
Xing	crossing
Xrd	crossroad
Crn	crown
Culv	culvert
C&G	curb & gutter
CI	curb inlet
CR	curb ramp
C	cut
Dd Ld	dead load
Defl	deflection
Defm	deformed
Dlnt	delineate
Dlntr	delineator
Depr	depression
Desc	description
Det	detail
DWP	detectable warning panel
Dtr	detour
Dia or ø	diameter
Dir	direction
Dist	distance
DM	disturbed material
DB	ditch block
DG	ditch grade
Dbl	double
Dn	down
Dwg	drawing
Dr	drive
Drwy	driveway
DI	drop inlet
D	dry density
Ea	each
Esmt	easement
E	East
EB	Eastbound
Elast	elastomeric
EL	electric locker
E Mtr	electric meter
EVSE	electric vehicle supply equipment
Elec	electric/al
EDM	electronic distance meter
Elev or El	elevation
Ellipt	elliptical
Emb	embankment
Emuls	emulsion/emulsified
ES	end section
Engr	engineer
ESS	environmental sensor station
Eq	equal
Evgr	evergreen
Exc	excavation
Exst	existing
Exp	expansion
Expy	Expressway
E	external of curve
Extru	extruded
FOS	factor of safety
Fed	Federal
FP	feed point
Fn	fence
Fn P	fence post
FO	fiber optic
FD	field drive
F	fill
FAA	fine aggregate angularity
FH	fire hydrant
Fl	flange
Flrd	flared
FES	flared end section
F Bcn	flashing beacon
FA	flight auger sample
FL	flow line
Ftg	footing
FM	force main
Fnd	found
Fdn	foundation
Frac	fractional
Frwy	freeway
Frt	front
FF	front face
F Disp	fuel dispenser
FFP	fuel filler pipes
FLS	fuel leak sensor
Furn	furnish/ed

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
04-23-18	General Revisions
09-20-18	General Revisions
12-18-20	General Revisions
08-16-22	General Revisions
04-14-25	General Revisions

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NDDOT ABBREVIATIONS

Galv	galvanized
Gar	garage
Gs L	gas line
G Reg	gas line regulator
GMV	gas main valve
G Mtr	gas meter
GSV	gas service valve
GVP	gas vent pipe
GV	gate valve
Ga	gauge
Gov	government
Grd	graded/grade
Grnd	ground
GWM	ground water monitor
Gdrl	guardrail
Gtr	gutter
H Plg	H piling
Hdwl	headwall
Ht	height
Hel	helical
HDPE	high density polyethylene
HM	high mast
HP	high pressure
HPS	high pressure sodium
HTCG	high tension cable guardrail
Hwy	highway
Hor	horizontal
HBP	hot bituminous pavement
HMA	hot mix asphalt
Hyd	hydrant
Ph	hydrogen ion content
Id	identification
Incl	inclinometer tube
IMH	inlet manhole
ID	inside diameter
Inst	instrument
Intchg	interchange
Intmdt	intermediate
Intscn	intersection
Inv	invert
IP	iron pipe
Jt	joint
Jct	junction
Ln	lane
Lg	large
Lat	latitude
Lt	left
Lens	lenses
Lvl	level
Lvlng	leveling
Lht	light
LP	light pole
Ltg	lighting
Liq	liquid
LL	liquid limit
Loc	location
Long.	longitude
Lp	loop
LD	loop detector
Lum	luminaire
Mb	mailbox
ML	main line
MH	manhole
Mkd	marked
Mkr	marker
Mkg	marking
MA	mast arm
Matl	material
Max	maximum
Meas	measure
Mdn	median
MD	median drain
MC	medium curing
MGS	Midwest Guardrail System
MM	mile marker
MP	mile post
Min	minimum
Misc	miscellaneous
Mon	monument
Mnd	mound
Mtbl	mountable
Mtd	mounted
Mtg	mounting
Mk	muck
Neop	neoprene
Ntwk	network
N	North
NE	Northeast
NW	Northwest
NB	Northbound
No. or #	number
Obsc	obscure(d)
Ocpd	occupied
Ocpy	occupy
O/s	offset
OC	on center
C	one dimensional consolidation
OC	organic content
Orig	original
O To O	out to out
OD	outside diameter
OH	overhead
PMT	pad mounted transformer
Pg	pages
Pntd	painted
Pr	pair
Pnl	panel
Pk	park
PSD	passing sight distance
Pvmt	pavement
Ped	pedestal
Ped	pedestrian
PPP	pedestrian pushbutton post
Pen.	penetration
Perf	perforated
Per.	perimeter
Perm	permanent
PL	pipeline
Pl	place
P&P	plan & profile
PL	plastic limit
Pl or ℄	plate
Pt	point
PE	polyethylene
PVC	polyvinyl chloride
PCC	Portland Cement concrete
PP	power pole
Preempt	preemption
Prefab	prefabricated
Prfmd or Pref	preformed
Prep	preperation
Press.	pressure
PRV	pressure relief valve
Prestr	prestressed
Pvt	private
PD	private drive
Prod.	production/produce
Prog	programmed
Prop.	property
Ppsd	proposed
PB	pull box
Qty	quantity
Qtr	quarter
Rad or R	radius
RR	railroad
Rlwy	railway
Rsd	raised
RC	rapid curing
Rec	record
Rcy	recycle
RAP	recycled asphalt pavement
RPCC	recycled portland cement concrete
Ref	reference
R Mkr	reference marker
RM	reference monument
RP	reference point
Refl	reflectorized
RCB	reinforced concrete box
RCES	reinforced concrete end section
RCFES	reinforced concrete flared end section
RCP	reinforced concrete pipe
RCPS	reinforced concrete pipe sewer
RCTES	reinforced concrete traversable end section
Reinf	reinforcement
Res	reservation
Res	residence
Ret	retaining
Rev	reverse
Rt	right
R/W	right of way
Riv	river
Rd	road
Rdbd	road bed
Rdwy	roadway
RWIS	roadway weather information system
Rk	rock
Rt	route

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

07-01-14

REVISIONS

DATE	CHANGE
08-03-15	General Revisions
04-23-18	General Revisions
12-18-20	General Revisions
08-16-22	General Revisions
04-14-25	General Revisions

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NDDOT ABBREVIATIONS

D-101-3

Salv	salvage(d)
San	sanitary sewer line
Sec	section
SL	section line
Sep	separation
Seq	sequence
Serv	service
Sht	sheet
Shtng	sheeting
Shldr	shoulder
Sw or Sdwk	sidewalk
SD	sight distance
SN	sign number
Sig	signal
Sgl	single
SRCP	slotted reinforced concrete pipe
SC	slow curing
SS	slow setting
Sm	small
S	South
SE	Southeast
SW	Southwest
SB	Southbound
Sp	spaces
Spcl	special
SA	special assembly
SP	special provisions
G	specific gravity
Spk	spike
SB	split barrel sample
SH	sprinkler head
SV	sprinkler valve
Sq	square
Stk	stake
Std	standard
N	standard penetration test
Std Specs	standard specifications
Stm L	steam line
SEC	steel encased concrete
SMA	stone matrix asphalt
SSD	stopping sight distance
SD	storm drain
St	street
SPP	structural plate pipe
SPPA	structural plate pipe arch
Str	structure
Subd	subdivision
Sub	subgrade
Sub Prep	subgrade preperation
Ss	subsoil
SS	supplement specification
Supp	supplemental
Surf	surfacing
Surv	survey
Sym	symmetrical

Tel	telephone
Tel B	Telephone Booth
Tel P	telephone pole
Tv	television
Temp	temperature
Temp	temporary
TBM	temporary bench mark
T	thinwall tube sample
Ts	topsoil
Traf	traffic
TSCB	traffic signal control box
Tr	trail
Transf	transformer
Trans	transition
TT	transmission tower
TES	traversable end section
Trans	transverse
Trtd	treated
Trmt	treatment
Qc	triaxial compression
TERO	tribal employment rights ordinance
Tpl	triple
Typ	typical
Qu	unconfined compressive strength
Ugrnd	underground
Util	utility
VG	valley gutter
Vap	vapor
Vert	vertical
VCP	vitrified clay pipe
Vol	volume
VSFS	vehicle speed feedback sign
Wkwy	walkway
W	water content
WGV	water gate valve
WL	water line
WM	water main
WMV	water main valve
W Mtr	water meter
WSV	water service valve
WW	water well
Wrng	wearing
WIM	weigh in motion
W	west
WB	westbound
Wrng	wiring
W/	with
W/o	without

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION
07-01-14

REVISIONS

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08-03-15	General Revisions
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08-16-22	General Revisions
04-14-25	General Revisions

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NDDOT ABBREVIATIONS

MEASUREMENTS

ac	acres
A	ampere
Bd Ft	board feet
Cd	candela
cm	centimeter
C	coulomb
CF	cubic feet
m3	cubic meter
m3/s	cubic meters per second
CY	cubic yard
CY/mi	cubic yards per mile
D or Deg	degree
F	Fahrenheit
F	farad
ft	feet/foot
Gal	gallon
G	giga
Ha	hectare
H	henry
Hz	hertz
hr	hour(s)
in.	inch
J	joule
K	kelvin
kN	kilo newton
kPa	kilo pascal
kg	kilogram
kg/m3	kilogram per cubic meter
km	kilometer
K	Kip(s)
LF	linear foot
L	litre
Lm	lumen
L sum	lump sum
Lx	lux
M Hr	man hour
M	mega
m	meter
m/s	meters per second
mi	mile
mL	milliliter
mm	millimeter
mm/hr	millimeters per hour
n	nano
N	newton
Pa	pascal
lb	pounds
sec	seconds
S	siemens
SF	square feet
km2	square kilometer
m2	square meter
SY	square yard
Sta Yd	station yards
SI	Systems International
T	tesla
T/mi	tons per mile
V	volt
W	watt
Wb	weber

SURVEY DESCRIPTIONS

Az	azimuth
Bs	backsight
Brg	bearing
BP Cap	blue plastic cap
BS	both sides
BC	brass cap
CC	closing corner
CS	curve to spiral
Eq	equation
E	external of curve
FS	far side
FB	field book
Fs	foresight
Geod	geodetic
GIS	Geographical Information System
GPS	Global Positioning System
HI	height of instrument
IM	iron monument
I Pn	iron pin
LS	Land Surveyor (licensed)
LSIT	Land Surveyor In Training
L	length of curve
LC	long chord
LB	level book
MC	meander corner
Mer	meridian
M	mid ordinate of curve
NGS	National Geodetic Survey
NS	near side
Obsn	observation
Off Loc	office location
OP Cap	orange plastic cap
PK	Parker-Kalon nail
P Cap	plastic cap
PP Cap	pink plastic cap
PCC	point of compound curve
PC	point of curve
PI	point of intersection
PRC	point of reverse curvature
PT	point of tangent
POC	point on curve
POT	point on tangent
RTP	random traverse point
Rge	range
RP Cap	red plastic cap
SC	spiral to curve
SC	standard corner
ST	spiral to tangent
Sta	station
SE	superelevation
Tan	tangent
T	tangent (semi)
TS	tangent to spiral
Twp	township
TB	transit book
TP	traverse point
TP	turning point
USC&G	US Coast & Geodetic Survey
USGS	US Geologic Survey
VC	vertical curve
WC	witness corner
WGS	World Geodetic System
YP Cap	yellow plastic cap
Z	zenith

SOIL TYPES

Cl	clay
Cl F	clay fill
Cl Hvy	clay heavy
Cl Lm	clay loam
Co S	coal slack
C Gr	coarse gravel
CS	coarse sand
FS	fine sand
Gr	gravel
Lig Co	lignite coal
Lig Sl	lignite slack
Lm	loam
Rk	rock
Sd	sand
Sdy Cl	sandy clay
Sdy Cl Lm	sandy clay loam
Sdy Fl	sandy fill
Sdy Lm	sandy loam
Sc	scoria
Sh	shale
Si Cl	silt clay
Si Cl Lm	silty clay loam
Si Lm	silty loam

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

07-01-14

REVISIONS

DATE	CHANGE
12-18-20	Sheet Added - Continued from D-101-3
4-14-25	General Revisions

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LINE STYLES

D-101-20

Existing Topography

- Existing Ground Void
- Existing Cemetary Boundary
- Existing Box Culvert Bridge
- Existing Concrete Surface
- Existing Drainage Structure
- Existing Gravel Surface
- Existing Riprap
- Existing Dirt Surface
- Existing Asphalt Surface
- Existing Tie Point Line
- Existing Railroad Centerline
- Existing Guardrail Cable
- Existing Guardrail Metal
- Existing Edge of Water
- Existing Fence
- Existing Railroad
- Existing Field Line
- Exst Flow
- Existing Curb
- Existing Valley Gutter
- Existing Driveway Gutter
- Existing Curb and Gutter
- Existing Mountable Curb and Gutter
- Existing 3-Cable w Posts
- Site Boundary
- Existing Berm, Dike, Pit, or Earth Dam
- Existing Ditch Block
- Existing Tree Boundary
- Existing Brush or Shrub Boundary
- Existing Retaining Wall
- Existing Planter or Wall
- Existing W-Beam Guardrail with Posts
- Existing Railroad Switch
- Gravel Pit - Borrow Area
- Existing Wet Area-Vegetation Break
- Existing High Tension Cable Guardrail
- Existing High Tension Cable Guardrail with Posts

Proposed Topography

- 3-Cable w Posts
- Flow
- Fence
- Remove Line
- Wall
- Retaining Wall (Plan View)
- W-Beam w Posts
- High Tension Cable Guardrail with Posts

Existing Utilities

- Existing Electrical
- Existing Fiber Optic Line
- Existing TV Fiber Optic
- Existing Gas Pipe
- Existing Overhead Utility Line
- Existing Power
- Existing Fuel Pipeline
- Existing Undefined Above Ground Pipe Line
- Existing Sanitary Sewer
- Existing Sanitary Force Main
- Existing Storm Drain
- Existing Storm Drain Force Main
- Existing Culvert
- Existing Telephone Line
- Existing TV Line
- Existing Water or Steam Line
- Existing Under Drain
- Existing Slotted Drain
- Existing Conduit
- Existing Conductor
- Existing Down Guy Wire Down Guy
- Existing Underground Vault or Lift Station

Proposed Utilities

- 24 Inch Pipe
- Reinforced Concrete Pipe
- Under Drain
- Edge Drain

Traffic Utilities

- Conductor
- Fiber Optic
- Existing Loop Detector
- Existing Double Micro Loop Detector
- Micro Loop Detector Double
- Existing Micro Loop Detector
- Micro Loop Detector
- Signal Head with Mast Arm
- Existing Signal Head with Mast Arm

Sign Structures

- Existing Overhead Sign Structure
- Existing Overhead Sign Structure Cantilever
- Overhead Sign Structure Cantilever

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

07-01-14

REVISIONS

DATE	CHANGE
09-23-16 12-18-20	Added and Revised Items, Organized by Functional Groups General Revisions

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12 18 2020

LINE STYLES

D-101-21

Right Of Way

- Easement
- Existing Easement
- Right of Way
- Existing Right of Way
- Existing Right of Way Railroad
- Existing Right of Way Not State Owned
- Existing Government Lot Line
- Existing Adjacent Block Lines
- Existing Adjacent Lot Lines
- Existing Adjacent Property Line
- Existing Adjacent Subdivision Lines
- Sight Distance Triangle Line
- Dimension Leader

Boundary Control

- Existing City Corporate Limits or Reservation Boundary
- Existing State or International Line
- Existing Township
- Existing County
- Existing Section Line
- Existing Quarter Section Line
- Existing Sixteenth Section Line
- Existing Centerline
- Tangent Line

Cross Sections and Typicals

- Existing Ground
- Existing Topsoil (Cross Section View)
- Existing Ground Void (Not Surveyed) (void — void — void — v)
- Existing Concrete
- Existing Aggregate (Cross Section View)
- Existing Curb and Gutter (Cross Section View)
- Existing Asphalt (Cross Section View)
- Existing Reinforcement Rebar

Geotechnical

- Geotextile Fabric Type D (D — D)
- Geogrid (Geo — Geo)
- Geotextile Fabric Type R (R — R)
- Geotextile Fabric Type R1 (R — R)
- Geotextile Fabric Type RR (RR — RR)
- Geotextile Fabric Type S (S — S)
- Subgrade Reinforcement
- Failure Line

Countours

- Depression Contours
- Supplemental Contour

Profile

- Subgrade, Subcut or Ditch Grade
- Topsoil Profile

Striping

- Centerline Pavement Marking
- Barrier with Centerline Pavement Marking
- Barrier Pavement Marking
- Stripe 4 IN Dotted Extension White
- Stripe 8 IN Dotted Extension White
- Stripe 8 IN Lane Drop

Pavement Joints

- Doweled Joint
- Tie Bar 30 Inch 4 Foot Center to Center
- Tie Bar 18 Inch 3 Foot Center to Center
- Tie Bar at Random Spacing

Bridge Details

- Small Hidden Object
- Large Hidden Object
- Phantom Object
- Existing Conditions Object
- Centerline Main
- Centerline Secondary
- Excavation Limits
- Proposed Ground
- Sheet Piling

Erosion Control

- Limits of Const Transition Line
- Bale Check
- Rock Check
- Floating Silt Curtain (S — S)
- Silt Fence (SF — SF)
- Excavation Limits
- Fiber Rolls

Environmental

- Wetland Mitigation
- Existing Wetland Easement USFWS
- Existing Wetland Jurisdictional
- Existing Wetland
- Tree Row

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
09-23-16 12-18-20	Added and Revised Items, Organized by Functional Groups General Revisions

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12 18 2020

SYMBOLS

D-101-30

North Arrow (Half Scale)

Alignment Data Point

Alignment Monument

Spot Elevation

Existing Miscellaneous Spot

Existing Access Control Arrow

Existing Benchmark

Reset USGS Marker

Iron Monument Found

Iron Pin R/W Monument

Property Corner

Iron Pin Reference Monument

Right of Way Marker (Exst, Ppsd, Reset)

Existing Federal Reference Corner

Existing Section Corner (Full, Quarter, Sixteenth, Meander)

Existing Witness Corner

Existing Control Point (CP, GPS-RTK, TRI)

Existing Traverse PI Aerial Panel

Existing Reference Marker Point NGS

Existing EFB Misc

Existing Bush or Shrub

Existing Large Evergreen Tree

Existing Small Evergreen Tree

Existing Large Tree

Existing Small Tree

Existing Tree Trunk

Cairn or Stone Circle

Existing Artifact

Existing Satellite Dish

Existing Weather Station

Existing Windmill or Tower

Reinforced Pavement

CSB Continuous Split Barrel Sample

FA Flight Auger Sample

SB Split Barrel Sample

T Thinwall Tube Sample

N Standard Penetration Test

Incl Inclinometer Tube

Excavation Unit

Existing Ground Water Well Bore Hole

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

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12 18 2020

SYMBOLS

D-101-31

- Flexible Delineator
- Flexible Delineator Type A (Exst, Ppsd)
- Flexible Delineator Type B (Exst, Ppsd)
- Flexible Delineator Type C (Exst, Ppsd)
- Flexible Delineator Type D (Exst, Ppsd)
- Flexible Delineator Type E (Exst, Ppsd)
- Delineator Type A (Exst, Ppsd, Diamond Grade-Reset)
- Delineator Type B (Exst, Ppsd, Diamond Grade-Reset)
- Delineator Type C (Exst, Ppsd, Diamond Grade)
- Delineator Type D (Exst, Ppsd, Diamond Grade)
- Delineator Type E (Exst, Ppsd, Diamond Grade)
- Barricade (Type I, Type II, Type III}
- Arrow Panel (Caution Mode, Double Direction, Left Directional, Right Directional, Sequencing, Truck Mounted)
- Attenuation Device
- Truck Mounted Attenuator
- Delineator Drums
- Flagger
- Tubular Marker
- Traffic Cone
- Back to Back Vertical Panel Sign

- Highway Sign (Exst, Ppsd)
- Mile Post Type A (Exst-Ppsd-Reset)
- Mile Post Type B (Exst, Ppsd)
- Mile Post Type C (Exst, Ppsd)
- Object Marker Type I (Exst, Ppsd)
- Object Marker Type II (Exst, Ppsd)
- Object Marker Type III (Exst, Ppsd)
- Existing Reference Marker
- Road Closure Gate 18 Ft (Exst, Ppsd)
- Road Closure Gate 28 Ft (Exst, Ppsd)
- Road Closure Gate 40 Ft (Exst, Ppsd)
- Existing Railroad Battery Box
- Existing RR Profile Spot
- Existing Railroad Crossbuck
- Existing Railroad Frog
- Existing Mailbox (Private, Federal)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

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12 18 2020

SYMBOLS

D-101-32

- Existing Luminaire
- Luminaire LED
- Existing Light Standard Luminaire
- Relocate Light Standard
- Light Standard Light LED Luminaire
- Light Standard 35 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 50 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 70 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 100 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 150 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 200 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 250 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 310 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 400 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 700 Watt High Pressure Sodium Vapor Luminaire
- Light Standard 1000 Watt High Pressure Sodium Vapor Luminaire
- Emergency Vehicle Detector
- Video Detection Camera

- High Mast Light Standard 3 Luminaire (Exst, Ppsd)
- High Mast Light Standard 4 Luminaire (Exst, Ppsd)
- High Mast Light Standard 5 Luminaire (Exst, Ppsd)
- High Mast Light Standard 6 Luminaire (Exst, Ppsd)
- High Mast Light Standard 7 Luminaire (Exst, Ppsd)
- High Mast Light Standard 8 Luminaire (Exst, Ppsd)
- High Mast Light Standard 9 Luminaire (Exst, Ppsd)
- High Mast Light Standard 10 Luminaire (Exst, Ppsd)
- Overhead Sign Structure Load Center (Exst, Ppsd)
- Traffic Signal Controller (Exst, Ppsd)
- Pad Mounted Traffic Signal Controller (Exst, Ppsd)
- Flashing Beacon (Exst, Ppsd)
- Concrete Foundation (Exst, Ppsd)
- Pipe Mounted Flasher (Exst, Ppsd)
- Pad Mounted Feed Point (Exst, Ppsd)
- Pipe Mounted Feed Point with Pad (Exst, Ppsd)
- Pole Mounted Feed Point (Exst, Ppsd)
- Junction Box (Exst, Ppsd)
- Existing Pedestrian Head with Number
- Existing Signal Head
- Pole Mounted Head
- Existing Lighting Standard Pole

- Existing Traffic Signal Standard
- Pull Box (Exst-Ppsd-Undefined)
- Intelligent Transportation Pull Box (Exst, Ppsd)
- Transformer (Exst, Ppsd)
- Power Pole (Exst-Ppsd-with Transformer)
- Wood Pole (Exst, Ppsd)
- Pedestrian Push Button Post (Exst, Ppsd)
- Existing Pole
- Existing Telephone Pole
- Existing Post
- Connection Conductor (Ground, Neutral, Phase 1, Phase 2)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

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SYMBOLS

D-101-33

Existing Manhole (Electrical, Gas, Telephone)

Water Manhole (Exst, Exst with Valve)

Sanitary Sewer Manhole (Exst, Ppsd, Exst with Valve)

Sanitary Force Main Manhole (Exst, Ppsd, Exst with Valve)

Storm Drain Manhole (Exst, Ppsd, Exst with Inlet, Ppsd with Inlet)

Force Main Storm Drain Manhole (Exst, Exst with Valve)

Manhole (Ppsd, Ppsd 48 Inch, Exst Undefined)

Existing Water Appurtenance

Sprinkler Head (Exst, Ppsd)

Fire Hydrant (Exst, Ppsd)

Cleanout (Exst Sanitary, Underdrain)

Existing Catch Basin Inlet (Round, Square)

Existing Curb Inlet (Round, Square)

Existing Slotted Reinforced Concrete Pipe

Catch Basin (Riser 30 Inch, Beehive, Type A)

Inlet Mountable Curb (Type A, Type B)

Inlet Saddle Base (Type 1, Type 2)

Inlet Special (Catch Basin, Type 1, Type A)

Inlet (Tee, Type 1, Type 2, Type 2 Double)

Median Drain

Headwall (Exst, Ppsd, Ppsd Single with Vegitation Barrier, Ppsd Double with Vegitation Barrier)

Cap or Stub
Exst Gas, Exst Sanitary, Exst Storm Drain, Ppsd Storm Drain, Exst Water

Existing Pedestal
Electrical, Telephone, Fiber Optic Telephone, TV, Fiber Optic TV, Undefined

Existing Pipe Vent
Gas, Fuel, Sanitary, Storm Drain, Water, Undefined

Valve
Exst Gas, Exst Water, Ppsd Water, Exst Undefined

Pump
Sanitary, Storm Drain, Exst Water

Corrugated Metal End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)

Reinforced Concrete End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)

Existing Utility Marker

Existing Meter

Existing Fuel Dispensers

Existing Fuel Filler Pipes

Existing Fuel Leak Sensors

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions Sheet added - Continued from D-101-32

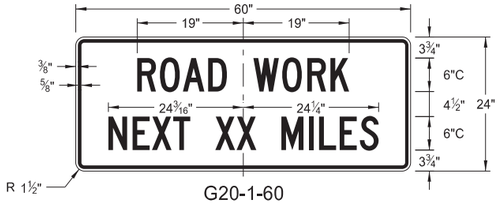
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12 18 2020

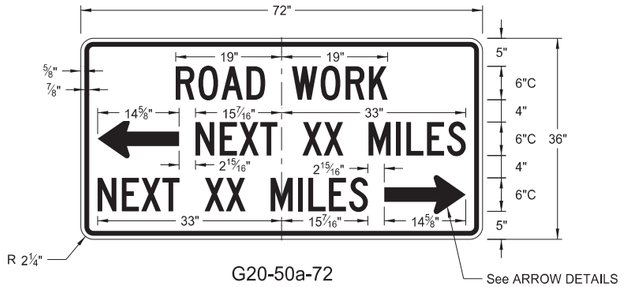
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CONSTRUCTION SIGN DETAILS
TERMINAL AND GUIDE SIGNS

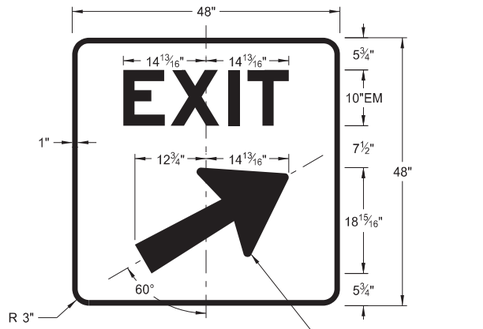
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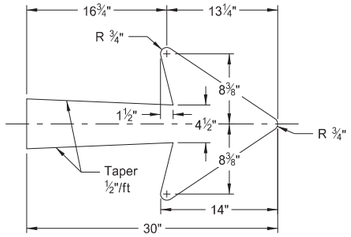
G20-1-60
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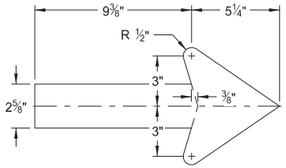
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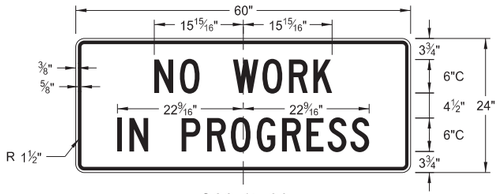
E5-1(L or R)-48
Legend: white
Background: green (orange optional)



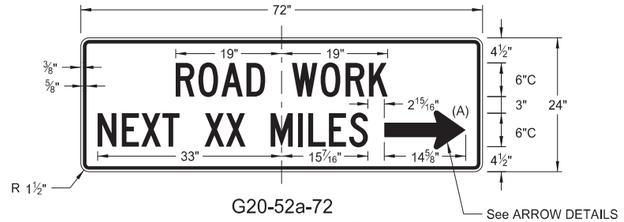
E5-1-48



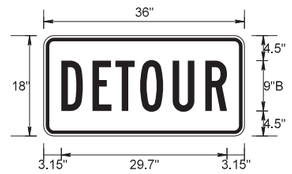
G20-50a-72
G20-52a-72



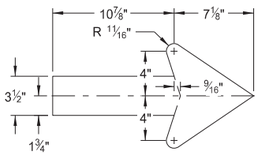
G20-1b-60
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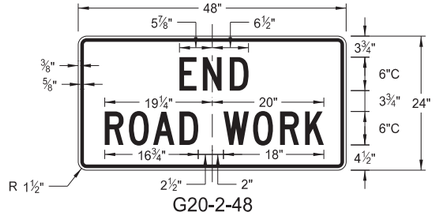
G20-52a-72
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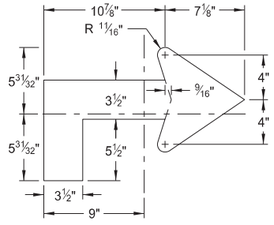
M4-8-36
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Background: orange



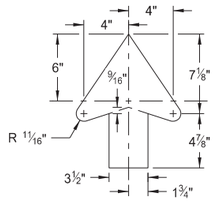
M4-9(L or R)-30
Right or Left



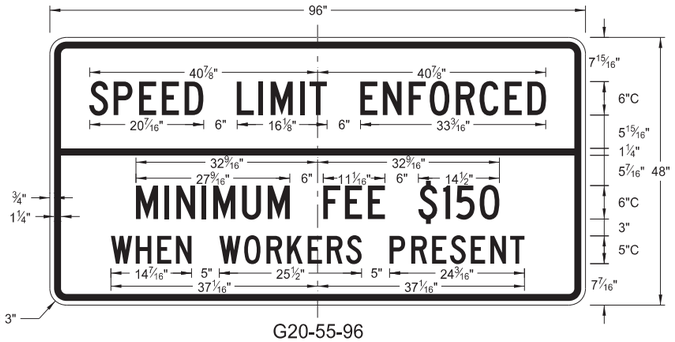
G20-2-48
Legend: black (non-refl)
Background: orange



M4-9(L or R)-30
Advanced Right or Left



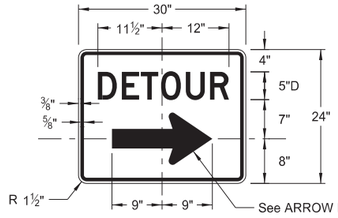
M4-9-30
Straight



G20-55-96
Legend: black (non-refl)
Background: orange



G20-4b-36
Legend: black (non-refl)
Background: orange



M4-9(L or R)-30 &
M4-9-30
Legend: black (non-refl)
Background: orange

ARROW DETAILS

NOTES:

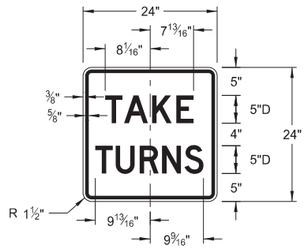
(A) Arrow may be right or left of the legend to indicate construction to the right or left.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-13-13	
REVISIONS	
DATE	CHANGE
08-17-17	Added sign & background color
10-03-19	New Design Engineer PE Stamp
08-01-24	Electronic Stamp/Signature
06-30-25	Legislative Changes

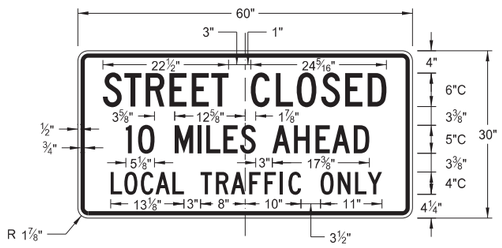
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PROFESSIONAL
PE-4683
06/30/25
ENGINEER
NORTH DAKOTA

Docusign Envelope ID: 2F5C9714-A0E1-42BB-B36B-42204844BFCB

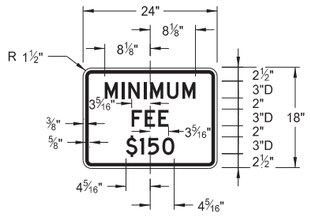
CONSTRUCTION SIGN DETAILS
REGULATORY SIGNS



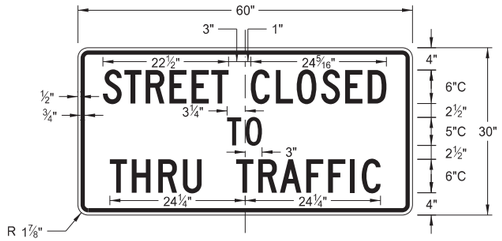
R1-50P-24
Legend: black (non-refl)
Background: white



R11-3c-60
Legend: black (non-refl)
Background: white



R2-1aP-24
Legend: black (non-refl)
Background: white



R11-4a-60
Legend: black (non-refl)
Background: white



R11-2a-48
Legend: black (non-refl)
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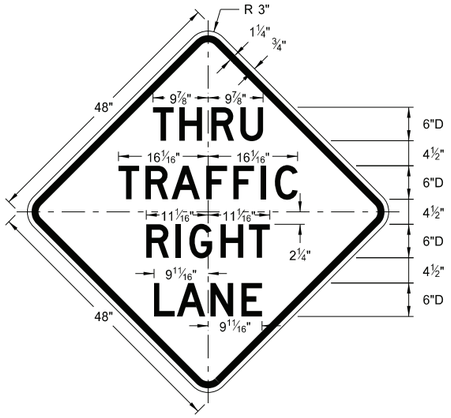
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-13-13	
REVISIONS	
DATE	CHANGE
08-17-17	Revised sign number
10-03-19	New Design Engineer PE Stamp
08-01-24	Electronic Stamp/Signature
06-30-25	Legislative Changes

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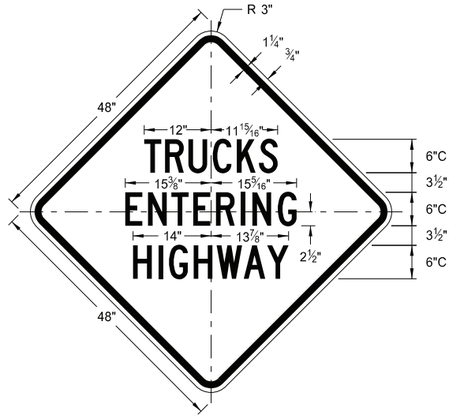
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CONSTRUCTION SIGN DETAILS
WARNING SIGNS

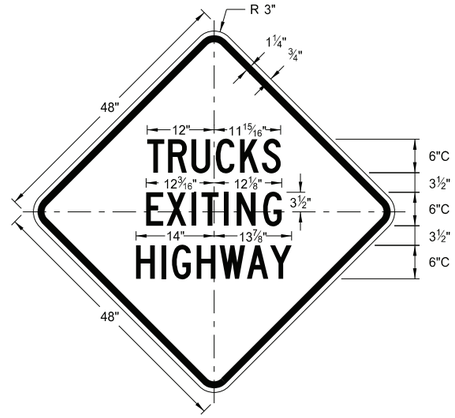
D-704-11



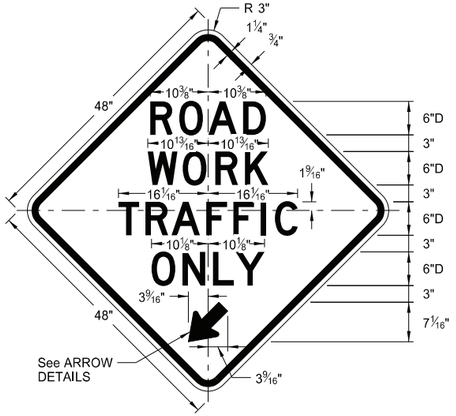
W5-8-48
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Background: orange



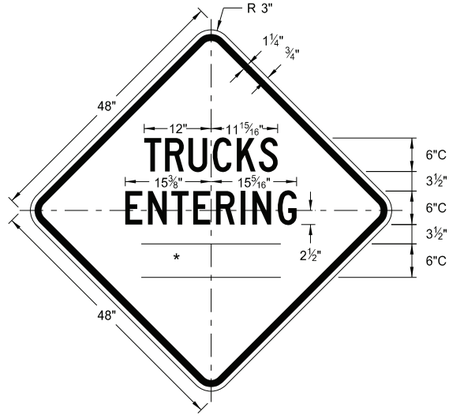
W8-53-48
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Background: orange



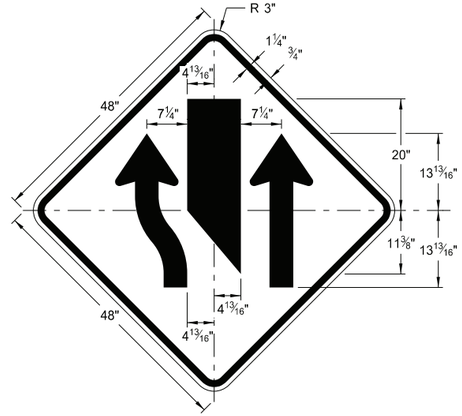
W8-56-48
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Background: orange



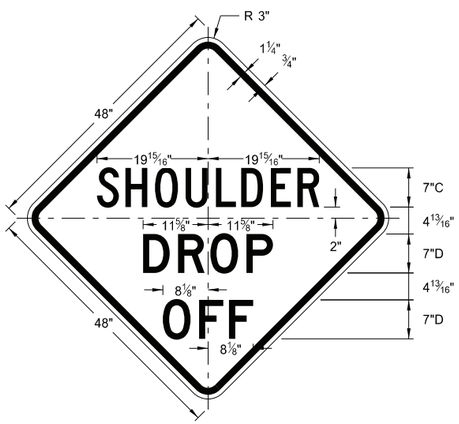
W5-9-48
Legend; black (non-refl)
Background: orange



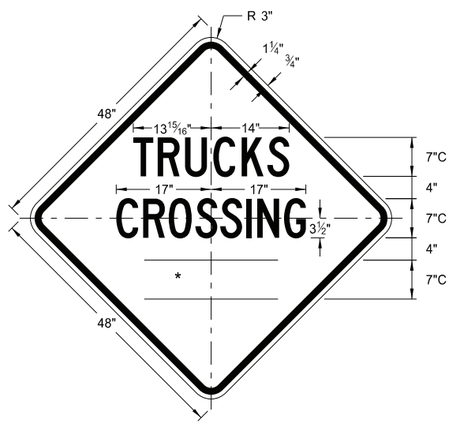
W8-54-48
Legend; black (non-refl)
Background: orange



W9-3a-48
Legend; black (non-refl)
Background: orange



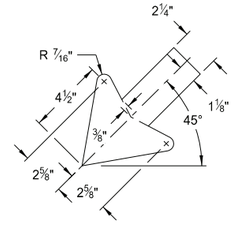
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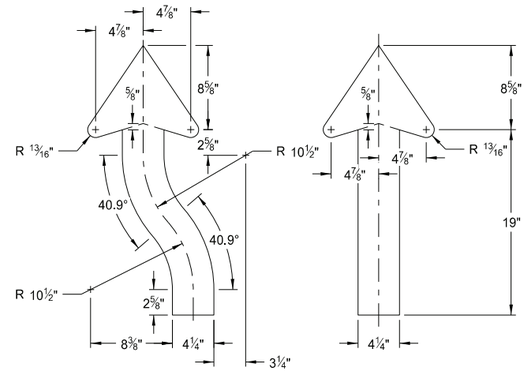
W8-55-48
Legend: black (non-refl)
Background: orange

WORD	LETTER SPACING
AHEAD	Standard
200 FT	Standard
350 FT	Standard
500 FT	Standard
1000 FT	Reduce 40%
1500 FT	Reduce 40%
½ MILE	Reduce 50%
1 MILE	Standard

* DISTANCE MESSAGES



W5-9-48



W9-3a-48

ARROW DETAILS

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-13-13	
REVISIONS	
DATE	CHANGE
8-17-17	Updated sign number
5-31-18	Revised sign and arrow details
10-03-19	New Design Engineer PE Stamp
8-01-24	Electronic Stamp/Signature

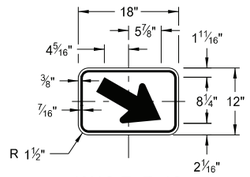
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ENGINEER
NORTH DAKOTA

08/01/24

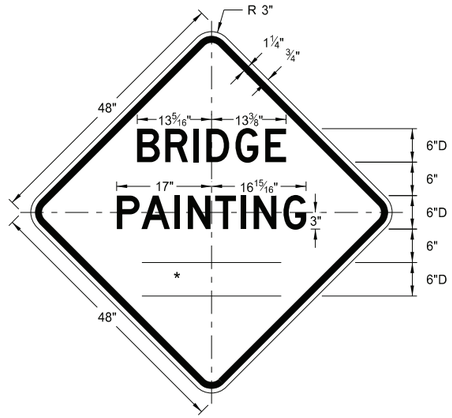
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CONSTRUCTION SIGN DETAILS
WARNING SIGNS

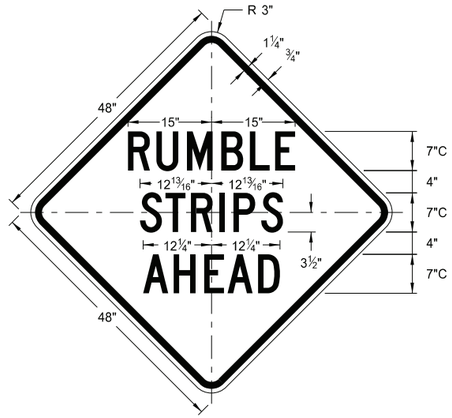
D-704-11A



W16-7aP-18
Legend: black (non-refl)
Background: orange



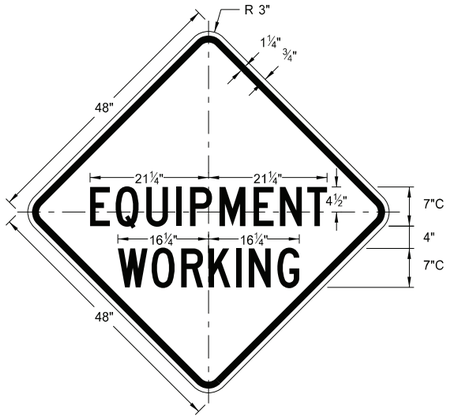
W21-50-48
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Background: orange



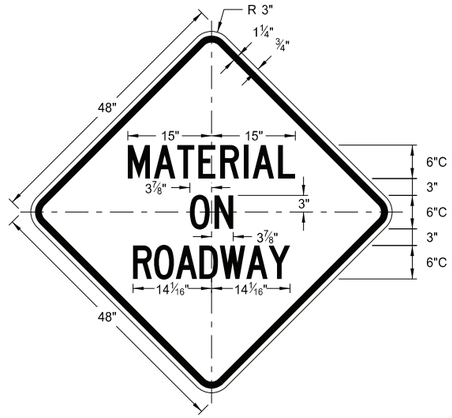
W21-53-48
Legend: black (non-refl)
Background: orange

WORD	LETTER SPACING
AHEAD	Standard
200 FT	Standard
350 FT	Standard
500 FT	Standard
1000 FT	Reduce 40%
1500 FT	Reduce 40%
½ MILE	Reduce 50%
1 MILE	Standard

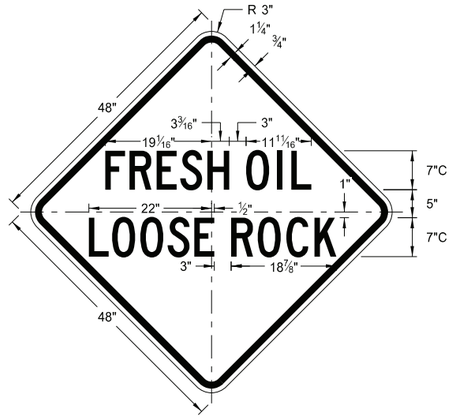
* DISTANCE MESSAGES



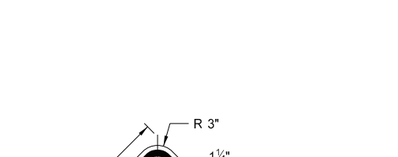
W20-51-48
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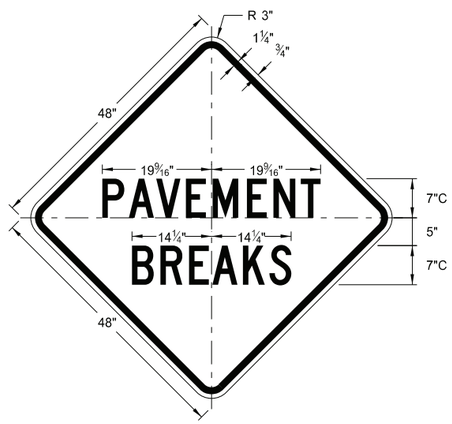
W21-51-48
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Background: orange



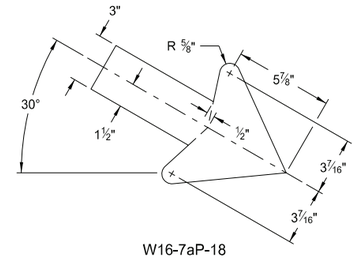
W22-8-48
Legend: black (non-refl)
Background: orange



W20-52P-54
Legend: black (non-refl)
Background: orange



W21-52-48
Legend: black (non-refl)
Background: orange



W16-7aP-18

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
5-31-18	
REVISIONS	
DATE	CHANGE
11-01-19	Added details for sign W16-7aP-18.
8-01-24	Electronic Stamp/Signature.

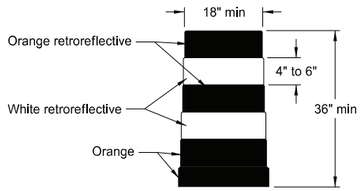
KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA

08/01/24

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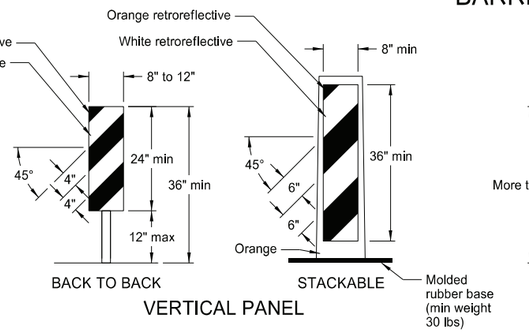
BARRICADE AND CHANNELIZING DEVICE DETAILS

D-704-13



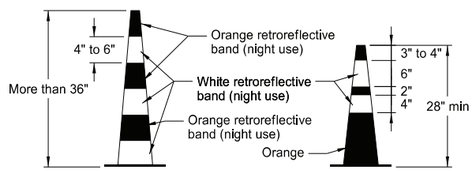
DELINEATOR DRUM

Provide horizontal, circumferential, alternating orange and white retroreflective stripes 4" to 6" wide for drum markings. Use a minimum of two orange and two white stripes with the top stripe being orange for each drum. Do not exceed 3" nonretroreflectorized spaces between the horizontal orange and white stripes. Avoid placement of stripes on drum ribs or indentations. Use closed top drums that will not allow collection of debris. Do not place ballast on the top of drum.



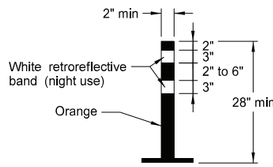
VERTICAL PANEL

Provide alternating orange and white retroreflective stripes, sloping downward in direction vehicular traffic is to pass. Place retroreflective sheeting on both sides of panel with a minimum of 270 square inches of retroreflective area facing vehicular traffic. Where the height of the retroreflective material on the vertical panel is 36 inches or more, use a stripe width of 6 inches.



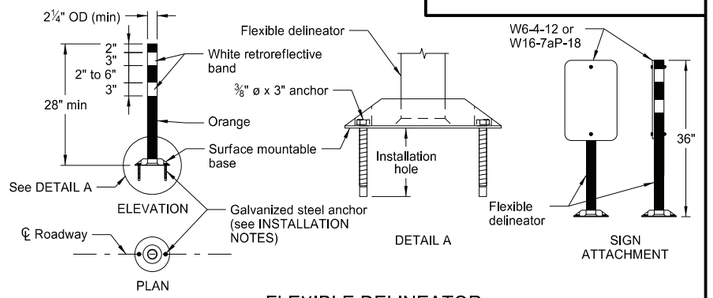
TRAFFIC CONE

Provide retroreflectorization of cones more than 36" in height by alternating orange and white retroreflective stripes. Use a minimum of two orange and two white stripes for each cone with the top stripe being orange. Use maximum 3" nonretroreflectorized space between the orange and white stripes.



TUBULAR MARKER

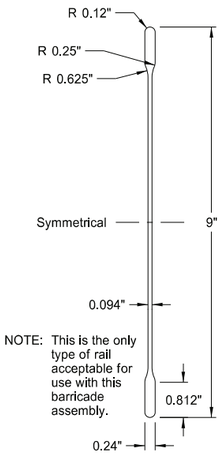
Provide retroreflectorization of tubular markers more than 42" in height by alternating four 4" to 6" wide orange and white stripes with the top stripe being orange.



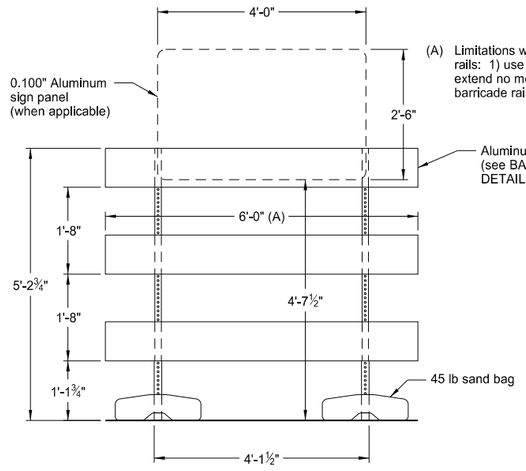
FLEXIBLE DELINEATOR

INSTALLATION NOTES:

1. Drill installation holes to diameter and depth required by manufacturer's specifications.
2. For removal, remove anchors and fill installation hole with an epoxy designed to bond to pavement surface.
3. In lieu of bolted down base, use an 8" x 8" butyl pad or hot melt butyl. Remove butyl as close as possible to pavement surface.

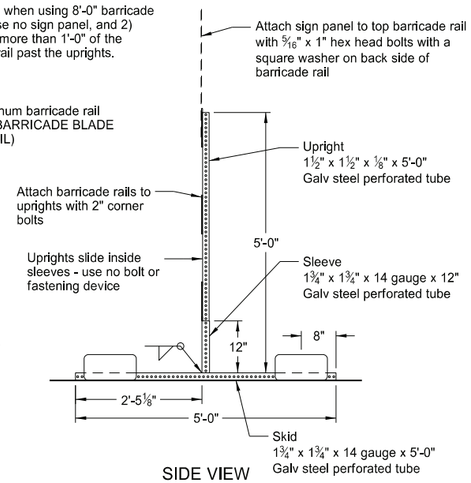


BARRICADE BLADE DETAIL



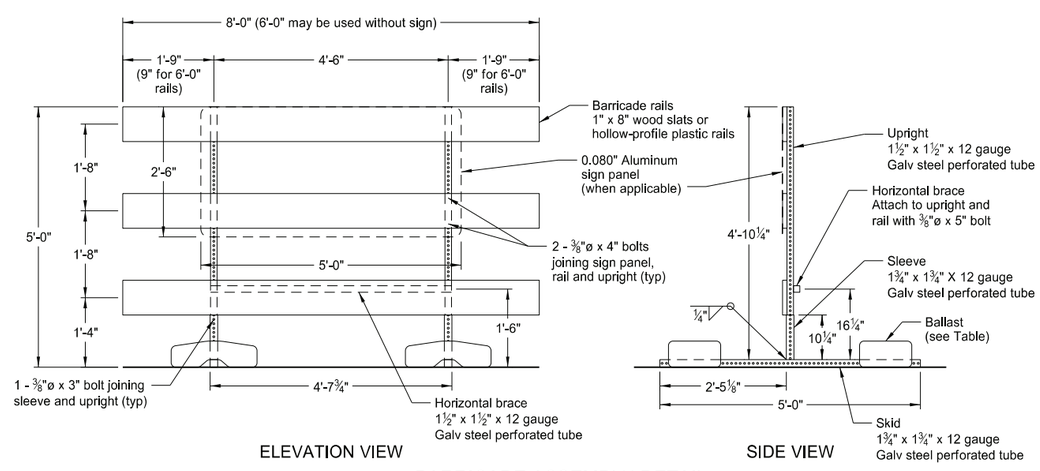
ELEVATION VIEW

(A) Limitations when using 8'-0" barricade rails: 1) use no sign panel, and 2) extend no more than 1'-0" of the barricade rail past the uprights.



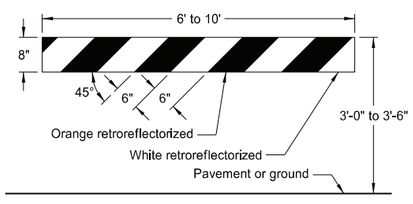
SIDE VIEW

BARRICADE ASSEMBLY DETAIL (Aluminum Barricade Rails)

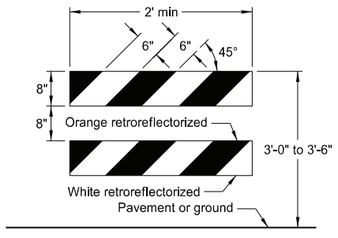


BARRICADE ASSEMBLY DETAIL (Wood or Plastic Rails)

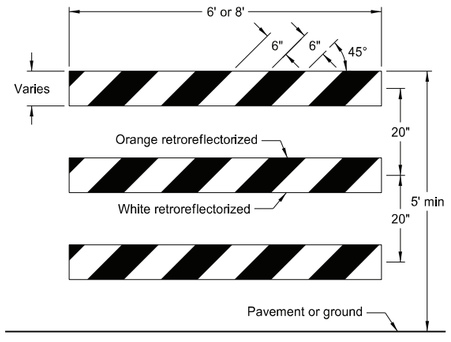
NOTE: For barricade markings use alternating orange and white retroreflective stripes, sloping downward in the direction traffic is to pass. Place retroreflective sheeting on both sides of the rails with a minimum of 270 square inches of visible retroreflective area facing vehicular traffic. When the barricade length is less than 36", use a rail stripe width of 4".



TYPE I BARRICADE

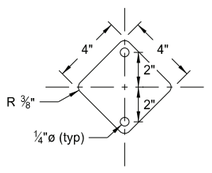


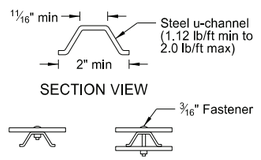
TYPE II BARRICADE

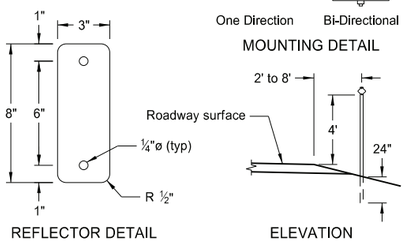


TYPE III BARRICADE

BARRICADE RAIL DETAILS







DELINEATORS

MINIMUM BALLAST
(For each side of barricade support)

Without Sign	4 - 25 lb sandbags
With Sign	6 - 25 lb sandbags

Note: Number of sandbags based on a wind speed of 55 MPH. Sandbags assumed to be placed at or near the ends of the skids.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-3-13	
REVISIONS	
DATE	CHANGE
9-27-17	Updated to active voice
11-01-19	Revised details for Flexible Delineator
8-01-24	Electronic Stamp/Signature

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA

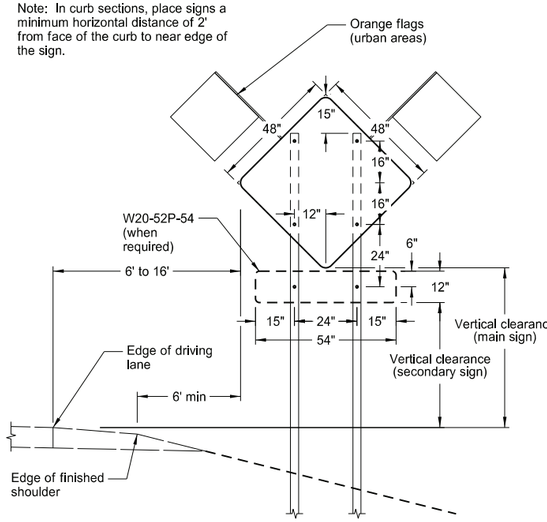
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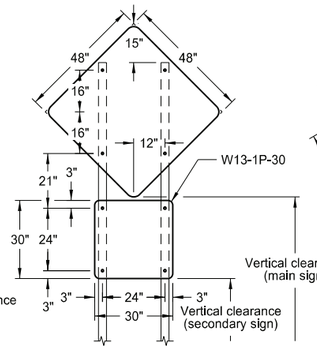
CONSTRUCTION SIGN PUNCHING AND MOUNTING DETAILS

D-704-14

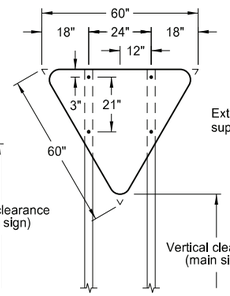
Note: In curb sections, place signs a minimum horizontal distance of 2' from face of the curb to near edge of the sign.



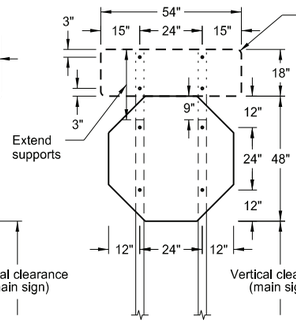
TYPICAL SECTION
(48" x 48" diamond warning sign shown)



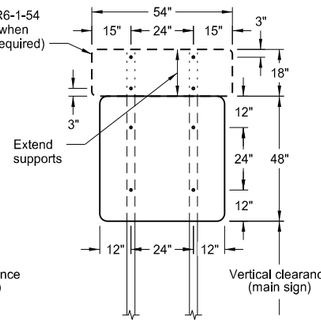
48" x 48" DIAMOND SIGN
(with 30" x 30" secondary sign)



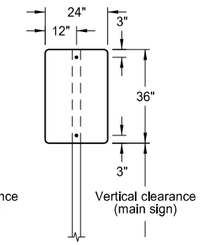
R1-2-60 - YIELD SIGN



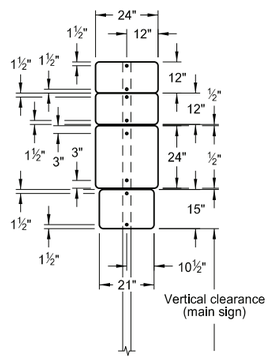
R1-1-48 - STOP SIGN
(with R6-1-54 sign as required)



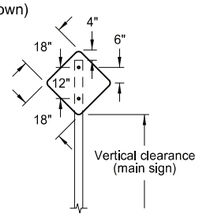
48" x 48" SIGN
(with R6-1-54 sign as required)



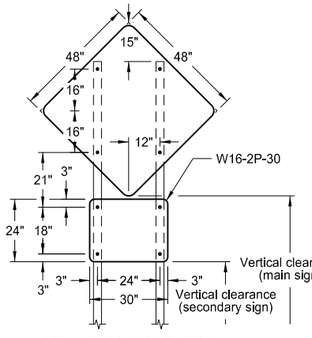
24" x 36" SIGN



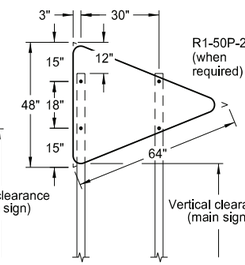
24" x 24"
ROUTE MARKER
ASSEMBLY



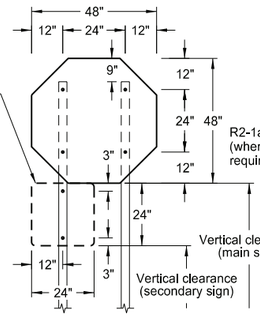
18" x 18"
DIAMOND SIGN



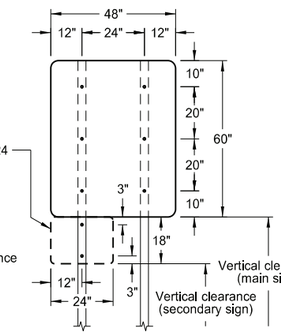
48" x 48" DIAMOND SIGN
(with 30" x 24" secondary sign)



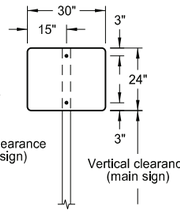
W14-3-64 - PENNANT SIGN



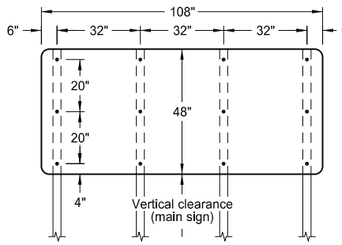
R1-1-48 - STOP SIGN
(with R1-50P-24 sign as required)



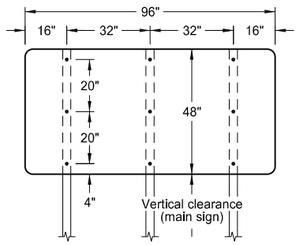
48" x 48" SIGN
(with R2-1aP-24 sign as required)



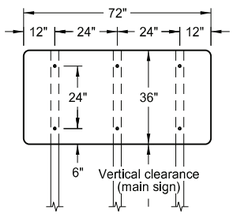
30" x 24" SIGN



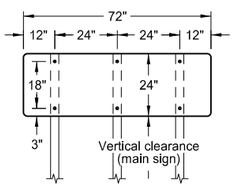
108" x 48" SIGN



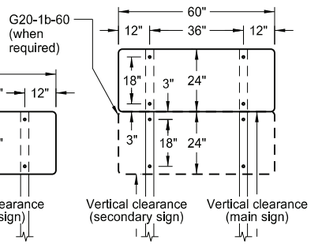
96" x 48" SIGN



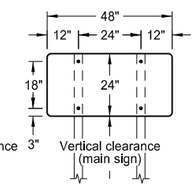
72" x 36" SIGN



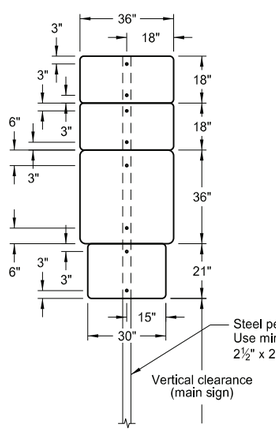
72" x 24" SIGN



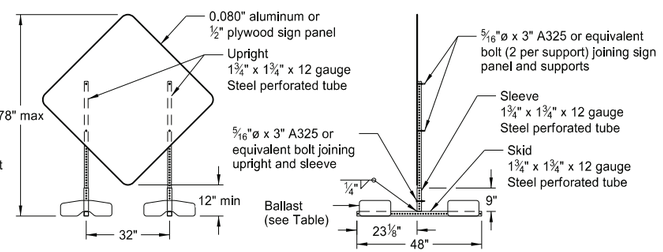
60" x 24" SIGN



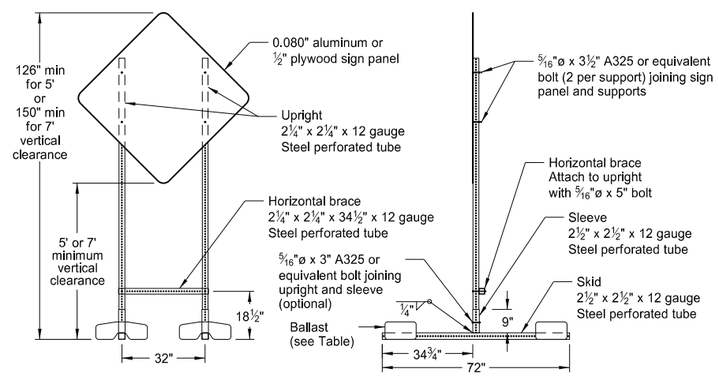
48" x 24" SIGN



36" x 36"
ROUTE MARKER
ASSEMBLY



PORTABLE SIGN SUPPORT
LOW-MOUNTING HEIGHT



PORTABLE SIGN SUPPORT
HIGH-MOUNTING HEIGHT

NOTES:

1. Sign Supports: Galvanize or paint supports. Minimum post sizes are 2.5 lb/ft u-channel or 2" x 2" x 12 gauge steel perforated tube, except where noted. When installing signs on u-channel, minimum post size for assemblies containing a secondary sign is 3.0 lb/ft. Post sizes based on a wind speed of 55 MPH.

   Place signs over 50 square feet on 2½" x 2½" perforated tube supports as a minimum.

   Do not attach guy wires to sign supports. Attach wind beams behind sign panels when used with u-posts.

2. Sign Panels: Provide sign panels made of 0.100" aluminum, ½" plywood, or other approved material, except where noted. Punch all holes round for ⅜" bolts.

3. Alternate Messages: Install and remove alternate message signs on reflectorized plate (without borders) as required. (i.e. "Left" and "Right" message on lane closure sign)

4. Route Marker Auxiliary Signs: Provide route marker auxiliary signs, such as the cardinal direction and directional arrows, with a background and legend that match the route marker they are used with:

   Interstate - white legend on blue background
   Interstate Business Loop - white legend on green background
   US and State - black legend on white background
   County - yellow legend on blue background

5. Vertical Clearance: Install signs with a vertical clearance of 5'-0" (see TYPICAL SECTION.) In areas where parking or pedestrian movements are likely or the view of the sign may be obstructed, install signs with a vertical clearance of 7'-0" from the top of the curb or from the near edge of the driving lane in absence of a curb.

   The vertical clearance to secondary signs is 1'-0" less than the vertical clearance stated above.

   Provide a minimum clearance of 7'-0" from the ground at the post for signs with an area exceeding 50 square feet.

6. Portable Signs: Provide portable signs that meet the vertical clearance stated above when it is necessary to place signs within the pavement surface.

   Use of low-mounting height (minimum 12" vertical clearance) portable signs for 5 days or less, is allowed as long as the view of the sign is not obstructed. Time delays caused by unforseen circumstances, such as equipment breakdown, rain, subgrade failures, etc., will not accrue towards the 5 day period. Use of R9-8 through R9-11a series, W1-6 through W1-8 series, M4-10, and E5-1 is allowed for longer than 5 days.

   Restrict signs mounted on portable sign supports shown in the LOW-MOUNTING HEIGHT and HIGH-MOUNTING HEIGHT details to a maximum surface area of 16 square feet.

MINIMUM BALLAST
(For each side of sign support base)

Sign Panel Mounting Height (ft)	Number of 25 lb sandbags for 4' x 4' sign panel
1'	6
5'	8
7'	10

Note: The number of sandbags are based on a wind speed of 55 MPH. Place sandbags at or near the ends of skids.

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

10-4-13

REVISIONS

DATE	CHANGE
11-14-13	Revised Note 6
9-27-17	Updated to active voice
11-01-19	Revised 60"x24" sign detail
8-01-24	Electronic Stamp/Signature

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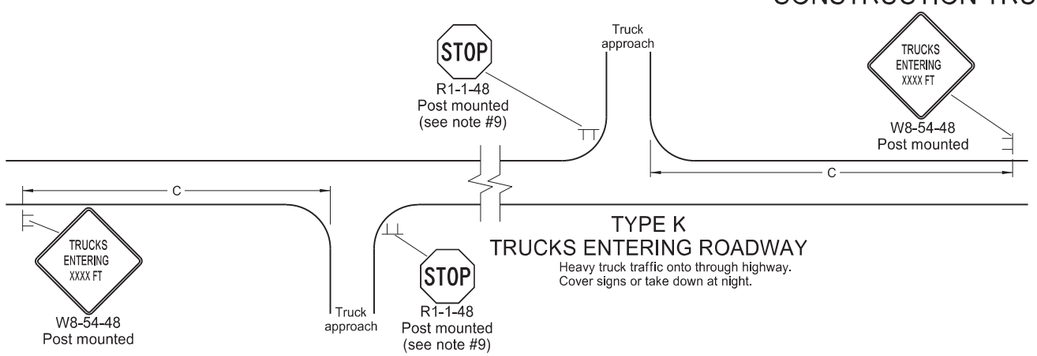
08/01/24

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CONSTRUCTION TRUCK AND TEMPORARY DETOUR LAYOUTS

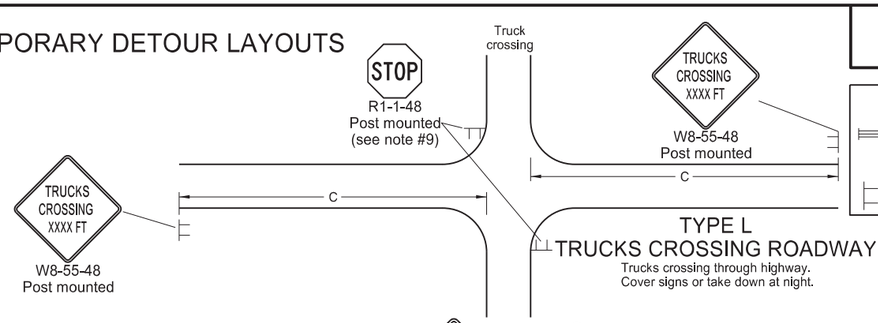
D-704-22

KEY: Type III barricade; Work area; Sign; Flagger



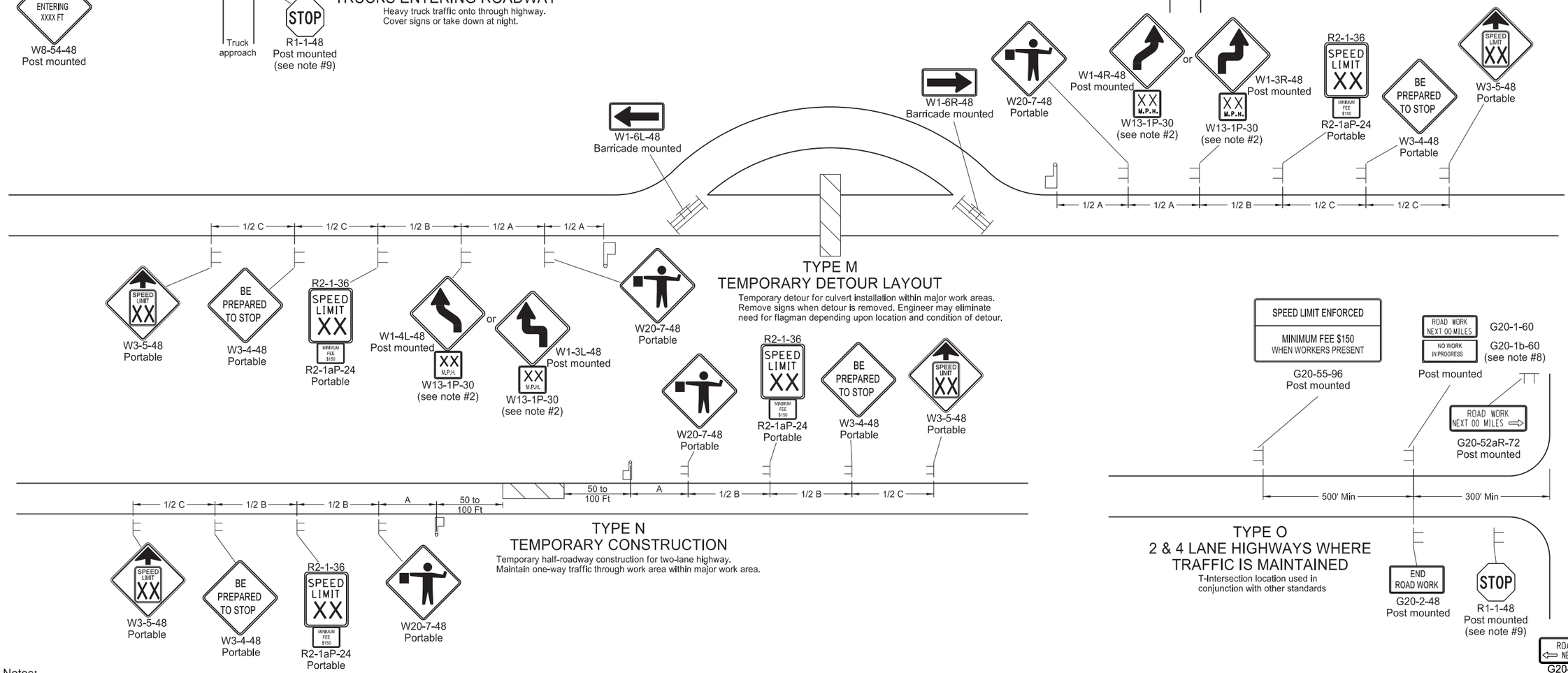
TYPE K
TRUCKS ENTERING ROADWAY

Heavy truck traffic onto through highway.
Cover signs or take down at night.



TYPE L
TRUCKS CROSSING ROADWAY

Trucks crossing through highway.
Cover signs or take down at night.



TYPE M
TEMPORARY DETOUR LAYOUT

Temporary detour for culvert installation within major work areas.
Remove signs when detour is removed. Engineer may eliminate need for flagman depending upon location and condition of detour.

TYPE N
TEMPORARY CONSTRUCTION

Temporary half-roadway construction for two-lane highway.
Maintain one-way traffic through work area within major work areas.

TYPE O
2 & 4 LANE HIGHWAYS WHERE TRAFFIC IS MAINTAINED

T-Intersection location used in conjunction with other standards

Notes:

1. Place barricades on a moveable assemblies and signs on portable assemblies when located on roadway.
2. Where necessary, safe speed to be determined by the Engineer.
3. Determine the reduced speed limit based on the in-place speed limit before construction. Where speed reductions exceed 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph.) Place the second speed limit sign at ½ B.
4. Install flags on warning signs in urban areas when signs are not portable. Mount 24 inch square flags perpendicular to the edges of the sign, and at such a distance above the edge that the flag does not touch the sign when limp.
5. Cover existing speed limit signs within a reduced speed zone.
6. Covered (when approved by engineer) or obliterated pavement marking measured as Obliteration of Pavement Marking.
7. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
8. Install sign G20-1b-60 when work is suspended for winter.
9. If existing stop sign is in place, a 48" stop sign is not required.
10. Sign G20-55-96 is not required if layout is part of other traffic control that contains this sign, or if work is less than 15 days.
11. Recommend using 40 mph speed limit in vicinity of workers, unless location and conditions dictate otherwise.

ADVANCE WARNING SIGN SPACING

Road Type	Distance Between Signs Min. (ft) A	B	C
Urban - Low Speed (30 mph or less)	150	150	150
Urban - Low Speed (over 30 to 40mph)	280	280	280
Urban - High Speed (over 40 mph to 50 mph)	360	360	360
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 80 mph)	1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)	750	1000	1500

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

9-27-13

REVISIONS

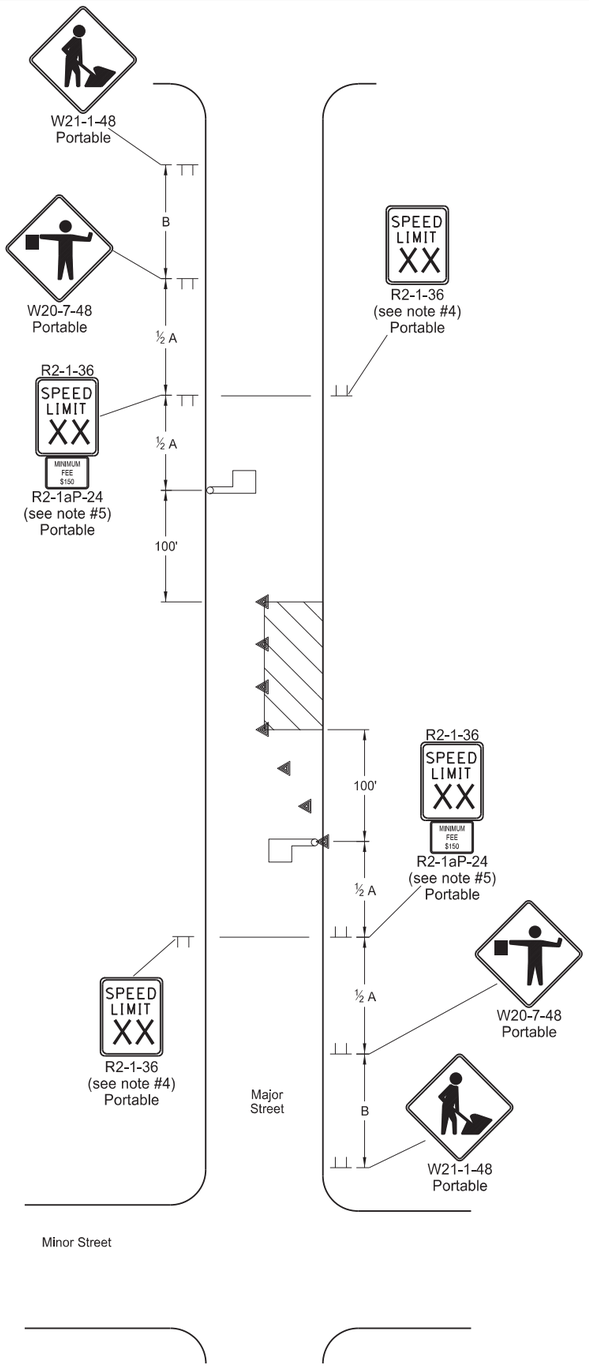
DATE	CHANGE
08-17-17	Update notes & sign numbers
11-01-19	Revised sign numbers & note 7
12-09-21	Added Speed Limit Enforced and Dollars At Work signs
11-29-22	Removed Dollars At Work
06-30-25	Legislative Changes

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Docusign Envelope ID: 2F5C9714-A0E1-42BB-B36B-42204844BFCB

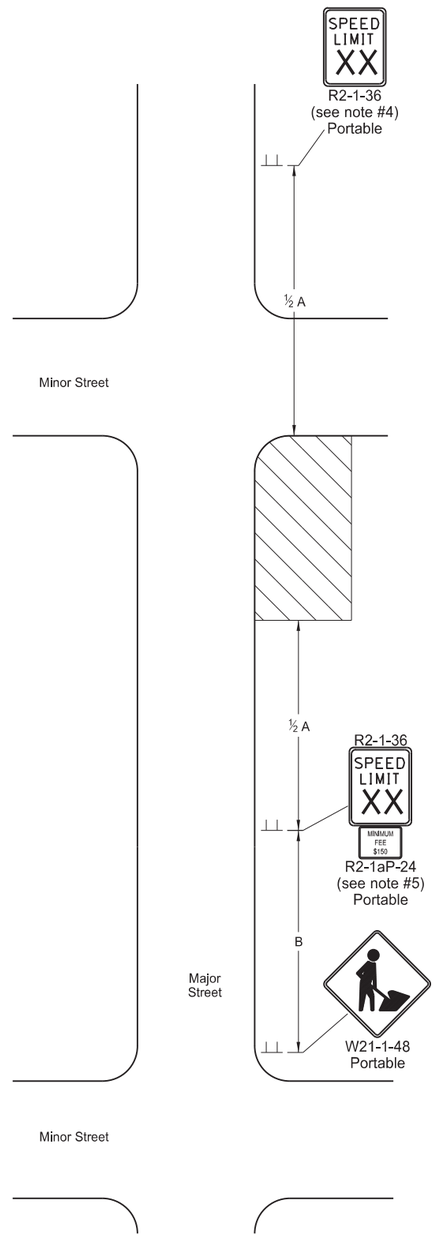
LANE CLOSURES ON URBAN STREETS LAYOUTS

D-704-25



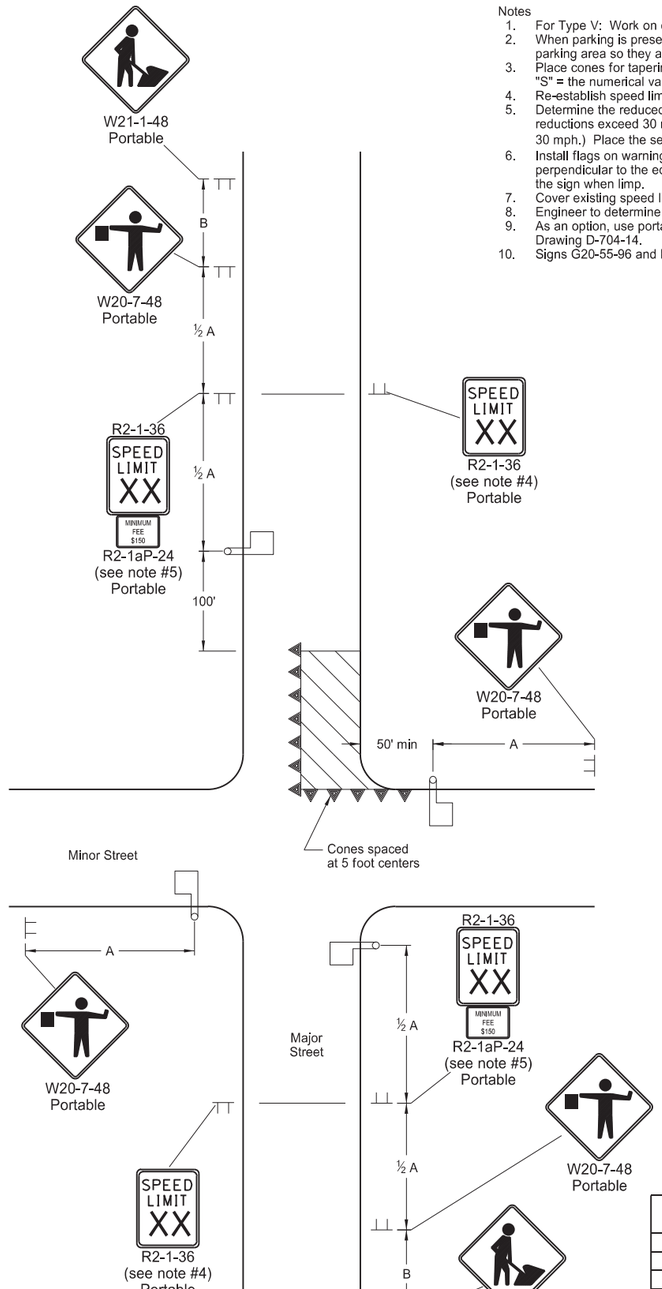
TYPE V
LANE CLOSURE ON URBAN STREET

Portion of roadway closed to traffic only
during daylight hours (mid block location).



TYPE W
WORK BEYOND CURB ON URBAN STREET

Work area outside driving lane and no closure necessary.



TYPE X
LANE CLOSURE NEAR INTERSECTION ON URBAN STREET

Portion of roadway closed to traffic only
during daylight hours (end block location).

Notes

1. For Type V: Work on one side of roadway at a time so as not to block off more than one lane of traffic.
2. When parking is present, place signs so they are entirely visible above parked vehicles or at the edge of the parking area so they are visible to oncoming traffic. Place signs on portable mounts when located on roadway.
3. Place cones for tapering traffic at 3 equal spaces and cones for tangents at dimension "S". "S" = the numerical value of speed limit.
4. Re-establish speed limit. Determine exact speed limit in the field, dependent on location and conditions.
5. Determine the reduced speed limit based on the in-place speed limit before construction. Where speed reductions exceed 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph.) Place the second speed limit sign at ½ B.
6. Install flags on warning signs in urban areas when signs are not portable. Mount 24 inches square flags perpendicular to the edges of the sign, and at such a distance above the edge that the flag does not touch the sign when limp.
7. Cover existing speed limit signs within reduced speed zones.
8. Engineer to determine safe speed, when necessary.
9. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
10. Signs G20-55-96 and R2-1aP-24 are not required for urban projects.

ADVANCE WARNING SIGN SPACING			
Road Type	Distance Between Signs Min. (ft)		
	A	B	C
Urban - Low Speed (30 mph or less)	150	150	150
Urban - Low Speed (over 30 to 40 mph)	280	280	280
Urban - High Speed (over 40 mph to 50 mph)	360	360	360
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 80 mph)	1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)	750	1000	1500

KEY

Sign — Work area
Cones — Flagger

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

9-27-13

REVISIONS

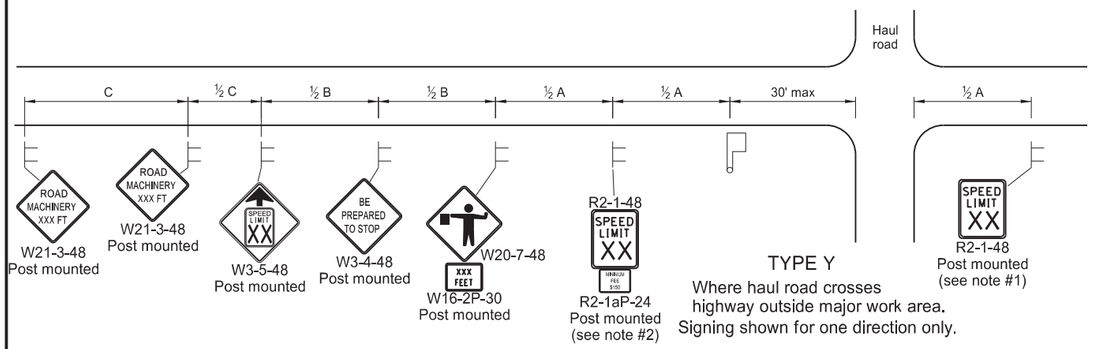
DATE	CHANGE
08-17-17	Updated notes & removed signs
11-01-19	Revised note & added Min Fee sign
08-01-24	Electronic Stamp/Signature
06-30-25	Legislative Changes

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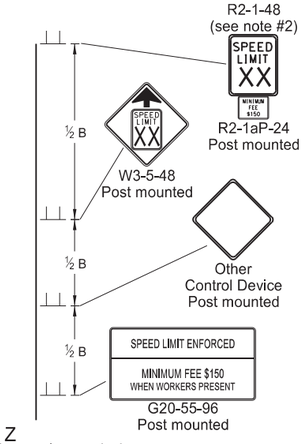
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MISCELLANEOUS SIGN LAYOUTS

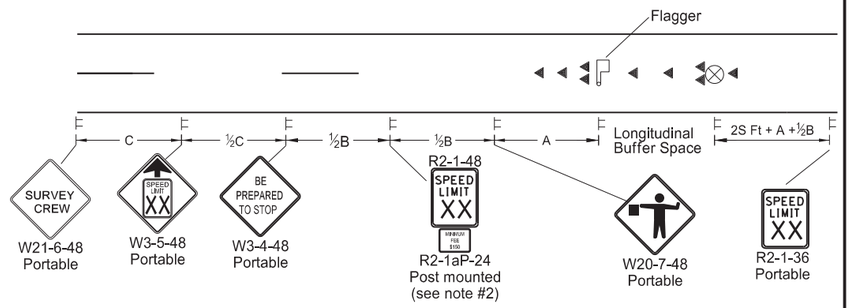
D-704-26



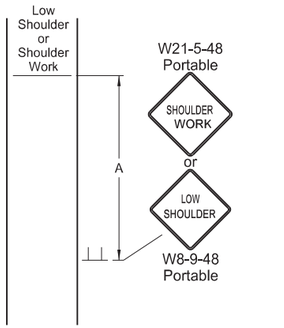
TYPE Y
Where haul road crosses highway outside major work area.
Signing shown for one direction only.



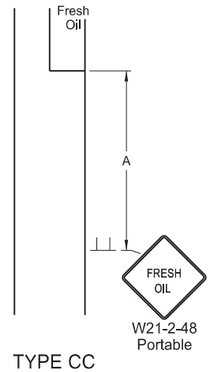
TYPE Z
Where speed zone is needed
Signing shown for one direction only.



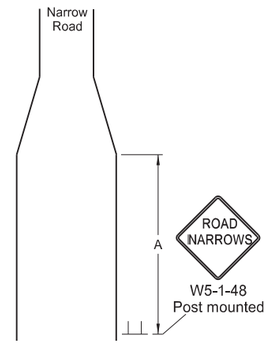
TYPE AA
Where survey crew is used
Signing shown for one direction only.



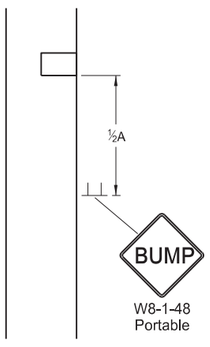
TYPE BB
Within major work area where sign conditions exist



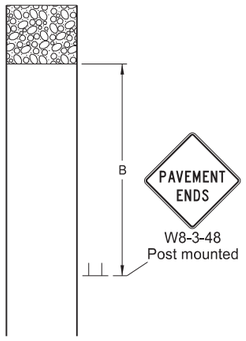
TYPE CC
Where sign conditions exist



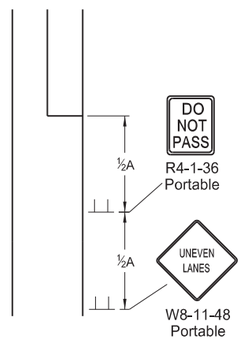
TYPE DD
Where sign conditions exist



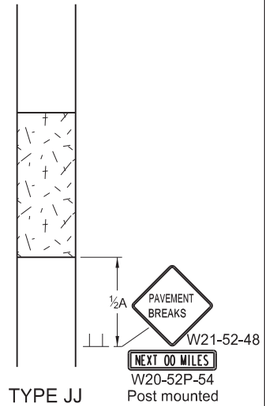
TYPE EE
Where sign conditions exist



TYPE FF
Where sign conditions exist
Signing shown for one direction only.

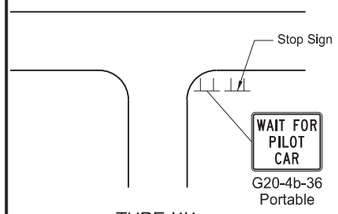


TYPE GG
Where elevation difference exists between lanes



TYPE JJ
For break in pavement.
Install signs when conditions exist and remove when not applicable.
Signing shown for one direction only.

KEY
Flagger
Sign
Cones
Survey Equipment
S = Numerical value of speed limit or 85th percentile.



TYPE KK
At major intersections within pilot car control area

Notes
1. Re-establish speed limit. Determine exact speed limit in the field, dependent on location and conditions.
2. Determine reduced speed limit based on in-place speed limit before construction. Where speed reductions exceed 30 mph, install a second speed limit sign with the desired speed reduction (not to exceed 30 mph.) Place the second speed limit sign at ½B.
3. Install flags on warning signs in urban areas when signs are not portable. Mount 24 inch square flags perpendicular to the edges of the sign, and at such a distance above the edge that the flag does not touch the sign when limp.
4. Cover existing speed limit signs within reduced speed zones.
5. As an option, use portable sign supports in lieu of post mounted signs in accordance with NDDOT Standard Drawing D-704-14.
6. Sign G20-55-96 is not required if this standard is part of other traffic control layouts, or work is less than 15 days.
7. When pilot car operation is used, place sign G20-4b-36 "Wait For Pilot Car" at major intersections within pilot car control area.
8. Recommend 40 mph speed limit in vicinity of workers, unless location and conditions dictate otherwise.
9. Layouts shown for one direction only.

ADVANCE WARNING SIGN SPACING			
Road Type	Distance Between Signs Min. (ft)		
	A	B	C
Urban - Low Speed (30 mph or less)	150	150	150
Urban - Low Speed (over 30 to 40 mph)	280	280	280
Urban - High Speed (over 40 mph to 50 mph)	360	360	360
Rural - High Speed (over 50 mph to 65 mph)	720	720	720
Urban Expressway and Freeway (55 mph to 60 mph)	850	1350	2200
Rural Expressway and Freeway (70 mph to 80 mph)	1000	1500	2640
Interstate/4-Lane Divided (Maintenance and Surveying)	750	1000	1500

Longitudinal Buffer Space	
*Speed (mph)	Length Min (feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

* Posted speed, off-peak 85th percentile speed prior to work starting, or the anticipated operating speed in mph.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

9-27-13

REVISIONS

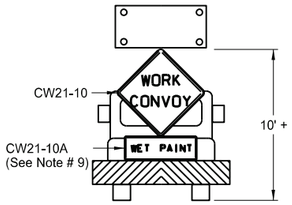
DATE	CHANGE
08-17-17	Added speed limit signs. Updated notes & sign numbers
11-01-19	Revised note 5 & sign numbers
02-23-23	Revised distance & removed signs
06-30-25	Legislative Changes

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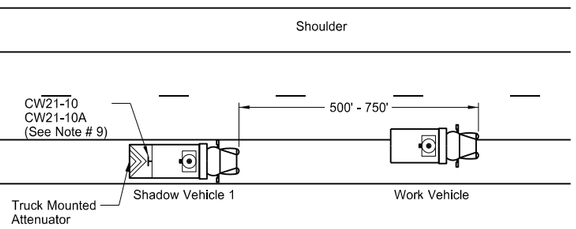
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MOBILE OPERATION
(PAVEMENT MARKING)

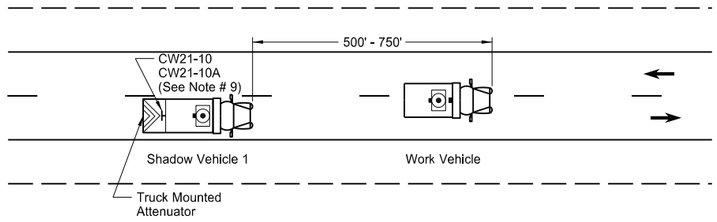
D-704-27



Typical Shadow Vehicle 1
Two-Way Roaday

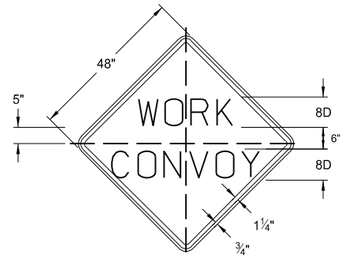


Two-Way Roadway with Paved Shoulders

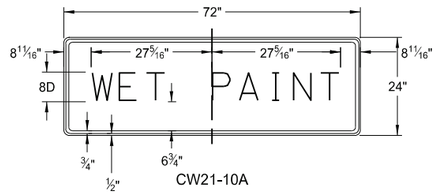


Two-Way Roadway without Paved Shoulders

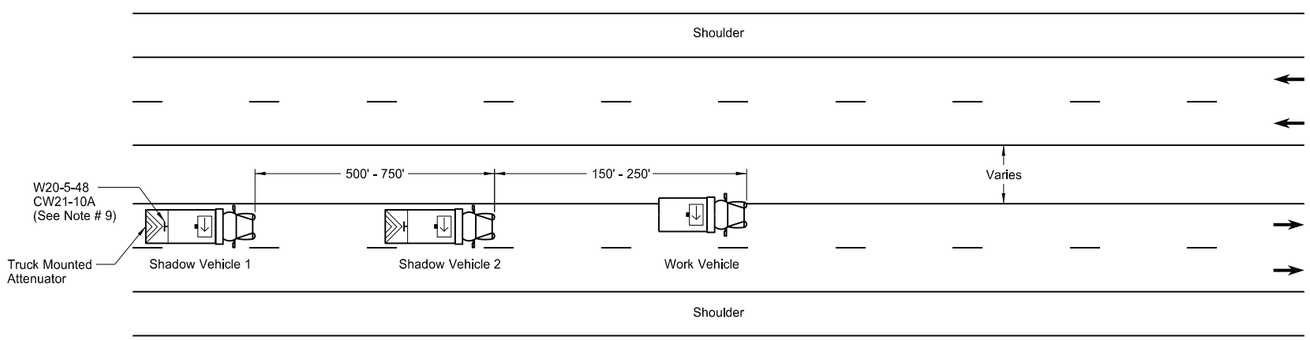
Sign Details



CW21-10

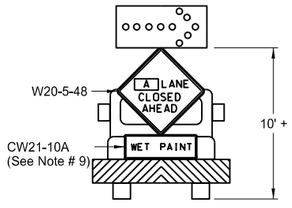


CW21-10A



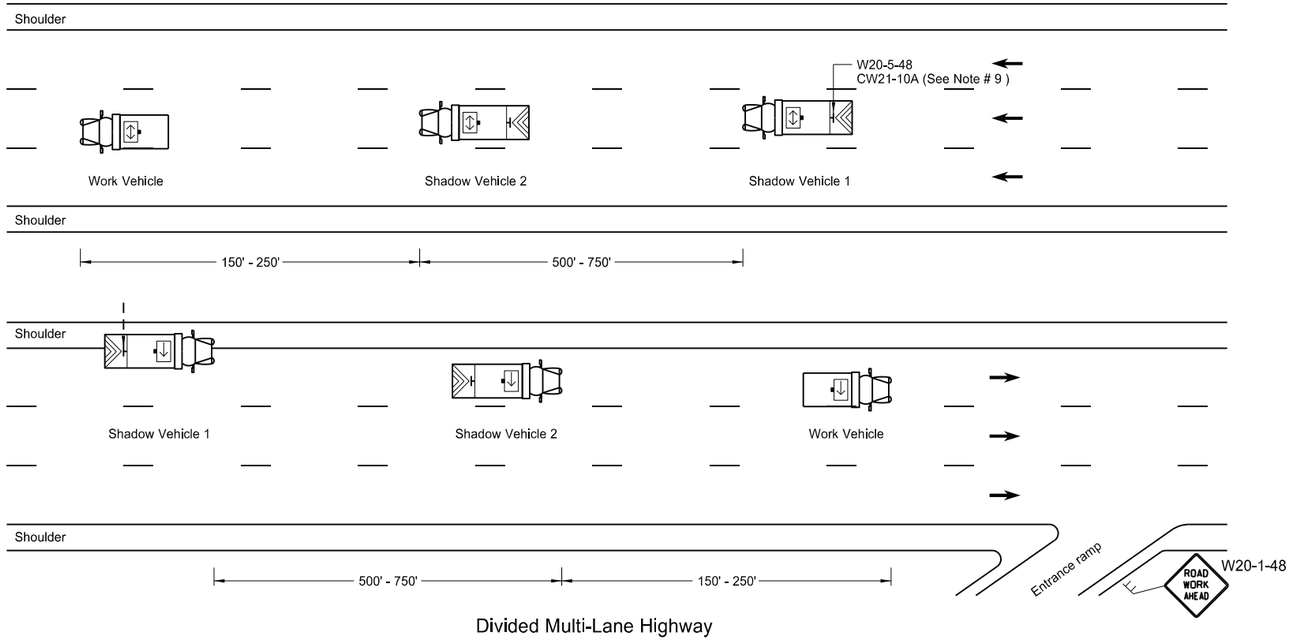
Undivided Multi-Lane Roadway

Notes
1. Use additional vehicles you choose to be in the convoy with truck mounted attenuators, at your own expense.
2. Display yellow rotating beacons or stobe lights on shadow and work vehicles, unless otherwise stated in the plans.
3. Use Type B or Type C flashing arrow panels controlled from inside the vehicle.
4. Provide each vehicle with two-way electronic communication capability.
5. Move shadow vehicle 1 first to shadow other convoy vehicles when convoy changes lane.
6. Vary vehicle spacing between shadow vehicle 1 and shadow vehicle 2 based on sight distance restrictions. Motorists approaching the work convoy need to see trail vehicle in time to slow down and/or change lanes as they approach shadow vehicle.
7. Sign Colors
   Letters = Black
   Border = Black
   Background = Orange
8. As an option, use shadow vehicle 2 the paint tender vehicle.
9. Use sign CW21-10A only during painting operation.
10. Pull over work and shadow vehicles periodically to allow motor vehicle traffic to pass on two lane - two way roadways.



Typical Shadow Vehicle 1 & 2
Multi-Lane Highways

A = Left Right Center



Divided Multi-Lane Highway

KEY

- Sign
- Truck mounted attenuator
- Flashing arrow panels:
  - Right directional
  - Left directional
  - Double arrow directional
  - Caution Mode

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

9-27-13

REVISIONS

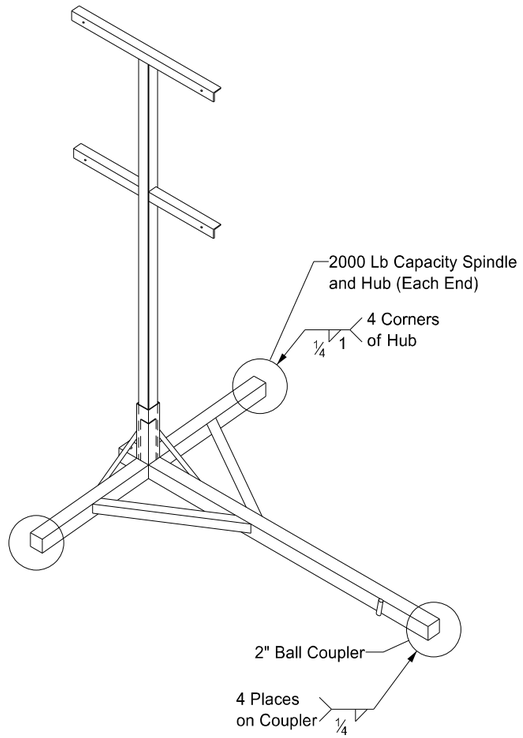
DATE	CHANGE
6-18-14	Removed shadow vehicle 2 on two lane roadways
9-27-17	Updated to active voice
11-08-19	Changed Standard Heading
8-02-24	Electronic Stamp/Signature.

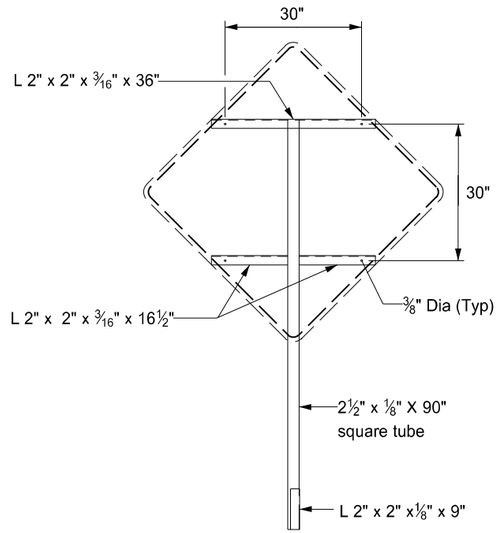
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08/02/24

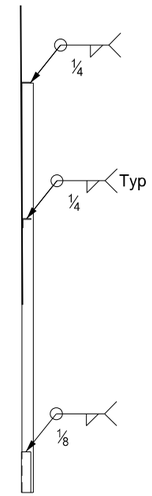
PORTABLE SIGN SUPPORT ASSEMBLY

D-704-50





FRONT

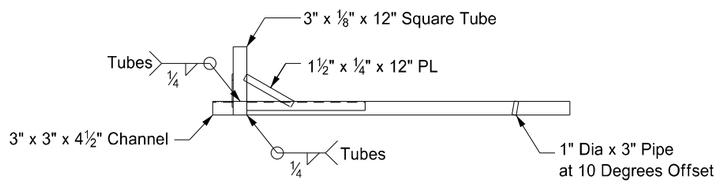


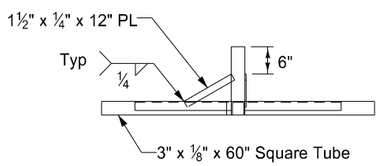
RIGHT

SIGN SUPPORT

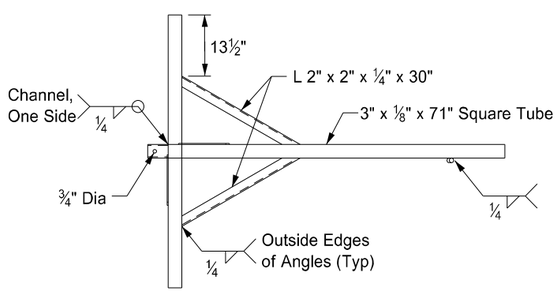
Notes:

1. Maximum 250 pound weight of assembly.
2. Use a 14" wheel and tire.
3. Use no automotive and equipment axle assemblies for trailer-mounted sign supports.
4. Other NCHRP 350 or MASH crash tested assemblies are acceptable.





RIGHT



TOP

TRAILER

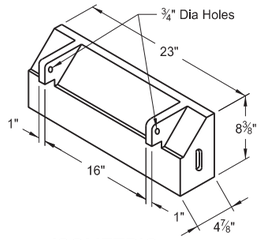
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-23-10	
REVISIONS	
DATE	CHANGE
12/02/2020	Updated Note to active voice.

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Kirk J Hoff
12 02 2020

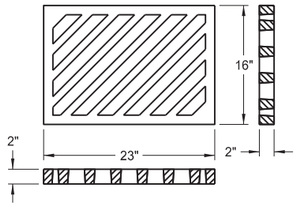
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INLET - TYPE 1

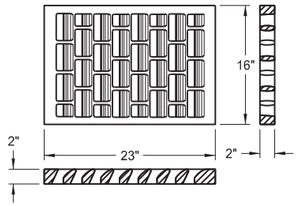
D-722-1



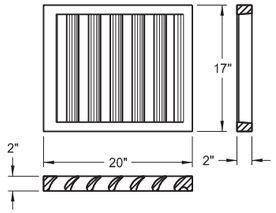
ISOMETRIC
(Grate Style "D" & "L")



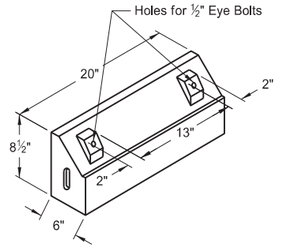
GRATE STYLE "D"
(Waterway Area = 1.1 SF)



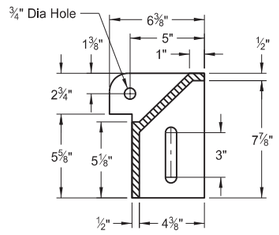
GRATE STYLE "L"
(Waterway Area = 0.9 SF)



GRATE STYLE "V"
(Waterway Area = 1.3 SF)

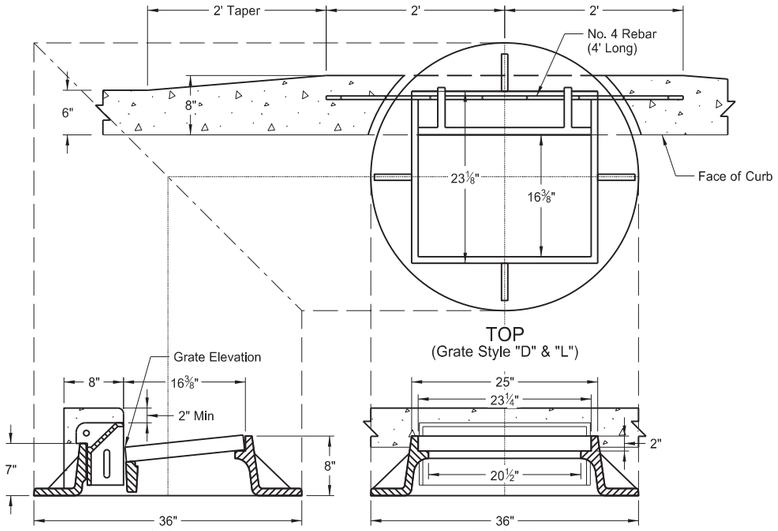


ISOMETRIC
(Grate Style "V")



CURB BOX
(Grate Style "D" & "L")

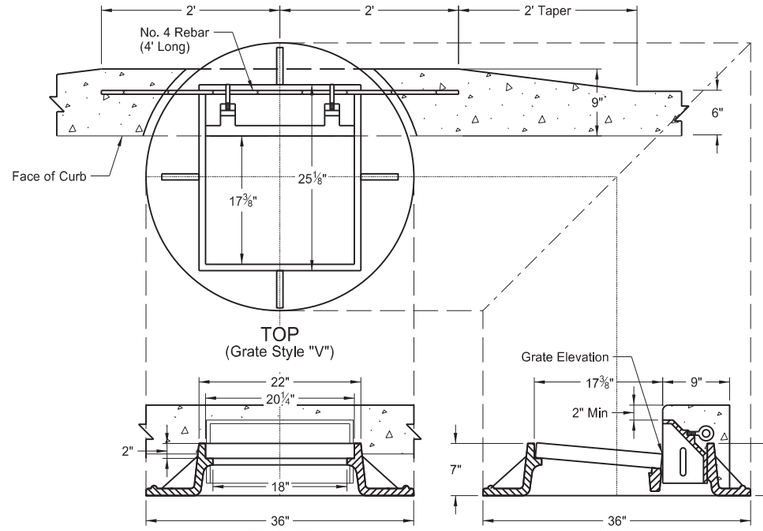
CURB PLATE
(Grate Style "D" & "L")



TOP
(Grade Style "D" & "L")

SIDE
(Grate Style "D" & "L")

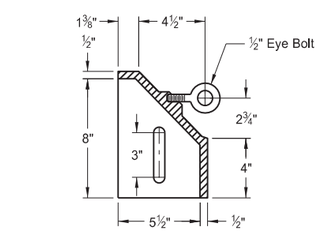
FRONT
(Grate Style "D" & "L")



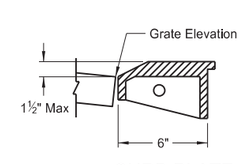
TOP
(Grade Style "V")

FRONT
(Grate Style "V")

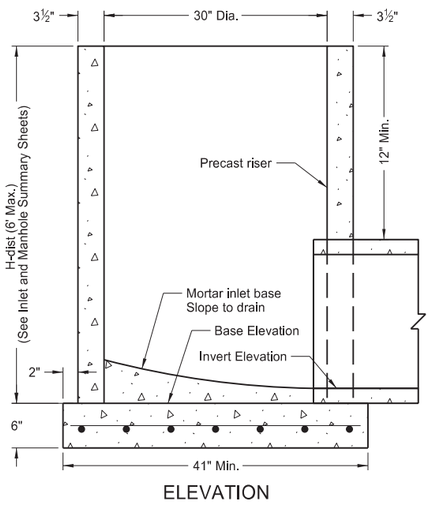
SIDE
(Grate Style "V")



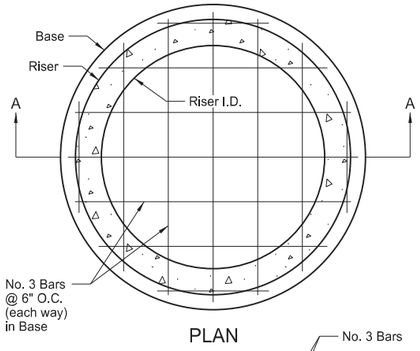
CURB BOX
(Grade Style "V")



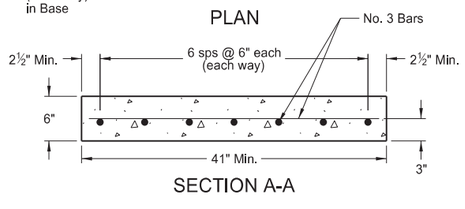
CURB PLATE
(Grade Style "V")



ELEVATION



PLAN



SECTION A-A

NOTES:

1. Use of other castings, similar in dimension, is allowed if the casting conforms to the riser section and has a grate style specified in the plans, meeting or exceeding the waterway area listed. Modifications to the inlet to facilitate similar castings are only allowed with written approval from the Engineer.
2. Use castings manufactured in accordance with AASHTO M306. Use metal conforming to AASHTO M105 Class 35B in the manufacture of castings.
3. Use Class AE-3 concrete for precast or cast-in-place bases constructed in accordance with Section 722 of the NDDOT Standard Specifications.
4. Construct precast concrete base and riser in accordance with AASHTO M199. Include steel reinforcement as shown in the detail.
5. Use Grade 60 reinforcing steel that meets the requirements of Section 612 of the NDDOT Standard Specifications.
6. Construct inlet risers 4 to 5 inches below final elevation and adjust to final grade using adjusting rings or cast-in-place concrete after paving. Include all costs for this adjustment in the price bid for the inlet.
7. Use curb plates in lieu of curb boxes when curb height at inlet is 4" or less.
8. Pipe shall be installed to extend a minimum of 2 inches beyond the inside face of the structure wall at each end. Payment will be based on the actual installed length of pipe between structures, measured end-to-end and rounded to the nearest whole foot.

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

05-14-13

REVISIONS

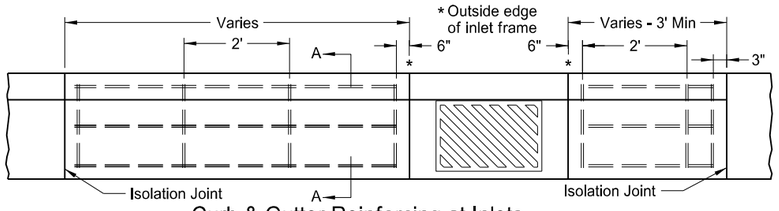
DATE	CHANGE
11-27-13	Revised drawing title, notes & curb plate subtitle.
6-24-14	Revised Note 3.
10-17-17	Updated to active voice.
12-02-20	Updated PE stamp and signature.
08-19-21	Note revisions Updated base and riser dimensions and notes
07-24-25	Note revisions

REGISTERED PROFESSIONAL ENGINEER
JASON R. THORENSON
PE - 5048
DATE 07/24/25
NORTH DAKOTA

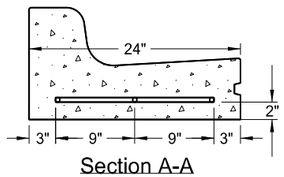
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Curb & Gutter and Valley Gutter

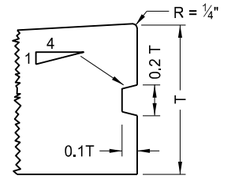
D-748-1



Curb & Gutter Reinforcing at Inlets



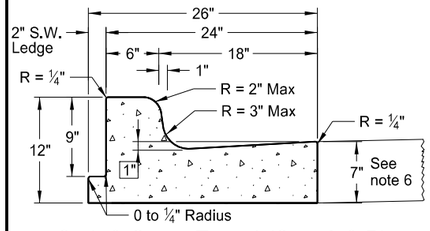
Section A-A



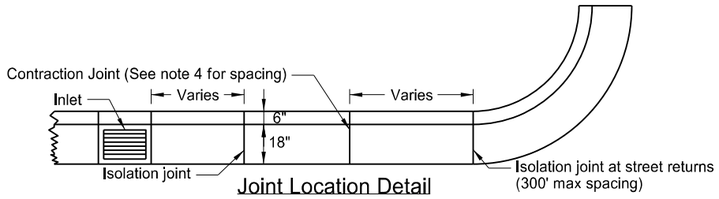
Keyway Detail for Curb & Gutter

(To be used with PCC Pavement and Drives)

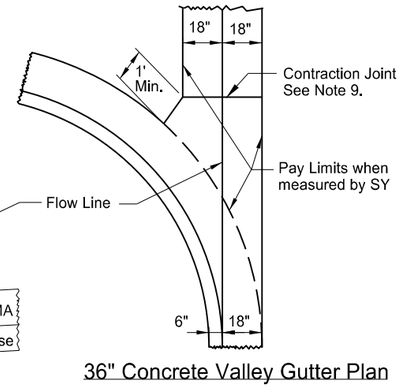
T= Thickness of pavement unless otherwise noted on plans.



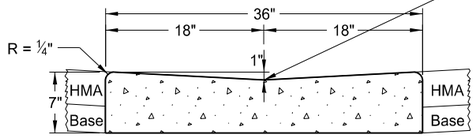
Curb & Gutter Type 1 (Sec. A & B)
Adjacent to Concrete Sidewalk, Median, or Parking Lot. (Sec. A shown. See Sec B for additional details.)



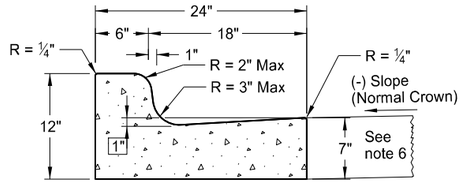
Joint Location Detail



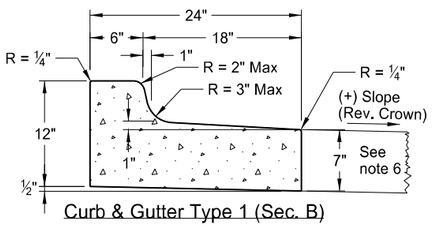
36" Concrete Valley Gutter Plan



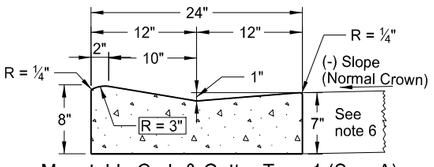
36" Concrete Valley Gutter Detail



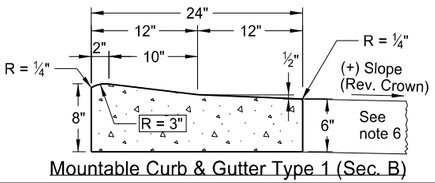
Curb & Gutter Type 1 (Sec. A)



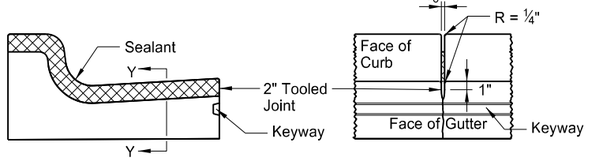
Curb & Gutter Type 1 (Sec. B)



Mountable Curb & Gutter Type 1 (Sec. A)



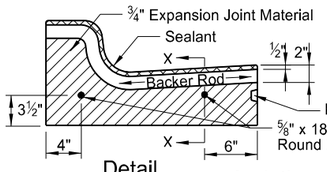
Mountable Curb & Gutter Type 1 (Sec. B)



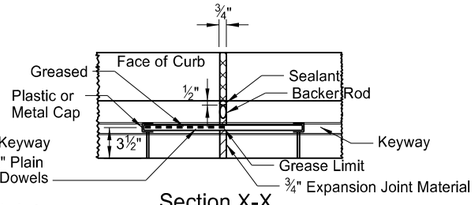
Detail
(10' Max Spacing)

Section Y-Y

Contraction Joint

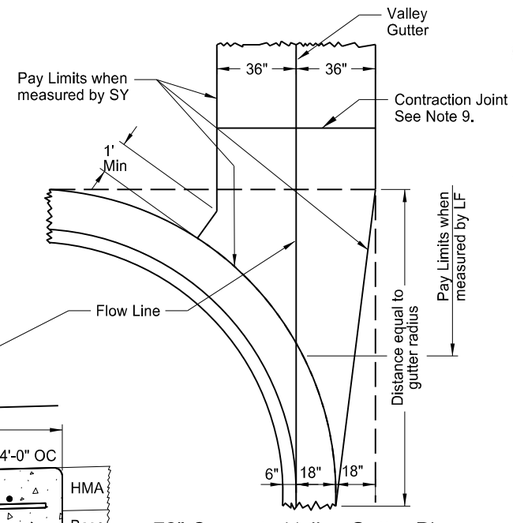


Detail

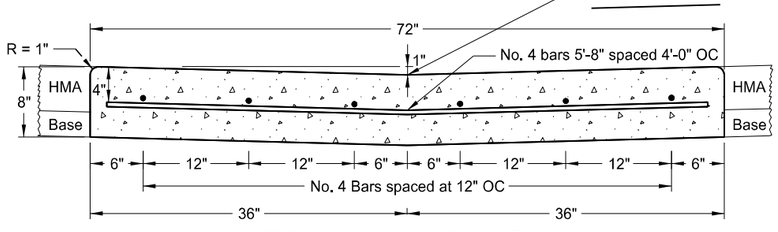


Section X-X

Isolation Joint



72" Concrete Valley Gutter Plan



72" Concrete Valley Gutter Detail

NOTES:

1. Use Curb and Gutter Type 1 (Sec. A & B). Use section "A" with (-) pavement slopes and section "B" with (+) pavement slopes.
2. Contraction Joints: Tool the Curb & Gutter 2" as shown on the contraction joint details.
3. Isolation Joints: Use ¾" expansion joint material for isolation joints. Form the backer rod and joint sealant opening with a pre-cut piece of wood or other material approved by the engineer. Dowel supports are not required on the second pour at a cold joint. Install plastic or metal caps and greased dowels in the cold joint for the second pour.
4. Joint Spacing: For hot mix asphalt pavements use a 10' max joint spacing for the curb and gutter with panels on each side of the inlets. For concrete pavements match the joint spacing for the curb and gutter to the pavement joint on PCC Pavements (approximately 15' spacing.)
5. Joint sealing: For contraction joint, use joint sealant that conforms to section 826.02B. Use sealant for expansion joints specified in note 3 above. Tool and install sealant in accordance with the manufacturer's recommendations.
6. Curb & Gutter-Pavement Interface: For hot mix asphalt pavement use gutter depth shown. For PCC pavements, either match gutter depth to adjacent pavement depth or construct gutter depth shown.
7. Tie curb and gutter to abutting PCC pavement with No. 4 bars, 2'-0" in length, spaced at 3'-9" centers for 15' joint spacing (maximum spacing of 4' centers).
8. On street returns and other locations where new curb and gutter ends and does not abut existing curb and gutter, taper the last two (2) feet of the curb from 6" in height to 0". Install a 1/2" premolded full depth isolation joint (the same shape as the curb and gutter just ahead of the taper) with an 18" plain round bar across the joint.
9. Valley Gutter Joints: Form, saw, or score ⅛" min. to ⅜" max. width contraction joints (a minimum 2" depth) at approx 10' intervals. Seal the joints with hot poured elastic type joint sealer (Section 826.02A.2 of the Standard Specifications.) Include all costs for the joint and sealant in the price bid for Valley Gutter.
10. Reinforcing at Inlets: Use #4 deformed reinforcing bars without splices. Include all costs for reinforcing bars at inlets (even inlets located on radii) in the price bid for "Curb & Gutter - Type 1" or "Curb & Gutter Mountable - Type 1." Extend reinforcement to the second joint (with rebar placed through the first joint) in cases where the 3' minimum panel length can't be obtained.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
8-7-2013	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.
08-27-19	New Design Engr PE Stamp.
10-30-24	Revised bar size & notes.

KIRK J. HOFF REGISTERED PROFESSIONAL PE-4683 ENGINEER NORTH DAKOTA

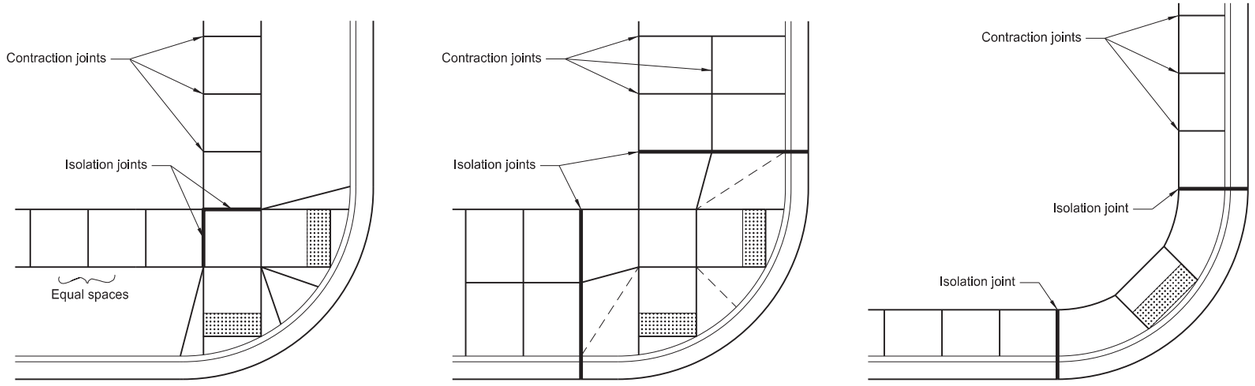
Kirk J Hoff

10/30/24

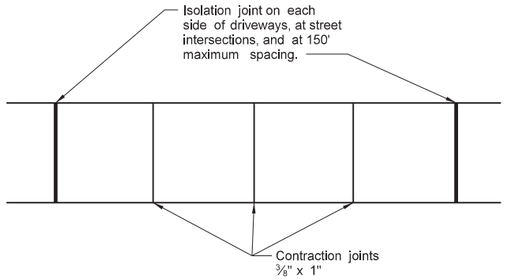
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SIDEWALK

D-750-2



Typical Joint Layouts



NOTES:

1. Curb ramp and detectable warning panel layouts for informational purposes only. See Standard Drawing D-750-3 for curb ramp and detectable warning panel details.
2. Joint Spacing: Vary transverse contraction joint spacing from 4' to 6' to create approximate square panels.

   Use longitudinal contraction joints when sidewalk width is 8' or greater, and space at half the sidewalk width.

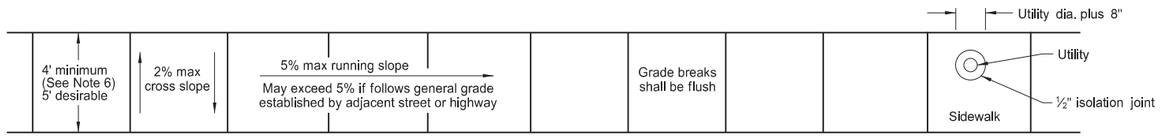
   Saw or groove contraction joints to a minimum depth of 1/3 the depth of the concrete.

   When sidewalk is adjacent to curb & gutter, vary the sidewalk joint spacing to match curb & gutter joints.

   Use isolation joints between separate concrete pours, or between old and new concrete.
3. Include all costs for labor, equipment, and material necessary to construct contraction and isolation joints in the price bid for sidewalk concrete.
4. Use 4" sidewalk concrete thickness unless otherwise specified.
5. Use 4" base material thickness unless otherwise specified. Include all costs for labor and materials necessary to place the base material in the price bid for "Salvage Base Course" or "Aggregate Base Course CL 5."

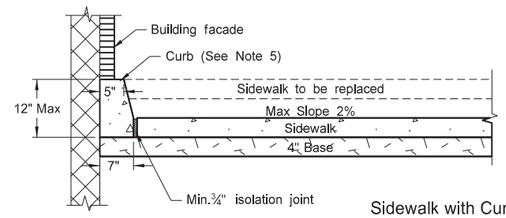
   Modify existing ground slope with landscaping as needed. If not possible, such as adjacent buildings, use a vertical curb as shown in the detail below. The Engineer will measure curb at the unit price bid for "Curb - Type I" per lineal foot.
6. Sidewalk Width & Grade: Provide a continuous 4' min clear width pedestrian access route with max 2% concrete cross slope, excluding flares. The width of the curb cannot be counted as part of the pedestrian access route.

   When clear width of pedestrian access routes is less than 5.0', provide passing spaces at a maximum of 200' with a minimum size of 5.0' by 5.0'.

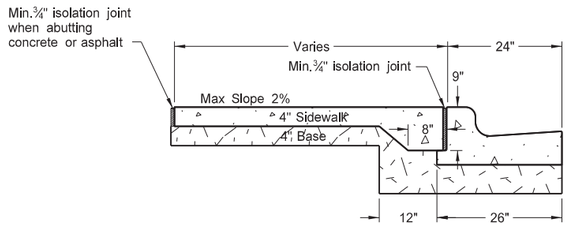


Sidewalk Width and Grade

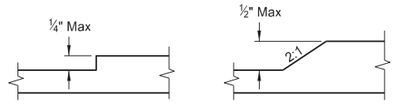
Utility Blockout



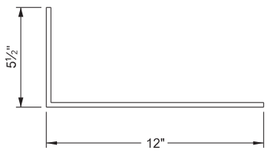
Sidewalk with Curb Detail
(Building face application)



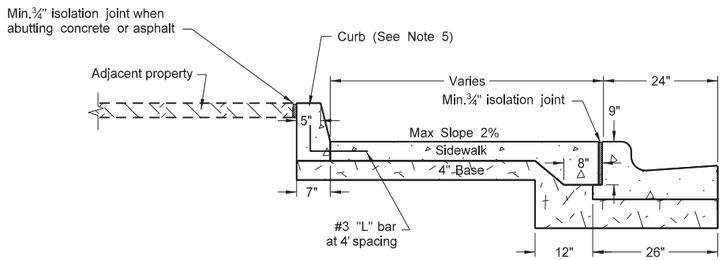
Sidewalk Detail
(Installed adjacent to curb and gutter)



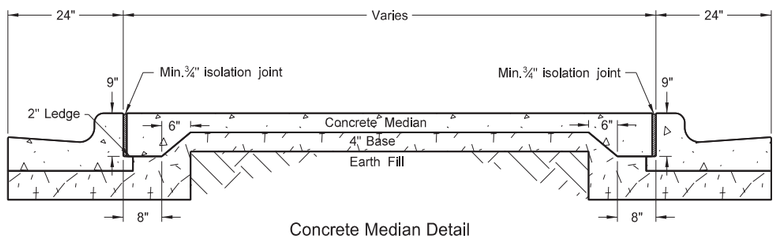
Vertical Discontinuities
(As needed for utility covers, vaults, grating, etc..)



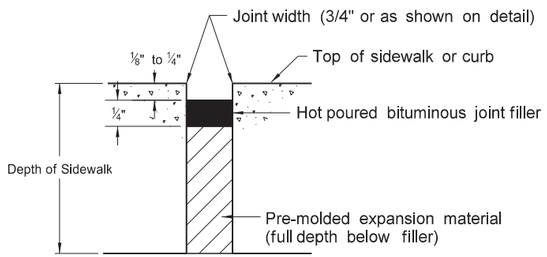
"L"Bar Detail
#3 Bar



Sidewalk with Curb Detail
(Adjacent property application)



Concrete Median Detail



Typical Isolation Joint Seal
(longitudinal and transverse)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-26-13	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.
09-05-18	Added sidewalk details for width & grade & passing lane requirements.
08-27-19	New Design Engineer PE Stamp.
08-09-24	Electronic Stamp/Signature.

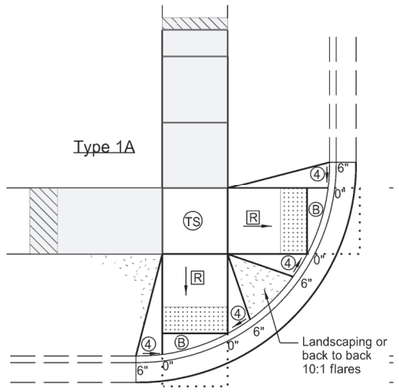
KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA

08/09/24

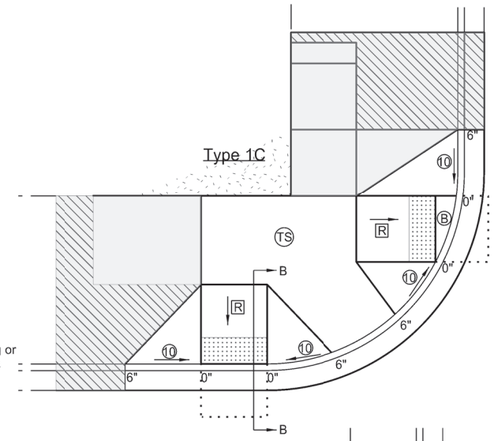
CURB RAMP RETROFIT DETAILS

D-750-3

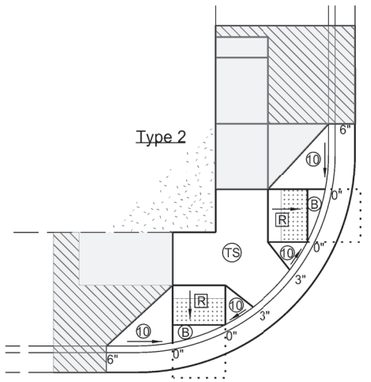
Type 1A



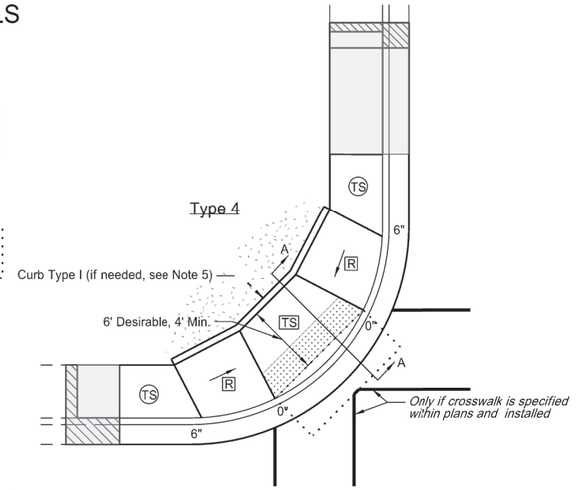
Type 1C



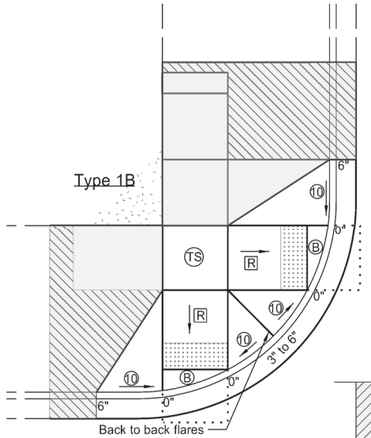
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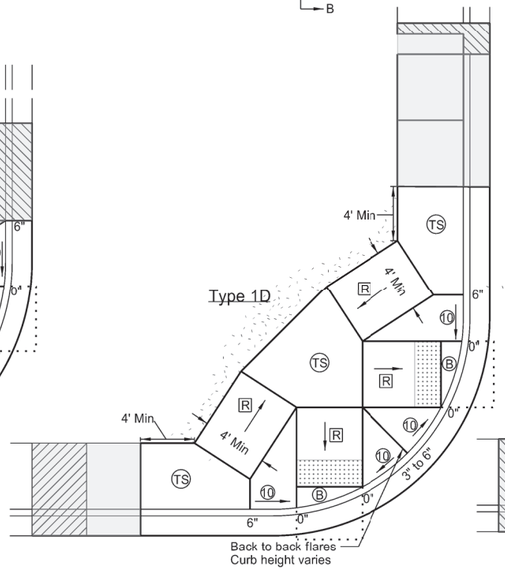
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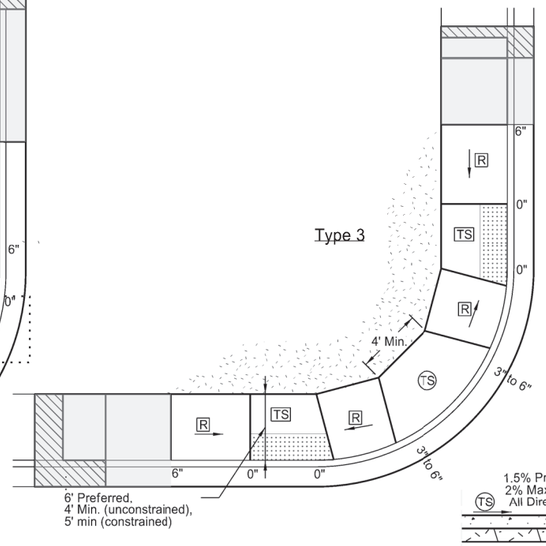
Type 1B



Type 1D



Type 3



5½"
12"
#3 "L" Bar

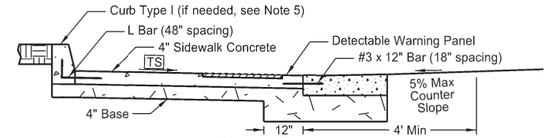
NOTES:

1. Ramp width is the useable portion of the ramp, excluding flares. Match curb ramp width to Existing Pedestrian Facility (EPF) width (4' minimum or 5' for island ramps.) Match ramp width to existing shared use path width. Maximum ramp length is 15'.
2. Provide turning space with desirable 5' x 5' size or larger and minimum 4' x 4' unconstrained size, for any change of direction. Provide landing 5' long x width of path at the bottom and top of parallel ramps and at the top of perpendicular ramps. Turning spaces and Landings may overlap.
3. Match detectable warning panel width to ramp width. Radial panels are allowed. Place detectable warning panel within the lower turning space.
4. Provide a continuous 4' minimum width EPF with 1.5% preferred cross slope and max 2% constructed cross slope.
5. Modify existing ground slope with landscaping, as needed. If not possible, use a vertical curb as detailed on Standard D-750-2. The Engineer will measure curb at the unit price bid for "Curb - Type I" per lineal foot.
6. Islands: If the profile of the island curb ramp is 2% or less, provide a minimum distance of 2' between warning panels. If the profile of the island curb ramp is steeper than 2%, provide a turning space between the ramps.
7. Provide generally planar vertical alignments. Provide grade breaks, perpendicular to the direction of the pedestrian travel, at the top and bottom of curb ramps (1.5% preferred, 2% max constructed cross slope).
8. See Curb Ramp Retrofit Transition Details Standard D-750-4 for additional information. Also See PROWAG for full compliance in the curb ramp area.
9. Grade transitions shall be flush.

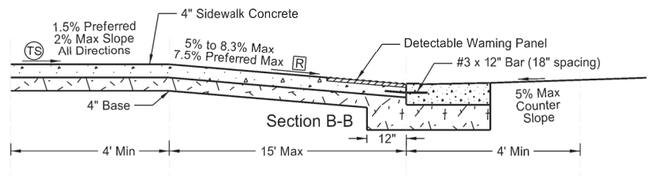
LEGEND:

- : Detectable Warning Panel.
- : Landscaping.
- : Transitional tie-in to nearest joint, if needed.
- : Curb Ramp Retrofit Transitional Area (See Standard Drawing D750-4)
- : 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel. 1.5% preferred cross slope 2% maximum cross slope 4.7% preferred running and counter slope 5% maximum running and counter slope
- TS : Turning Space Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions.
- R : Preferred Ramp Grade = 5% to 7.5%. Maximum Constructed Grade = 8.3%. Preferred Cross Slope = 1.5%. Maximum Constructed Cross Slope = 2%.
- B : 1.5% preferred cross slope 2% maximum constructed cross slope running slope consistent with the EPF 4.7% preferred max counter slope 5.0% max constructed counter slope
- 10 : 10:1 maximum constructed slope.
- 4 : 4:1 maximum constructed slope.

0", 3", or 6" : Curb Height.

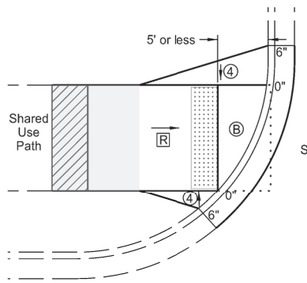


Section A-A



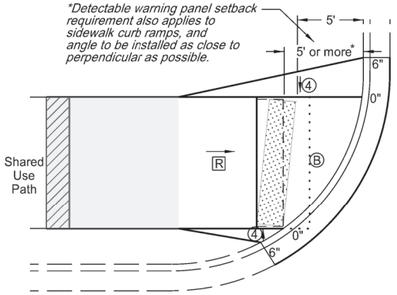
Section B-B

5' or less

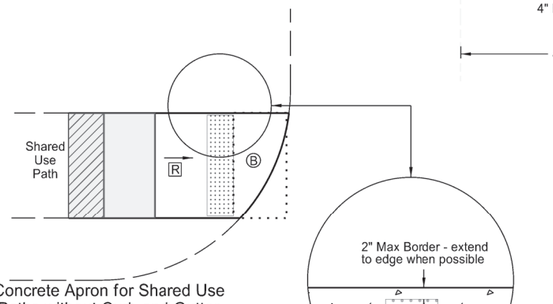


*Detectable warning panel setback requirement also applies to sidewalk curb ramps, and angle to be installed as close to perpendicular as possible.

5' or more*

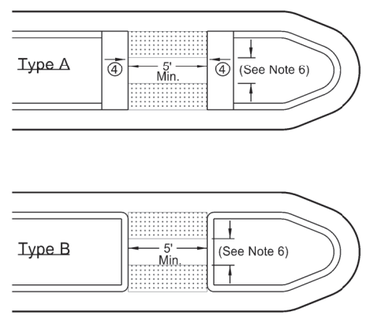


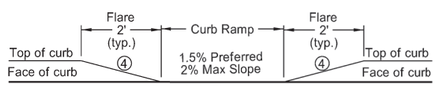
Concrete Apron for Shared Use Paths with Curb and Gutter



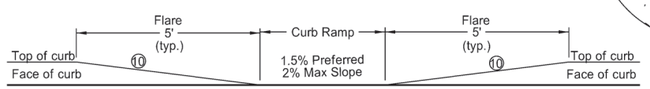
Concrete Apron for Shared Use Paths without Curb and Gutter

Median Refuge Islands (Cut-Through)





4:1 Flares
(To be used when flare is adjacent to landscaping)



10:1 Flares
(To be used when flare is adjacent to sidewalk)

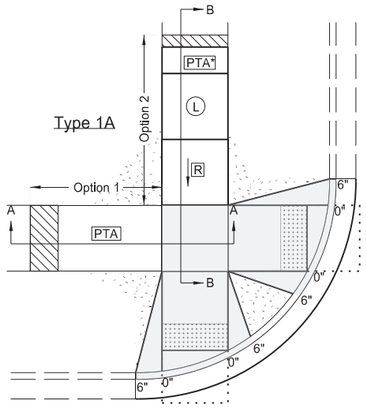
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-26-13	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.
09-05-18	Revised Notes, Revision for Turning Space, Added Passing Space Requirements, Turned Detectable Warning Panel
03-15-21	Slope & other clarifications.
05-19-21	Separate Curb Ramp Transition Area from Curb Ramp area

KIRK J. HOFF
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PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
05 19 2021

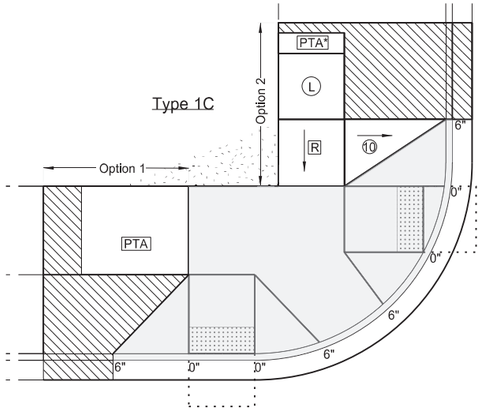
CURB RAMP RETROFIT TRANSITIONAL AREA DETAILS

D-750-4

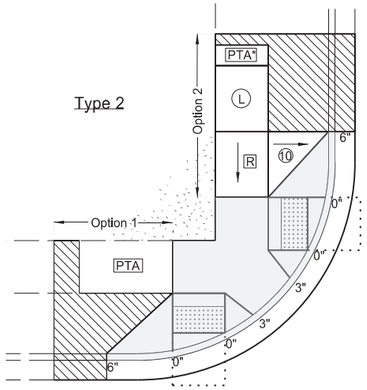
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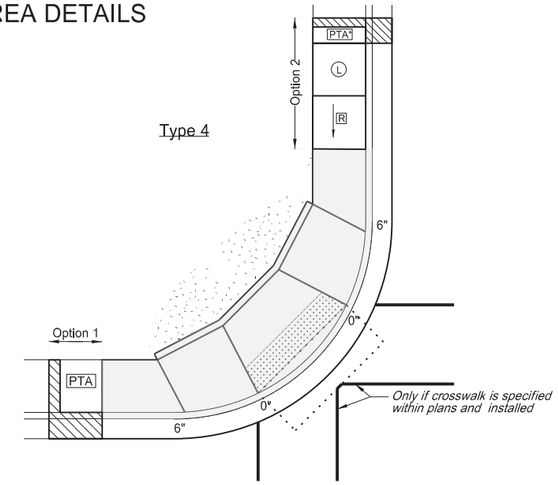
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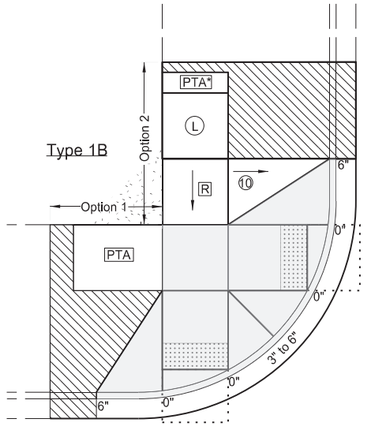
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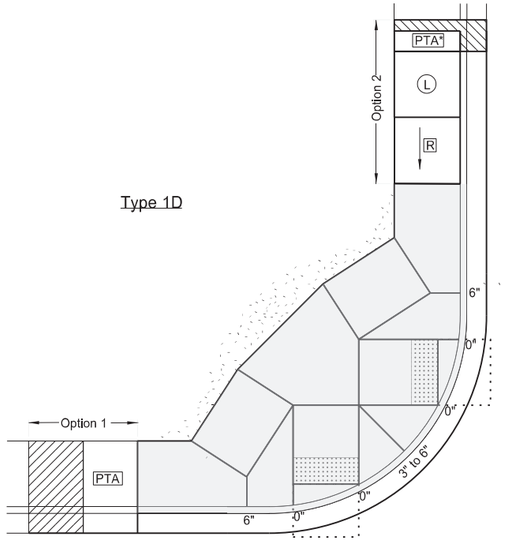
Type 4



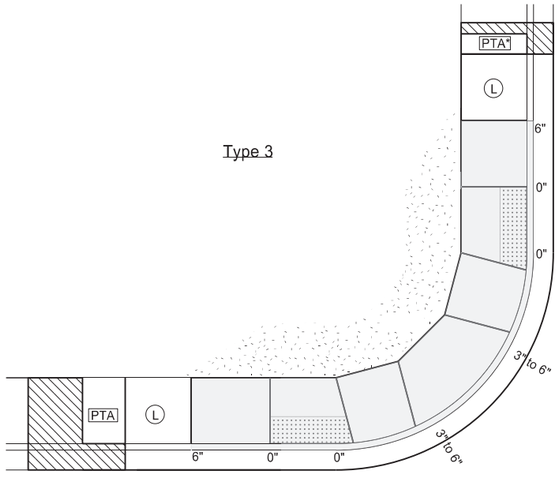
Type 1B

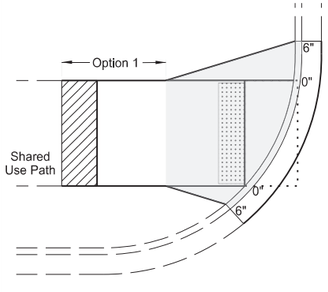


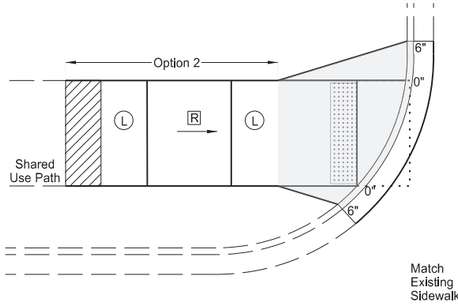
Type 1D



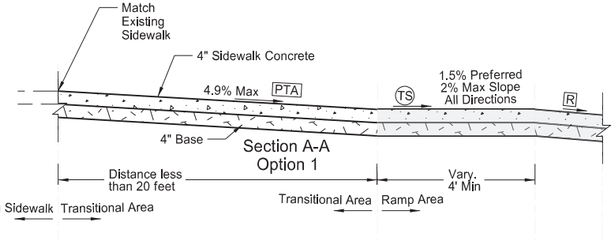
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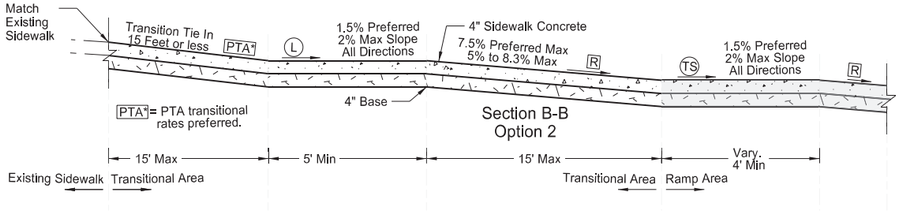






Transition Areas for Shared Use Paths





NOTES:

1. Curb Ramp Transitional Areas are to transition from the Curb Ramp area into the Existing Pedestrian Facility (EPF). Each layout shows example transitions. Use any combination for transitions from the Ramp Area into the EPF that allows for similar or gentler slopes to that of the existing condition, yet transitions in the shortest distance possible. In some cases, if grades allow, the Ramp area can immediately transition into the EPF and no transitional area is needed.
2. Option 1: Use this transition when existing running slope grades are less than 5%. Transition from the ramp area to the EPF using the Pedestrian Access Transition Area (PTA) transition rates and in less than 20 feet.
3. Option 2: Use this transition when existing running slopes are greater than 5% and option 1 is not able to be met.

   Add a ramp and a landing immediately after the ramp area. Then transition from the compliant landing into the EPF using the PTA rates (preferred), or in less than 15 feet (which ever is shorter).
4. Transitional Areas for Shared Use Paths can be concrete or asphalt.
5. See Curb Ramp Retrofit Details Standard D-750-3 for additional information.

LEGEND:

- : Detectable Warning Panel.
- : Landscaping.
- : Transitional tie-in to nearest joint, if needed.
- : Curb Ramp Retrofit Area (See Standard Drawing D750-3)
- : 4' long x width of EPF or 4' minimum Clear space outside traffic lanes of travel. 1.5% preferred cross slope 2% maximum cross slope 4.7% preferred running slope 5% maximum running slope
- PTA : Pedestrian Access Transition Area Running Slope less than 4.9%. Transition Cross Section at 1/2 percent per foot from the from Ramp Area to EPF.
- (L) (TS) : Turning Space/Landing Use at top of ramp or when changing directions. 1.5% preferred slope (2% maximum) all directions.
- R :Preferred Ramp Grade = 5% to 7.5%. Maximum Constructed Grade = 8.3%. Preferred Cross Slope = 1.5%. Maximum Constructed Cross Slope = 2% Maximum Length = 15 feet
- (10) : 10:1 maximum constructed slope.
- (4) : 4:1 maximum constructed slope.

0", 3", or 6" : Curb Height.

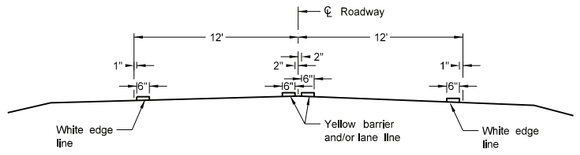
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
05-19-21	
REVISIONS	
DATE	CHANGE

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
05 19 2021

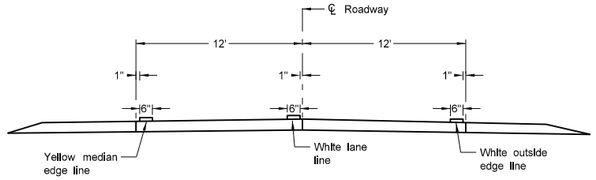
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PAVEMENT MARKING

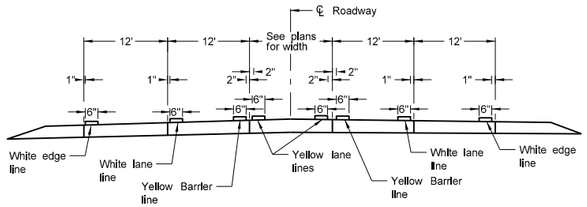
D-762-4



Two Lane Two Way
RURAL ROADWAY



Two Lane Roadway
INTERSTATE HIGHWAY
Concrete Section



RURAL FIVE LANE ROADWAY
Concrete Section

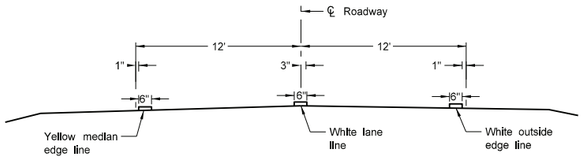
NOTES:

1. Continue edge lines through private drives and field drives. Break edge lines for intersections.

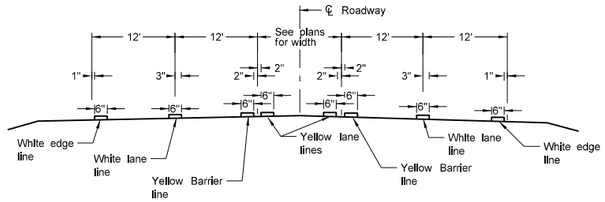
   For section lines, county roads, and street approaches, stripe the radii and edge lines of the paved surface within the right of way except where curb and gutter is present.

2. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph,

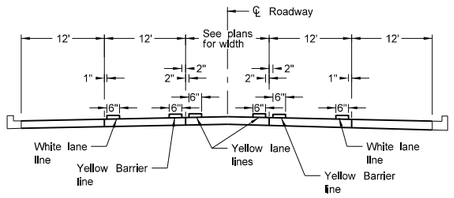
3. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits < 40 mph.



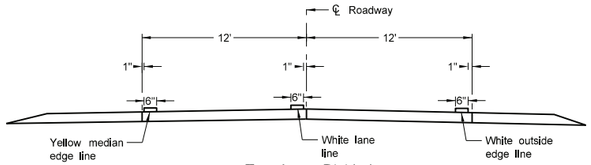
Two Lane Divided
Rural Roadway
PRIMARY HIGHWAY
Asphalt Section



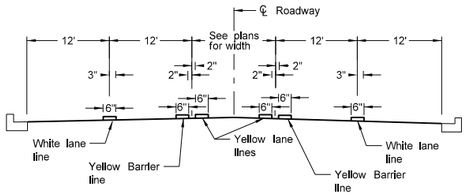
RURAL FIVE LANE ROADWAY
Asphalt Section



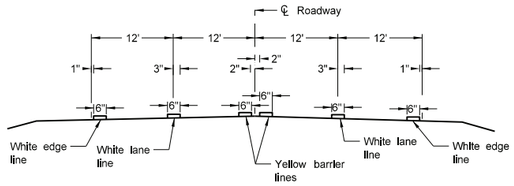
URBAN FIVE LANE SECTION
Concrete Section



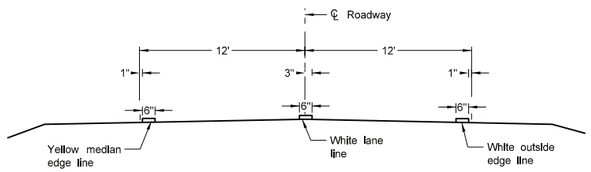
Two Lane Divided
Rural Roadway
PRIMARY HIGHWAY
Concrete Section



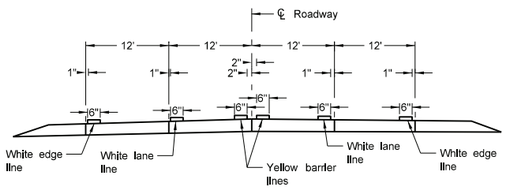
URBAN FIVE LANE SECTION
Asphalt Section



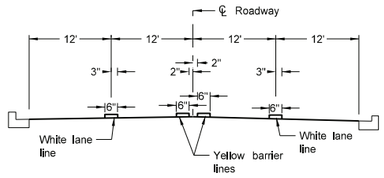
RURAL FOUR LANE ROADWAY
Asphalt Section



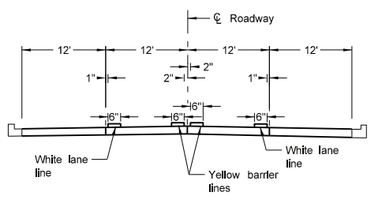
Two Lane Roadway
INTERSTATE HIGHWAY
Asphalt Section



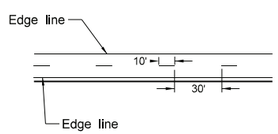
RURAL FOUR LANE ROADWAY
Concrete Section



URBAN FOUR LANE SECTION
Asphalt Section



URBAN FOUR LANE SECTION
Concrete Section



CENTERLINE PAVEMENT MARKING SKIP SPACING DETAIL

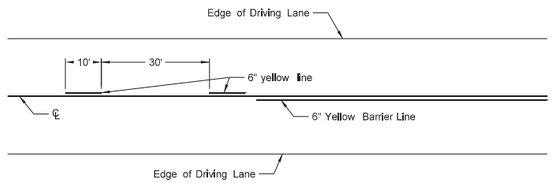
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
12-1-10	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice.
08-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.
07-09-24	Modified Note 1.

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
07/09/24
ENGINEER
NORTH DAKOTA

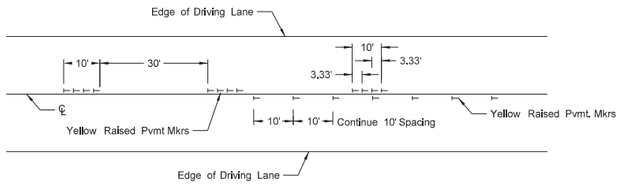
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SHORT-TERM PAVEMENT MARKING

D-762-11

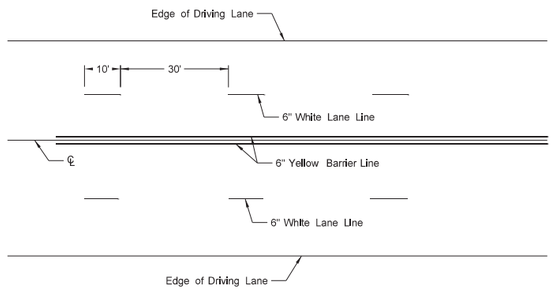


Painted or Tape Lines

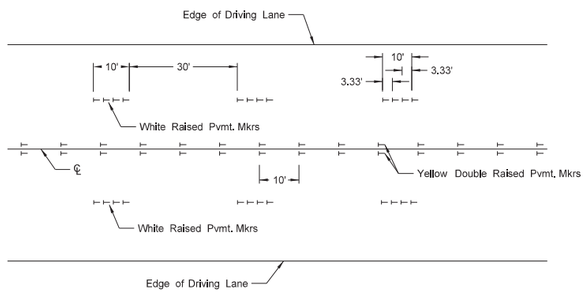


Raised Pavement Markers

TWO-LANE TWO-WAY ROADWAY

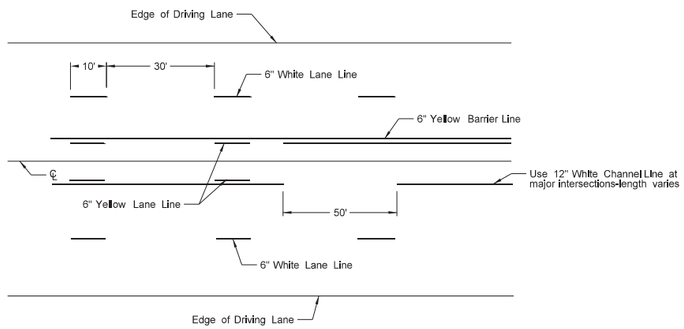


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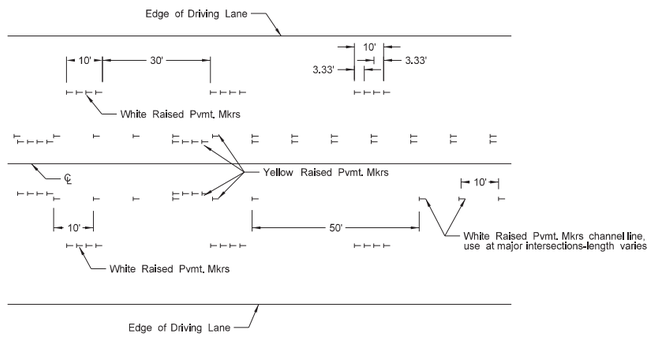


Raised Pavement Markers

FOUR LANE ROADWAY

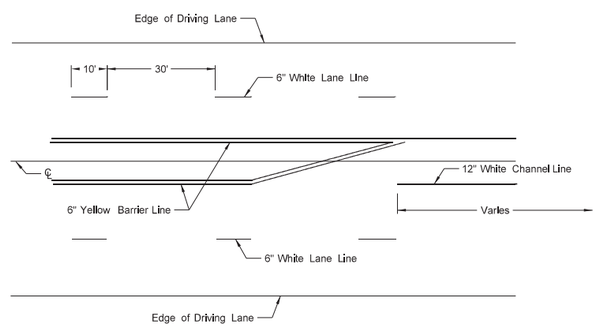


Painted or Tape Lines

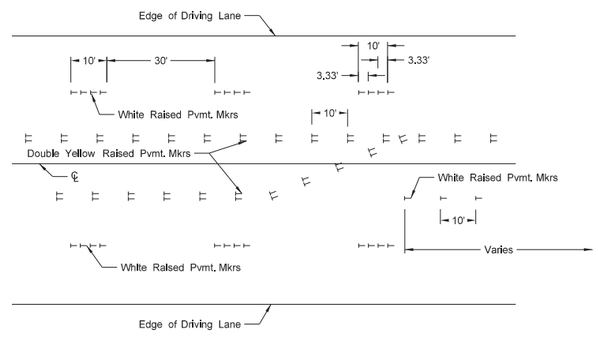


Raised Pavement Markers

FIVE LANE ROADWAY TWO WAY LEFT TURN



Painted or Tape Lines



Raised Pavement Markers

FIVE LANE ROADWAY WITH MARKED ISLANDS

NOTES:

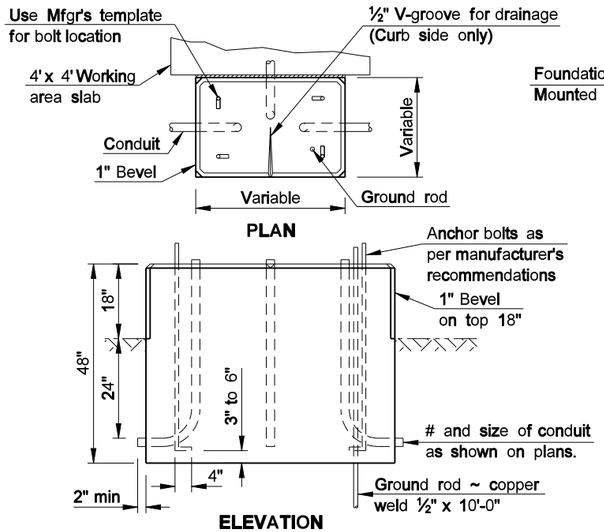
1. Place no passing zones on two-lane two-way roadways as shown. In lieu of short term no passing zone pavement markings, place no passing zone signs. Replace no passing zone signs with short term no passing zone pavement marking within three days.
2. Place short term center line stripe (paint) on top lift to match exact placement of permanent stripe.
3. Remove raised markers and tape markings after permanent pavement marking is installed.
4. Normal width line - 6 inches wide for freeways, expressways, and ramps; 6 inches for all other roadways with speed limits > 40 mph.
5. Use 4 or 6 inch wide pavement marking for all other roadways with speed limits ≤ 40 mph.
6. Wide lines - 8 inches wide if 4 inch normal width lines are used and 12 inches wide if 6 inch normal width lines are used.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
12-1-10	
REVISIONS	
DATE	CHANGE
3-29-16	Re-numbered to be D-762-11 (previously was D-762-6)
10-17-17	Updated to active voice.
8-27-19	New Design Engineer PE Stamp.
11-22-23	Revised pavement marking widths.
1-17-24	Revised wide pvmt marking width.

KIRK J. HOFF
REGISTERED
PROFESSIONAL
PE-4683
01/17/24
ENGINEER
NORTH DAKOTA

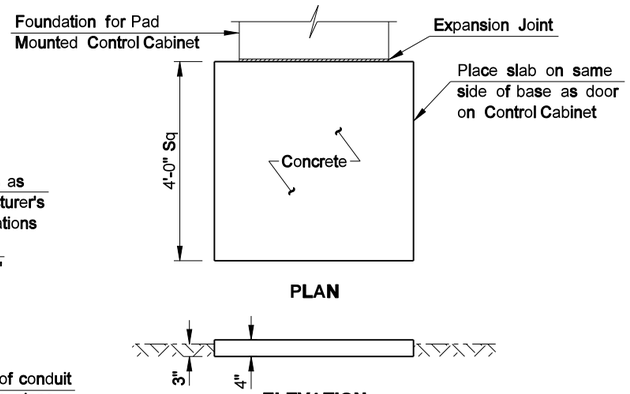
CONCRETE FOUNDATIONS
(TRAFFIC SIGNALS & HIGHWAY LIGHTING)

D-770-1



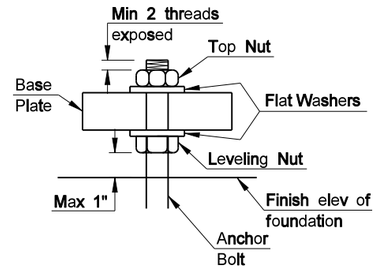
CONTROLLER CABINET FOUNDATION PAD MOUNT

The Controller Cabinet Foundation shall be bid as Concrete Foundation - Traffic Signals.

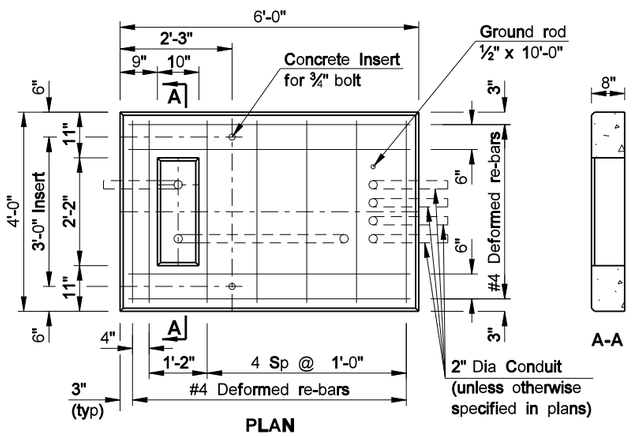


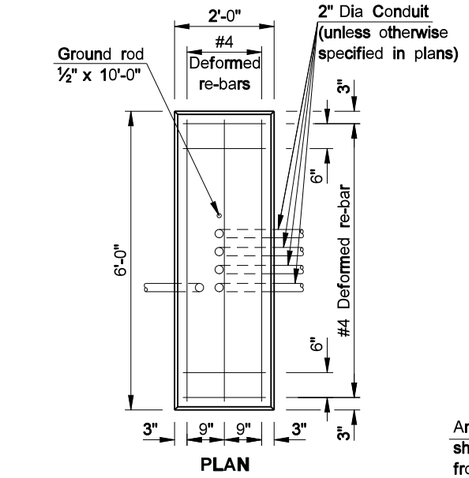
WORKING AREA SLAB

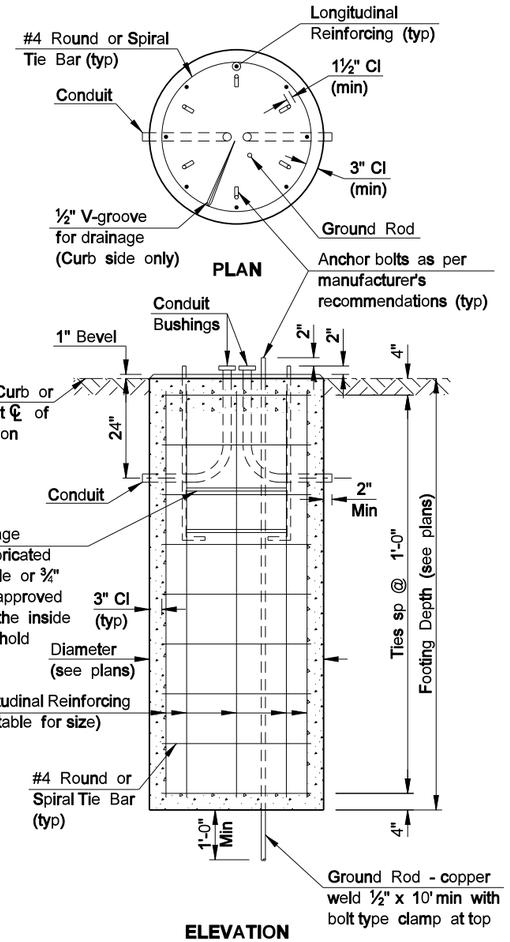
The Working Area Slab shall be installed where shown on the plans and shall not be bid separately but shall be included in the price bid for Concrete Foundation - Traffic Signals.



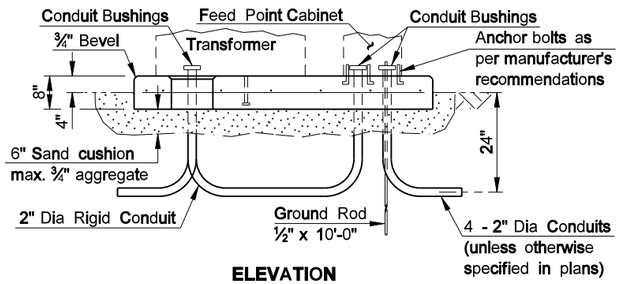
ANCHOR BOLT DETAIL





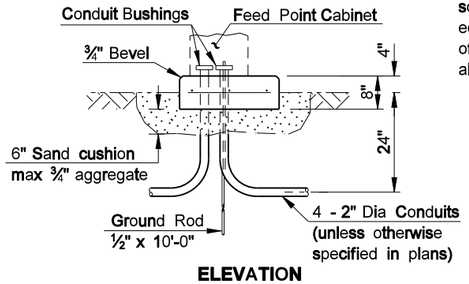


LIGHT & SIGNAL STANDARD FOUNDATION



TRANSFORMER & FEED POINT CABINET FOUNDATION PAD MOUNT

The Transformer & Feed Point Cabinet Foundation Pad Mount shall be bid as Concrete Foundation ~ Feed Point ~ Type A.



FEED POINT CABINET FOUNDATION PAD MOUNT

The Feed Point Cabinet Foundation Pad Mount shall be bid as Concrete Foundation ~ Feed Point ~ Type B.

NOTES:

LIGHT & SIGNAL STANDARD FOUNDATIONS: See plans for conduit size, number of bends and correct position for each foundation. When conduit does not continue beyond the foundation, conduit with a 105° bend and bushings on both ends may be substituted for the 90° bends shown. See plans for correct size & location of foundations. The grade and exact location shall be established by the Engineer in the field. All reinforcing shall be Grade 60. Tie bars shall have a minimum of a 12" lap. Reinforcing may be omitted for Type I, II, V, VI & VII signal standard foundations if the anchor bolts extend to within 3" to 6" above the bottom of the foundation. A minimum of 6 anchor bolts shall be used for cantilevered structures.

CONTROLLER CABINET FOUNDATION PAD MOUNT FOUNDATION: See plans for the number of 90° bends per foundation and correct positioning. The foundation for Pad Mounted Controller Cabinet shall be of sufficient size so that there is a minimum of 3" of clearance from the outside edge of cabinet to the outside edge of the foundation on any side. The contractor shall ensure a water-tight seal between the controler cabinet and the foundation by caulking, except for V-groove.

WORKING AREA SLAB: The materials and preparation of this slab shall be as approved by the Engineer in the field.

TRANSFORMER & FEED POINT CABINET FOUNDATION PAD MOUNTED: The foundation shall have a wood float finish. All conduits shown shall be installed. Conduit that is not used at this time shall be plugged with an expandable plug.

FEED POINT CABINET FOUNDATION PAD MOUNTED: The foundation shall have a wood float finish. All conduits shown shall be installed. Conduit that is not used at this time shall be plugged with an expandable plug.

LIGHT & SIGNAL FOUNDATION TABLE	
FOOTING DEPTH (ft)	LONGITUDINAL REINFORCING
≤ 12	8 - #5
13 - 14	8 - #6
15 - 16	8 - #7
17 - 19	8 - #8

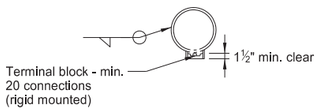
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
6-15-10	
REVISIONS	
DATE	CHANGE

This document was originally issued and sealed by Terrence R. Udland Registration Number PE- 2674 , on 6/15/10 and the original document is stored at the North Dakota Department of Transportation

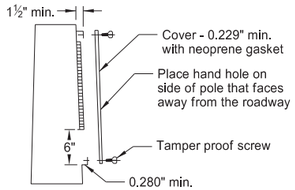
Docusign Envelope ID: CBA567C7-C11B-4F0B-89AF-E47B33997859

TRAFFIC SIGNAL STANDARDS

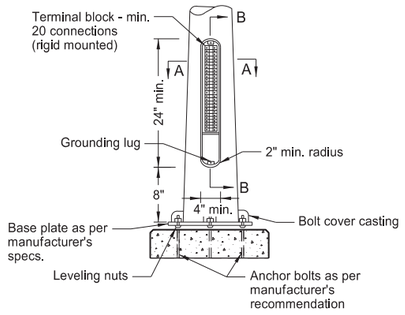
D-772-2



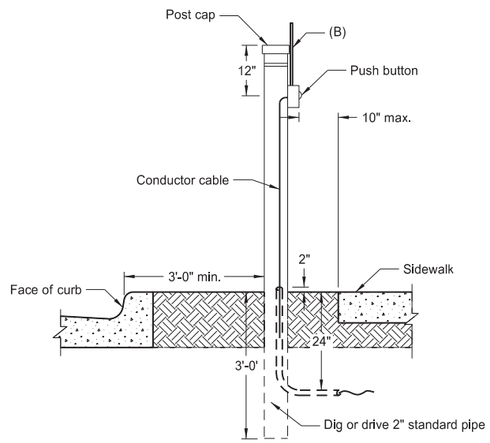
Section A-A



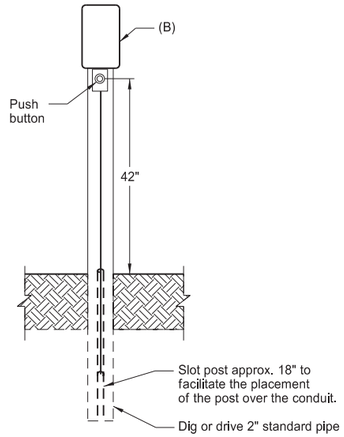
Section B-B



Alternate Signal Standard Base
For use only with Type V, VI, and VII signal standards.

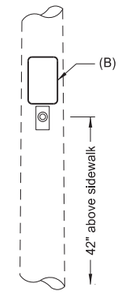


Side View

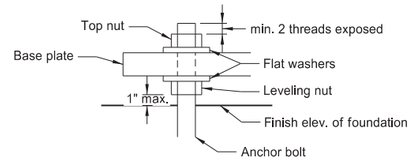


Front View

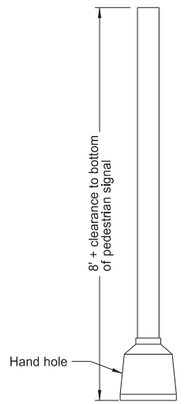
Pedestrian Push Button Post Details (A)



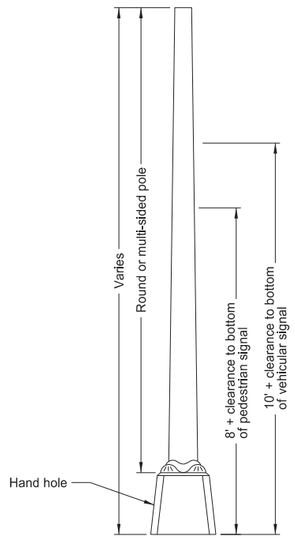
Signal Standard Mounted
Pedestrian Push Button Detail



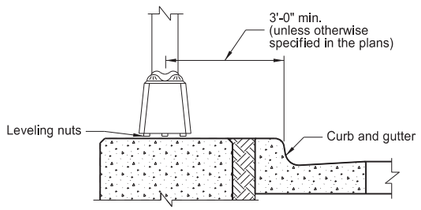
Anchor Bolt Detail

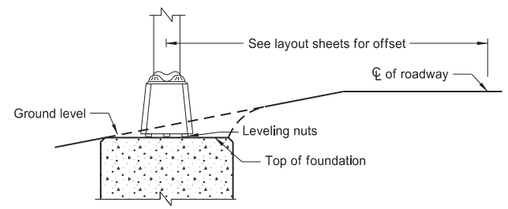


Type II



Type V, VI, VII





Signal Standard
Minimum Clearance Details

(A) Use positioning of the sign, pushbutton, and direction of arrow to clearly indicate which crosswalk is actuated by the push button. Place type of sign based on the jurisdiction in which placed.

(B) Attach sign to post using rust resistant 0.081 aluminum bracket and banding. See Standard Signs book for dimensions and legend series. See plans for type of sign.

Notes:

Signal Heads: See traffic signal layout for correct mounting position, number, size, and arrangement of lenses.

Steel Standards: Place signal standard a minimum of 3 ft. from the face of the curb to center of signal standard, unless shown otherwise on layout sheets.

Paint: See note sheet for required color of paint.

Transformer Base: In lieu of transformer base use alternate signal standard base.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-14-13	
REVISIONS	
DATE	CHANGE
10-17-17	Updated to active voice
10-25-19	Added 10" dim for ped pushbutton
08-20-25	Added physical stamp & signature

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REGISTERED
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PE-4683
ENGINEER
NORTH DAKOTA

08/20/25