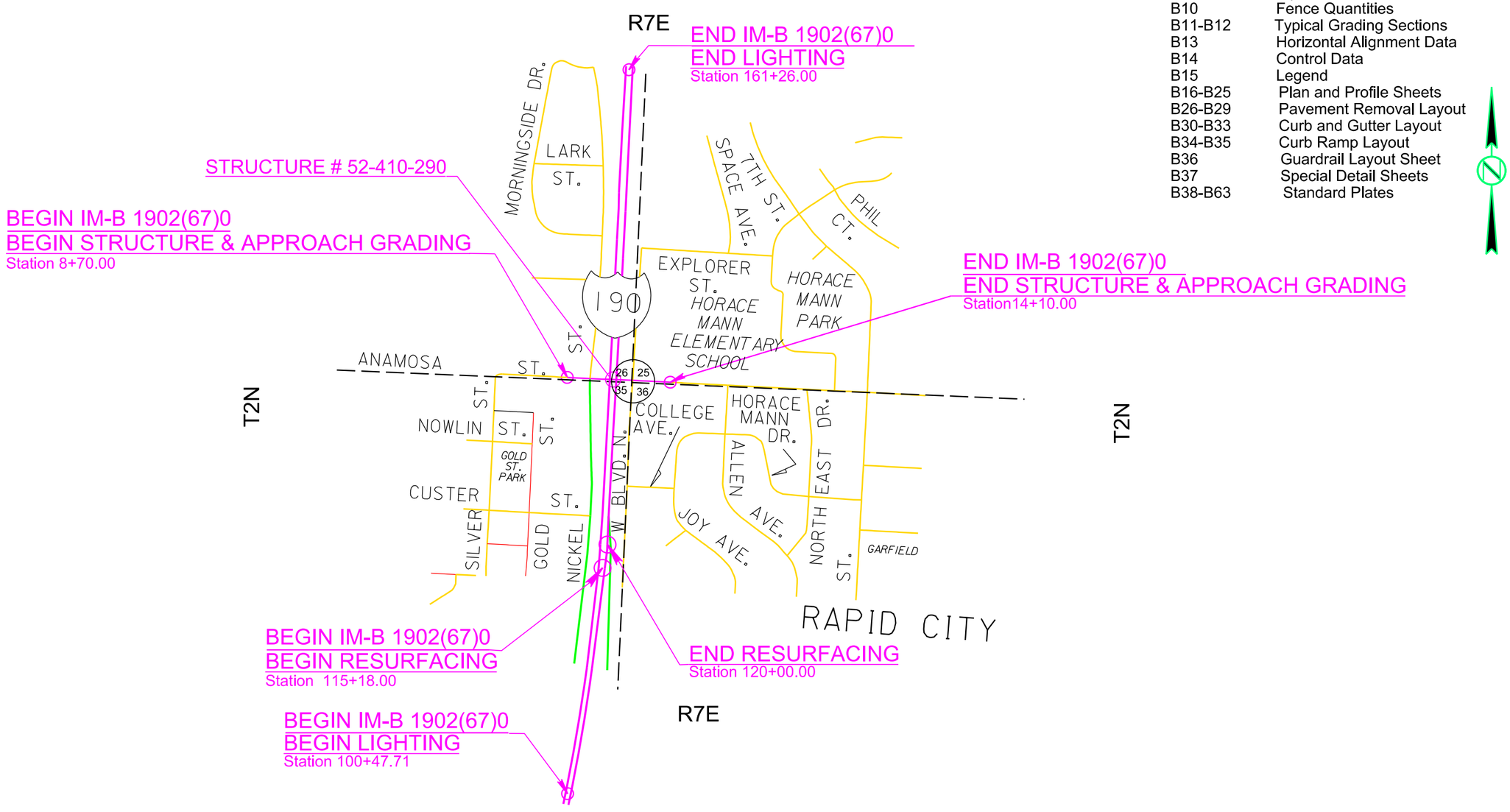
SECTION B: GRADING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B1	B63

Plotting Date: 12/21/2022

INDEX OF SHEETS



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SECTION B ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	7	Each
009E3230	Grade Staking	0.776	Mile
009E3250	Miscellaneous Staking	0.309	Mile
009E3280	Slope Staking	0.070	Mile
009E3290	Structure Staking	2	Each
009E3301	Engineer Directed Surveying/Staking	40	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	2,183	Ft
110E0600	Remove Fence	52	Ft
110E1010	Remove Asphalt Concrete Pavement	2,980.3	SqYd
110E1100	Remove Concrete Pavement	444.2	SqYd
110E1120	Remove Concrete Median Pavement	245.2	SqYd
110E1130	Remove Concrete Driveway Pavement	127.4	SqYd
110E1140	Remove Concrete Sidewalk	309.3	SqYd
110E4290	Salvage Beam Guardrail	421.0	Ft
110E7802	Remove Fence for Reset	1,074	Ft
120E0010	Unclassified Excavation	4,506	CuYd
120E0600	Contractor Furnished Borrow Excavation	75	CuYd
120E2000	Undercutting	2,174	CuYd
380E3520	6” PCC Approach Pavement	88.2	SqYd
380E3540	8” PCC Approach Pavement	40.8	SqYd
380E4050	8” PCC Fillet Section	156.5	SqYd
450E0122	18” RCP Class 2, Furnish	50	Ft
450E0130	18” RCP, Install	50	Ft
450E0142	24” RCP Class 2, Furnish	54	Ft
450E0150	24” RCP, Install	54	Ft
450E0162	30” RCP Class 2, Furnish	48	Ft
450E0170	30” RCP, Install	48	Ft
450E0182	36” RCP Class 2, Furnish	972	Ft
450E0190	36” RCP, Install	972	Ft
450E0424	30” RCP Bend, Furnish	1	Each
450E0425	30” RCP Bend, Install	1	Each
451E6080	Adjust Water Valve Box	4	Each
462E0100	Class M6 Concrete	28.3	CuYd
480E0100	Reinforcing Steel	5,060	Lb
600E0200	Type II Field Laboratory	1	Each
620E4100	Reset Fence	1,074	Ft
621E0050	5’ Chain Link Fence with Top Rail	52	Ft
630E0520	Type 2 MGS	300.0	Ft
630E2018	MGS MASH Tangent End Terminal	2	Each
630E2065	MGS Trailing End Terminal	2	Each
650E0060	Type B66 Concrete Curb and Gutter	1,443	Ft
650E1060	Type F66 Concrete Curb and Gutter	414	Ft
650E1110	Type F611 Concrete Curb and Gutter	6	Ft
650E4360	Type D46 Concrete Curb and Gutter	12	Ft
650E4380	Type D48 Concrete Curb and Gutter	30	Ft
650E4410	Type D411 Concrete Curb and Gutter	168	Ft
650E4660	Type P6 Concrete Gutter	44	Ft
650E4680	Type P8 Concrete Gutter	24	Ft
650E4710	Type P11 Concrete Gutter	40	Ft
651E0040	4” Concrete Sidewalk	3,998	SqFt
651E7000	Type 1 Detectable Warnings	134	SqFt

SECTION B ESTIMATE OF QUANTITIES (CONTINUED)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
670E0200	Type A Frame and Grate	1	Each
670E5340	4’ x 11’ Precast Concrete Type S Drop Inlet Lid	4	Each
670E5400	Precast Drop Inlet Collar	1	Each
671E5502	2” Adjusting Ring for Manhole	2	Each
671E5506	6” Adjusting Ring for Manhole	4	Each
671E6010	Type A10 Manhole Frame and Lid	2	Each
671E8000	Reconstruct Manhole	1	Each
680E0440	4” Slotted Corrugated Polyethylene Drainage Tubing	158	Ft
680E2500	Porous Backfill	66	Ton

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 15 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 47 MGal. No separate payment will be made for the Water for Embankment and all costs associated will be incidental to the contract unit price per cubic yard of “Unclassified Excavation”.

The estimated cubic yards of excavation and/or embankment required to construct outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

The estimated excavation required for placing the Granular Bridge End Backfill and/or Bridge End Embankment is listed in the Table of Unclassified Excavation. See Section E for Bridge Berm Configuration and Bridge End Backfill excavation limits.

Special ditch grades and other sections of the roadway different than the typical sections will be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer will contact the Designer for the proposed change.

Generally, all shallow inlet and outlet ditches as noted on the plan sheets will be cut with a 10-foot wide bottom with 5:1 backslopes. However, the Engineer may direct the Contractor to adjust the ditch width for proper alignment with the drainage structure.

Temporary fence and/or permanent fence will be placed ahead of the grading operation unless otherwise directed by the Engineer.

GENERAL GEOLOGY

The project alignment is underlain by Mowry Shale. The South Dakota Geologic Survey describes the Mowry Shale as outlined below:

The Mowry Shale consists of black to gray, siliceous, fissile shale and siltstone containing bentonite layers and spars sandstone dikes.

Most of the material encountered should be able to be excavated using conventional methods associated with normal Unclassified Excavation.

TYPE II FIELD LABORATORY

The lab will be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection will be provided with a multi-port wireless router. The internet connection will be a minimum speed of 5 Mbps unless limited by job location and approved by the DOT. Prior to installing the wireless router, the Contractor will submit the wireless router’s technical data to the Area Office to check for compatibility with the state’s computer equipment. The internet connection is intended for state personnel usage only. The Contractor’s personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. These items will be incidental to the contract unit price per each for “Type II Field Laboratory”.

UTILITIES

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

SALVAGE BEAM GUARDRAIL

Steel beam rail, end terminals, posts, blocks, and hardware items will become the property of the State and will be removed, hauled, and neatly stacked at the DOT South Maintenance Yard at 5801 S. Highway 79 in Rapid City as approved by the Engineer.

Payment for removing, hauling, and stacking the guardrail items will be incidental to the contract unit price per foot for “Salvage Beam Guardrail”.

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SHRINKAGE FACTOR: Embankment +20%

TABLE OF EXCAVATION QUANTITIES BY BALANCES

Alignment	Station	to	Station	Excavation (CuYd)	* Undercut (CuYd)	* Contractor Furnished Borrow Exc. (CuYd)	Total Excavation (CuYd)	** Waste (CuYd)
Anamosa St	8+70		14+10	1,364	1,287	75	2,726	776
Nickel St	1+60		2+24	80	186		266	12
W Blvd N	10+00		12+75	379	701		1,080	106
			Totals:	1,823	2,174	75	4,072	894

* The quantities for these items are in the Estimate of Quantities under their respective contract items.
** The quantities for these items are for information only.

TABLE OF UNCLASSIFIED EXCAVATION

	(CuYd)
Excavation	1,823
Undercut	2,174
Topsoil	370
Added Temporary Pedestrian Bridge Embankment Excavation	75
Exc. For Bridge End Backfill and/or Embankment	64
Total	4,506

PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

When plan quantities are used for payment, the Unclassified Excavation quantity will be used for final payment and the plans quantity of Topsoil and salvaged surfacing items listed in the Table of Unclassified Excavation will not be adjusted according to field measurements.

The following paragraphs are general earthwork information and information in regard to computing the Unclassified Excavation quantity when final cross sections are taken in the field:

The Excavation quantities from individual balances and the Table of Unclassified Excavation have been reduced by the volume of in place surfacing that will be removed and/or salvaged.

The volume of in place Concrete Surfacing and Asphalt Surfacing removed will NOT be paid for as Unclassified Excavation.

The Excavation quantities from individual balances and the table above have been reduced by the volume of in place concrete pavement and asphalt pavement that will be removed.

When finaling a project, the estimated quantity of 344 cubic yards of Concrete Pavement and Asphalt Pavement removed from the cut sections will be subtracted from the Unclassified Excavation quantity for final payment. The quantity of Concrete Pavement and Asphalt Pavement from cut sections subtracted from the Unclassified Excavation quantity will be plans quantity and will not be adjusted according to field measurements.

WASTE EXCAVATION

The quantity of waste in the Table Of Excavation Quantities By Balances is excess excavation material to be disposed of by the Contractor at a site approved by the Engineer.

UNDERDRAIN

Underdrains will be encountered within the excavations for Piers No. 2 & 4 at Station 11+05± from 41.5' Lt. to 36.5' Rt. and at Station 11+95± from 41.5' Lt to 36.5' Rt. The underdrains consist of 4-inch Slotted Corrugated Polyethylene Tubing placed in a 2 foot wide trench of variable depth backfilled with Porous Backfill, Base course, and fill material. Underdrains encountered will be cut and temporally capped or diverted during construction until the removed segments of the drains are replaced. Downstream (right/south) cut end of the drains will be capped to prevent material or debris from infiltrating the underdrain system. Upstream (left/north) cut end of the drains will require diversion to prevent water from entering the excavation or I190 Subgrade. The diversion may include pipes, pumps, sumps, or other methods approved by the Engineer. The contractor must submit a proposed diversion plan and receive approval from the Engineer prior to beginning excavations where underdrains may be encountered. All labor, tools, equipment, and incidentals necessary to maintain or divert existing underdrain system during construction and install new underdrains will be incidental to the contract unit price per foot of "4" Slotted Corrugated Polyethylene Tubing".

Replace the removed drain segments after substructure work is complete and the subgrade has been rebuilt to grade. The temporary excavations for substructure work will be backfilled with soil and compacted according to Specified Density prior to installation of the replacement underdrain. Replacement underdrains will be placed in a 2-foot-wide trench backfilled with porous backfill positively connected to the existing underdrain.

Care will be taken to ensure that existing and replacement underdrains are not damaged during construction. Sufficient cover materials is to be placed over the pipes before equipment is allowed over the underdrain system. Damaged pipe will be replaced by the Contractor at no additional cost to the Department.

The underdrain locations are given based on the best available information to the Geotechnical Engineering Activity. Actual field conditions may require that adjustments be made by the Engineer during construction to provide for sufficient drainage. The Geotechnical Engineering Activity will be available for onsite assistance if necessary.

Underdrain trenches will be graded to maintain a minimum .01 ft/ft or 1% drop the entire length of the replacement. The Contractor will ensure all segments of the drainage tubing are positively connected and remain soil light during installation of the underdrain.

The estimated quantities for the underdrain system are as follows:

4" Slotted Corrugated Polyethylene Tubing	158	Ft
Porous Backfill	66	Ton

UNDERCUTTING

In all cut sections the earthen subgrade will be undercut 2 feet below the earthen subgrade surface. The undercut material or other suitable material, as directed by the Engineer, will then be replaced and compacted to the density specified for the section being constructed.

Shallow embankment sections, fills less than 2 feet in height measured at the finished subgrade shoulders, will be undercut to ensure a minimum 2-foot height of earth embankment for the entire width of roadbed. The undercut material or other suitable material, as directed by the Engineer, will then be replaced and recompacted to the density specified for the section being constructed.

The plan shown quantity will be the basis of payment. However, if there are additional areas of undercut other than what is shown in the plans, the Engineer will direct removal of these areas and the additional areas will be measured according to the Engineer.

TABLE OF UNDERCUTTING

Alignment	Station	to	Station	Quantity (CuYd)
Anamosa St	8+70		14+10	1,287
Nickel St	1+60		2+24.50	186
W Blvd N	10+00		12+75	701
			Total:	2,174

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CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer. The plans quantity for “Contractor Furnished Borrow Excavation” as shown in the Estimate of Quantities will be the basis of payment for this item.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

REMOVAL OF EXISTING CONCRETE PAVEMENT

Existing asphalt concrete and/or existing asphalt concrete patch work that was placed above the existing concrete pavement is included in the quantity for “Remove Concrete Pavement”. The Contractor will dispose of the concrete pavement and asphalt concrete at a site approved by the Engineer.

The existing P.C.C. Pavement is 6-inch thick with no visible reinforcement. P.C.C. fillets may contain some steel reinforcement. This information is from original construction plans and actual pavement thickness may vary.

The existing contraction joints are spaced at approximately 10 feet.

TABLE OF CONCRETE PAVEMENT REMOVAL

Station	to	Station	Description	Quantity (SqYd)
*138+83		139+63	I-190 Shoulder Removal and Curb and Gutter Removal Left	90.4
*138+84		139+63	I-190 Shoulder Removal and Curb and Gutter Removal Right	94.4
**10+14		10+32	Fillet	13.6
**10+15		10+31	Fillet	14.3
**12+49		12+64	Fillet	12.8
**12+48		12+64	Fillet	13.4
**13+00		13+15	Fillet	12.1
**13+00		13+17	Fillet	13.9
**13+00		13+83	24’ Wide Concrete Pavement Section Which Also Includes Fillets and Curb and Gutter Removal	183.3
			Total:	444.2

* Stations are referenced off of I-190 alignment
** Stations are referenced off of Anamosa Street Alignment

TABLE OF CONCRETE DRIVEWAY PAVEMENT REMOVAL

Alignment	Station	to	Station	L/R	Quantity (SqYd)
Anamosa St	13+52		13+83	L	39.3
Anamosa St	13+75		14+13	R	57.0
W Blvd N	9+93		10+16 (WBlvdN)	R	31.1
				Total:	127.4

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Alignment	Station	to	Station	L/R	Quantity (SqYd)
Anamosa St	8+70		10+57	L&R	739.0
Anamosa St	12+33		14+12	L&R	639.3
Nickel St	1+60		2+28	L&R	243.1
Nickel St	2+58		2+95	L&R	131.9
I-190	138+82		141+52	L	100.0
I-190	136+83		139+65	R	90.2
W Blvd N	3+17		10+00	L	83.2
W Blvd N	10+00		11+65	L&R	655.3
W Blvd N	12+00		12+75	L&R	298.3
				Total:	2,980.3

TABLE OF CONCRETE CURB AND/OR GUTTER REMOVAL

Alignment	Station	to	Station	L/R	Quantity (Ft)
I-190	100+41		102+48	L	207.0
I-190	100+41		102+48	R	207.0
I-190	137+93		138+10	R	16.5
I-190	140+34		140+50	L	16.0
I-190	141+23		141+44	L	21.3
Anamosa St	8+70		9+81	R	119.1
Anamosa St	8+70		9+76	L	115.1
Anamosa St	10+32		10+67	R	35.5
Anamosa St	10+32		10+67	L	35.2
Anamosa St	12+33		12+48	R	14.5
Anamosa St	12+33		12+49	L	16.1
Anamosa St	13+17		14+12	R	95.1
Anamosa St	13+17		14+10	L	92.9
Anamosa St	1+60		2+07	R	46.4
Anamosa St	1+60		2+12	L	53.0
W Blvd N	9+93		11+48	R	155.0
W Blvd N	3+17		11+47	L	829.8
W Blvd N	12+26		12+75	R	48.7
W Blvd N	12+16		12+75	L	58.9
				Total:	2,183

TABLE OF SIDEWALK REMOVAL

Alignment	Station	to	Station	L/R	Quantity (SqYd)
Nickel St	1+60		2+25	L	35.6
Anamosa St	10+18		10+67	R	28.7
Anamosa St	10+17		10+67	L	30.2
Anamosa St	12+33		12+62	R	18.2
Anamosa St	12+33		12+60	L	14.3
Anamosa St	13+03		13+80	R	53.0
Anamosa St	13+03		13+80	L	48.3
W Blvd N	10+50		11+43	R	59.2
W Blvd N	12+26		12+75	R	21.8
				Total:	309.3

TABLE OF CONCRETE MEDIAN PAVEMENT REMOVAL

Alignment	Station	to	Station	L/R	Quantity (SqYd)
I-190	100+41		102+48	L&R	245.2
				Total:	245.2

DROP INLETS

Where drop inlets are constructed within areas of curb and gutter, the Contractor will construct weep holes of at least 3 inches in diameter in the drop inlet walls. The weep holes will be constructed at the same elevation as the adjacent top of the earthen subgrade and will be maintained clean and open at all times until the permanent surfacing is placed. The drop inlets will be covered throughout construction operations as necessary with an Engineer approved cover to provide safe travel for motorists and to prevent materials from entering the storm sewer system. After the permanent surfacing has been placed, the Contractor will seal the weep holes with grout and remove all debris from the drop inlet. All costs involved with the coverings, weep holes, and removing debris from the drop inlets will be incidental to the contract unit prices for the components of the drop inlets.

The plan shown quantities of the drop inlet components such as Class M6 Concrete, Reinforcing Steel, Type A Frame and Grate Assembly, Precast Drop Inlet Collar, and Precast Concrete Type S Drop Inlet Lid will be the basis of payment for these items.

If additions or reductions to the number of drop inlets are ordered by the Engineer, payment for the components required to construct the drop inlets will be made at the contract unit prices for the components of the drop inlets.

TABLE OF DROP INLETS AND QUANTITIES

**Station	L / R	Drop Inlet Size	Drop Inlet Type	Class M6 Concrete (CuYd)	Reinf. Steel (Lb)	Precast Drop Inlet Collar (Each)	Frame and Grate/Lid Type
*12+60	L	4’x11’	S	5.55	887		S
*13+04	L	4’x11’	S	5.00	818		S
*13+46	L	4’x11’	S	3.63	657		S
*13+46	R	4’x11’	S	3.08	568		S
*14+07	L	3’x4’	B	1.72	264	1	A
			Totals:	18.98	3,194	1	

Total Type A Frame and Grate Assembly	1
Total 4’x11’ Precast Concrete Type S Drop Inlet Lid	4

* Drop inlet requires watertight joints in accordance with the STORM SEWER notes.
** All Stationing is referenced off of Anamosa Street Alignment

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TABLE OF JUNCTION BOXES AND QUANTITIES

**Station	L/R	Size L'xW'xH'	Frame and Lid (Type)	Class M6 Concrete (CuYd)	Reinforcing Steel (Lb)	Adjusting Rings
*6+17	L	5'x5'x6.0'	A10	4.88	958	2" & 2-6"
*9+17	L	5'x5'x5.0'	A10	4.39	908	2" & 2-6"
			Totals:	9.27	1,866	

Total Type A10 Manhole Frame and Lid	2
Total 2" Adjusting Ring for Manhole	2
Total 6" Adjusting Ring for Manhole	4

* Junction boxes require watertight joints in accordance with the STORM SEWER notes.
** All Stations are referenced off of the W Blvd N Alignment

CONCRETE PIPE CONNECTIONS

Pipe connections to existing pipes, manholes, junction boxes, and drop inlets will be done by breaking a hole into the existing structure and inserting the pipe. A concrete collar will then be poured around the pipe in the area of the connection.

When it is not possible to use a normal pipe joint (male-female ends), connections to existing pipe will be made by placing a 2' wide by 6" thick M6 concrete collar around the outside of the connection. The concrete collar will be reinforced with 6x6 W2.9 x W2.9 wire mesh.

All costs for constructing the concrete collars including materials and labor will be incidental to the contract unit price per foot for the corresponding pipe contract item.

STORM SEWER

Reinforced concrete pipe may be bell and spigot. The pipe sections will be adjoined such that the ends are fully entered and the inner surfaces are reasonably flush and even.

Lift holes in the reinforced concrete pipe will be plugged with grout.

Watertight joints are required for reinforced concrete pipe, drop inlets, manholes, and junction boxes where storm sewers run parallel to and within 10 feet horizontally from existing or proposed water mains.

Watertight joints are required where reinforced concrete pipes, drop inlets, manholes, or junction boxes cross water mains and are separated a distance of 18 inches or less, above or below, the water main.

If watertight joints are required then the watertight joints will extend for a distance of 10 feet beyond the water main. This measurement will be from the sealed concrete joint to the outer most surface of the water main.

Watertight joint seals will conform to the following requirements:

1. Reinforced Concrete Pipe (Circular): Gasketed pipe will conform to the requirements of ASTM C443 and the gasket will be in conformance with Section 990 of the Specifications. Non-gasketed concrete pipe will be sealed with a mastic joint seal conforming to the requirements of ASTM C990 and encased with a minimum 2-foot wide by 6-inch thick M6 concrete collar reinforced with 6x6 W2.9 x W2.9 wire mesh.

2. Reinforced Concrete Pipe (Arch): Gasketed pipe will conform to the requirements of ASTM C443 and the gasket will be in conformance with Section 990 of the Specifications. Non-gasketed concrete pipe joints will be sealed with a hydrophilic flexible water stop seal and wrapped with a 1-foot wide strip of fabric above the cradle. The fabric will conform to the requirements of Section 831 of the Specifications for Type A Drainage Fabric. The hydrophilic flexible water stop will be from the list below.

3. Drop Inlets, Manholes, and Junction Boxes: Joints will be sealed with one of the following methods:

   A. A flexible strip seal placed in the joints conforming to the requirements of ASTM C990 and the perimeter encased with a minimum 2-foot wide by 6-inch thick M6 concrete collar reinforced with 6x6 W2.9 x W2.9 wire mesh.

   B. A hydrophilic flexible water stop seal placed in the joints and a 1-foot wide strip of fabric wrapped around the perimeter of the pipe. The fabric will conform to the requirements of Section 831 of the Specifications for Type A Drainage Fabric. The hydrophilic flexible water stop will be from the list below.

   C. A self-adhesive external joint seal wrap. The seal wrap will be from the list below.

Approved List of Self-adhesive Joint Wrap

Product	Manufacturer
Mar Mac Seal Wrap	Mar Mac Construction Products McBee, SC 843-335-5909 www.marmac.com
ConWrap CS-217	Concrete Sealants, Inc. Tipp City, OH 800-332-7325 conseal.com

Approved List of Hydrophilic Flexible Water Stop Seal:

Product	Manufacturer
Waterstop RX	Cetco Hoffman Estates, IL 800-527-9948 www.cetco.com
Conseal CS-231	Concrete Sealants, Inc. Tipp City, OH 800-332-7325 conseal.com

Gaskets and seals (mastic, waterstop, and seal wraps) will be installed in accordance with the Manufacturer's recommendations.

The cost for furnishing and installing all gaskets, mastic joint seal, water stop seal, seal wrap, concrete collars, and for plugging the lift holes will be incidental to the contract unit price per foot for the corresponding pipe contract item.

RECONSTRUCTION OF MANHOLES

The Contractor will reconstruct manholes to the extent necessary on this project. Reconstructing the manholes may consist of removing the upper course of brick or removing the concrete walls, replacing the removed materials with brick or Class M6 concrete, placing adjusting rings if necessary, and resetting the manhole frame and lid. The elevation of the lid will be set at the same elevation of the adjacent new pavement or surrounding ground. All manhole frames, lids, and rings that are cracked or broken due to carelessness of the Contractor will be replaced with new manhole frames, lids, and rings that conform with the Specifications at the Contractor's expense. Manholes will be adjusted to the satisfaction of the Engineer. All costs involved in reconstructing the manholes will be incidental to the contract unit price per each for "Reconstruct Manhole".

The Engineer may direct reconstruction of manholes that were not included in these plans. Payment for reconstructing manholes that were not included in the plans will be at the contract unit price per each for "Reconstruct Manhole".

TABLE OF RECONSTRUCT MANHOLES

Alignment	Station	L/R	Type of Adjustment
Anamosa St	12+83	R	Raise 1.28'

TABLE FOR ADJUSTMENT OF WATER VALVES

Alignment	Station	Quantity (Each)	Adjustment
Anamosa St	13+00	1	Raise 1.57'
Anamosa St	13+06	1	Raise 0.66'
Anamosa St	13+23	1	Lower 0.10'
Anamosa St	13+65	1	Lower 0.30'
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TABLE OF TYPE B66 CONCRETE CURB AND GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
Anamosa St	8+70.00		9+57.90	R	87.90
Anamosa St	10+40.21		10+44.04	R	3.83
Anamosa St	8+70.00		9+52.61	L	82.61
Anamosa St	10+38.94		10+44.06	L	5.12
Anamosa St	12+56.31		12+64.60	R	21.03
Anamosa St	12+56.29		12+64.21	L	20.14
Anamosa St	13+25.07		13+74.81	R	49.74
Anamosa St	13+24.97		13+56.12	L	31.16
Nickel St	1+60.00		1+98.41	R	37.46
Nickel St	1+60.00		2+04.82	L	45.76
Nickel St	2+87.97		2+95.45	R	7.49
Nickel St	2+82.31		2+92.39	L	10.11
W Blvd N	9+93.21		9+96.12	R	2.90
W Blvd N	10+14.21		11+39.95	R	125.74
W Blvd N	3+17.30		11+38.92	L	821.61
W Blvd N	12+34.46		12+75.00	R	40.54
W Blvd N	12+25.06		12+75.00	L	49.94
				Total:	1,443.1

TABLE OF TYPE D46 CONCRETE CURB AND GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
Anamosa St	13+74.81		13+86.62	R	11.81
				Total:	11.8

TABLE OF TYPE D48 CONCRETE CURB AND GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
Anamosa St	13+80.12		14+10.00	L	29.87
				Total:	29.9

TABLE OF TYPE D411 CONCRETE CURB AND GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
I-190	138+83.20		139+63.35	L	80.15
I-190	138+83.54		139+62.99	R	79.45
I-190	140+34.44		140+38.44	L	4.00
I-190	138+05.79		138+09.79	R	4.00
				Total:	167.6

TABLE OF TYPE F66 CONCRETE CURB AND GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
I-190	100+40.71		102+47.72	L	207.00
I-190	100+40.71		102+47.70	R	207.00
				Total:	414.0

TABLE OF TYPE F611 CONCRETE CURB AND GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
I-190	141+38.44		141+44.44	L	6.00
				Total:	6.00

TABLE OF TYPE P6 CONCRETE GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
Anamosa St	12+99.34		12+99.43	R	18.00
Anamosa St	13+86.62		14+12.62	R	26.00
				Total:	44.0

TABLE OF TYPE P8 CONCRETE GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
Anamosa St	13+56.12		13+80.12	L	24.00
				Total:	24.0

TABLE OF TYPE P11 CONCRETE GUTTER

Alignment	Station	to	Station	L/R	Quantity (Ft)
I-190	140+38.44		140+50.43	L	11.99
I-190	141+23.27		141+38.44	L	15.17
I-190	137+93.33		138+05.79	R	12.47
				Total:	39.6

8” PCC FILLET SECTIONS

Payment for “8” PCC Fillet Section” will be based on plans quantity. If additions or reductions to the area of PCC fillet sections are ordered by the Engineer, payment will be made in accordance with the contract unit price per square yard for “8” PCC Fillet Section”.

TABLE OF 8" PCC FILLET SECTION

Alignment	Station	to	Station	L/R	Radius (Ft)	Quantity (SqYd)
Anamosa St	9+57.90		9+82.80	R	25	23.06
Anamosa St	9+52.61		9+77.61	L	25	25.90
Anamosa St	10+15.27		10+40.21	R	25	26.63
Anamosa St	10+13.94		10+38.94	L	25	29.15
Anamosa St	13+00.02		13+25.07	R	25	25.80
Anamosa St	13+00.06		13+24.97	L	25	25.96
					Total:	156.5

TABLE OF 6” PCC APPROACH PAVEMENT

Station	L/R	Opening (Ft)	Type	Quantity (SqYd)
10+05.21 (W Blvd N)	R	18	A	31.2
13+99.62 (Anamosa St)	R	26	A	57.0
			Total:	88.2

TABLE OF 8” PCC APPROACH PAVEMENT

Station	L/R	Opening (Ft)	Type	Quantity (SqYd)
*13+67.50 (Anamosa St)	L	24	A	40.8
			Total:	40.8

* Portion of approach pavement adjacent to sidewalk must meet ADA sidewalk standards.

TABLE OF 4” CONCRETE SIDEWALK

Alignment	Station	to	Station	L/R	Quantity (SqFt)
Anamosa St	9+44.91		9+80.70	R	479.6
Anamosa St	10+18.08		10+44.04	R	278.0
Anamosa St	12+55.26		12+61.93	R	159.8
Anamosa St	13+02.99		13+80.00	R	539.0
Anamosa St	9+45.04		9+74.95	L	457.8
Anamosa St	10+16.74		10+44.06	L	462.0
Anamosa St	12+54.59		12+61.55	L	292.4
Anamosa St	13+03.71		13+56.23	L	350.1
Nickel St	1+60.00		1+96.60	L	205.6
W Blvd N	10+50.09		11+43.58	R	535.3
W Blvd N	12+27.92		12+75.00	R	238.0
				Total:	3997.6

Plot Scale - 1:200
Plotted From - TRPR17192
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TYPE 1 DETECTABLE WARNINGS

Detectable warnings will be in compliance with the Americans with Disabilities Act regulations.

The detectable warnings will be installed according to the manufacturer's installation instructions.

A concrete thickness equal to the adjacent concrete sidewalk thickness and 2 inches of granular cushion material will be placed below the Type 1 Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness will be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings will be a brick red color for application in concrete curb ramps.

Type 1 Detectable Warning Panels will be one of the following products:

Type 1 Detectable Warnings

Product	Manufacturer
Detectable Warning Plate Cast Iron Plate	Neenah Foundry Company Neenah, WI 800-558-5075 http://www.neenahfoundry.com/
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 http://www.deeter.com/
TufTile (wet-set) Cast Iron Replaceable Tile	TufTile 1200 Flex Court Lake Zurich, IL 60047 888-960-8897 http://www.tuftile.com/

PUBLIC LANDS SURVEY SYSTEM, RIGHT OF WAY, AND PROPERTY CORNERS

The Contractor will have a Land Surveyor, licensed in the State of South Dakota, to set, reestablish or verify public land survey system (PLSS) corners, right of way (ROW) corners, and property corners as directed by the appropriate SDDOT Region Land Surveyor. It is estimated that 7 ROW and property corners will be set, reestablished, or verified for this project. The Contractor's Land Surveyor, under the direction of the Region Land Surveyor, will set, reestablish, or verify all corner monuments after surfacing and fencing operations are completed in accordance with the PUBLIC LANDS SURVEY SYSTEM CORNERS section and the RIGHT OF WAY AND PROPERTY CORNERS section in Chapter 8 of the SDDOT Survey Manual.

< https://dot.sd.gov/doing-business/engineering/design-services/surveyors >

All costs associated with furnishing and installing PLSS caps, rebar, and all other materials associated with setting, reestablishing, or verifying PLSS, ROW corners, and property corners in accordance with the SDDOT Survey Manual will be incidental to the contract unit price per each for "Reestablish Right-of-Way and Property Corner".

TABLE OF GUARDRAIL

Location	Salvage Beam Guardrail (Ft)	Type 2 MGS (Ft)	MGS Trailing End Terminal (Each)	MGS MASH Tangent End Terminal (Each)
Sta.138+74.17 to Sta. 141+02.67 Lt. (I-190)	202	150	1	1
Sta.137+44.68 to Sta. 139+82.59 Rt (I-190)	219	150	1	1
Totals:	421	300	2	2

TABLE OF SUPERELEVATION

Alignment	Station	to	Station		
Nickel St	1+60		1+90	-	Superelevation Transition To Match Existing Roadway
Nickel St	1+90		1+90	-	Normal Crown
Nickel St	1+90		2+25	-	Superelevation Transition
Nickel St	2+25		2+63	-	Reverse Crown
Anamosa St	8+70		9+10	-	Superelevation Transition To Match Existing Roadway
Anamosa St	9+10		14+10	-	Normal Crown
W Blvd N	10+00		10+50	-	Superelevation Transtion To Match Existing Roadway
W Blvd N	10+50		11+19	-	Normal Crown Section
W Blvd N	11+19		11+39	-	Superelevation Transition
W Blvd N	11+39		12+49	-	Reverse Crown Section
W Blvd N	12+49		12+69	-	Superelevation Transtion
W Blvd N	12+69		12+69	-	Normal Crown Section
W Blvd N	12+69		12+75	-	Superelevation Transition To Match Existing Roadway

TABLE OF TYPE 1 DETECTABLE WARNINGS

* Station	L/R	Width of Curb Opening (Ft)	Quantity (SqFt)
9+67.93	26.10' L	10	20
9+72.76	24.02' R	10	20
10+23.67	27.79' L	10	20
10+23.83	27.89' R	6	12
12+54.60	27.60' L	10	20
12+55.27	27.37' R	6	12
13+09.45	26.72' R	5	10
13+09.63	36.85' L	10	20
		Total:	134

* All Stations are referenced off of Anamosa Street Alignment

Plot Scale - 1:200
Plotted From - TPPR17192
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B8	B63

Plotting Date: 04/04/2023 Rev 4/04/2023 BT

TABLE OF CONSTRUCTION STAKING

(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Grade Staking				Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)	Structure Staking Quantity (Each)
					Length (Mile)	Lane Factor	*Sets of Stakes	**Grade Staking Quantity (Mile)			
Anamosa Street (2 Lanes AC Pavement)	8+70	10+64	2	194	0.037	1	2	0.074	0.037	0.037	
Str No 52-410-290											1
Anamosa Street (2 Lanes AC Pavement)	12+36	14+10	2	174	0.033	1	2	0.066	0.033	0.033	
Temporary Pedestrian Bridge											*** 1
Nickel Street (2 Lanes AC Pavement)	1+60	2+24	2	64	0.012	1	2	0.024	0.012		
W Blvd N (2 Lanes AC Pavement)	10+00	11+60	2	164	0.031	1	2	0.062	0.031		
W Blvd N (2 Lanes AC Pavement)	12+04	12+75	2	75	0.014	1	2	0.028	0.014		
I-190 SB (2 Lanes PCCP)	115+21	120+04	2	483	0.091	1	2	0.182	0.091		
I-190 NB (2 Lanes PCCP)	115+21	120+04	2	483	0.091	1	2	0.182	0.091		
I-190 (Median Concrete Barrier w/ Shoulders)	115+21	120+04	2	483	0.091	1	1	0.091			
I-190 (Median Concrete Barrier w/ Shoulders)	138+83	139+63	2	80	0.015	1	1	0.015			
I-190 (Median Concrete Barrier w/ Shoulders)	155+64	158+39	2	275	0.052	1	1	0.052			
							Totals:	0.776	0.309	0.070	2

* 2 = Blue Top and Paving Hub Stakes (PCC Pavement) or 2 Sets of Blue Tops (AC Pavement)

** Grade Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)

*** Structure Staking Quantity will include any Temporary Grade Staking to construct Temporary Pedestrian Bridge Berm

Plot Scale - 1:200
Plotted From - TRPR17192
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PIPE QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B9	B63

Plotting Date: 12/28/2022 Rev 9/29/2022 BT

Station	Offset (L/R)	Reinforced Concrete: Circular 18" Cl. 2 Ft	Circular 24" Cl. 2 Ft	Circular 30" Cl. 2 Ft	Circular 36" Cl. 2 Ft	Circular Bends 30" 42.5° Each
*3+17.25-20.24' L to 6+14.86-20.79' L (WBlvdN)					298	
*6+19.86-20.79' L to 9+14.87-21.15' L (WBlvdN)					296	
*9+19.87-21.15' L to 12+53.87-22.30' L (WBlvdN)					334	
*12+59.37-20.30' L to 12+45.00-19.78' R (WBlvdN)					44	
*13+04.20-57.28' L to 13+40.88-31.27' L				48		1
*13+51.88-31.27' L to 14+04.51-28.61' L			54			
*13+46.38-29.27' L to 13+46.38-19.66' R		50				
Subtotal:		50	54	48	972	1

Pipes denoted with an asterisk(*) indicate that the entire length or a portion of the pipe requires watertight joints in accordance with the STORM SEWER plan note.

Plot Scale - 1:200
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FENCE QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B10	B63

Plotting Date: 04/04/2023 Rev 4/04/2023 BT

Station to Station		Side (L/R)	Right-of-Way Fence			Fence		
				5' Chain Link /with top rail (Ft)		Reset (Ft)	Remove (Ft)	**** Remove for Reset (Ft)
***13+23	13+80	R						
**12+26	12+78	R		52			52	
*138+41	138+95	L				57		57
*130+34	138+95	R				865		865
*139+55	140+19	L				72		72
*139+55	140+19	R				80		80
	TOTALS:			52		1074	52	1074

Post Type and Sequence:

Right-of-way fence shall be constructed using alternate wood and steel posts except as noted.

* I-190 Stationing
** WBlvdN Stationing
*** Fence and Landscape Block will be removed by Landowner. Contractor should work with Landowner to coordinate this work.
**** The Contractor will replace fence removed for pipe installation no more than 2 weeks after removal at any given location. Exceptions will be for construction of the new structure over I-190 and the temporary pedestrian bridge where the Contractor will make a reasonable effort to replace fence and make temporary or permanent connections to the structures.

Plot Scale - 1:200

Plotted From - TRPR17192

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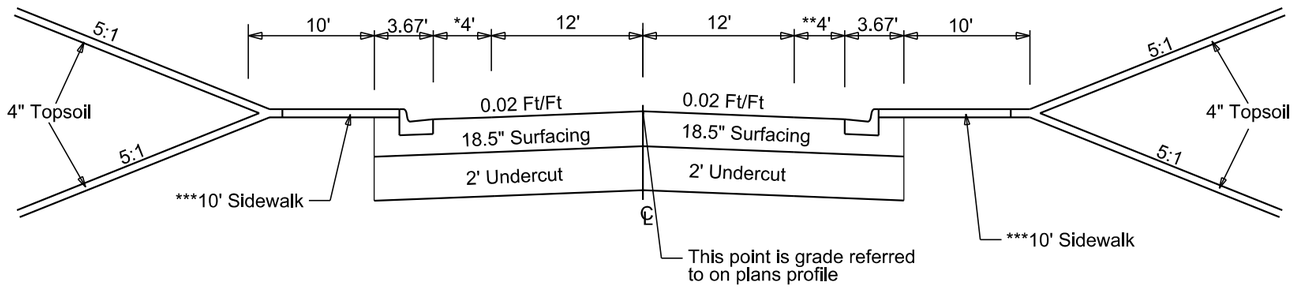
TYPICAL GRADING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B11	B63

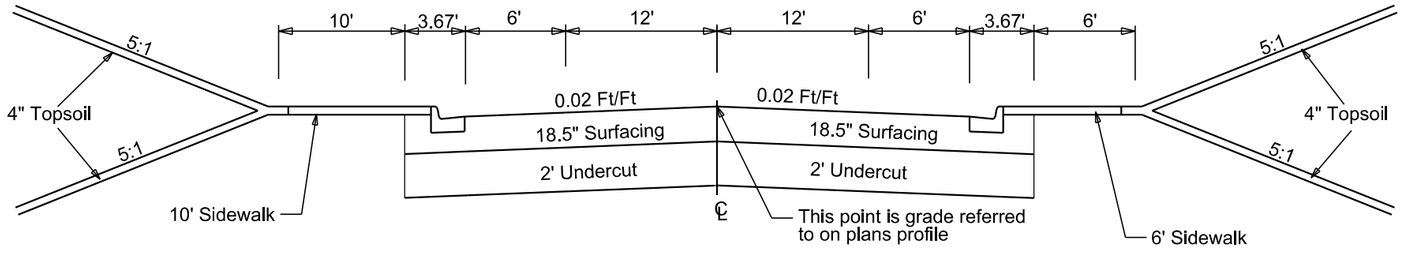
Plotting Date: 12/28/2022

Anamosa Street
8+70 to 9+77.59

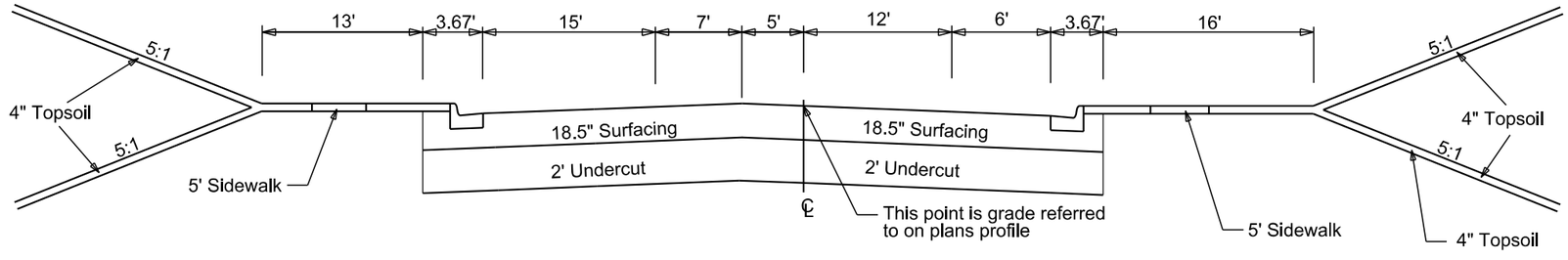


Transitions:
* 8+70 to 9+00 - 3.59' to 4'
** 8+70 to 9+00 - 3.79' to 4'
*** 10' Sidewalk starts at 9+45

Anamosa Street
9+77.59 to 10+64.05
12+36.05 to 12+99.97



Anamosa Street
12+99.27 to 14+10.00



Plot Scale - 1:200
Plotted From - TRPR17192
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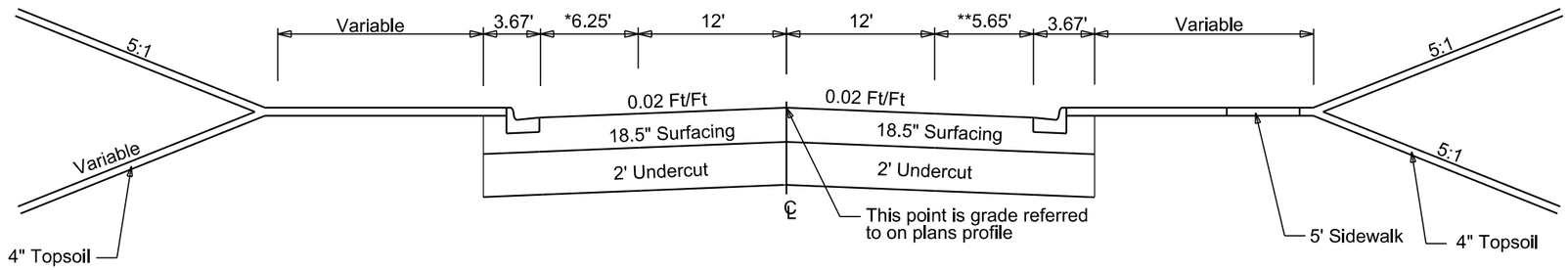
TYPICAL GRADING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B12	B63

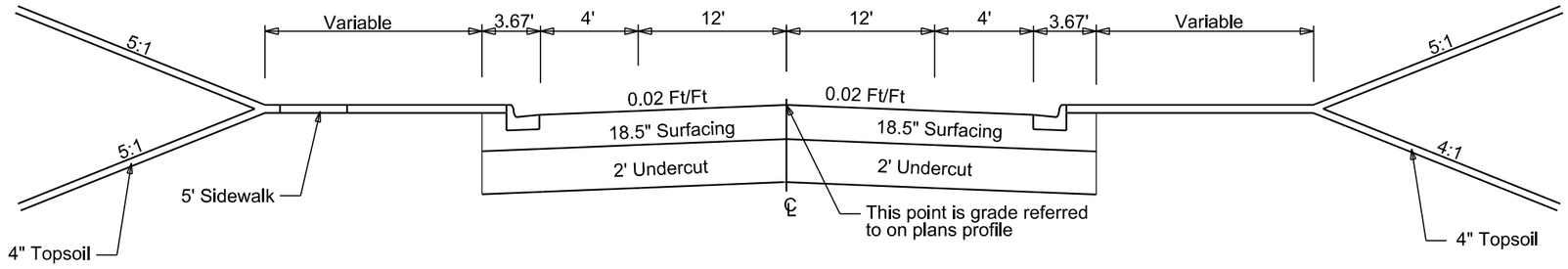
Plotting Date: 12/21/2022

W Blvd N
10+00.00 to 11+60.45
12+03.82 to 12+75.00



Transitions:
* 10+50 to 11+60.45 - 4.50 to 6.25
** 10+50 to 11+60.45 - 7.00 to 5.65

Nickel St
1+60 to 2+24



Plot Scale - 1:200
Plotted From - TRPR17192
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HORIZONTAL ALIGNMENT DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B13	B63

Plotting Date: 12/21/2022 Rev 9/29/2022 BT

MAINLINE

Type	Station			Northing	Easting
POB	6+99.60			656006.318	1206635.796
		TL= 299.55	S 88°07'49" E		
PI	9+99.15			655996.544	1206935.186
		TL= 150.90	S 88°02'15" E		
PI	11+50.05			655991.376	1207085.997
		TL= 132.16	S 87°59'31" E		
PI	12+82.21			655986.745	1207218.074
		TL= 317.79	S 88°02'07" E		
POE	16+00.00			655975.850	1207535.680

Nickel St

Type	Station			Northing	Easting
POB	0+00.00			655753.206	1206942.190
		TL= 224.17	N 2°31'46" W		
PI	2+24.17			655977.153	1206932.297
		TL= 169.98	N 6°04'45" E		
POE	3+94.15			656146.177	1206950.298

W Blvd N

Type	Station			Northing	Easting
POB	2+26.06			655031.486	1207178.635
		TL= 125.02	N 2°35'01" E		
PI	3+51.08			655156.379	1207184.271
		TL= 648.92	N 2°16'21" E		
PI	10+00.00			655804.791	1207210.003
		TL= 182.16	N 2°32'38" E		
PI	11+82.16			655986.768	1207218.088
		TL= 127.84	N 2°10'10" E		
PI	13+10.00			656114.520	1207222.927
		TL= 219.26	N 2°14'36" E		
POE	15+29.26			656333.609	1207231.510

I-190

Type	Station			Northing	Easting
POB	100+03.71			652103.451	1206659.657
		TL= 240.53	N 14°46'24" E		
PC	102+44.24			652336.031	1206720.993
PI	104+98.03	R = 3560.00	Delta = 8°09'19" L	652581.430	1206785.708
PT	107+50.96			652833.526	1206814.957
		TL= 770.25	N 6°37'05" E		
PI	115+21.21			653598.648	1206903.730
		TL= 966.06	N 6°36'39" E		
PC	124+87.28			654558.289	1207014.948
PI	127+62.24	R = 6770.00	Delta = 4°39'06" L	654831.422	1207046.603
PT	130+36.90			655106.222	1207056.004
		TL= 865.61	N 1°57'33" E		
PC	139+02.51			655971.325	1207085.598
PI	139+02.66	R = 14100.00	Delta = 0°00'04" R	655971.474	1207085.604
PT	139+02.80			655971.623	1207085.609
		TL= 361.51	N 1°57'38" E		
PI	142+64.31			656332.919	1207097.976
		TL= 1954.24	N 2°06'42" E		
POE	162+18.55			658285.828	1207169.988

TEMP PED BRIDGE

Type	Station			Northing	Easting
POB	10+14.43			656048.046	1206952.241
		TL= 249.82	S 88°00'50" E		
POE	12+64.25			656039.388	1207201.912

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/2011); epoch 2010.00; Geoid12A; SF = 0.9997813907

Plot Scale - 1:200

Plotted From - TRPR17192

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CONTROL DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B14	B63

Plotting Date: 12/21/2022

HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	**STATION**	**OFFSET**	**DESCRIPTION**	**NORTHING**	**EASTING**	**ELEVATION**
CP01	8+41	4353’ R	NAIL	651651.1	1206635	3236.23
CP02	9+64	2955’ R	NAIL	653044.7	1206804	3241.24
CP03	10+96	1425’ R	NAIL	653963.9	1207175	3294.38
CP04	13+08	2023’ R	NAIL	654568.9	1206983	3287.71
CP05	12+55	75’ R	NAIL	655913.2	1207188	3310.58
CP06	Off	Project	NAIL	651444.2	1205921	3240.85
RCB2036	9+66	43’ R	NAIL	655955.03	1206900	3309.92
RCB2035R	8+74	1951’ R	NAIL	654050.34	1206746	3259.31

*Stations and Offsets are referenced off of Mainline

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/2011); epoch 2010.00
Geoid12A; SF = 0.9997813907
The elevations shown on this sheet are based on NAVD 88.

Plot Scale - 1:200
Plotted From - TRPR17192
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LEGEND

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B15	B63

Plotting Date: 12/21/2022

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- BBQ Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush/Hedge
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Concrete Symbol
- Control Point
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Deck Edge
- Ditch Block
- Doorway Threshold
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Electric Transformer/Power Junction Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Miscellaneous
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Gutter
- Guy Pole
- Haystack
- Highway ROW Marker
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Miscellaneous
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Miscellaneous Line
- Miscellaneous Property Corner
- Miscellaneous Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pedestrian Push Button Pole
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad ROW Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Subsurface Utility Exploration Test Hole
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Sign Double Face
- Traffic Sign One Post
- Traffic Sign Two Post
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground High Pressure Gas Line — HG —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer — S —
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner

- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- ROW Line
- New ROW Line
- Cut and Fill Limits
- Control of Access
- New Control of Access
- Proposed ROW (After Property Disposal)

- Drainage Arrow

- Remove Concrete Pavement
- Remove Concrete Driveway Pavement
- Remove Asphalt Concrete Pavement
- Remove Concrete Sidewalk
- Remove Concrete Median Pavement
- Remove Concrete Curb and/or Gutter

- Detectable Warning Pedestrian Push Button Pole and 30" x 48" Clear Space with 1.5% slope

Plot Scale - 1:200

Plotted From - TRPR17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B16	B63

Plotting Date: 05/09/2023 Rev 5/09/2023 BT

8+60-161' R to 8+87-53' L
Do Not Disturb 42" RCP

9+03-115' R to 9+14-61' L
Do Not Disturb 42" RCP

Salvage Beam Guardrail
Including End Terminals
at the following locations:
138+86 to 140+88 L (I-90)
137+45 to 139+63 R (I-90)

10+67 to 12+33
Take Out 166' Bridge
(Incidental Work, Structure)
(See Section E)

139+55 L to 140+19 L
Remove fence for reset

139+55 L to 140+19 L
Reset fence

Install 4'x11' Type S Drop Inlet
with Type S Drop Inlet Lid at the
following locations:
12+59.37 - 22.30' L (W Blvd N)
12+45.00 - 21.78' R (W Blvd N)

139+55 R to 140+19 R
Remove fence for reset

139+55 R to 140+19 R
Reset fence

138+83.55-40.84' R to 139+62.98-40.82' R (I-190)
Do Not Disturb 24" Storm Sewer Trunk Line

138+11.47-40.86' R (I-190)
Do Not Disturb Drop Inlet Frame & Grate

10+64.05 to 12+36.05
Install 172'-0" Steel Girder Bridge
(See Section E)

10+50.30 to 12+50.30
Install 200'-0" Prefab. Truss Bridge
(Temporary Pedestrian Bridge)
(See Section E)

BEGIN IM-B 1902(67)0
BEGIN STRUCTURE & APPROACH GRADING
Station 8+70.00

VB Rapid Creek Limited Partnership
(INFORMATION ONLY)

SE1/4 SE1/4

Sec 26 - T2N - R7E

RAPID CITY

377 feet

R.O.W. Line

932 feet

Nickel Street

N 6°04'45" E

PI 9+99.15
N 655996.54
E 1206935.19
Del 0°05'34" R

PI 2+54.78
N 656007.81
E 1206935.41
Del 5°36'01" R

S 88°00'50" E

Present Interstate Hwy I90

140+00

Section Line

N 2°10'10" E

West Boulevard North

13+01

12+00

13+00

S 88°07'49" E

Section Line

S 88°02'15" E

Anamosa Street

S 87°59'31" E

80'

95'

95'

7+00

8+00

9+00

10+00

11+00

12+00

10+14

11+14

12+14

12+64

PI 11+50.05
N 655991.38
E 1207086.00
Del 0°02'39" R

PI 12+82.21
N 655986.75
E 1207218.07
Del 0°02'36" L

BLOCK 14

Discovery Village Apartments, LLLP
(INFORMATION ONLY)

Property Line

Vacated R.O.W.

BLOCK 13

Lot A

SCOTT'S ADDITION

City of Rapid City

Lot A of Lots 12,13,14 and 15
in Block 13 of Scott's Addition
to Rapid City

Parcel A1

9+60-44.43'

9+60-90'

10+33-44.48'

10+33-88'

Nickel Street

N 2°31'46" W

1+00

2+00

3+00

3+94

R.O.W. Line

Nickel St
PI 1+76.06
N 655929.10
E 1206934.42
Del 3°15'02" R
Dc 11°27'33"
T 14.19'
L 28.37'
R 500.00'

138+00

N 2°32'38" E

West Boulevard North

11+00

Adjust Water Valve Box
at the following locations:
13+00-40' R
13+06-44' L

11+98-41.5' L to 11+98-36.5' R
Install Underdrain
See Section B Notes

11+05-41.5' L to 11+05-36.5' R
Install Underdrain
See Section B Notes

12+59.37-20.30' L to 12+45.00-19.78' R (WBlvdN)
Install 36"-44' RCP
(Between Drop Inlets)

12+83-9.07' R
Reconstruct Manhole

Parcel A1
9+60 to 10+33 R
Temporary Easement containing
(3276 sq ft) more or less

130+34 R to 138+95 R
Reset fence

138+41 L to 138+95 L
Reset fence

130+34 R to 138+95 R
Remove fence for reset

138+41 L to 138+95 L
Remove fence for reset

Plot Scale - 1:40

Plotted From - TRPP17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B17	B63

Plotting Date: 04/04/2023 Rev 4/04/2023 BT

8+70
Begin Work

Anamosa Street

Excavation	1364	Embankment	276		
Undercut	1287	20%	55	331	
	2651	Undercut	1287		
		20%	257	1544	
		Waste		776	
				2651	

Waste is excess excavation to be disposed of at a site approved by the Engineer.

9+99 L
24' Int St
(Nickel St)

9+99 R
32' Int St
(Nickel St)

12+82 L
36' Int St
(W Blvd N)

12+82 R
36' Int St
(W Blvd N)

PVI 8+70
Elev 3308.07

PVI 9+20
Elev 3309.33

PVI 9+64
Elev 3310.69

PVI 11+50
Elev 3314.41

PVI 13+00
Elev 3309.85

2.5362%

3.0821%

2.0000%

-2.0000%

-3.0416%

L 130.00ft
G1 2.0000%
G2 -2.0000%
K 33

36" RCP 0.5000%

FL 3304.57

3340 3335 3330 3325 3320 3315 3310 3305 3300 3295 3290 3285 3280 3275 3270 3265 3260 3255 3250

7+00 8+00 9+00 10+00 11+00 12+00 13+00

3308.32 3308.83 3309.33 3309.95 3310.57 3311.01 3311.41 3311.81 3312.21 3312.61 3313.01 3313.38 3313.62 3313.74 3313.74 3313.62 3313.38 3313.01 3312.61 3312.21 3311.81 3311.41

Plot Scale - 1:40

Plotted From - TPPR17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B18	B63

Plotting Date: 04/04/2023 Rev 4/04/2023 BT

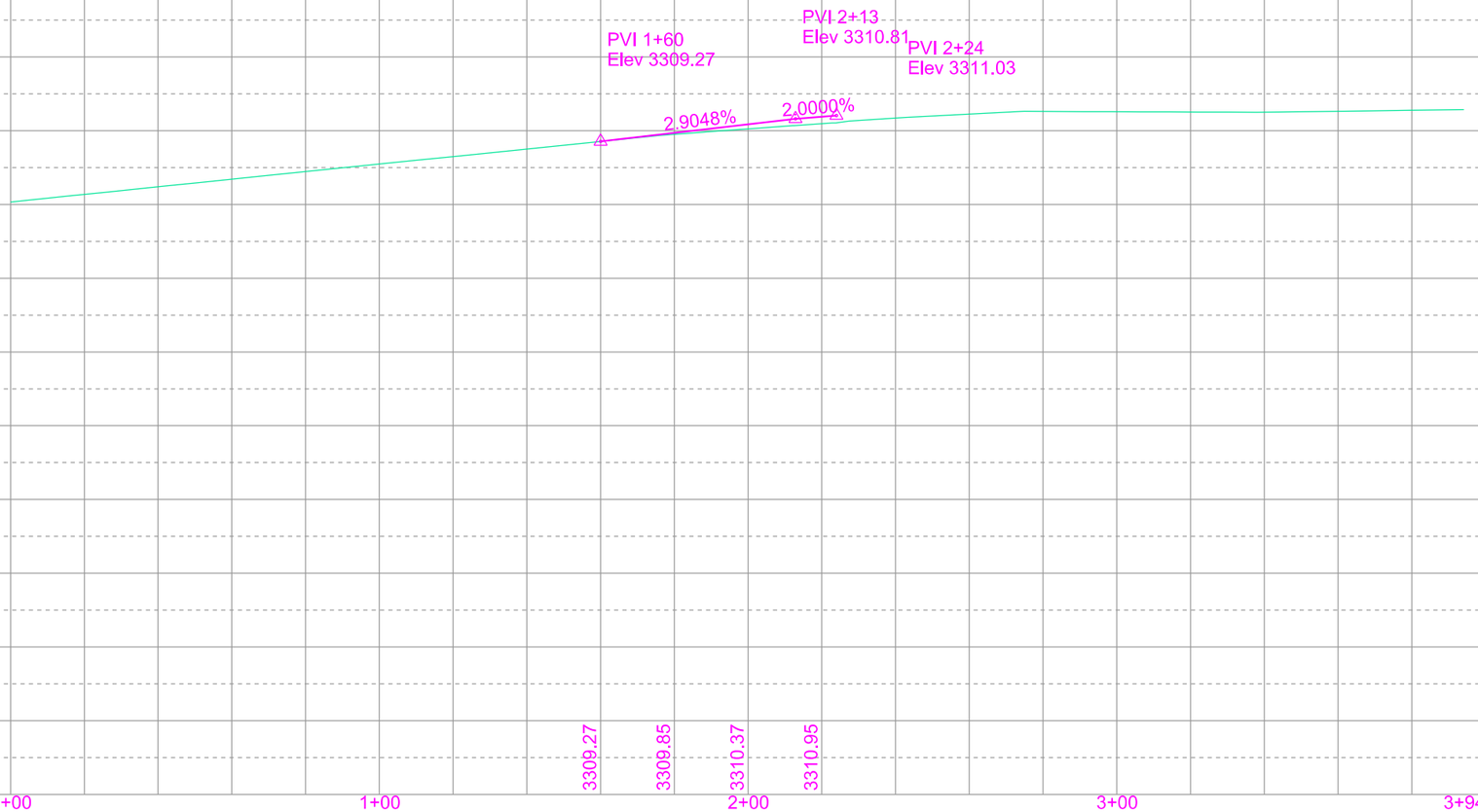
Nickel St

1+60 Begin Work

2+24 End Work

Excavation	80	Embankment	26	
Undercut	186	20%	5	31
	266	Undercut	186	
		20%	37	223
		Waste		12
				266

Waste is excess excavation to be disposed of at a site approved by the Engineer.



Plot Scale - 1:40

Plotted From - TRPP17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B19	B63

Plotting Date: 12/21/2022

Temporary Pedestrian Bridge

10+17 Begin Work

10+62 End Work

12+38 Begin Work

12+59 End Work

(Earthwork for Information Only)
Data included in Mainline Quantities

Contractor Furnished Borrow $\frac{75}{75}$

Temporary Pedestrian Bridge Embankment $\frac{75}{75}$

PVI 10+17
Elev 3311.13

PVI 10+50
Elev 3312.57

PVI 10+58
Elev 3312.57

4.4460%

0.0000%

PVI 10+62
Elev 3310.36

-50.0000%

PVI 12+38
Elev 3310.34

PVI 12+43
Elev 3312.57

PVI 12+50
Elev 3312.57

PVI 12+59
Elev 3312.38

50.0000%

0.0000%

-2.0000%

3340
3335
3330
3325
3320
3315
3310
3305
3300
3295
3290
3285
3280
3275
3270
3265
3260
3255
3250

3311.89

3312.57

3312.48

10+14
11+14
12+14
12+64

Plot Scale - 1:40

Plotted From - TRPR17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B20	B63

Plotting Date: 12/21/2022 Rev 9/29/2022 BT

13+04.20-57.28' L to 13+40.88-31.27' L
Install 30"-48' RCP
(30' & 18' Str Pipe and 1-42.5° Bend)
(Between Drop Inlets)

13+51.88-31.27' L to 14+04.51-28.61' L
Install 24" - 54' RCP
(Between Drop Inlets)

14+06.51-28.61' L
Install 3' x 4' Type B Drop Inlet
with 6" Concrete Collar and Type A Frame and Grate

Adjust Water Valve Box
at the following locations:
13+23-32' L
13+65-32' R

13+46.38-29.27' L to 13+46.38-19.66' R
Install 18"-50' RCP
(Between Drop Inlets)

Install 4'x11' Type S Drop Inlet
with Type S Drop Inlet Lid at the
following locations:
13+46.38 - 31.27' L
13+46.38 - 21.66' R

Sec 25 - T2N - R7E

SW1/4 SW1/4

END IM-B 1902(67)0
END STRUCTURE & APPROACH GRADING
Station 14+10.00

13+54.26-49.35' L
Do Not Disturb Metal Swing Gate

13+86 L
Do Not Disturb Tree

Rapid City Independent School District

Parcel A2

LOT A

13+29.01-49.62' L to 13+49.08-49.27' L
Do Not Disturb Wood Posts

13+88.96-37.22' L to 14+06-37.28' L
Do Not Disturb Wood Posts

West Boulevard North

1005

1002

85'

85'

Anamosa Street

S 88°02'07" E

Section Line

13+00

14+00

15+00

16+00

Lot 23

Eugene A. Zach &
Suzanna E. Zach

Parcel A4

Lot 24

Jacqueline F. Waligoske
(INFORMATION ONLY)

Lot 25

Donald L. Kaiser &
Carolyn K. Kaiser
(INFORMATION ONLY)

BLOCK 6

Lot 26

David Wayne Walker, Jr.
& Alyssa J. Johnson
(INFORMATION ONLY)

Lot 27

Barbara Phipps &
Tommy Phipps
(INFORMATION ONLY)

RAPID CITY

SUBDIVISION OF
CANYON VIEW TRACT

Lot 22

Marshall F. Smallbrock & Adell E. Smallbrock

Parcel A3

Lot 21

Plot Scale - 1:40

Plotted From - TRPR17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B21	B63

Plotting Date: 12/21/2022 Rev 9/29/2022 BT

Plot Scale - 1:40

3355
3350
3345
3340
3335
3330
3325
3320
3315
3310
3305
3300
3295
3290
3285
3280
3275
3270
3265

Anamosa Street

14+10
End Work

13+67 L
24' Drive

14+00 R
26' Drive

L 50.00ft
G1 -2.0000%
G2 1.1449%
K 16

PVI 14+10
Elev 3311.41

-2.0000%

1.1449%

24" RCP 0.8540%

30" RCP 0.5000%

36" RCP 0.5000%

FL 3306.05

FL 3306.50

FL 3305.32

FL 3306.87

PVI 13+40
Elev 3310.61

3311.41
3311.02
3310.81
3310.85
3311.07
3311.30

13+00
14+00
15+00
16+00

Plotted From - TRPR17192

File - U:\rdprj\penn065K\0713v.dgn

Retain Drop Inlet
at the following locations:
2+75.76-20' L
2+86.28-69' L
2+87.81-20' L
2+99.81-21' L
3+11.82-21' L

2+86
Retain 42"-48' RCP

3+17.25-20.24' L to 6+14.86-20.79' L (WBlvdN)
Install 36" - 298' RCP
(Between Junction Box & Existing Drop Inlet)

6+19.86-20.79' L to 9+14.87-21.15' L (WBlvdN)
Install 36" - 296' RCP
(Between Junction Boxes)

6+17.36-20.79' L (WBlvdN)
Install 5' x 5' Junction Box
with Type A10 Manhole
Frame and Lid in NW corner
& Adjusting Rings (2" & 2-6")

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B22	B63

Plotting Date: 04/04/2023 Rev 4/04/2023 BT

Interstate I-90

N 1°57'33" E

130+00 131+00 132+00 133+00 134+00 135+00

RAPID CITY

PI 3+51.08
N 655156.38
E 1207184.27
Del 0°18'40" L

N 2°35'01" E

WBlvd N

N 2°16'21" E

2+00 3+00 4+00 5+00 6+00 7+00 8+00

Lot 14 Lot 15 Lot 16 Lot 17

BLOCK 6

SUBDIVISION OF CANYON VIEW TRACT

Plot Scale - 1:40

Plotted From - TRPR17192

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B23	B63

Plotting Date: 04/04/2023 Rev 9/29/2022 BT

Plot Scale - 1:40

W Blvd N

3335
3330
3325
3320
3315
3310
3305
3300
3295
3290
3285
3280
3275
3270
3265
3260
3255
3250

2+00
3+00
4+00
5+00
6+00
7+00
8+00

36" RCP 2.1008%

FL 3286.00

FL 3292.25

36" RCP 1.9220%

Plotted From - TRPR17192

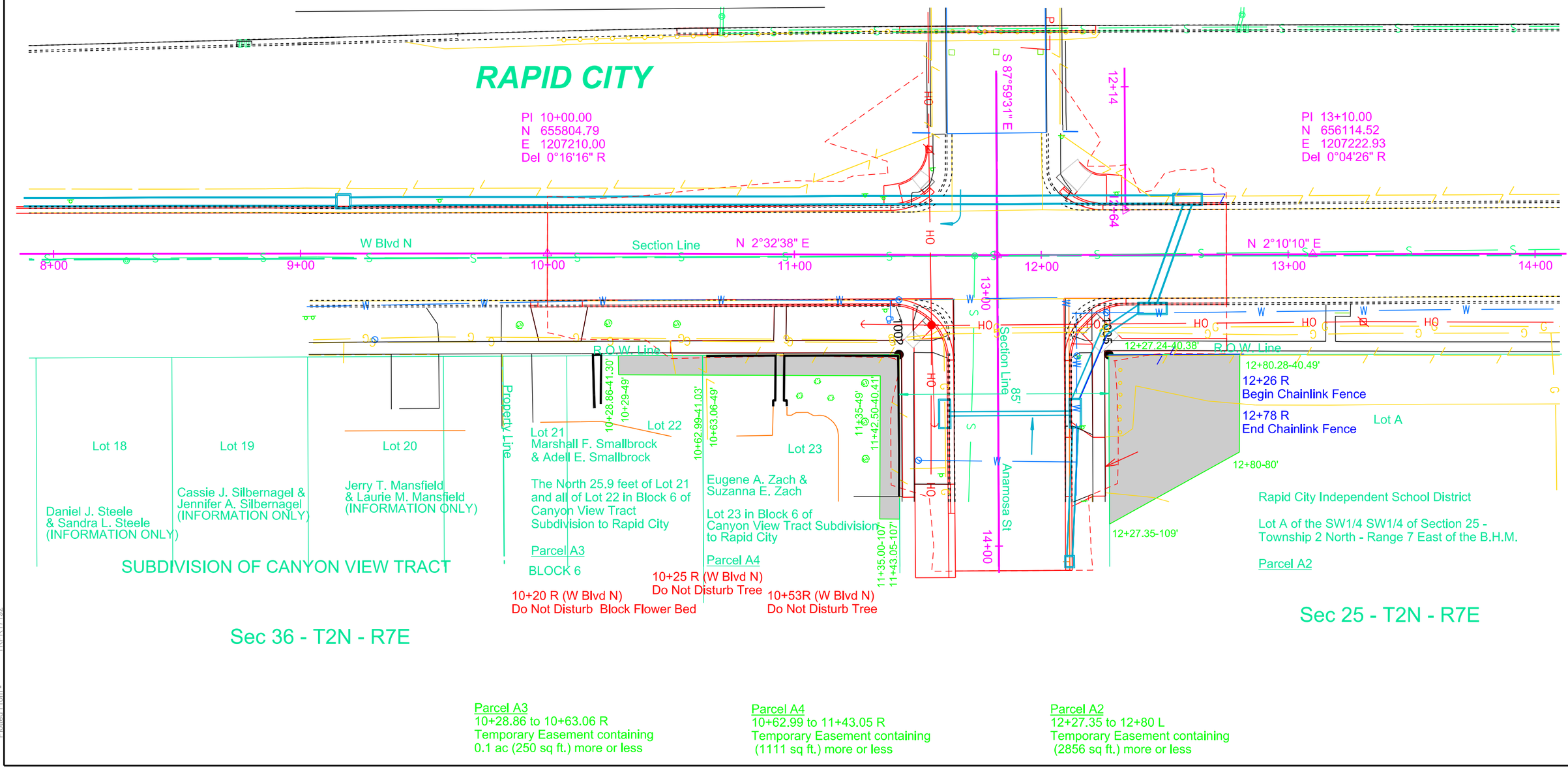
File - U:\rdir\prj\penn065K\02w\blvdv.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B24	B63

Plotting Date: 12/21/2022 Rev 9/29/2022 BT

9+17.37-21.15' L (WBlvdN)
Install 5' x 5' Junction Box
with Type A10 Manhole
Frame and Lid in NW corner
& Adjusting Rings (2" & 2-6")

9+19.87-21.15' L to 12+53.87-22.30' L (WBlvdN)
Install 36" - 334' RCP
(Between Drop Inlet & Junction Box)



Parcel A3
10+28.86 to 10+63.06 R
Temporary Easement containing
0.1 ac (250 sq ft.) more or less

Parcel A4
10+62.99 to 11+43.05 R
Temporary Easement containing
(1111 sq ft.) more or less

Parcel A2
12+27.35 to 12+80 L
Temporary Easement containing
(2856 sq ft.) more or less

Plot Scale - 1:40
Plotted From - TRPR17192
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B25	B63

Plotting Date: 04/04/2023 Rev 4/04/2023 BT

W Blvd N

10+00 Begin Work — W Blvd N — Anamosa Street — 12+75 End Work

11+60.45 — 12+03.32

Excavation	379	Embankment	111		
Undercut	701	20%	22	133	
	1080	Undercut	701		
		20%	140	841	
		Waste		106	
				1080	

Waste is excess excavation to be disposed of at a site approved by the Engineer.

10+05 R
18' Drive

PVI 10+00
Elev 3306.92

PVI 11+43
Elev 3310.99

PVI 11+82
Elev 3311.77

PVI 12+03
Elev 3311.36

PVI 12+25
Elev 3311.81

PVI 12+75
Elev 3313.45

2.8431% | 2.0000% | 2.0000% | 2.0000% | 3.3210%

36" RCP 1.9220%

FL 3297.92

36" RCP 1.9912%

18" RCP 0.5000%

30" RCP 0.5000%

FL 3306.87

FL 3306.63

FL 3306.05

FL 3305.40

FL 3305.32

FL 3304.78

FL 3304.58

3306.92 | 3307.49 | 3308.06 | 3308.63 | 3309.20 | 3309.77 | 3310.33 | 3310.90 | 3311.33 | 3311.73 | 3311.42 | 3311.70 | 3312.29 | 3312.95

8+00 | 9+00 | 10+00 | 11+00 | 12+00 | 13+00 | 14+00

3350 | 3345 | 3340 | 3335 | 3330 | 3325 | 3320 | 3315 | 3310 | 3305 | 3300 | 3295 | 3290 | 3285 | 3280 | 3275 | 3270 | 3265 | 3260

Plot Scale - 1:40

Plotted From - TRPR17192

File - U:\rdr\prj\penn065K\08wblvdv.dgn

PAVEMENT REMOVAL LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B26	B63

Plotting Date: 05/10/2023 Rev 05/10/2023 BT

Remove Concrete Pavement

Remove Concrete Driveway Pavement

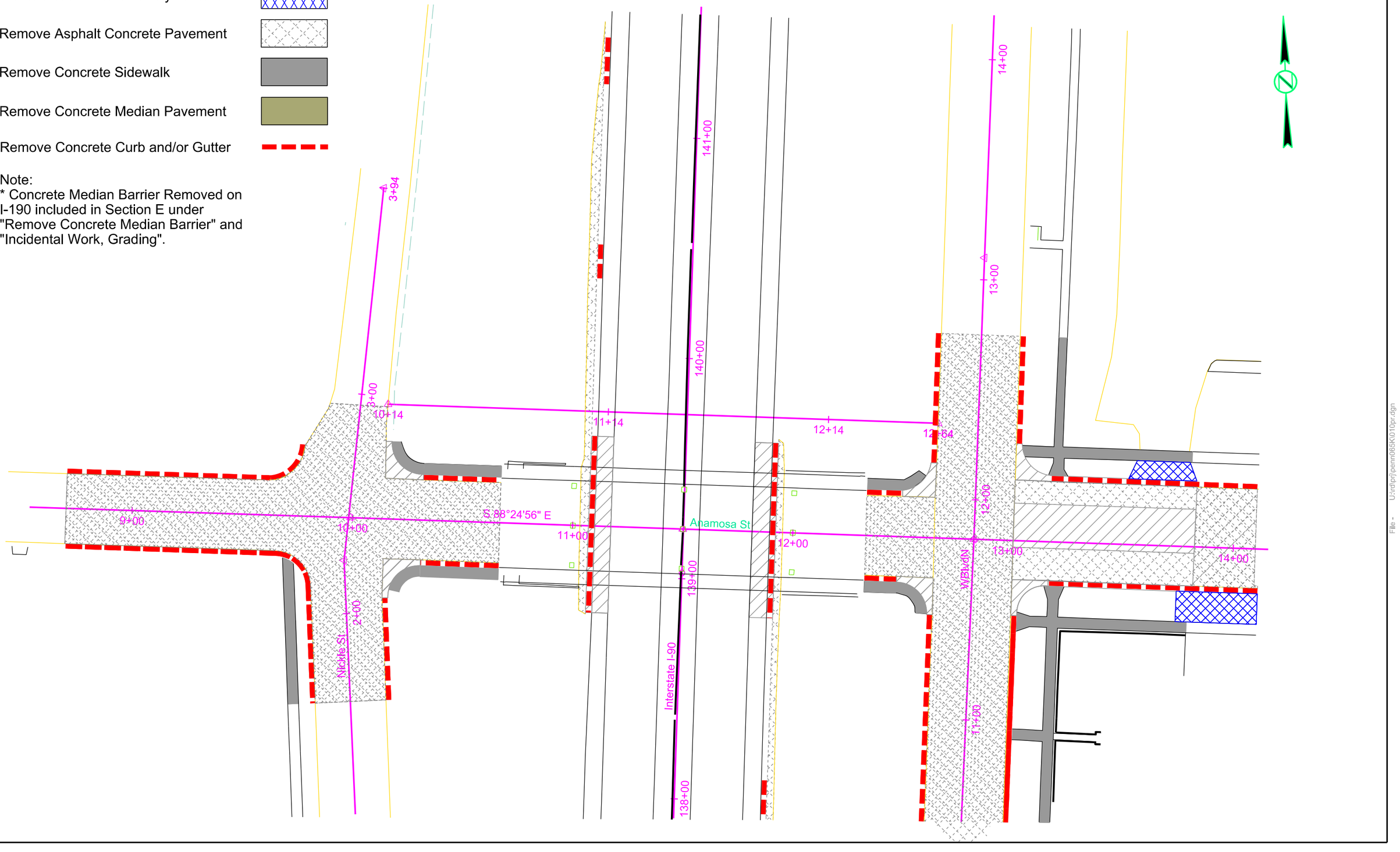
Remove Asphalt Concrete Pavement

Remove Concrete Sidewalk

Remove Concrete Median Pavement

Remove Concrete Curb and/or Gutter

Note:
* Concrete Median Barrier Removed on I-190 included in Section E under "Remove Concrete Median Barrier" and "Incidental Work, Grading".



Plot Scale - 1:40
Plotted From - TRPR17192
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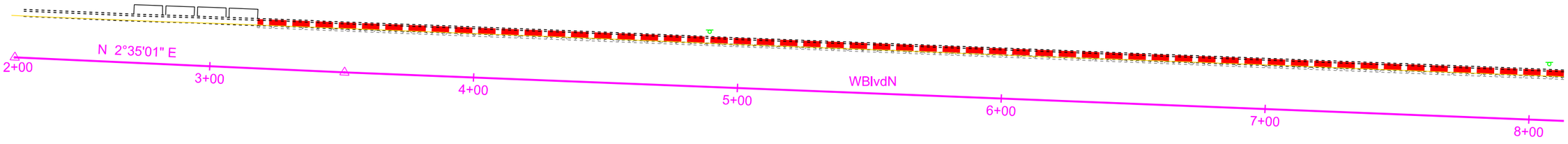
PAVEMENT REMOVAL LAYOUT
W Blvd N

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B27	B63

Plotting Date: 12/21/2022



Plot Scale - 1:40

Plotted From - TRPR17102

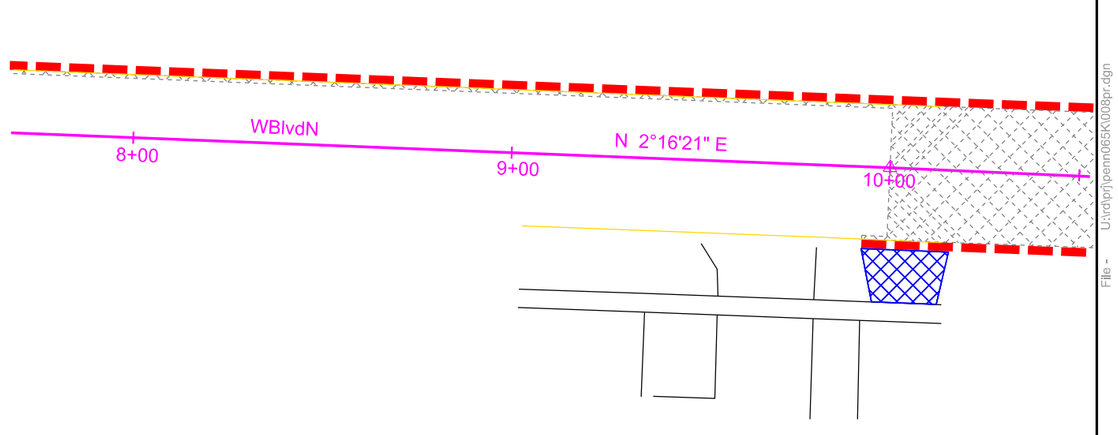
File - U:\rdlprj\penn065K\002pr.dgn

PAVEMENT REMOVAL LAYOUT

W Blvd N

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B28	B63

Plotting Date: 12/21/2022



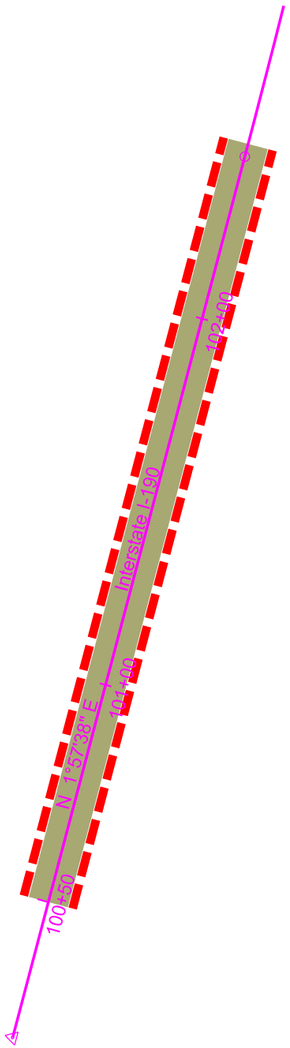
Plot Scale - 1:40
Plotted From - TRPR17192
File - U:\rdpr\penn065\t006pr.dgn

PAVEMENT REMOVAL LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B29	B63

Plotting Date: 12/21/2022

I-190



Plot Scale - 1:40

Plotted From - TRPR17192

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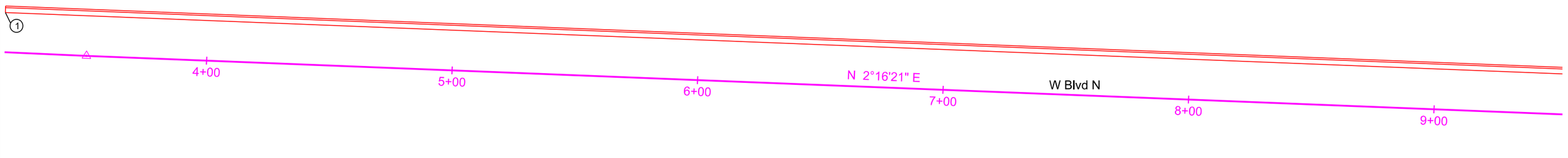
CURB AND GUTTER LAYOUT

Note: All curb and gutter shown on this sheet is Type B66 except as noted.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B30	B63

Plotting Date: 12/21/2022

1 3+17.30-16.17' R
Begin Str C & G
TC Elev (Match Existing)



Plot Scale - 1:40
Plotted From - TRPR17192
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CURB AND GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B31	B63

Plotting Date: 12/21/2022

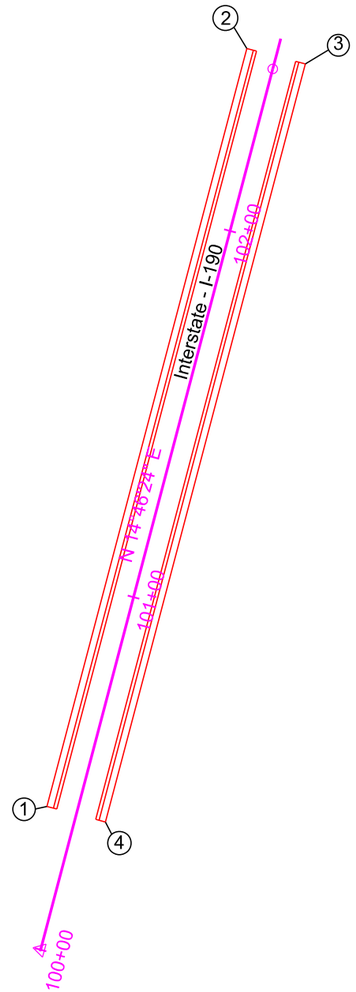
Note: All curb and gutter shown on this sheet is Type F66 except as noted.

1 100+40.71-8.00' L
Begin Str Type F66 C & G
TC Elev (Match Existing)

2 102+47.72-8.00' L
End Str Type F66 C & G
TC Elev (Match Existing)

3 102+47.70-8.00' L
Begin Str Type F66 C & G
TC Elev (Match Existing)

4 100+40.71-8.00' L
End Str Type F66 C & G
TC Elev (Match Existing)



Plot Scale - 1:40

Plotted From - TRPR17192

File - U:\rdlprj\penn065K1100cg.dgn

CURB AND GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B32	B63

Plotting Date: 12/21/2022

Note: All curb and gutter shown on this sheet is Type B66 except as noted.
All sidewalk is 5' wide except as noted.

1 8+70.00-15.59' L
Begin Str C & G
TC Elev (Match Existing)

2 9+52.74-16.00' L
End Str C & G
Begin 25' Rad Fillet
TC Elev 3310.33 (Theor)

3 9+77.61-41.00' L
End 25' Rad Fillet
Begin Str C & G
TC Elev 3311.17 (Theor)

4 9+77.62-50.67' L
End Str C & G
TC Elev 3311.13 (Theor)

5 10+14.07-50.91' L
Begin Str C & G
TC Elev 3317.17 (Theor)

6 10+13.94-43.42' L
End Str C & G
Begin 25' Rad Fillet
TC Elev 3311.47 (Theor)

7 10+38.94-18.00' L
End 25' Rad Fillet
Begin Str C & G
TC Elev 3312.23 (Theor)

8 10+44.06-18.00' L
End Str C & G
TC Elev 3312.33 (Match Bridge)

9 12+56.80-25.38' L
Begin 25' Rad C & G
TC Elev 3312.11 (Match Existing)

10 12+25.05-18.25' L (WBlvdN)
End 25' Rad C & G
Begin Str C& G
TC Elev 3312.42 (Theor)

11 12+75.00-18.25' L (WBlvdN)
End Str C & G
TC Elev 3313.10 (Theor)
(Match Existing)

12 12+75.00-17-65' R (WBlvdN)
Begin Str C & G
TC Elev 3313.54 (Theor)
(Match Existing)

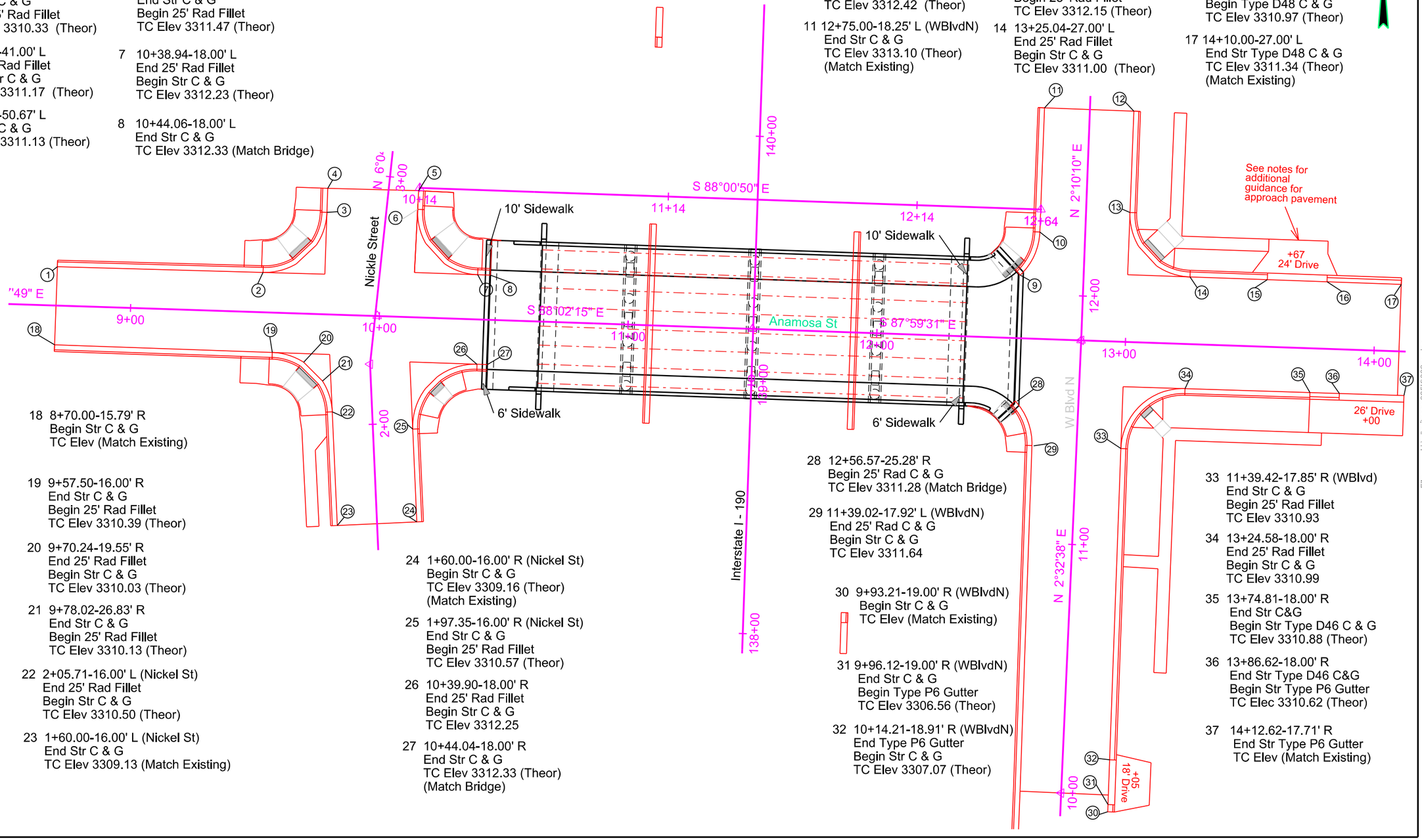
13 12+34.27-17.65' R (WBlvdN)
End Str C& G
Begin 25' Rad Fillet
TC Elev 3312.15 (Theor)

14 13+25.04-27.00' L
End 25' Rad Fillet
Begin Str C & G
TC Elev 3311.00 (Theor)

15 13+56.12-27.00' L
End Str C & G
Begin Type P8 Gutter
TC Elev 3310.90 (Theor)

16 13+80.12-27.00' L
End Type P8 Gutter
Begin Type D48 C & G
TC Elev 3310.97 (Theor)

17 14+10.00-27.00' L
End Str Type D48 C & G
TC Elev 3311.34 (Theor)
(Match Existing)



18 8+70.00-15.79' R
Begin Str C & G
TC Elev (Match Existing)

19 9+57.50-16.00' R
End Str C & G
Begin 25' Rad Fillet
TC Elev 3310.39 (Theor)

20 9+70.24-19.55' R
End 25' Rad Fillet
Begin Str C & G
TC Elev 3310.03 (Theor)

21 9+78.02-26.83' R
End Str C & G
Begin 25' Rad Fillet
TC Elev 3310.13 (Theor)

22 2+05.71-16.00' L (Nickel St)
End 25' Rad Fillet
Begin Str C & G
TC Elev 3310.50 (Theor)

23 1+60.00-16.00' L (Nickel St)
End Str C & G
TC Elev 3309.13 (Match Existing)

24 1+60.00-16.00' R (Nickel St)
Begin Str C & G
TC Elev 3309.16 (Theor)
(Match Existing)

25 1+97.35-16.00' R (Nickel St)
End Str C & G
Begin 25' Rad Fillet
TC Elev 3310.57 (Theor)

26 10+39.90-18.00' R
End 25' Rad Fillet
Begin Str C & G
TC Elev 3312.25

27 10+44.04-18.00' R
End Str C & G
TC Elev 3312.33 (Theor)
(Match Bridge)

28 12+56.57-25.28' R
Begin 25' Rad C & G
TC Elev 3311.28 (Match Bridge)

29 11+39.02-17.92' L (WBlvdN)
End 25' Rad C & G
Begin Str C & G
TC Elev 3311.64

30 9+93.21-19.00' R (WBlvdN)
Begin Str C & G
TC Elev (Match Existing)

31 9+96.12-19.00' R (WBlvdN)
End Str C & G
Begin Type P6 Gutter
TC Elev 3306.56 (Theor)

32 10+14.21-18.91' R (WBlvdN)
End Type P6 Gutter
Begin Str C & G
TC Elev 3307.07 (Theor)

33 11+39.42-17.85' R (WBlvd)
End Str C & G
Begin 25' Rad Fillet
TC Elev 3310.93

34 13+24.58-18.00' R
End 25' Rad Fillet
Begin Str C & G
TC Elev 3310.99

35 13+74.81-18.00' R
End Str C&G
Begin Str Type D46 C & G
TC Elev 3310.88 (Theor)

36 13+86.62-18.00' R
End Str Type D46 C&G
Begin Str Type P6 Gutter
TC Elec 3310.62 (Theor)

37 14+12.62-17.71' R
End Str Type P6 Gutter
TC Elev (Match Existing)

Plot Scale - 1:40
Plotted From - TRPR17192
File - U:\rdp\pj\penn065K\009cg.dgn

CURB AND GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B33	B63

Plotting Date: 12/21/2022

1 138+83.20-40.48' L
Begin Str Type D411C & G
TC Elev 3294.41 (Theor)
(Match Existing)

2 139+63.35-40.28' L
End Str Type D411 C & G
TC Elev 3293.58 (Theor)
(Match Existing)

3 140+34.44-40.55' L
Begin Str Transition to Type P11 Gutter
TC Elev 3294.90 (Theor)
(Match Existing)

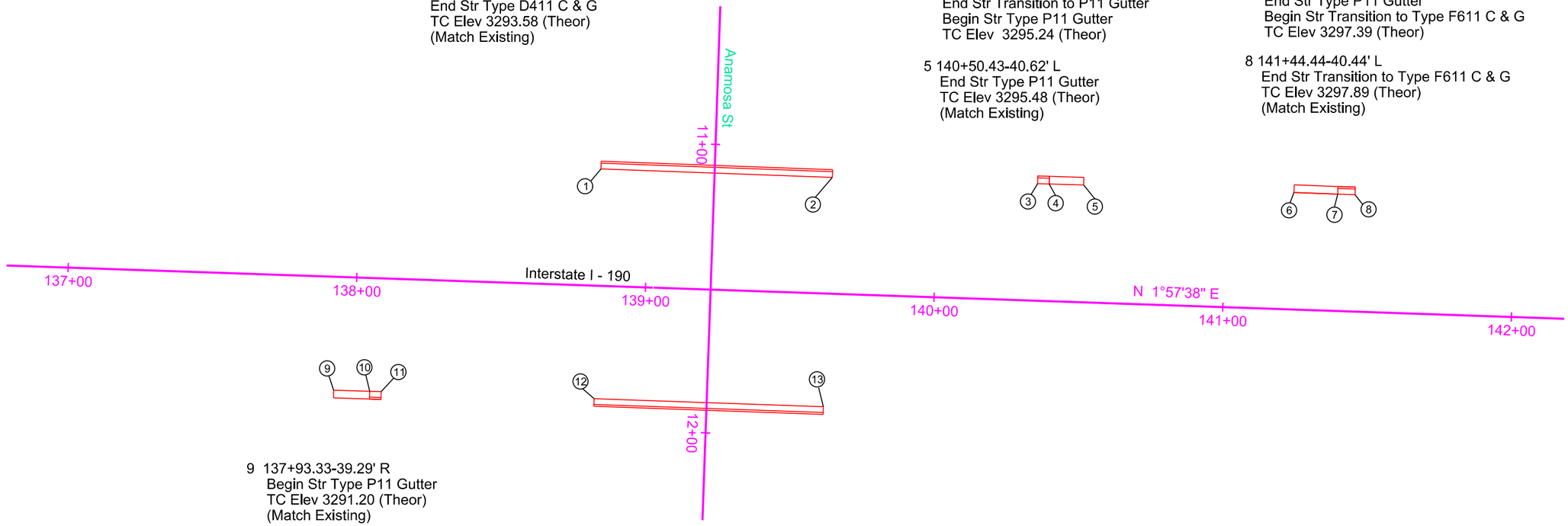
4 140+38.44-40.58' L
End Str Type P11 Gutter
Begin Str Type P11 Gutter
TC Elev 3295.24 (Theor)

5 140+50.43-40.62' L
End Str Type P11 Gutter
TC Elev 3295.48 (Theor)
(Match Existing)

6 141+23.27-40.50' L
Begin Str Type P11 Gutter
TC Elev 3296.99 (Theor)
(Match Existing)

7 141+38.44-40.46' L
End Str Type P11 Gutter
Begin Str Transition to Type F611 C & G
TC Elev 3297.39 (Theor)

8 141+44.44-40.44' L
End Str Transition to Type F611 C & G
TC Elev 3297.89 (Theor)
(Match Existing)



9 137+93.33-39.29' R
Begin Str Type P11 Gutter
TC Elev 3291.20 (Theor)
(Match Existing)

10 138+05.79-39.26' R
End Str Type P11 Gutter
Begin Str Transition to Type D411 C & G
TC Elev 3291.53 (Theor)

11 138+09.79-39.25' R
End Str Transition to Type D411 C & G
TC Elev 3291.63 (Theor)
(Match Existing)

12 138+83.54-39.12' R
Begin Str Type D411 C & G
TC Elev (Theor)
(Match Existing)

13 139+62.99-39.20' R
End Str Type D411 C & G
TC Elev 3293.47 (Theor)
(Match Existing)

Plot Scale - 1:40
Plotted From - TRPR17192
File - U:\rdlprj\penn\065K\137cg.dgn

CURB RAMP LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B34	B63

Plotting Date: 12/21/2022

* Turning Space with 1.5% slope
** Curb Ramp with 7.5% slope and 1.5% cross slope

1 9+68.00-25.68' L
Center Type 3
Curb Ramp

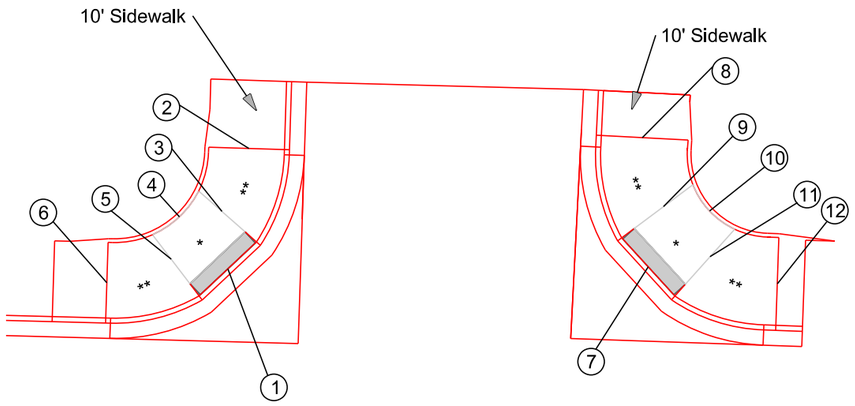
2 9+70.28-41.67' L
Begin Ramp Slope

3 9+66.97-33.25' L
End Ramp Slope

4 9+61.38-32.25' L
Back of Turning Space

5 9+60.49-26.72' L
Begin Ramp Slope

6 9+52.10-23.34' L
End Ramp Slope



7 10+23.42-27.80' L
Center Type 3
Curb Ramp

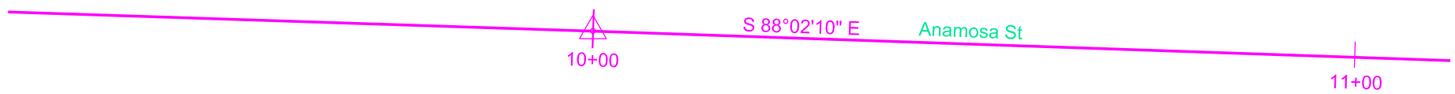
8 10+22.08-44.83' L
Begin Ramp Slope

9 10+25.18-35.84' L
End Ramp Slope

10 10+31.26-35.46' L
Back of Turning Space

11 10+31.53-29.43' L
Begin Ramp Slope

12 10+40.53-26.14' L
End Ramp Slope



13 9+72.20-25.04' R
Center Type 3
Curb Ramp

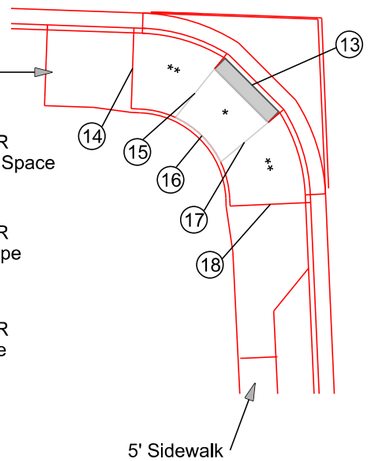
14 9+56.37-23.35' R
Begin Ramp Slope

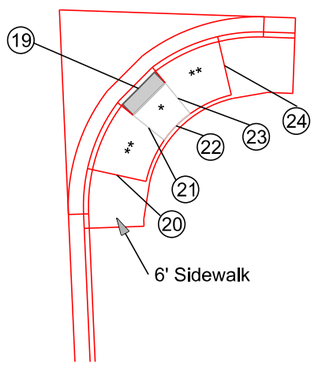
15 9+64.71-26.37' R
End Ramp Slope

16 9+65.80-31.96' R
Back of Turning Space

17 9+71.43-32.63' R
Begin Ramp Slope

18 9+75.13-40.70' R
End Ramp Slope





19 10+23.65-27.99' R
Center Type 3
Curb Ramp

20 10+21.17-39.53' R
Begin Ramp Slope

21 10+25.17-33.13' R
End Ramp Slope

22 10+28.80-32.78' R
Back of Turning Space

23 10+28.89-29.14' R
Begin Ramp Slope

24 10+34.90-24.62' R
End Ramp Slope

Plot Scale - 1:20
Plotted From - TRPR17192
File - U:\trdpr\jbenn065K10\cr.dgn

CURB RAMP LAYOUT

* Turning Space with 1.5% slope
** Curb Ramp with 7.5% slope and 1.5% cross slope

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B35	B63

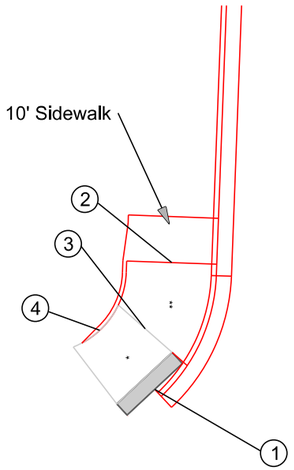
Plotting Date: 12/21/2022

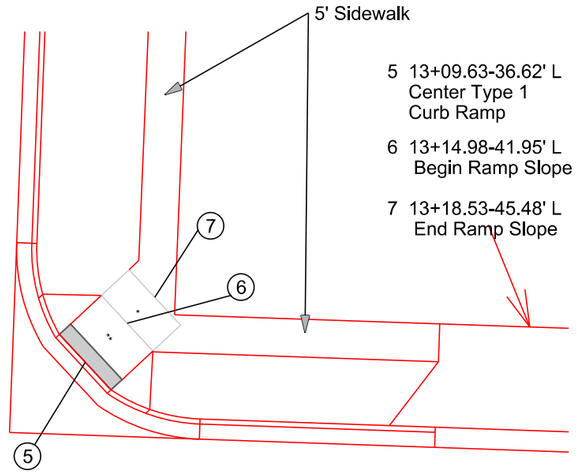
1 12+54.51-27.69' L
Center Type 3
Curb Ramp

2 12+5615-44.49' L
Begin Ramp Slope

3 12+53.01-35.59' L
End Ramp Slope

4 12+46.98-35.21' L
Back of Turning Space





5 13+09.63-36.62' L
Center Type 1
Curb Ramp

6 13+14.98-41.95' L
Begin Ramp Slope

7 13+18.53-45.48' L
End Ramp Slope

Anamosa St

S 88°02'10" E

13+00

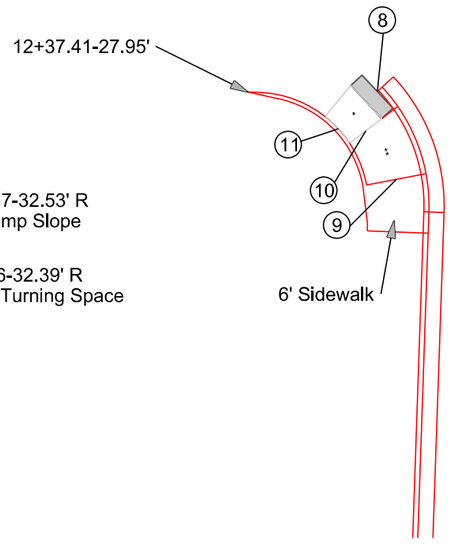
14+00

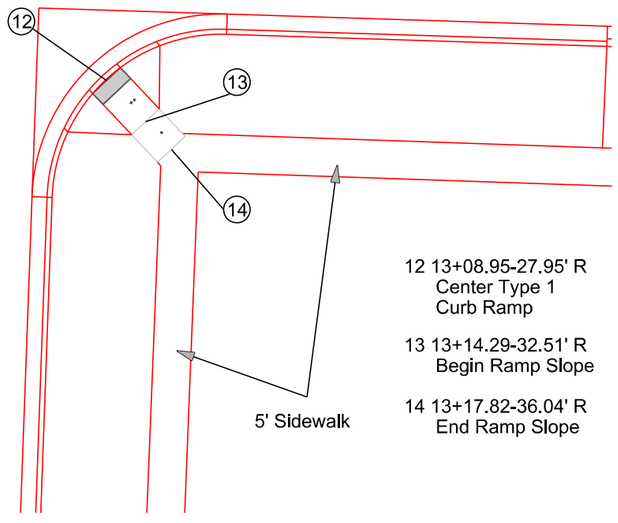
8 12+54.54-27.30' R
Center Type 3
Curb Ramp

9 12+57.45-38.78' R
Begin Ramp Slope

10 12+53.17-32.53' R
End Ramp Slope

11 12+49.56-32.39' R
Back of Turning Space





12 13+08.95-27.95' R
Center Type 1
Curb Ramp

13 13+14.29-32.51' R
Begin Ramp Slope

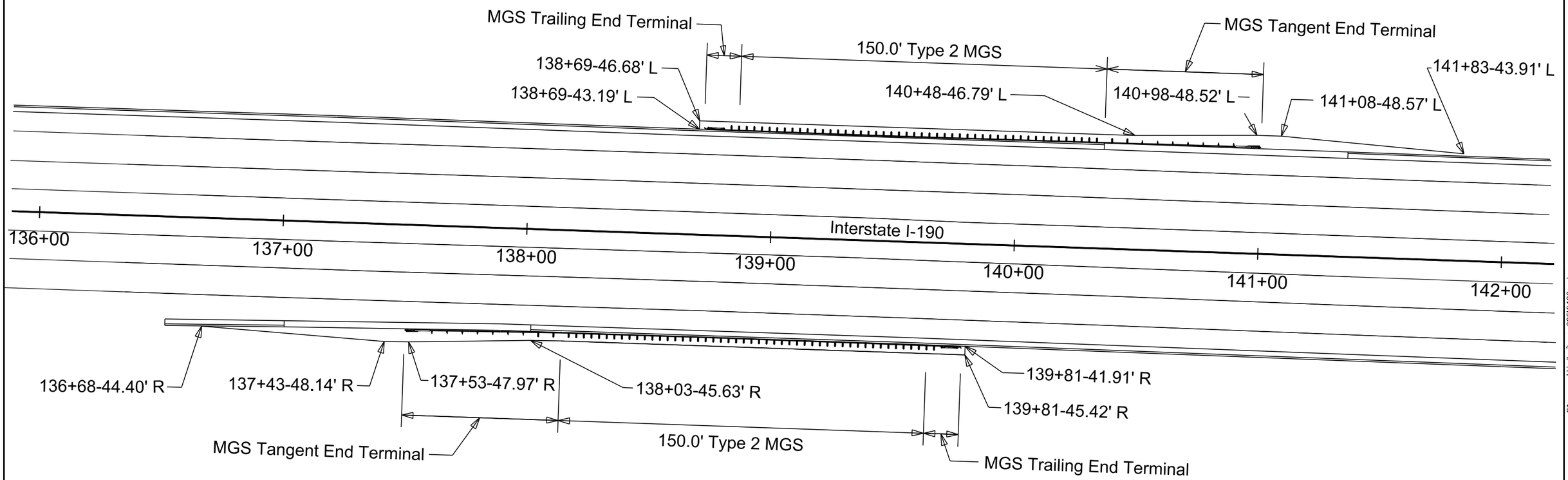
14 13+17.82-36.04' R
End Ramp Slope

Plot Scale - 1:20
Plotted From - TRPR17192
File - U:\rdpr\penn065K113cr.dgn

GUARDRAIL LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B36	B63

Plotting Date: 12/21/2022



Plot Scale - 1:40

Plotted From - TRPR17192

File - U:\rdlpr\jbenn0655K\136gr.dgn

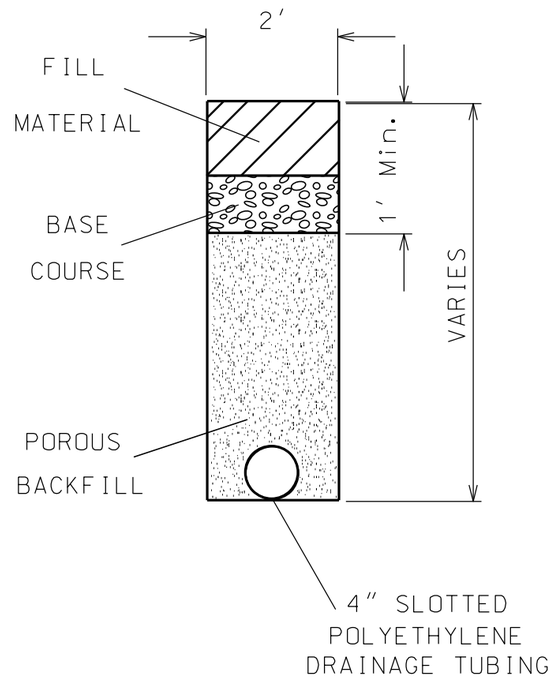
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM-B 1902(67)0	B37	B63

Plotting Date: 12/21/2022

TYPICAL UNDERDRAIN INSTALLATION

1190 REPLACEMENT UNDERDRAIN
ANAMOSA STREET
STATION 11+05 41.5' LT. TO 36.5' RT.
STATION 11+95 41.5' LT. TO 36.5' RT.

Longitudinal Drain
Behind Curb

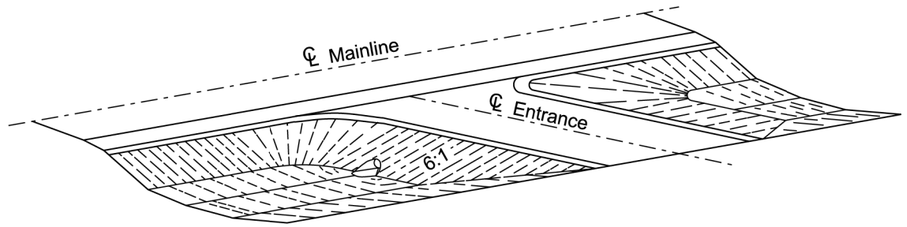


UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 680 OF THE SPECIFICATIONS

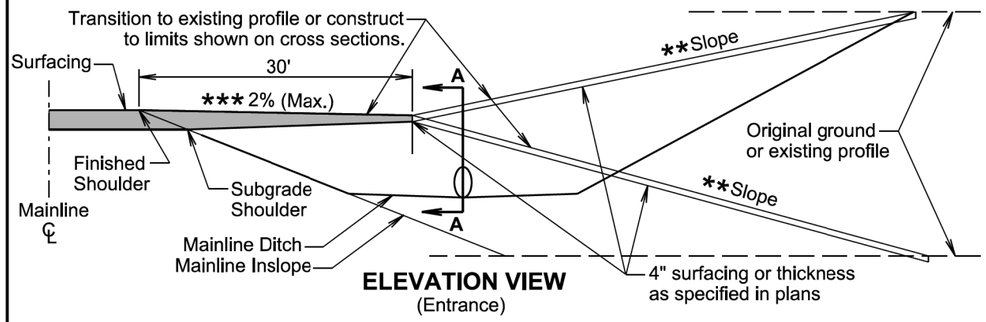
Plot Scale - 1:2.3

Plotted From - TRPR17192

File - ...\rdprj\penn065K\065kudrain.dgn



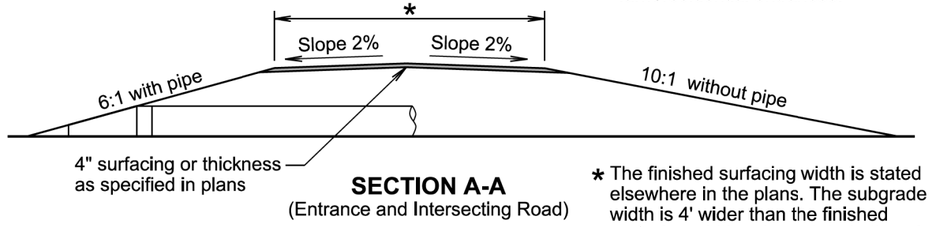
PERSPECTIVE OF ENTRANCE



ELEVATION VIEW
(Entrance)

*** 2% When on the inside of superelevation and 0% or flat when on outside of superelevation.

** Entrance maximum slope is typically 10:1 for field entrances and 15:1 for farm/residential entrances.



SECTION A-A
(Entrance and Intersecting Road)

* The finished surfacing width is stated elsewhere in the plans. The subgrade width is 4' wider than the finished surfacing width unless stated otherwise in the plans.

GENERAL NOTES:

The ditch section shown above in the perspective view is only for illustrative purpose.

The elevation view above is typical for either a ditch cut or fill section. Entrances that vary from above should be specified in the plans.

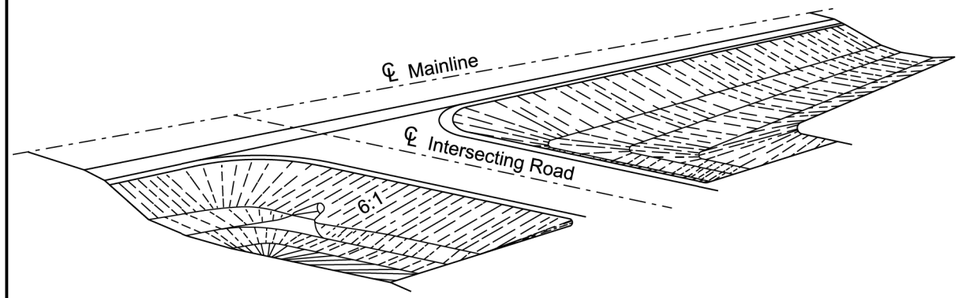
Pipe length will be adjusted if necessary during construction to obtain the 6:1 slope. For grading projects, the pipe length is estimated typically using a 4" thickness of surfacing directly over the subgrade above the pipe.

The transition area between the mainline inslope and the entrance or intersecting road inslope will be rounded to eliminate an abrupt transition.

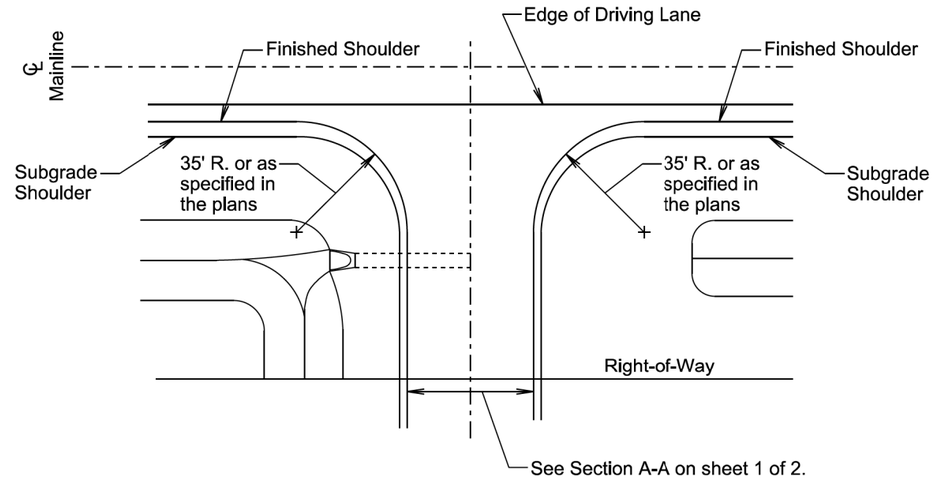
The turning radii will be 35' for intersecting roads and entrances unless stated otherwise in the plans.

November 19, 2021

Published Date: 1st Qtr. 2023	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 1 of 2



PERSPECTIVE OF INTERSECTING ROAD



PLAN VIEW

GENERAL NOTES:

The 6:1 or 10:1 intersecting road inslope will transition to the existing intersecting road inslope near the right-of-way or at a location as determined by the Engineer.

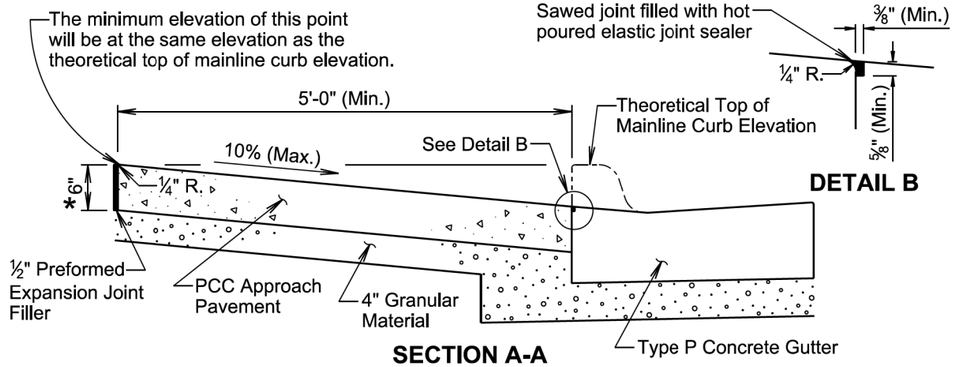
November 19, 2021

Published Date: 1st Qtr. 2023	SDDOT	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
			Sheet 2 of 2

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B39	B63

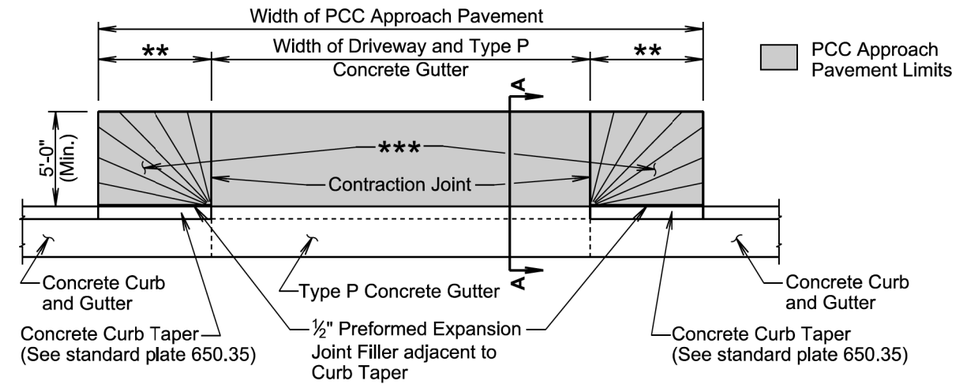
Plotting Date: 04/04/2023



* 8" at Commercial Approaches

** Width for 6" high curb is 6' (See standard plate 650.35)

*** Within these areas, the surface of the type A PCC approach pavement will be sloped transitionally as approved by the Engineer.



PLAN VIEW

GENERAL NOTES:

The concrete for the type A PCC approach pavement and adjacent driveway will comply with the requirements of the Specifications for class M6 concrete unless otherwise stated in the plans.

Contraction joints in the type A PCC approach pavement will be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint will be at least ¼ the thickness of the approach pavement. Additional contraction joints not shown in the Plan View will be spaced as follows:

One joint at the center of the approach for driveways 16 feet to 24 feet wide.
Two joints spaced at equal intervals for driveways greater than 24 feet to 40 feet wide.

All costs for furnishing and placing the type A PCC approach pavement and constructing the expansion and contraction joints including labor, equipment, excavation, and materials including the earthen backfill and granular material, will be incidental to the contract unit price per square yard for the corresponding PCC Approach Pavement contract item.

June 26, 2019

Published Date: 1st Qtr. 2023	SDDOT	TYPE A PCC APPROACH PAVEMENT	PLATE NUMBER 380.40
			Sheet 1 of 1

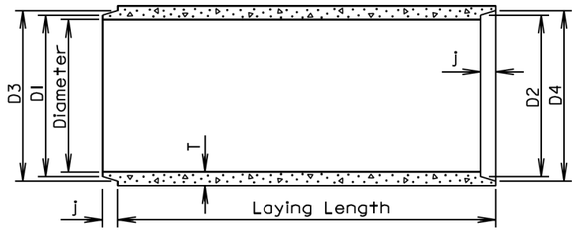
Plot Scale - 1:200

Plotted From - TRPR17192

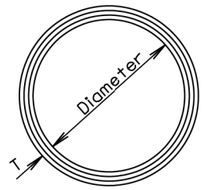
File - ...\penn065K\StdPlateSectionB.dgn

TOLERANCES IN DIMENSIONS

Diameter: ±1.5% for 24" Dia. or less and ±1% or 3/8" whichever is more for 27" Dia. or greater.
Diameters at joints: ± 3/16" for 30" Dia. or less and ± 1/4" for 36" or greater.
Length of joint (j): ± 1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

Construction of R. C. P. shall conform to the requirements of Section 990 of the Specifications.

Not more than 2 four-foot sections shall be permitted near the ends of any culvert. Four-foot lengths shall be used only to secure the required length of culvert.

Diam. (in.)	Approx. Wt. /Ft. (lb.)	T (in.)	J (in.)	D1 (in.)	D2 (in.)	D3 (in.)	D4 (in.)
12	92	2	1 3/4	13 1/4	13 5/8	13 7/8	14 1/4
15	127	2 1/4	2	16 1/2	16 7/8	17 1/4	17 5/8
18	168	2 1/2	2 1/4	19 5/8	20	20 3/8	20 3/4
21	214	2 3/4	2 1/2	22 7/8	23 1/4	23 3/4	24 1/8
24	265	3	2 3/4	26	26 3/8	27	27 3/8
27	322	3 1/4	3	29 1/4	29 5/8	30 1/4	30 5/8
30	384	3 1/2	3 1/4	32 3/8	32 3/4	33 1/2	33 7/8
36	524	4	3 3/4	38 3/4	39 1/4	40	40 1/2
42	685	4 1/2	4	45 1/8	45 5/8	46 1/2	47
48	867	5	4 1/2	51 1/2	52	53	53 1/2
54	1070	5 1/2	4 1/2	57 7/8	58 3/8	59 3/8	59 7/8
60	1296	6	5	64 1/4	64 3/4	66	66 1/2
66	1542	6 1/2	5 1/2	70 5/8	71 1/8	72 1/2	73
72	1810	7	6	77	77 1/2	79	79 1/2
78	2098	7 1/2	6 1/2	83 3/8	83 7/8	85 5/8	86 1/8
84	2410	8	7	89 3/4	90 1/4	92 1/8	92 5/8
90	2740	8 1/2	7	95 3/4	96 1/4	98 1/8	98 5/8
96	2950	9	7	102 1/8	102 5/8	104 1/2	105
102	3075	9 1/2	7 1/2	109	109 1/2	111 1/2	112
108	3870	10	7 1/2	115 1/2	116	118	118 1/2

June 26, 2015

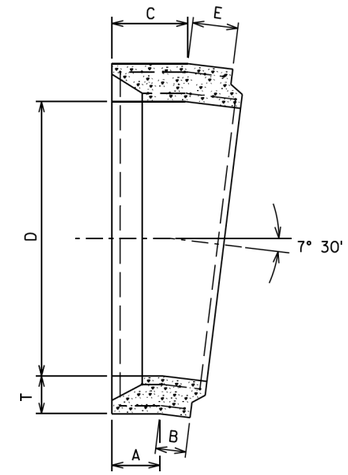
Published Date: 1st Qtr. 2023

SDDOT

REINFORCED CONCRETE PIPE

PLATE NUMBER 450.01

Sheet 1 of 1



D (in.)	Laying Length at Center of Pipe (in.)	Laying Length at Outside of Curve (in.)	T (in.)	A (in.)	B (in.)	C (in.)	E (in.)	Radius of Curve (ft.)	Weight of Section (lbs.)
12	7 3/4	8	2	4 3/4	2	5 3/4	3	4.9	70
15	11 1/4	12 1/2	2 1/4	5 1/4	4 3/4	6 1/2	6	7.2	120
18	12 1/8	13 5/8	2 1/2	5 1/2	5 1/8	7	6 5/8	7.7	170
21	9 1/2	11 1/4	2 3/4	5 1/2	2 1/4	7 1/4	4	6.1	170
24	9 13/16	11 3/4	3	5 9/16	2 5/8	7 1/2	4 1/4	6.2	215
27	9 11/16	12 1/8	3 1/4	5 7/16	2 5/16	7 5/8	4 1/2	6.2	260
30	10	12 3/8	3 1/2	5 5/16	2 5/16	7 11/16	4 11/16	6.4	320
33	11 3/16	13 7/8	3 3/4	5 15/16	2 9/16	8 5/8	5 1/4	7.1	420
36	12 3/16	15 1/16	4	6 1/2	2 5/16	9 3/8	5 11/16	7.7	530
42	14 1/16	17 1/2	4 1/2	6 13/16	3 13/16	10 5/16	7 3/16	8.9	800
48	16 1/16	20 1/4	5	7 15/16	4 11/16	11 3/4	8 1/2	10.5	1190
54	18 1/16	22 5/16	5 1/2	7 5/8	6 3/16	11 7/8	10 7/16	11.5	1600
60	20 1/2	25 1/4	6	8 5/8	7 1/8	13 3/8	11 7/8	13.0	2210
66	21 5/8	26 15/16	6 1/2	9	7 3/8	14 5/16	12 5/8	13.8	2790
72	22 5/8	28 1/4	7	9 3/8	7 5/8	13 1/4	15	14.4	3420

March 31, 2000

Published Date: 1st Qtr. 2023

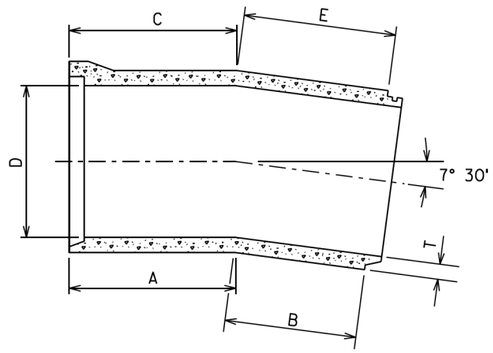
SDDOT

REINFORCED CONCRETE PIPE SHORT RADIUS BEND

PLATE NUMBER 450.03

Sheet 1 of 1

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\Std\PlateSectionB.dgn



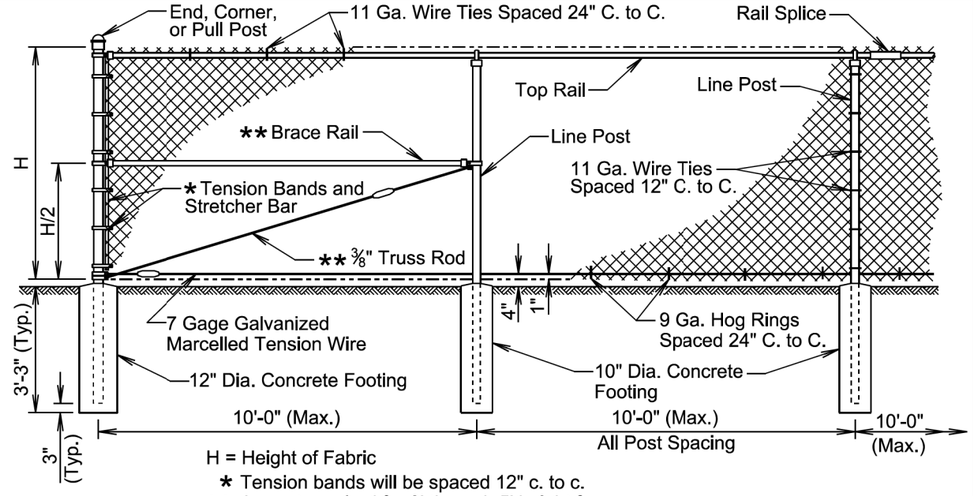
GENERAL NOTE:

Centerline laying length: 4'-0
Radius of Curve: 30.5'

D (in.)	T (in.)	A (in.)	B (in.)	C (in.)	E (in.)	Weight of Section (lbs.)
12	2	$36\frac{15}{32}$	$10\frac{15}{32}$	$37\frac{17}{32}$	$11\frac{17}{32}$	368
15	$2\frac{1}{4}$	$36\frac{1}{2}$	$10\frac{1}{4}$	$37\frac{3}{4}$	$11\frac{1}{2}$	508
18	$2\frac{1}{2}$	$24\frac{1}{2}$	22	26	$23\frac{1}{2}$	672
21	$2\frac{3}{4}$	$24\frac{1}{2}$	$21\frac{3}{4}$	$26\frac{1}{4}$	$23\frac{1}{2}$	856
24	3	$25\frac{1}{32}$	$21\frac{1}{32}$	$26\frac{31}{32}$	$22\frac{31}{32}$	1060
27	$3\frac{1}{4}$	$25\frac{1}{32}$	$20\frac{25}{32}$	$27\frac{7}{32}$	$22\frac{31}{32}$	1288
30	$3\frac{1}{2}$	$25\frac{1}{32}$	$20\frac{17}{32}$	$27\frac{15}{32}$	$22\frac{31}{32}$	1536
33	$3\frac{3}{4}$	$24\frac{15}{16}$	$20\frac{7}{16}$	$27\frac{9}{16}$	$23\frac{1}{16}$	1808
36	4	$24\frac{13}{16}$	$20\frac{5}{16}$	$27\frac{11}{16}$	$23\frac{3}{16}$	2096
42	$4\frac{1}{2}$	$24\frac{27}{32}$	$19\frac{27}{32}$	$28\frac{5}{32}$	$23\frac{5}{32}$	2740
48	5	$24\frac{19}{32}$	$19\frac{19}{32}$	$28\frac{13}{32}$	$23\frac{13}{32}$	3468
54	$5\frac{1}{2}$	$24\frac{5}{8}$	$19\frac{1}{8}$	$29\frac{11}{32}$	$23\frac{3}{8}$	4280
60	6	$24\frac{21}{32}$	$18\frac{21}{32}$	$29\frac{11}{32}$	$23\frac{11}{32}$	5184
66	$6\frac{1}{2}$	$24\frac{11}{16}$	$18\frac{3}{16}$	$29\frac{13}{16}$	$23\frac{5}{16}$	6168
72	7	$24\frac{1}{8}$	$18\frac{1}{8}$	$29\frac{7}{8}$	$23\frac{7}{8}$	7240
84	8	$24\frac{1}{4}$	$17\frac{1}{4}$	$30\frac{3}{4}$	$23\frac{3}{4}$	9640
96	9	$23\frac{5}{16}$	$17\frac{5}{16}$	$30\frac{11}{16}$	$24\frac{11}{16}$	12400

March 31, 2000

Published Date: 1st Qtr. 2023	SDDOT	REINFORCED CONCRETE PIPE LONG RADIUS BEND	PLATE NUMBER 450.04
			Sheet 1 of 1



H = Height of Fabric
* Tension bands will be spaced 12" c. to c.
** Are not required for 3' through 5' height fences.
⬭ Tightening device such as shown on standard plate 621.03

COMPONENT	END, CORNER, and PULL POST		LINE POST			TOP and BRACE RAIL	
Type of Fabrication	Round Pipe Nominal	Roll Formed Steel	Round Pipe Nominal	"C" Section	H Beam Steel	Round Pipe Nominal	Roll Formed Steel
Size	3.00" O. D.	3.5"x3.5"	2.50" O. D.	1.875"x1.625"	2.25"x1.70"	1.625" O. D.	1.625"x1.25"
Weight (lb. / Ft.)	5.79 or 4.64	5.14	3.65 or 3.12	2.34	3.43	2.27 or 1.84	1.35

GENERAL NOTES:

Specific details of the component parts of the fence will be approved by the Engineer. Commercially available items produced specifically for the use intended will be used wherever possible in the construction of the fence.

Height of the fabric will be as shown in the plans. Fabric is available at the following heights: 36", 42", 48", 60", 72", 84", 96", 108", 120", and 144". Fabric heights 60 inches and less will be knuckled at both selvages. Fabric heights 72 inches and higher will be knuckled at one selvage and twisted at the other selvage.

Chain link fabric will be 2-inch mesh, No. 9 gage galvanized wire securely fastened to tension wire, line post, rails, braces, and stretcher bars.

Fence may be constructed with either round pipe, "C" section, "H" beam, or roll formed steel components as shown in the table above. Line posts may be round pipe, "C" section, or "H" beam. The corner post and rails will be either round pipe or roll formed steel. The type of components used must be approved by the Engineer prior to installation.

Where fence must cross small bodies of water such as drainage areas or ponds that could freeze during the winter, use 11 gage hog rings. Provide only two ties per tension wire and top rail between line posts.

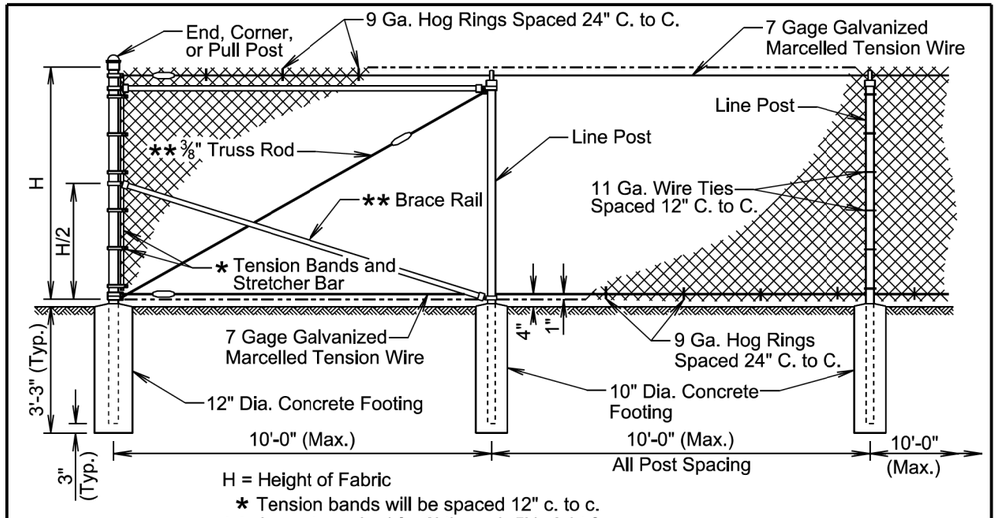
A suitable method of rail splicing will be used to allow for expansion and contraction while maintaining proper position of the top rail.

Fence grounding will be as shown on standard plate 620.11.

November 19, 2022

Published Date: 1st Qtr. 2023	SDDOT	CHAIN LINK FENCE WITH TOP RAIL	PLATE NUMBER 621.01
			Sheet 1 of 1

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn



H = Height of Fabric

* Tension bands will be spaced 12" c. to c.

** Are not required for 3' through 5' height fences.

⬭ Tightening device such as shown on standard plate 621.03

COMPONENT	END, CORNER, and PULL POST		LINE POST			BRACE RAIL	
Type of Fabrication	Round Pipe Nominal	Roll Formed Steel	Round Pipe Nominal	"C" Section	H Beam Steel	Round Pipe Nominal	Roll Formed Steel
Size	3.00" O. D.	3.5"x3.5"	2.50" O. D.	1.875"x1.625"	2.25"x1.70"	1.625" O. D.	1.625"x1.25"
Weight (lb. / Ft.)	5.79 or 4.64	5.14	3.65 or 3.12	2.34	3.43	2.27 or 1.84	1.35

GENERAL NOTES:

Specific details of the component parts of the fence will be approved by the Engineer. Commercially available items produced specifically for the use intended will be used wherever possible in the construction of the fence.

Height of the fabric will be as shown in the plans. Fabric is available at the following heights: 36", 42", 48", 60", 72", 84", 96", 108", 120", and 144". Fabric heights 60 inches and less will be knuckled at both selvages. Fabric heights 72 inches and higher will be knuckled at one selvage and twisted at the other selvage.

Chain link fabric will be 2-inch mesh, No. 9 gage galvanized wire securely fastened to tension wire, line post, rails, braces, and stretcher bars.

Fence may be constructed with either round pipe, "C" section, "H" beam, or roll formed steel components as shown in the table above. Line posts may be round pipe, "C" section, or "H" beam. The corner post and rails will be either round pipe or roll formed steel. The type of components used must be approved by the Engineer prior to installation.

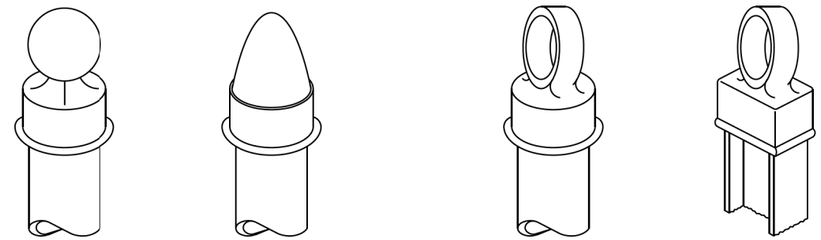
All posts will have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top tension wire.

Where fence must cross small bodies of water such as drainage areas or ponds that could freeze during the winter, use 11 gage hog rings. Provide only two ties per tension wire between line posts.

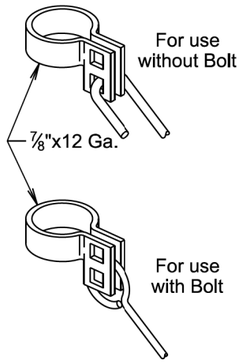
Fence grounding will be as shown on standard plate 620.11.

November 19, 2022

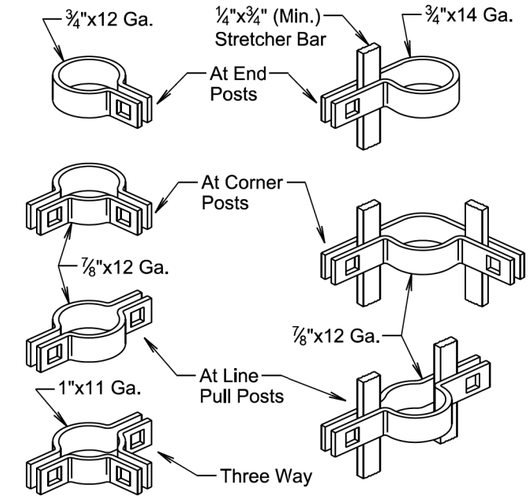
Published Date: 1st Qtr. 2023	SDDOT	CHAIN LINK FENCE WITH TENSION WIRED TOP	PLATE NUMBER 621.02
			Sheet 1 of 1



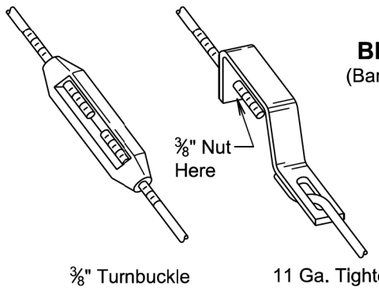
TYPICAL POST TOPS
(Shown for example only)



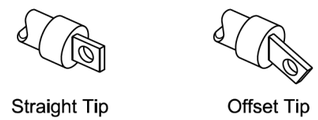
BRACE AND TRUSS BANDS



BRACE BANDS **TENSION BANDS**
(Bands will be rectangular for "C" Section and "H" Beam Posts.)



TIGHTENING DEVICES



RAIL ENDS

June 26, 2019

Published Date: 1st Qtr. 2023	SDDOT	HARDWARE FOR CHAIN LINK FENCE	PLATE NUMBER 621.03
			Sheet 1 of 1

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn

TYPE AND DETAILS OF MGS						
Type of MGS	W Beam Rail Single or Double (Nested)	Blockout Size	Blockout Material	Post Size	Post Material	Post Spacing
1	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	6'-3"
1C	Single	6"x12"x14"	Wood	6"x8"x7'-6"	Wood	6'-3"
2	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	3'-1½"
3	Single	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	1'-6¾"
4	Double	6"x12"x14"	Wood	6"x8"x6'-0"	Wood	6'-3"

STANDARD PLATE REFERENCE	
Type of MGS	See Standard Plate(s)
1	630.20, 630.22
1C	630.20, 630.25
2	630.20
3	630.20
4	630.20

GENERAL NOTES:

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite".

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

Topsoil is not shown in the transverse section drawing on sheet 2 of 6.

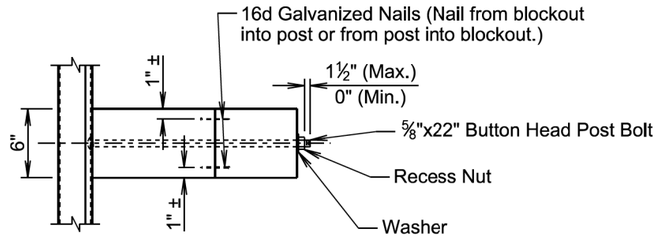
All W beam rail will be Type 1 and Class A (12 Ga.) unless specified otherwise in the plans.

W beam rail section lengths may be 12'-6" and/or 25'-0". The combination of section lengths used will be compatible with the total length of rail per site as shown in the plans.

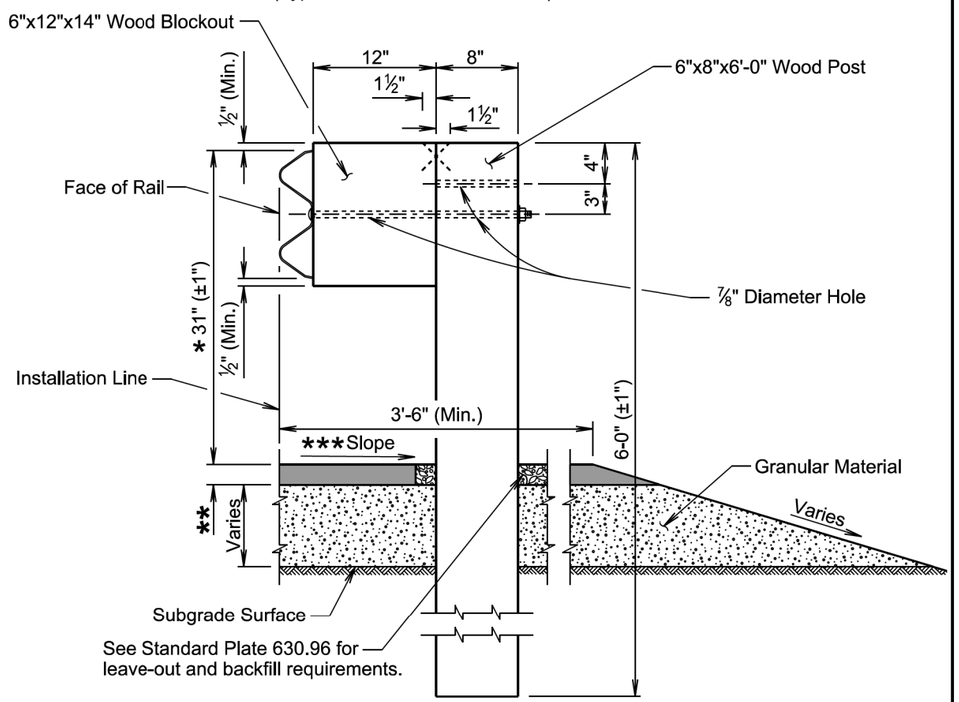
Slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or notches.

All costs for constructing the MGS including labor, equipment, and materials including all posts, blockouts, steel beam rail, and hardware will be incidental to the contract unit price per foot for the respective MGS contract item.

September 14, 2019



TOP VIEW
(Type 1, 2, or 3 MGS Installation)



TRANSVERSE SECTION
(Type 1, 2, or 3 MGS Installation)

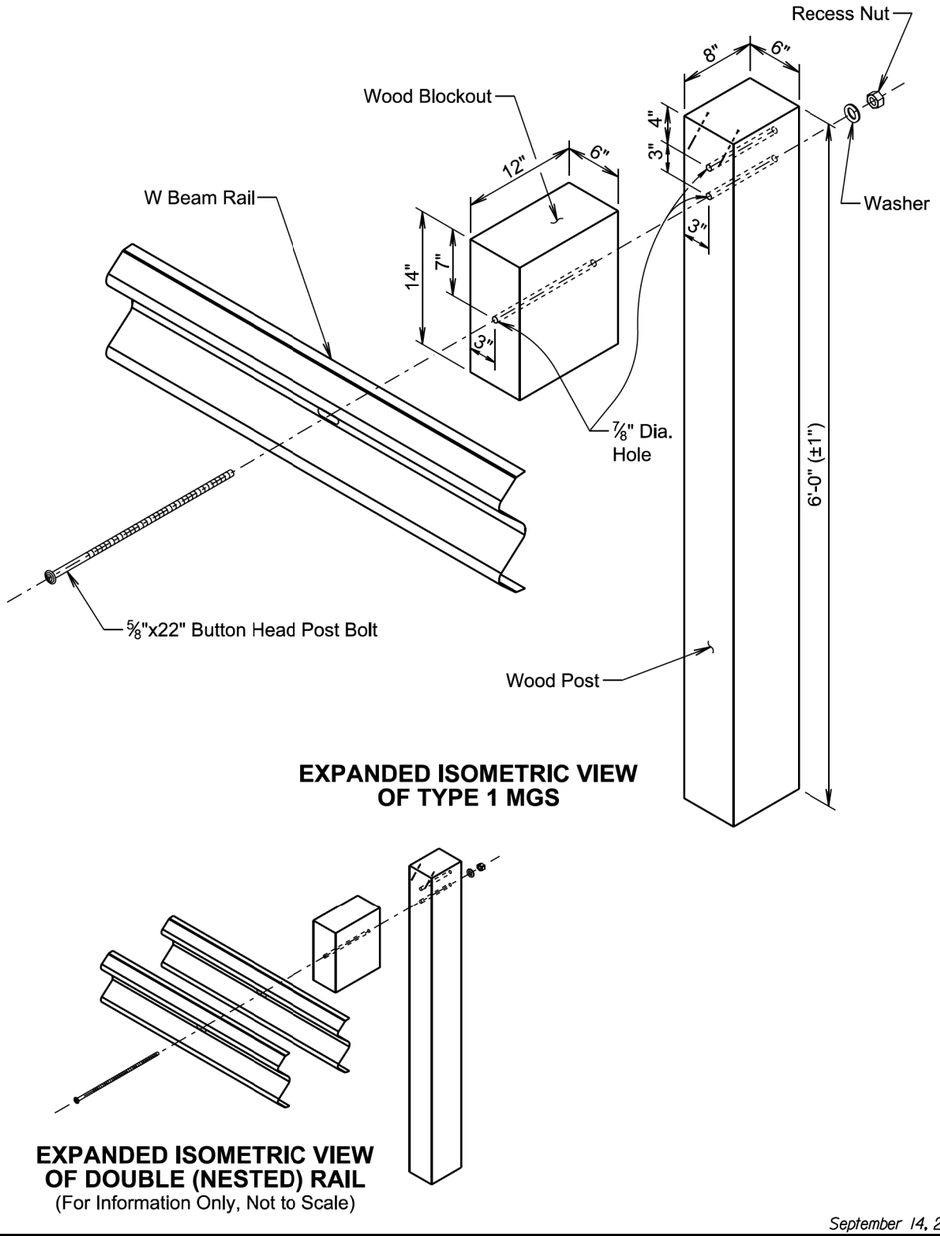
* See Standard Plate 630.99

** 2" asphalt concrete or as specified in the plans.

*** The cross slope will be as specified in the plans; however, the cross slope will not be steeper than a 10:1 slope.

September 14, 2019

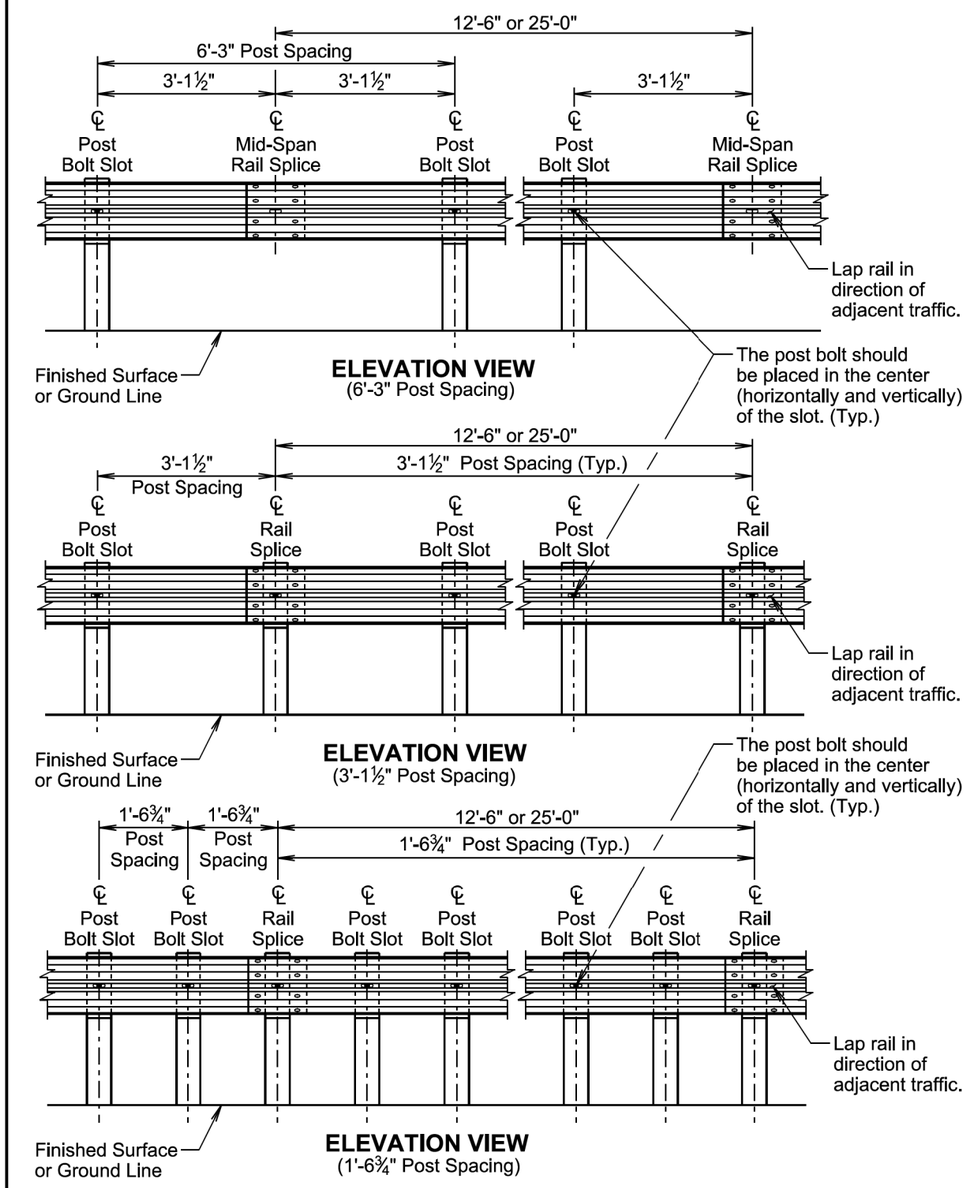
Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn



EXPANDED ISOMETRIC VIEW OF TYPE 1 MGS

EXPANDED ISOMETRIC VIEW OF DOUBLE (NESTED) RAIL
(For Information Only, Not to Scale)

September 14, 2019



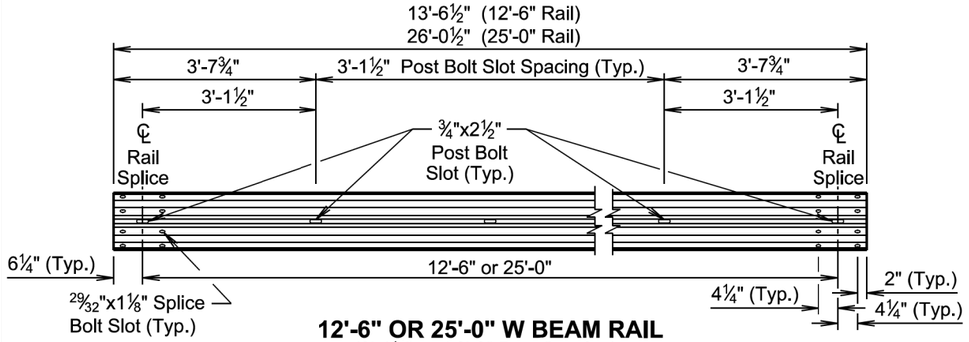
ELEVATION VIEW
(6'-3" Post Spacing)

ELEVATION VIEW
(3'-1½" Post Spacing)

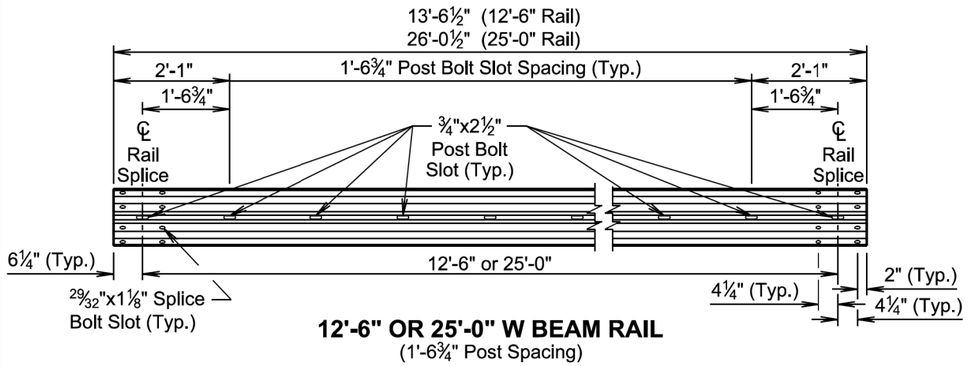
ELEVATION VIEW
(1'-6¾" Post Spacing)

September 14, 2019

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn



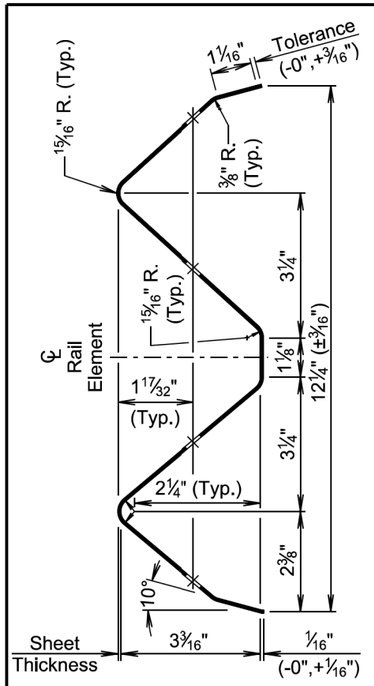
12'-6" OR 25'-0" W BEAM RAIL
(3'-1½" and 6'-3" Post Spacing)



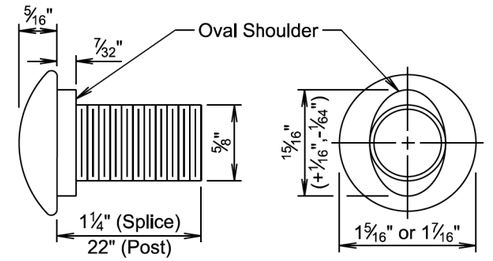
12'-6" OR 25'-0" W BEAM RAIL
(1'-6¾" Post Spacing)

September 14, 2019

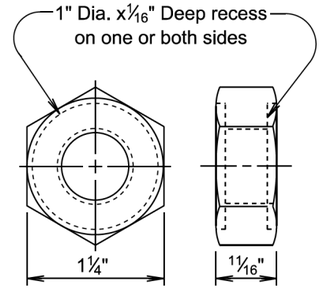
Published Date: 1st Qtr. 2023	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 5 of 6



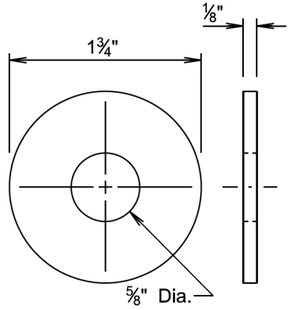
SECTION THROUGH W BEAM RAIL



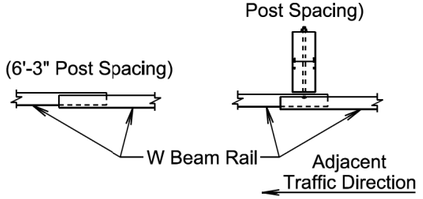
SPLICE BOLT AND POST BOLT
(⅝" Button Head Bolt)



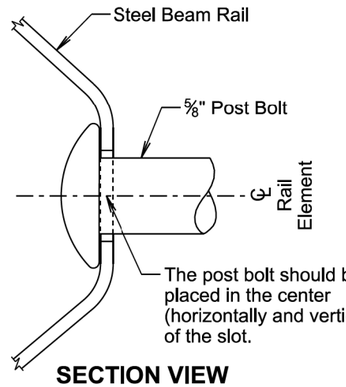
RECESS NUT
(At lap splices, the recess will be placed against the steel rail.)



WASHER
(The washer will be placed between the back side of wood post and the recess nut, see sheet 2 and 3.)



PLAN VIEW
(Lap Splice)
(Lap rail in direction of adjacent traffic.)
(8 splice bolts and 8 recess nuts per splice, NO washers)



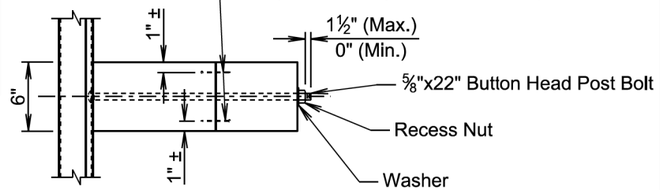
SECTION VIEW
(At Post Bolt)

September 14, 2019

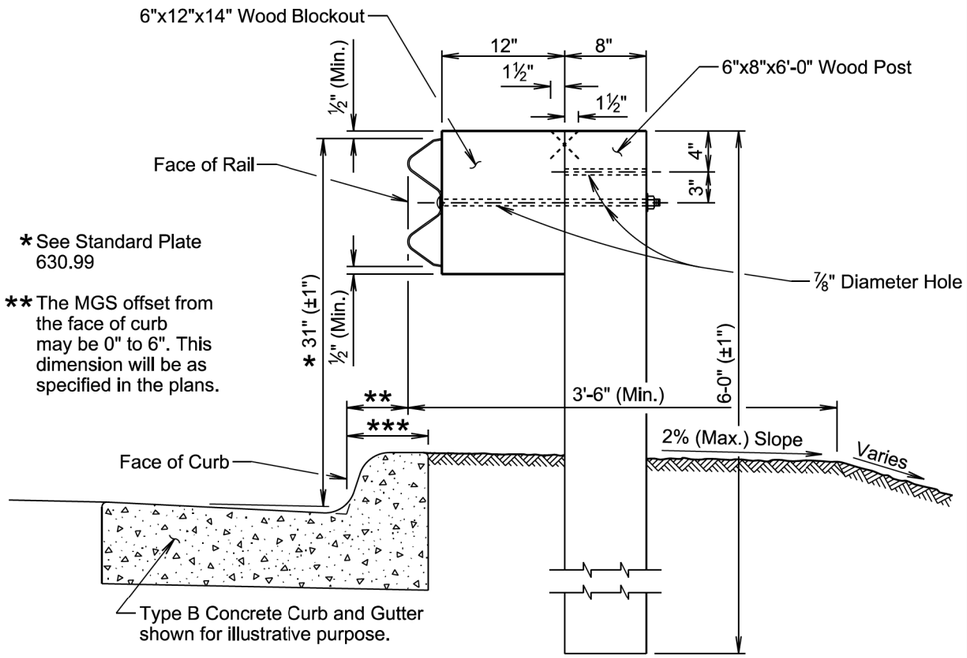
Published Date: 1st Qtr. 2023	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS)	PLATE NUMBER 630.20
			Sheet 6 of 6

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn

CONCRETE CURB AND GUTTER TYPE	DIMENSION *** (in.)
B and BL	8
D	12
F and FL	10
R	11



TOP VIEW



* See Standard Plate 630.99

** The MGS offset from the face of curb may be 0" to 6". This dimension will be as specified in the plans.

TRANSVERSE SECTION

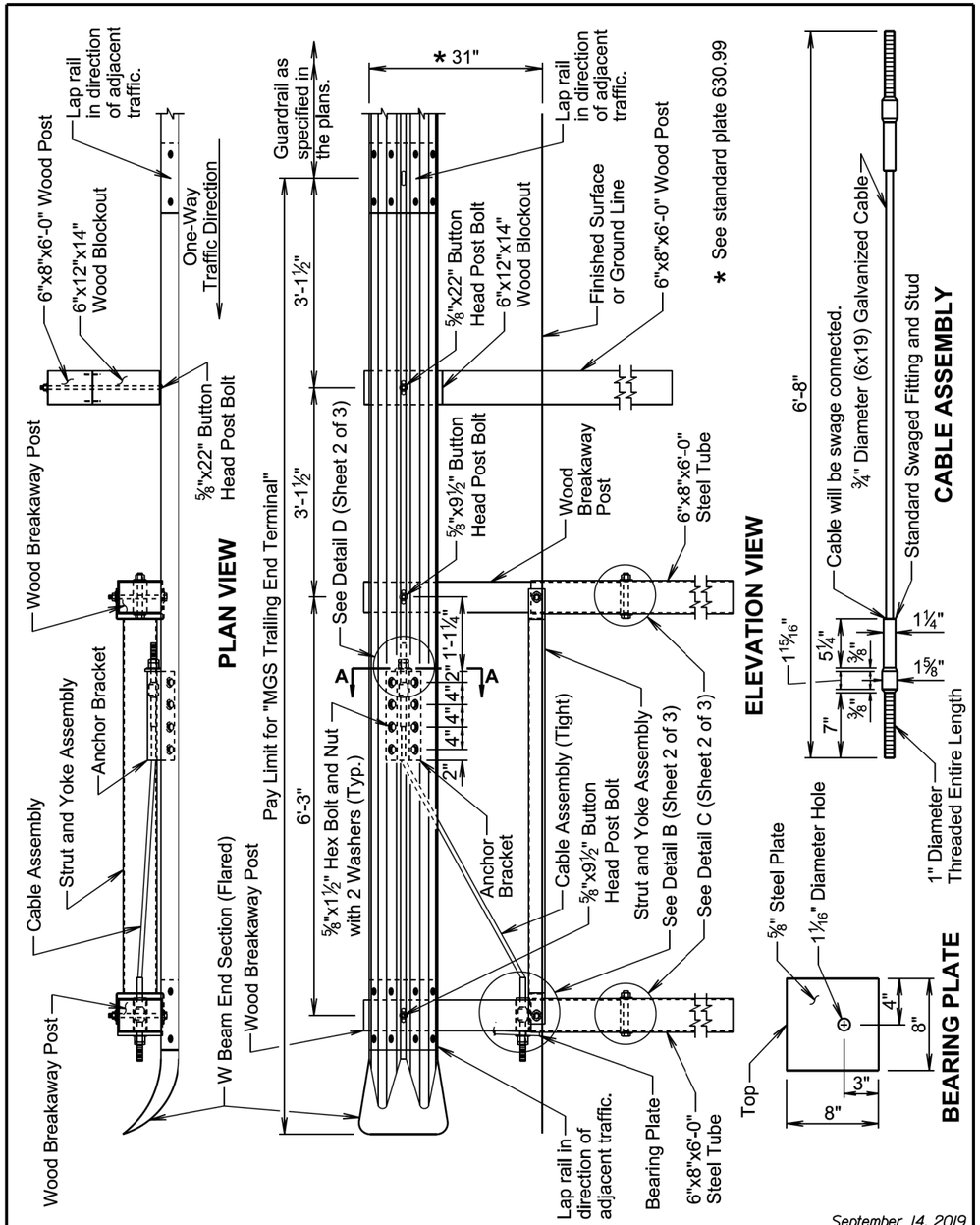
GENERAL NOTES:

The guardrail on this standard plate is Type 1 MGS. See standard plate 630.20 for specifications regarding Type 1 MGS.

When PCC pavement or asphalt concrete pavement is adjacent to the post, see standard plate 630.96 for leave-out and backfill requirements.

September 14, 2019

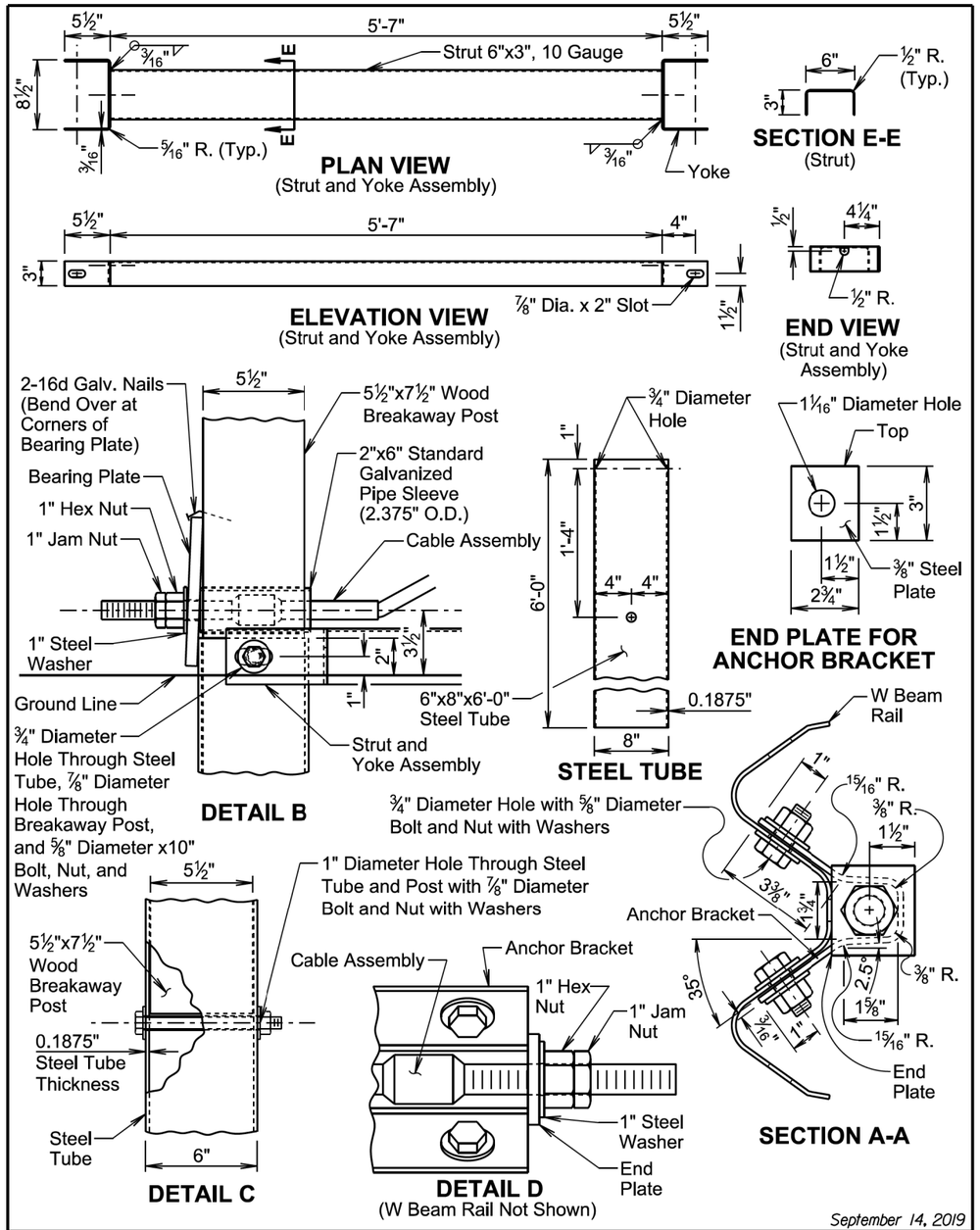
Published Date: 1st Qtr. 2023	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS) AT CURB AND GUTTER	PLATE NUMBER 630.22 Sheet 1 of 1



September 14, 2019

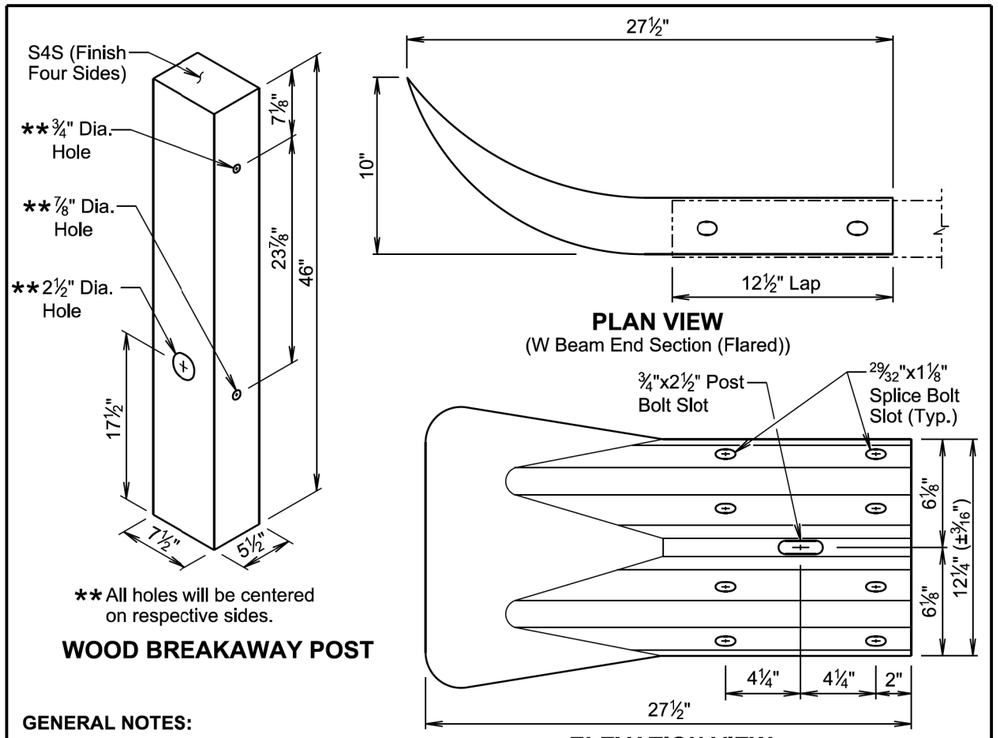
Published Date: 1st Qtr. 2023	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS) TRAILING END TERMINAL	PLATE NUMBER 630.82 Sheet 1 of 3

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn066K\StdPlateSectionB.dgn



September 14, 2019

Published Date: 1st Qtr. 2023	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS) TRAILING END TERMINAL	PLATE NUMBER 630.82
			Sheet 2 of 3



GENERAL NOTES:

The MGS trailing end terminal will only be used in a one-way traffic situation on the downstream traffic flow end.

W beam end section (flared) will be 12 gauge.

The cable will be ¾", Type II, with Class A coating in conformance with AASHTO M30.

The steel tube will meet the requirements of ASTM A500, Grade B, and will be galvanized after fabrication in accordance with the requirements of AASHTO M111.

All hardware will be galvanized in accordance with ASTM A153.

The anchor bracket, strut and yoke assembly, and bearing plate will be fabricated from steel that meets ASTM A36 Specifications. They will be galvanized after fabrication in accordance with ASTM A123.

Slots in the rails will be provided as specified in the plans and by the manufacturer. A drilled hole through the rail is not allowed as a replacement for a slot. If the Contractor must create a slot, a cutting torch or plasma cutter is not allowed. The slot edges will be smooth and free of burrs or notches.

All costs for furnishing and constructing the MGS trailing end terminal including labor, equipment, materials which includes W beam rail section, two wood breakaway posts, steel tubes, strut and yoke assembly, cable assembly, bearing plate, anchor bracket, W beam end section (flared), one MGS wood post and blockout, hardware, and incidentals will be included in the contract unit price per each for "MGS Trailing End Terminal".

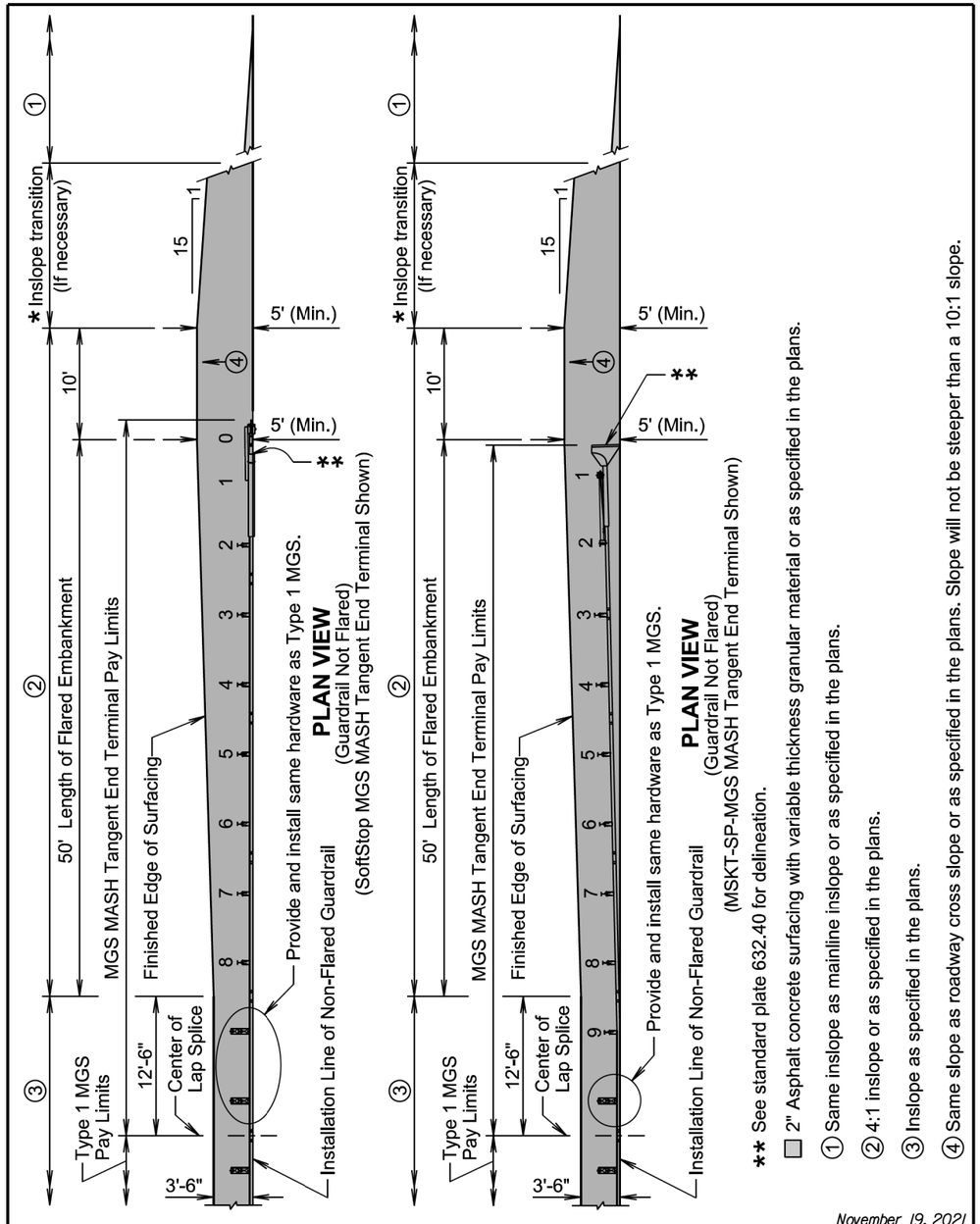
September 14, 2019

Published Date: 1st Qtr. 2023	SDDOT	MIDWEST GUARDRAIL SYSTEM (MGS) TRAILING END TERMINAL	PLATE NUMBER 630.82
			Sheet 3 of 3

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn

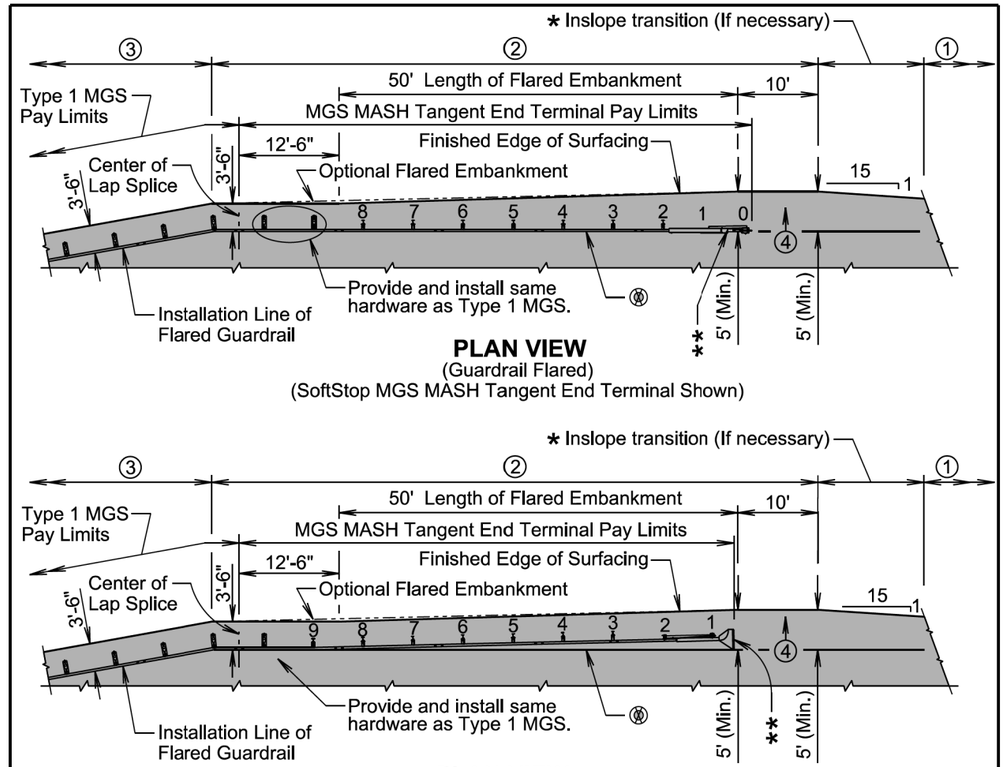
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B48	B63

Plotting Date: 04/04/2023



November 19, 2021

Published Date: 1st Qtr. 2023	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL	PLATE NUMBER 630.89
			Sheet 1 of 2



GENERAL NOTES:

The MGS MASH tangent end terminals above are for illustrative purpose only. Pay limit length of the MGS MASH tangent end terminal is 62'-6".

* The length of inslope transition varies with the amount of change between inslopes. The length of the transition will change 100' for every whole number change in the inslope. For Example: If the inslope changes from a 5:1 to a 4:1 the length of the inslope transition would be 100'. If the inslope changes from a 6:1 to a 4:1 the length of the inslope transition would be 200'.

Ⓚ The installation reference line for MGS MASH tangent end terminals will always be parallel to the roadway.

Asphalt concrete will be the same type used elsewhere on the project or will be as specified in the plans. If asphalt concrete is not specified in the plans, the asphalt concrete will conform to the Specifications for "Asphalt Concrete Composite."

Granular material will be the same type used elsewhere on the project or will be as specified in the plans. If granular material type is not specified in the plans, the material will conform to the Specifications for "Base Course". The granular material will be placed the same thickness as the mainline surfacing or as specified in the plans.

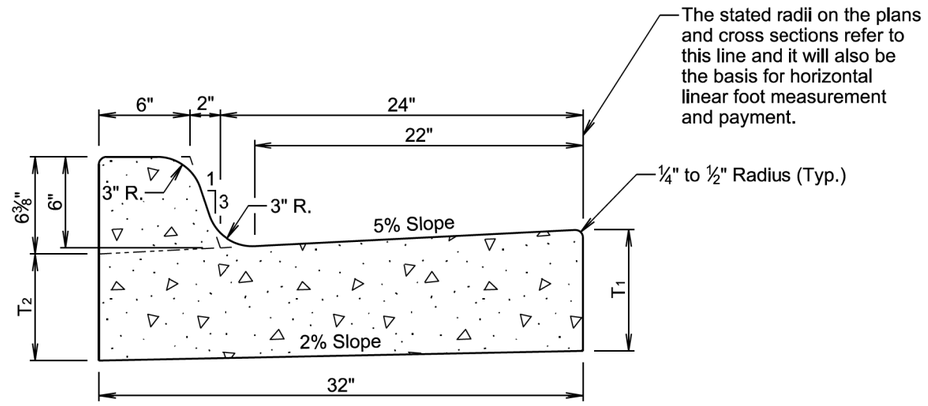
November 19, 2021

Published Date: 1st Qtr. 2023	SDDOT	EMBANKMENT, SURFACING, AND PAYMENT LIMITS FOR MGS MASH TANGENT END TERMINAL	PLATE NUMBER 630.89
			Sheet 2 of 2

Plot Scale - 1:200

Plotted From - TRPR17192

File - ...\penn0665K\StdPlateSectionB.dgn



TYPE B CONCRETE CURB AND GUTTER				
Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 1/16	0.057	17.7
B67	7	6 1/16	0.065	15.4
B68	8	7 1/16	0.073	13.7
B68.5	8.5	7 9/16	0.077	13.0
B69	9	8 1/16	0.081	12.3
B69.5	9.5	8 9/16	0.085	11.7
B610	10	9 1/16	0.090	11.2
B610.5	10.5	9 9/16	0.094	10.7
B611	11	10 1/16	0.098	10.2
B611.5	11.5	10 9/16	0.102	9.8
B612	12	11 1/16	0.106	9.4

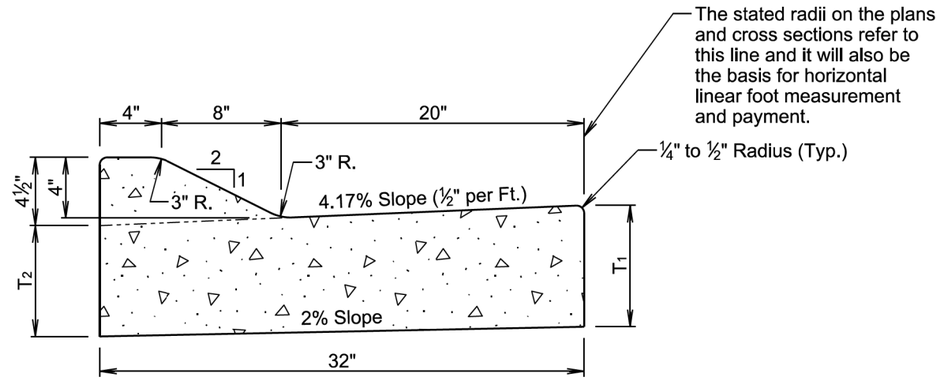
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.11.

See standard plate 650.90 for expansion and contraction joints in the curb and gutter.

December 23, 2019

Published Date: 1st Qtr. 2023	SDDOT	TYPE B CONCRETE CURB AND GUTTER	PLATE NUMBER 650.01
			Sheet 1 of 1



TYPE D CONCRETE CURB AND GUTTER				
Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
D46	6	5 5/16	0.056	18.0
D47	7	6 5/16	0.064	15.7
D48	8	7 5/16	0.072	13.9
D48.5	8.5	7 13/16	0.076	13.1
D49	9	8 5/16	0.080	12.5
D49.5	9.5	8 13/16	0.084	11.9
D410	10	9 5/16	0.088	11.3
D410.5	10.5	9 13/16	0.093	10.8
D411	11	10 5/16	0.097	10.3
D411.5	11.5	10 13/16	0.101	9.9
D412	12	11 5/16	0.105	9.5

GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.11.

See standard plate 650.90 for expansion and contraction joints in the curb and gutter.

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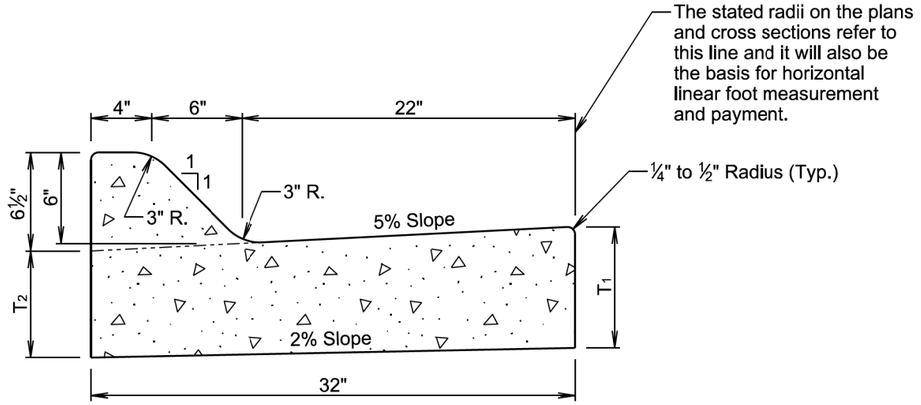
Published Date: 1st Qtr. 2023	SDDOT	TYPE D CONCRETE CURB AND GUTTER	PLATE NUMBER 650.15
			Sheet 1 of 1

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn



TYPE F CONCRETE CURB AND GUTTER				
Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
F66	6	5 1/16	0.057	17.6
F67	7	6 1/16	0.065	15.4
F68	8	7 1/16	0.073	13.6
F68.5	8.5	7 9/16	0.077	12.9
F69	9	8 1/16	0.082	12.3
F69.5	9.5	8 9/16	0.086	11.7
F610	10	9 1/16	0.090	11.1
F610.5	10.5	9 9/16	0.094	10.7
F611	11	10 1/16	0.098	10.2
F611.5	11.5	10 9/16	0.102	9.8
F612	12	11 1/16	0.106	9.4

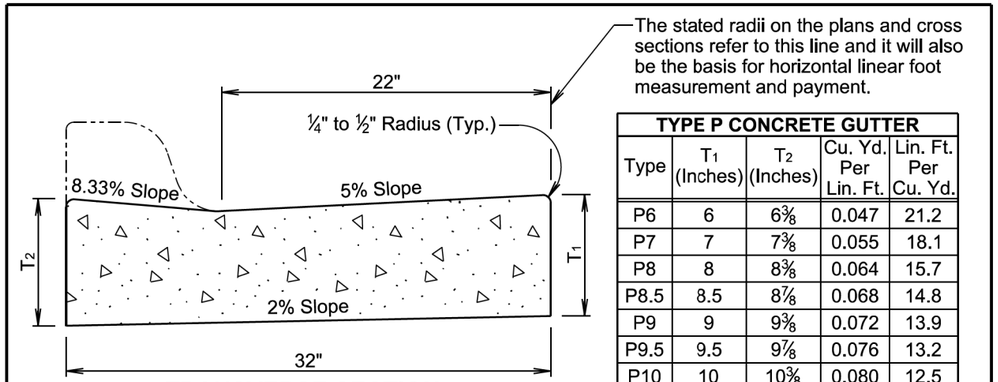
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.11.

See standard plate 650.90 for expansion and contraction joints in the curb and gutter.

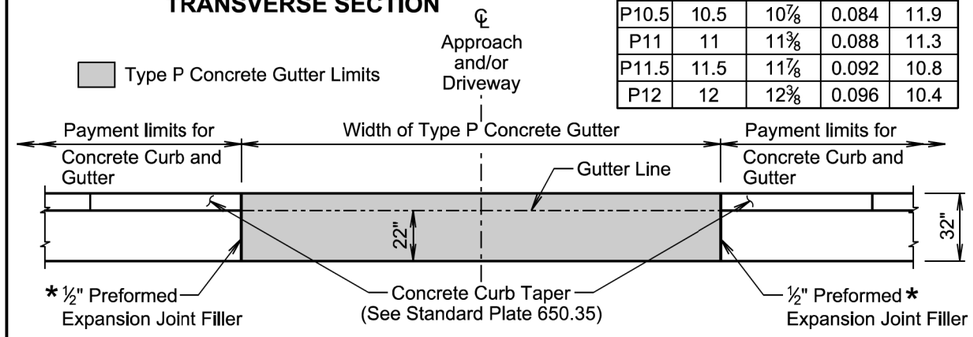
December 23, 2019

Published Date: 1st Qtr. 2023	SDDOT	TYPE F CONCRETE CURB AND GUTTER	PLATE NUMBER 650.20
			Sheet 1 of 1



TRANSVERSE SECTION

TYPE P CONCRETE GUTTER				
Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
P6	6	6 3/8	0.047	21.2
P7	7	7 3/8	0.055	18.1
P8	8	8 3/8	0.064	15.7
P8.5	8.5	8 7/8	0.068	14.8
P9	9	9 3/8	0.072	13.9
P9.5	9.5	9 7/8	0.076	13.2
P10	10	10 3/8	0.080	12.5
P10.5	10.5	10 7/8	0.084	11.9
P11	11	11 3/8	0.088	11.3
P11.5	11.5	11 7/8	0.092	10.8
P12	12	12 3/8	0.096	10.4



PLAN VIEW

* Joint will not be needed if concrete curb and gutter and type P concrete gutter is placed at the same time. If the ½" preformed expansion joint filler is provided, then the joint will be sealed in accordance with standard plate 650.90.

GENERAL NOTES:

The concrete for the type P concrete gutter will comply with the requirements of the specifications for class M6 concrete.

When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment will be by one of the methods shown on standard plate 380.11.

Transverse contraction joints will be constructed at 10-foot intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint will be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.

When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter will be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.

When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter will be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint will be at least ¼ the thickness of the concrete.

December 23, 2019

Published Date: 1st Qtr. 2023	SDDOT	TYPE P CONCRETE GUTTER	PLATE NUMBER 650.30
			Sheet 1 of 1

Plot Scale - 1:200
Plotted From - TRPR17192
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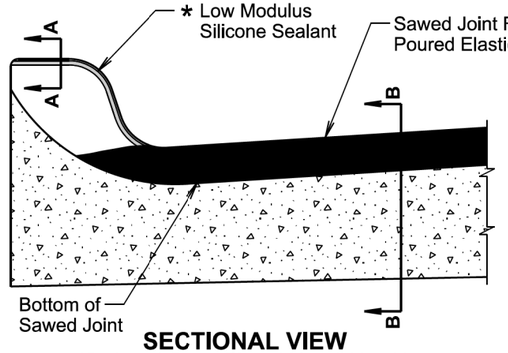
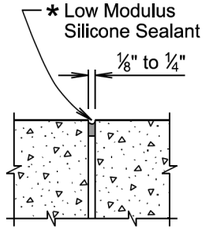
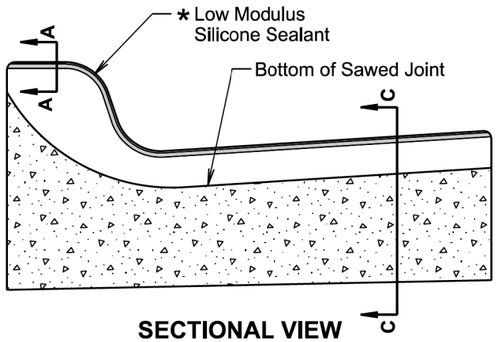


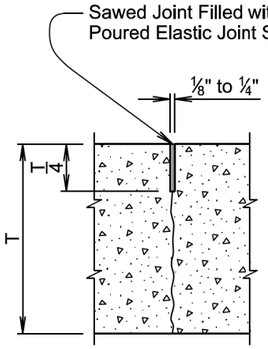
SECTIONAL VIEW
(Curb and Gutter Placed Monolithic with Adjacent Mainline PCC Pavement)



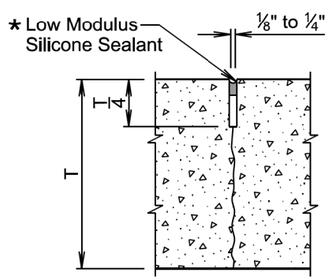
SECTION A-A



SECTIONAL VIEW
(Curb and Gutter not Placed Monolithic with Adjacent Mainline PCC Pavement or Mainline Surfacing is not PCC Pavement)



SECTION B-B

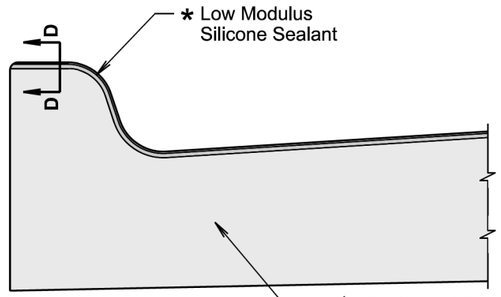


SECTION C-C

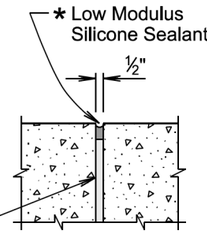
* The silicone sealant will be placed such that it completely seals the joint and is bonded to the sides of the clean joint as approved by the Engineer.

December 23, 2019

Published Date: 1st Qtr. 2023	SDDOT	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90
			Sheet 1 of 2



SECTIONAL VIEW
(Curb and Gutter at ½" Preformed Expansion Joint Filler Location)



SECTION D-D

* The silicone sealant will be placed such that it completely seals the joint and is bonded to the sides of the clean joint as approved by the Engineer.

GENERAL NOTES:

For illustrative reason, only the type B curb and gutter is shown.

** A ½-inch preformed expansion joint filler will be placed transversely in the curb and gutter at the following locations:

At each junction between the radius return of curb and gutter, and curb and gutter which is parallel to the project centerline.

At each junction between new curb and gutter and existing curb and gutter.

Transverse contraction joints will be constructed at 10 foot intervals in the concrete curb and gutter except when the concrete curb and gutter is constructed adjacent to mainline PCC pavement. When concrete curb and gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint will be constructed in the concrete curb and gutter at each mainline PCC pavement transverse contraction joint location.

When concrete curb and gutter is not placed monolithically with the mainline PCC pavement or when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete curb and gutter will be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint will be at least ¼ the thickness of the concrete and the joint will be sealed in accordance with the details shown above.

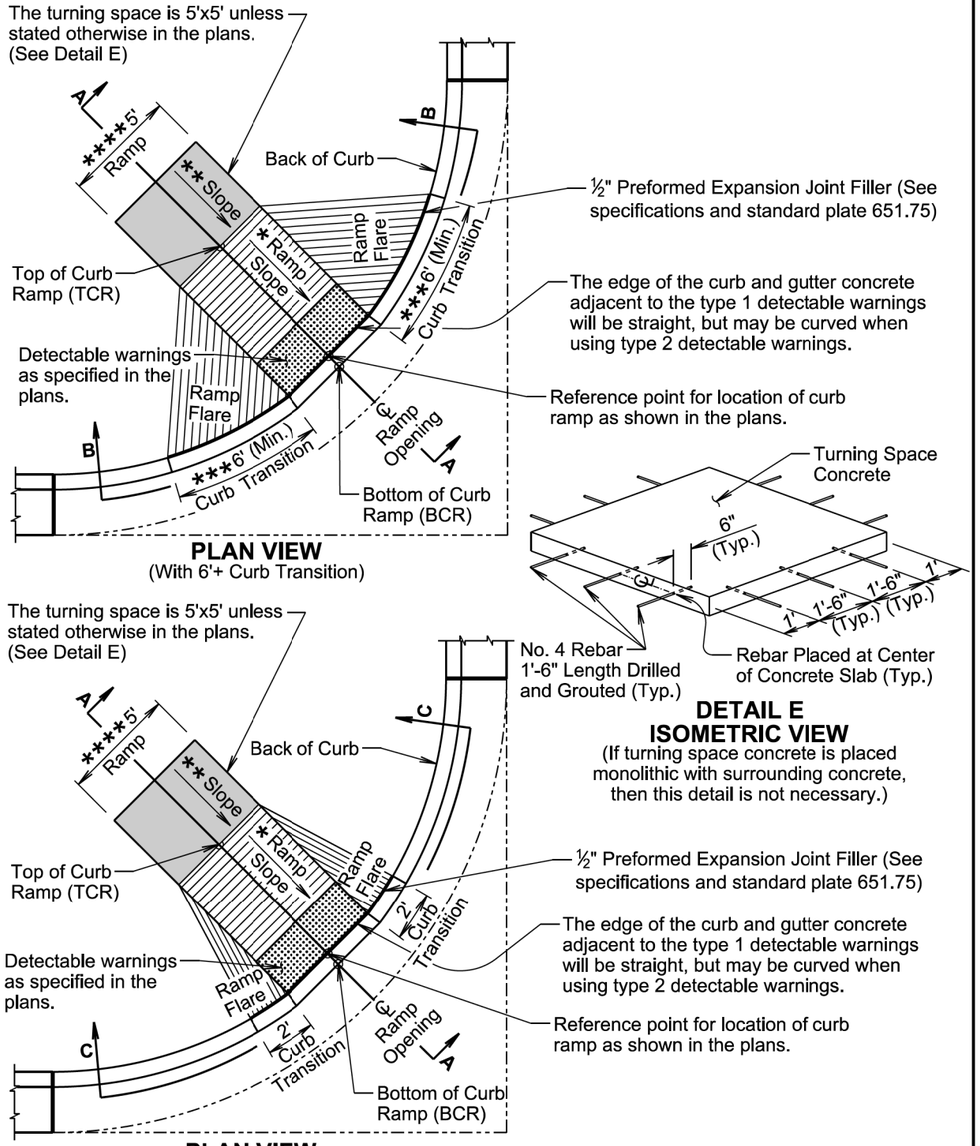
December 23, 2019

Published Date: 1st Qtr. 2023	SDDOT	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90
			Sheet 2 of 2

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\Std\PlateSectionB.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B52	B63

Plotting Date: 04/04/2023



*Curb ramp slopes are designed at 7.5% unless stated otherwise in the plans. The curb ramp may have a maximum slope of 8.3% and will not exceed 15' in length unless stated otherwise in the plans.

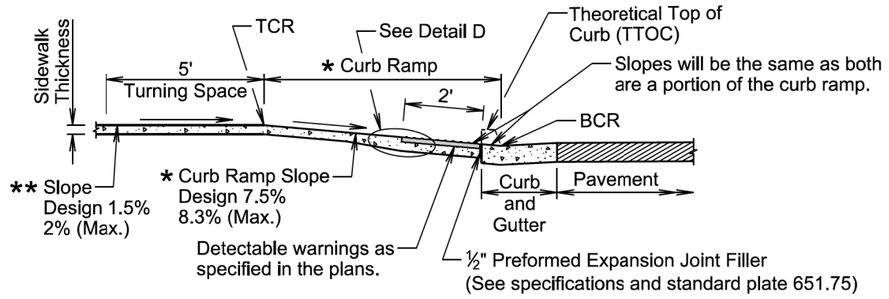
The curb ramp length may be computed based on the intersection of a continuous 1.5% theoretical slope from theoretical top of curb (TTOC) with the curb ramp using a continuous 7.5% curb ramp slope. The elevation of point TCR will always be higher than the elevation of point TTOC unless specified otherwise in the plans. The curb ramp length dimension as shown in the plans will be adjusted as necessary to meet all slope and length requirements based on field geometrics.

The cross slope of the ramp will not be steeper than 2%. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

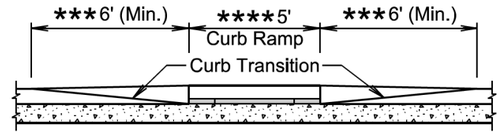
** The slope in the turning space will not be steeper than 2% in any direction of pedestrian travel. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

*** The curb transition will be a minimum of 6' long, a maximum of 10' long, and the curb transition slope will not be steeper than 10% unless stated otherwise in the plans. The curb transition length will be adjusted as necessary to meet slope and length requirements based on field geometrics.

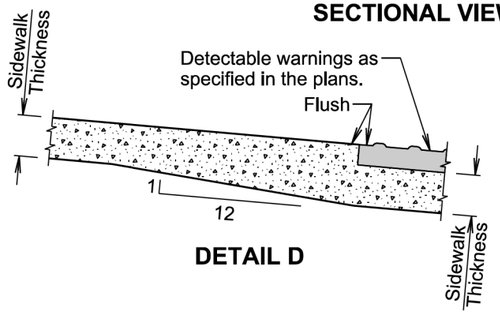
**** The ramp width is 5' unless stated otherwise in the plans.



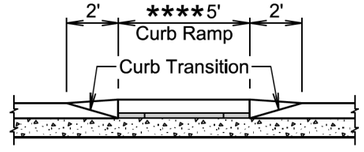
SECTION A-A



SECTIONAL VIEW B-B



DETAIL D



SECTIONAL VIEW C-C

February 14, 2020

Published Date: 1st Qtr. 2023	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 1 of 3

Published Date: 1st Qtr. 2023	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 2 of 3

Plot Scale - 1:200

Plotted From - TRPR17192

File - ...\penn065K\StdPlateSectionB.dgn

GENERAL NOTES:

For illustrative purpose only, type 1 detectable warnings are shown in the drawings.

For illustrative purpose only, PCC fillet sections are shown in the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section or curb and gutter.

For illustrative purpose only, the curb ramp location is shown at the center of a PCC fillet section. The curb ramp will be placed at the location stated in the plans.

Sidewalk will not be placed adjacent to the curb ramp flares when a 2-foot curb transition is used unless shown otherwise in the plans.

* Care will be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.

Surface texture of the curb ramp will be obtained by coarse brooming transverse to the slope of the curb ramp.

The normal gutter line profile will be maintained through the area of the ramp opening.

Joints will be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking.

Care will be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings will be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings will be incidental to the corresponding detectable warning contract item.

There will be no separate payment for curb ramps. The curb ramp will be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk contract item. The square foot area of the detectable warnings will be included in the measured and paid for quantity of sidewalk.

If rebar is placed in the turning space as depicted in detail E, the cost of the materials, labor, and equipment to furnish and install the rebar will be incidental to the contract unit price per square foot for the corresponding concrete sidewalk contract item.

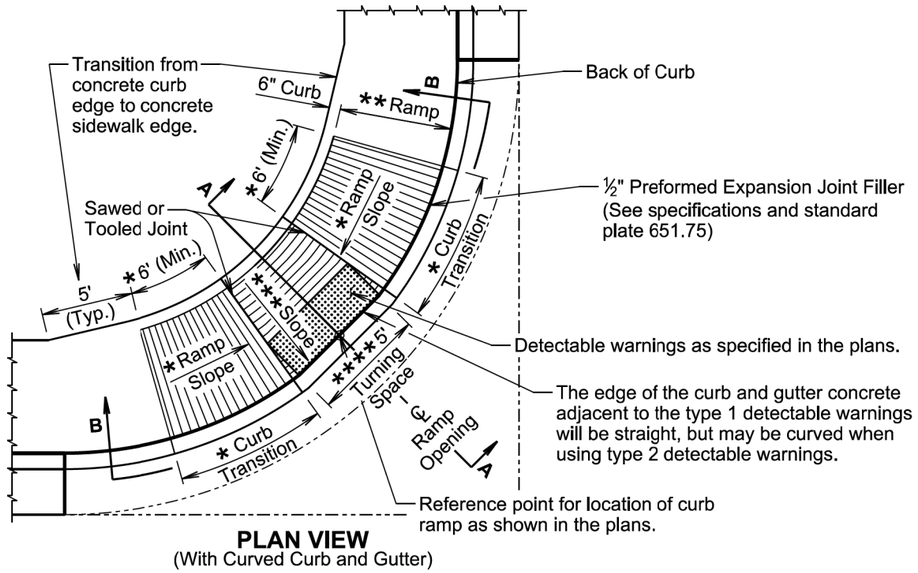
The curb transitions and ramp opening will be measured and paid for at the contract unit price per foot for the corresponding curb and gutter contract item when curb and gutter is used. The curb transitions and ramp opening will be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section contract item when a PCC fillet section is used.

The type 1 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals will be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

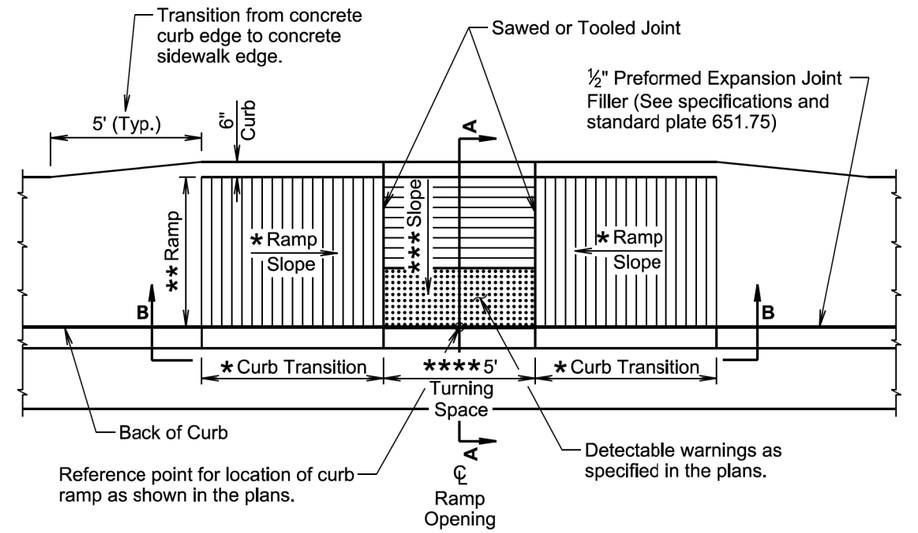
The type 2 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding will be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

February 14, 2020

Published Date: 1st Qtr. 2023	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 3 of 3



PLAN VIEW
(With Curved Curb and Gutter)



PLAN VIEW
(With Straight Curb and Gutter)

April 18, 2021

Published Date: 1st Qtr. 2023	SDDOT	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 1 of 3

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\Std\PlateSectionB.dgn

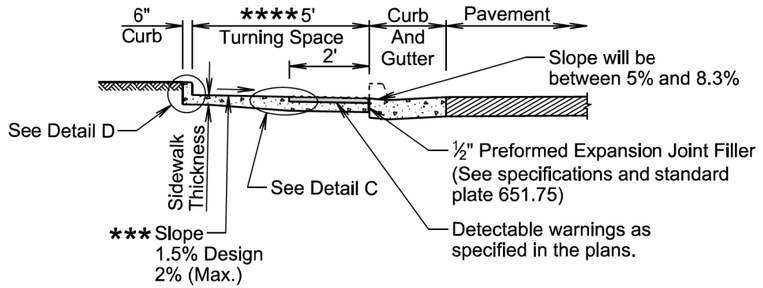
* The curb transition slope will match the curb ramp slope. Curb ramp slopes are designed at 7.5% unless stated otherwise in the plans. The curb ramp may have a maximum slope of 8.3% at any location of the curb ramp and will not exceed 15' in length unless stated otherwise in the plans. The curb transitions and curb ramp lengths will be adjusted as necessary to meet all slope and length requirements based on field geometrics.

** The cross slope of the ramp will not be steeper than 2% and the ramp width is 5' unless stated otherwise in the plans. Plans are designed using a 1.5% cross slope for the ramp unless stated otherwise in the plans.

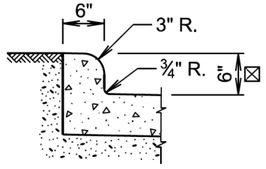
*** The slope in the turning space will not be steeper than 2% in any direction of pedestrian travel. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

**** The turning space is 5'x5' unless stated otherwise in the plans.

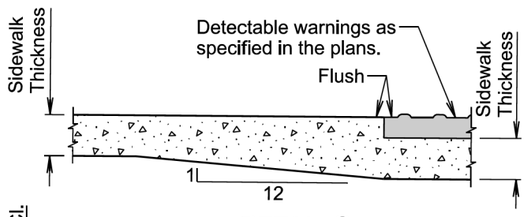
☒ The curb height will be 6" unless stated otherwise in the plans.



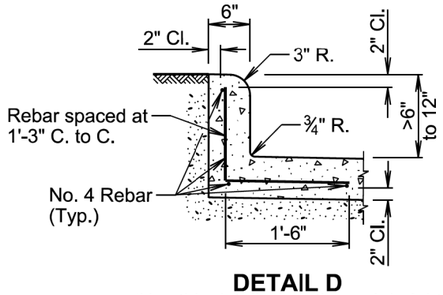
SECTION A-A



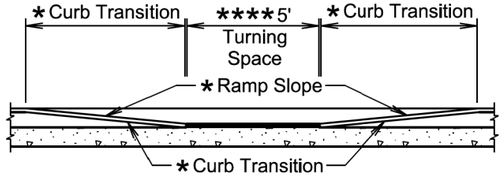
DETAIL D



DETAIL C



DETAIL D
(Use this detail when the curb height is greater than 6" and less than 12")



SECTIONAL VIEW B-B

April 18, 2021

Published Date: 1st Qtr. 2023	SDDOT	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 2 of 3

GENERAL NOTES:

For illustrative purpose only, type 1 detectable warnings are shown in the drawings.

For illustrative purpose only, a PCC fillet section is shown in one of the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section or with curb and gutter.

The curb ramp will be placed at the location stated in the plans.

Sidewalk adjacent to the curb ramp will be as shown in the plans.

Care will be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.

Surface texture of the curb ramp will be obtained by coarse brooming transverse to the slope of the curb ramp.

The normal gutter line profile will be maintained through the area of the ramp opening.

Joints will be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking (see plan view for joint location).

Care will be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings will be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings will be incidental to the corresponding detectable warning contract item.

When curb height is greater than 6" and less than 12", reinforcing steel is required in accordance with the detail on sheet 2 of 3. The reinforcing steel will conform to ASTM A615, Grade 60. Cost for furnishing and installing the reinforcing steel will be incidental to the contract unit price per square foot for the corresponding concrete sidewalk contract item.

There will be no separate payment for curb ramps. The curb ramp will be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk contract item. The square foot area of the detectable warnings and the curb along the short radius will be included in the measured and paid for quantity of sidewalk.

The curb transitions and ramp opening will be measured and paid for at the contract unit price per foot for the corresponding curb and gutter contract item when curb and gutter is used. The curb transitions and ramp opening will be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section contract item when a PCC fillet section is used.

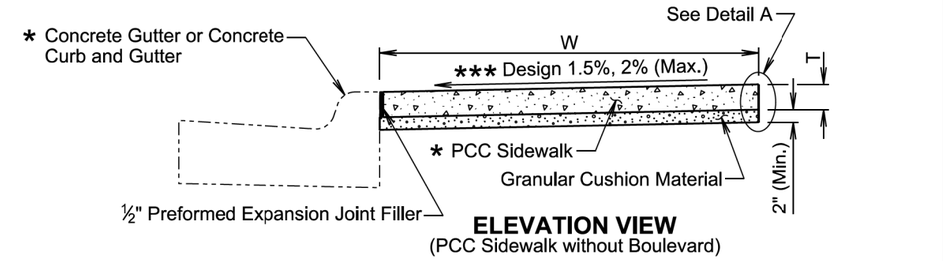
The type 1 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals will be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

The type 2 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding will be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

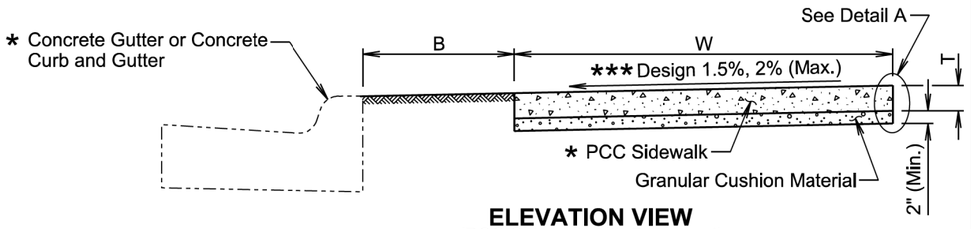
April 18, 2021

Published Date: 1st Qtr. 2023	SDDOT	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 3 of 3

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn



ELEVATION VIEW
(PCC Sidewalk without Boulevard)



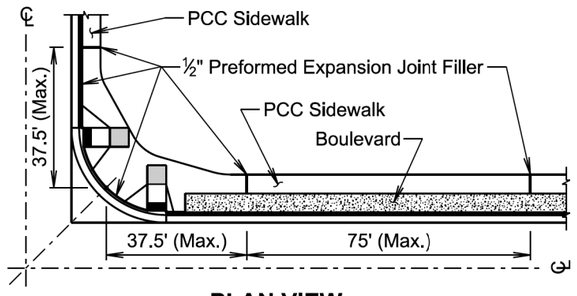
ELEVATION VIEW
(PCC Sidewalk with Boulevard)

B Width of boulevard as specified in the plans.

T Thickness of PCC sidewalk as specified in the plans.

W Width of PCC sidewalk as specified in the plans.

* Type as specified in the plans.



PLAN VIEW

GENERAL NOTES:

The PCC sidewalk will be constructed in accordance with Section 651 of the Specifications.

*** The cross slope of the sidewalk is designed at 1.5% and the maximum slope allowed is 2% unless specified otherwise in the plans.

The maximum length between expansion joints in the PCC sidewalk is 75 feet.

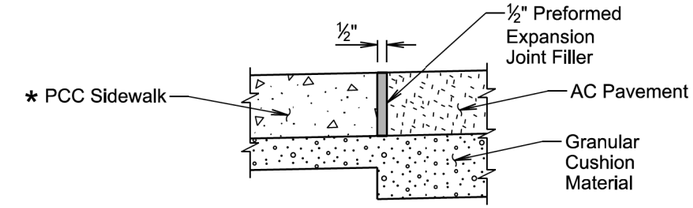
PCC sidewalk placed adjacent to intersection of roadways will have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See Plan View.

An expansion joint in the PCC sidewalk will consist of a ½ -inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

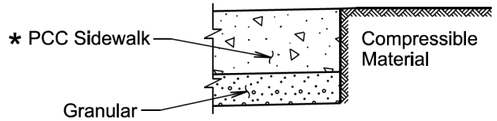
** Large areas of PCC pavement adjacent to the PCC sidewalk may require a different joint treatment than shown in the detail. If a different joint detail is necessary, plans will contain the joint detail and the Contractor will construct the joint treatment in accordance with the plans.

February 14, 2020

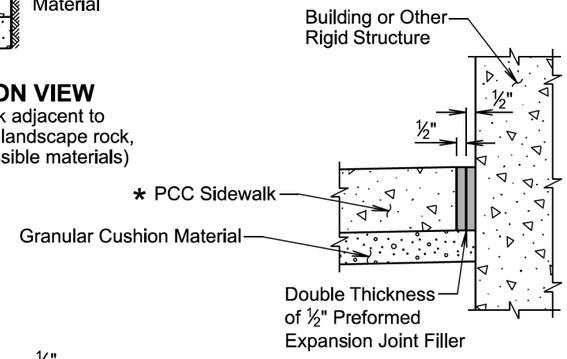
Published Date: 1st Qtr. 2023	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 1 of 2



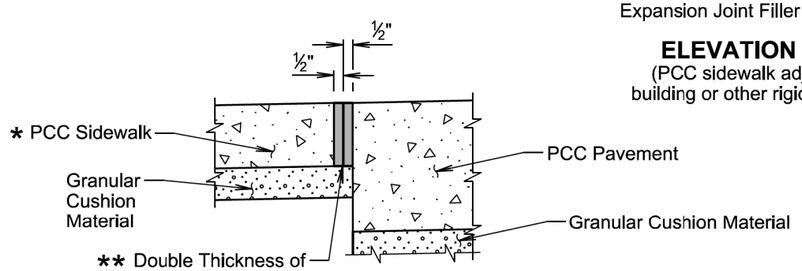
ELEVATION VIEW
(PCC sidewalk adjacent to asphalt concrete pavement)



ELEVATION VIEW
(PCC sidewalk adjacent to earthen material, landscape rock, or other compressible materials)



ELEVATION VIEW
(PCC sidewalk adjacent to building or other rigid structure)



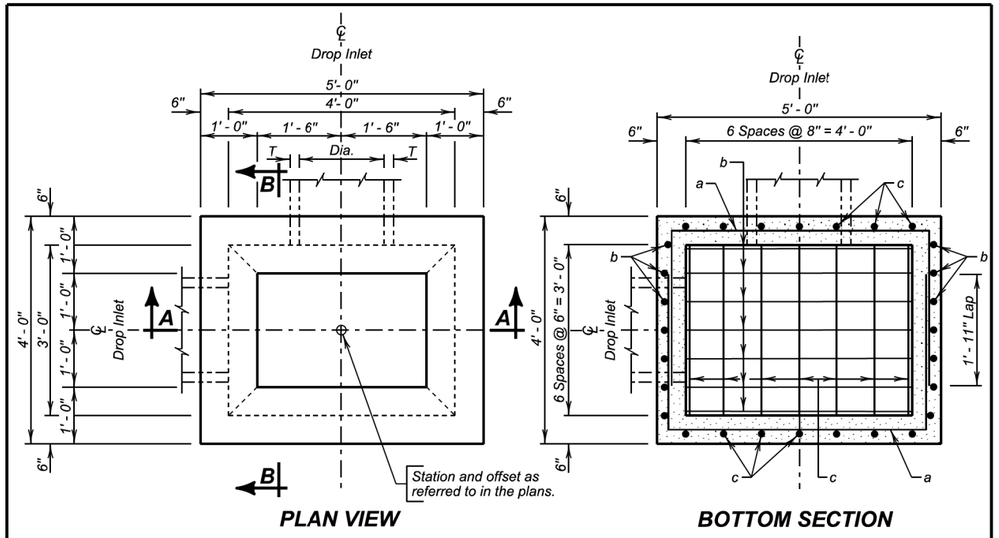
ELEVATION VIEW
(PCC sidewalk adjacent to PCC pavement)

DETAIL A
(Use Appropriate Detail(s))

February 14, 2020

Published Date: 1st Qtr. 2023	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 2 of 2

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn0656K\StdPlateSectionB.dgn



PLAN VIEW **BOTTOM SECTION**

ESTIMATED QUANTITIES

ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
⚹ Class M6 Concrete	Cu. Yd.	0.72	0.30H
Reinforcing Steel	Lb.	130.93	36.54H
Frame and Grate Assembly	Each	1	———

DROP INLETS FOR 12" TO 36" DIAMETER PIPE

SPECIFICATIONS

Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.

Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition and required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

GENERAL NOTES:

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

Reinforcing steel shall conform to ASTM A615 grade 60. The d bars shall be lapped 12 inches with the b and c bars. Cut and bend reinforcing steel as required to place pipe(s) through the drop inlet wall.

Drop inlet may be precast. If precast drop inlet details differ from this standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval.

⚹ Reduce total quantities of concrete by the amount of concrete displaced by the pipe(s). The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard. The total quantity of reinforcing steel shall be computed to the nearest pound.

Drop inlet shown may be modified by the addition or omission of connecting pipes as noted elsewhere in the plans. All pipes entering drop inlet must fit between the inside face of walls and shall not enter through the corners.

Maximum R.C.P. diameter shall not exceed 24 inches (24 inches for R. C. arch) on the 3-foot wide side and shall not exceed 36 inches (30 inches for R.C. arch) on the 4-foot wide side of the drop inlet.

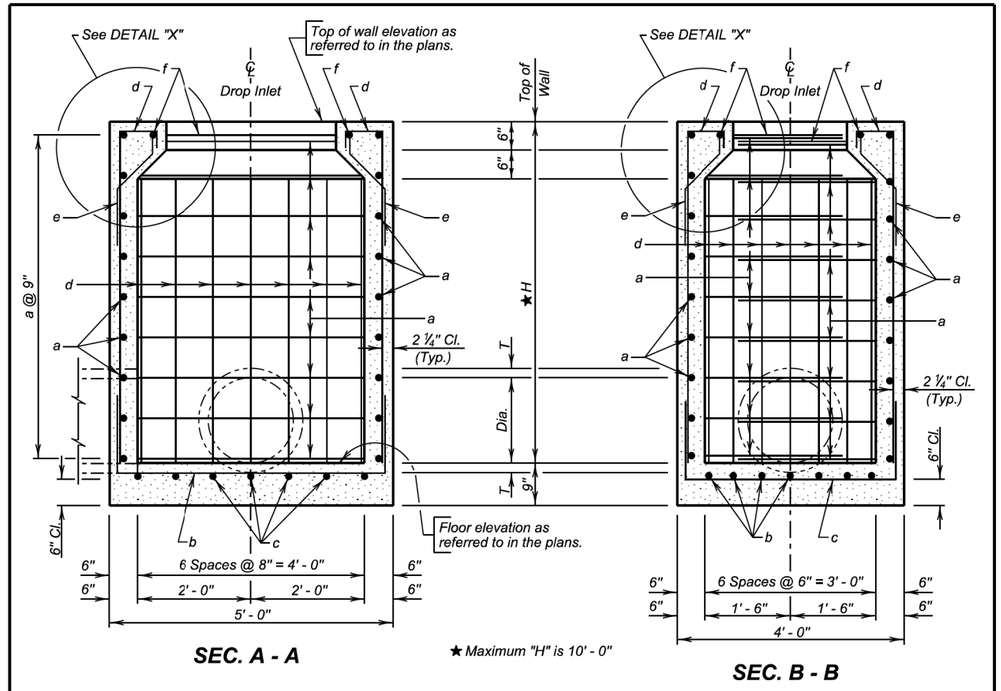
The dimension of H is in feet. Maximum H is 10 feet.

PIPE DISPLACEMENT REDUCTIONS

	Diameter (Inches)	Wall T (Inches)	Class M6 Concrete (Cu. Yd.)
R.C.P.	12	2	0.03
	15	2 ¼	0.04
	18	2 ½	0.05
	24	3	0.09
	30	3 ½	0.14
	36	4	0.20
R.C. ARCH	18	2 ½	0.05
	24	3 ½	0.09
	30	4	0.14

December 16, 2015

Published Date: 1st Qtr. 2023	SDDOT	3' X 4' TYPE B REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.02
			Sheet 1 of 2

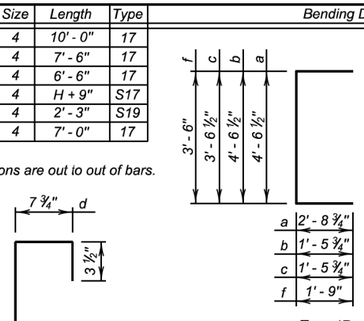


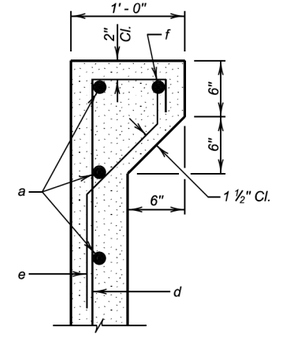
SEC. A - A **SEC. B - B**

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type	Bending Details
a	2.67H	4	10' - 0"	17	
b	7	4	7' - 6"	17	
c	7	4	6' - 6"	17	
d	28	4	H + 9"	S17	
e	28	4	2' - 3"	S19	
f	2	4	7' - 0"	17	

NOTE:
All dimensions are out to out of bars.





DETAIL "X"

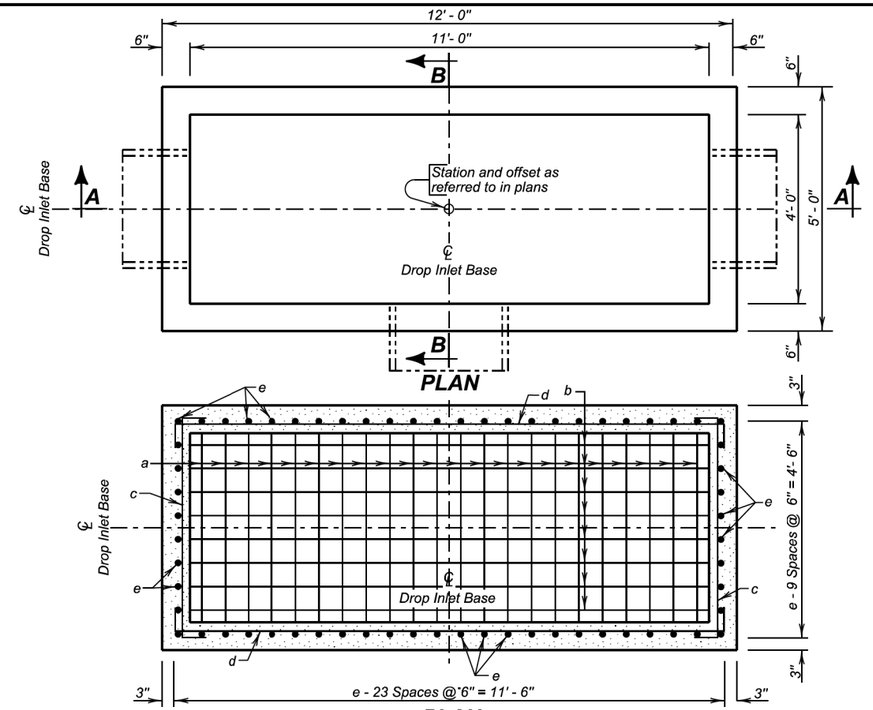
December 16, 2015

Published Date: 1st Qtr. 2023	SDDOT	3' X 4' TYPE B REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.02
			Sheet 2 of 2

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn0665K\StdPlateSectionB.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B57	B63

Plotting Date: 04/04/2023



SPECIFICATIONS:

1. Design Specifications: AASHTO LRFD Bridge Design Specifications 2012 Edition.
2. Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition and required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

GENERAL NOTES:

1. Design Live Load: HL-93 loading. No construction loading in excess of legal load was considered.
2. Base is intended for use with a Precast Concrete Type S Drop Inlet Lid, Standard Plate 670.40. Base may be precast. If precast base used, and details differ from that shown, the precast base must be on the current approved list. The current approved list is available through proper channels from the SDDOT Office of Bridge Design.
3. To qualify for addition to the approved list, submit a checked design, by South Dakota Registered Professional Engineers and shop plans to the Office of Bridge Design for approval. Design shall be in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications.
4. ⚹ Reduce total quantities of concrete by the amount of concrete displaced by the pipe. The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard. The total quantity of reinforcing steel shall be computed to the nearest pound.
5. Inlets shown may be modified by the addition or omission of connecting pipes as shown on the layouts. Connecting pipes shall not enter the inlet through the corners.
6. Maximum R.C.P. diameter shall not exceed 36 inches (30 inches for R.C. Arch) on the 4-foot wide side of the Drop Inlet.
7. Reinforcing steel shall conform to ASTM A615 Grade 60. Cut and bend reinforcing steel as required to place pipe(s) through the inlet wall.
8. Use 1 inch clear cover on all reinforcing steel unless otherwise noted.
9. The dimension of H is in feet. Maximum H is 8 feet.

June 26, 2015

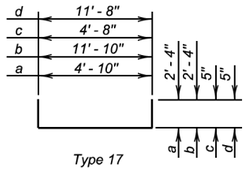
Published Date: 1st Qtr. 2023	SDDOT	4'X 11'TYPE S DROP INLET BASE	PLATE NUMBER 670.32
			Sheet 1 of 2

PIPE DISPLACEMENT REDUCTIONS

	Diameter (Inches)	Wall T (Inches)	Class M6 Concrete (Cu. Yd.)
R.C.P.	12	2	0.03
	15	2 ¼	0.04
	18	2 ½	0.05
	24	3	0.09
	30	3 ½	0.14
	36	4	0.20
	42	4 ½	0.26
	48	5	0.34
	54	5 ½	0.43
	60	6	0.52
R.C. ARCH	18	2 ½	0.05
	24	3 ½	0.09
	30	4	0.14
	36	4 ½	0.19
	42	4 ½	0.24
	48	5	0.32
	54	5 ½	0.39
	60	6	0.49
	72	7	0.70
	84	8	0.93

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type	Bending Details
a	24	5	9' - 6"	17	
b	10	5	16' - 6"	17	
c	2H	4	5' - 6"	17	
d	2H	4	12' - 6"	17	
e	64	4	H - 2"	Str.	

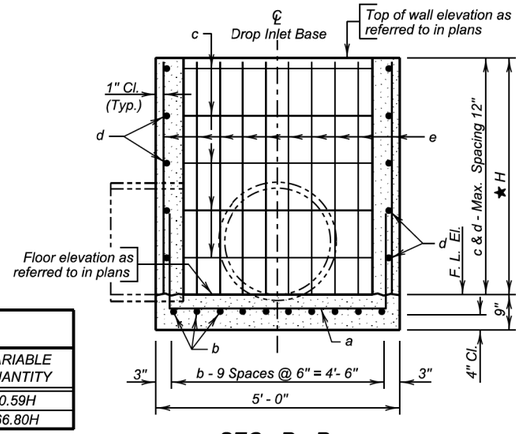


Type 17

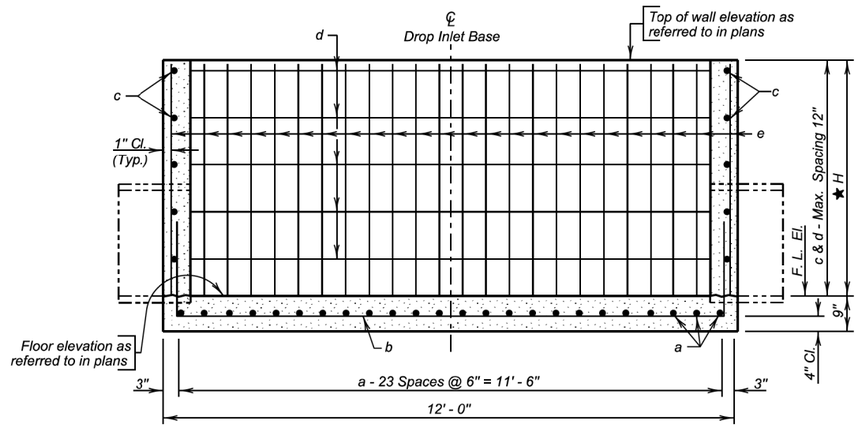
NOTE:
All dimensions are out to out of bars.

ESTIMATED QUANTITIES

ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
⚹ Class M6 Concrete	Cu. Yd.	1.67	0.59H
Reinforcing Steel	Lb.	402.77	66.80H



SEC. B - B



SEC. A - A

★ Maximum H is 8' - 0"

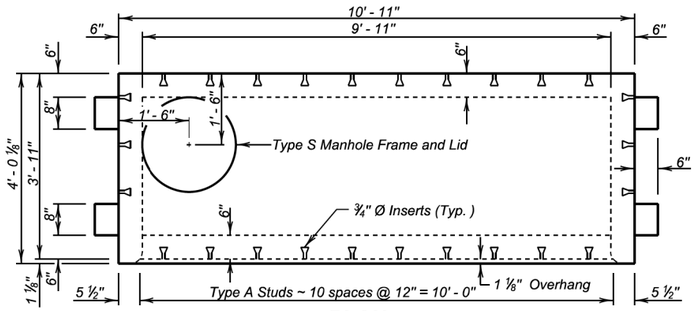
June 26, 2015

Published Date: 1st Qtr. 2023	SDDOT	4'X 11'TYPE S DROP INLET BASE	PLATE NUMBER 670.32
			Sheet 2 of 2

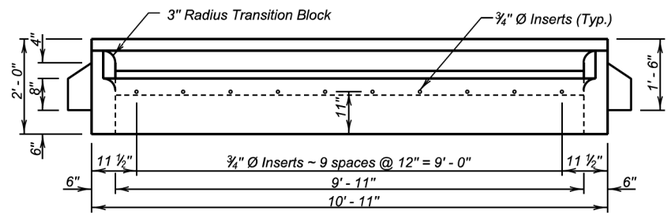
Plot Scale - 1:200

Plotted From - TRPR17192

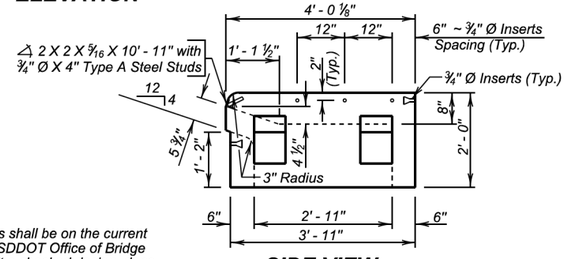
File - ...\penn065K\StdPlateSectionB.dgn



PLAN



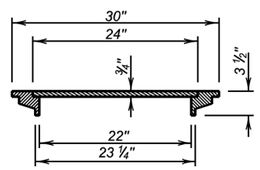
ELEVATION



SIDE VIEW
(With Sidewalk Inserts)

GENERAL NOTES:

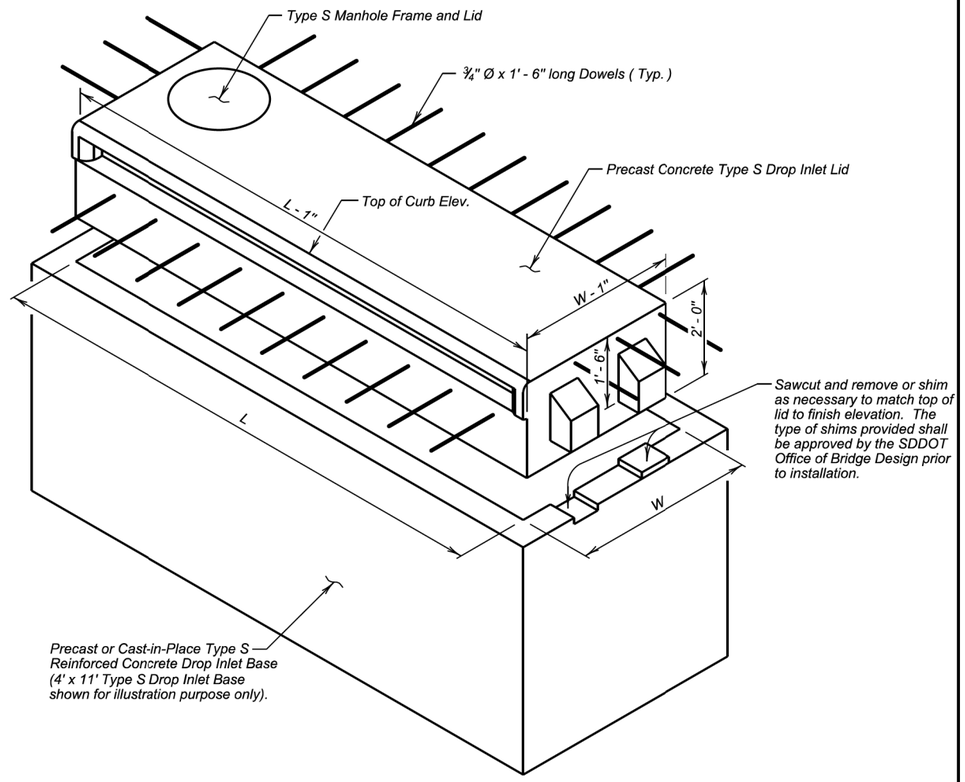
1. The Precast Concrete Type S Drop Inlet Lid and the shims shall be on the current approved list available through proper channels from the SDDOT Office of Bridge Design. To qualify for addition to the approved list, submit a checked design, done by South Dakota Registered Professional Engineers, and shop plans to the Office of Bridge Design for approval. Design shall be in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications.
2. Design Live Load shall be HL - 93.
3. Concrete mix shall be as per fabricators design, however, minimum compressive strength shall not be less than 4500 psi. Type II Cement is required.
4. The Type S Manhole Frame and Lid shall conform to AASHTO M105, Class 30.
5. Structural Steel shall conform to ASTM A36. The ¾ inch diameter Headed Type A Steel Studs shall conform to Section 7 of the current edition of AWS D1. 1 Structural Steel Welding Code.
6. The ¾ inch diameter Concrete Inserts shall be galvanized or made of a corrosion resistant material. Provide ¾ inch diameter x 1' - 6" long dowels conforming to ASTM A615, Gr. 60 threaded to fit inserts with each lid.
7. All costs associated with furnishing and installing the Precast Concrete Type S Drop Inlet Lid including the type S manhole frame and lid, shims, inserts, and dowels shall be included in the contract unit price per each for " 4' x 11' Precast Concrete Type S Drop Inlet Lid ".



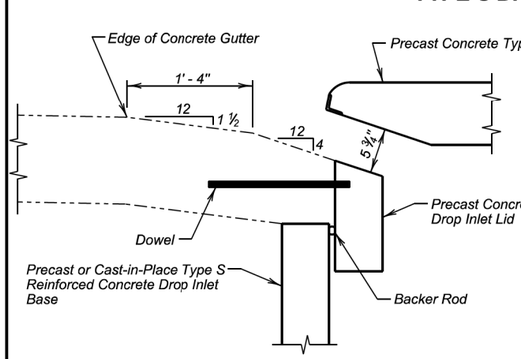
TYPICAL SECTION THROUGH TYPE S MANHOLE FRAME AND LID
(Weight 140 Lbs.)

December 23, 2012

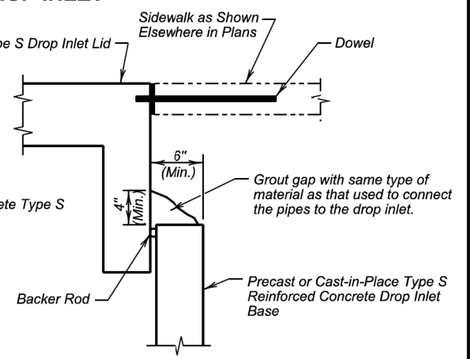
Published Date: 1st Qtr. 2023	SDDOT	4' X 11' PRECAST CONCRETE TYPE S DROP INLET LID	PLATE NUMBER 670.40
			Sheet 1 of 1



TYPE S DROP INLET



CONCRETE GUTTER DETAIL

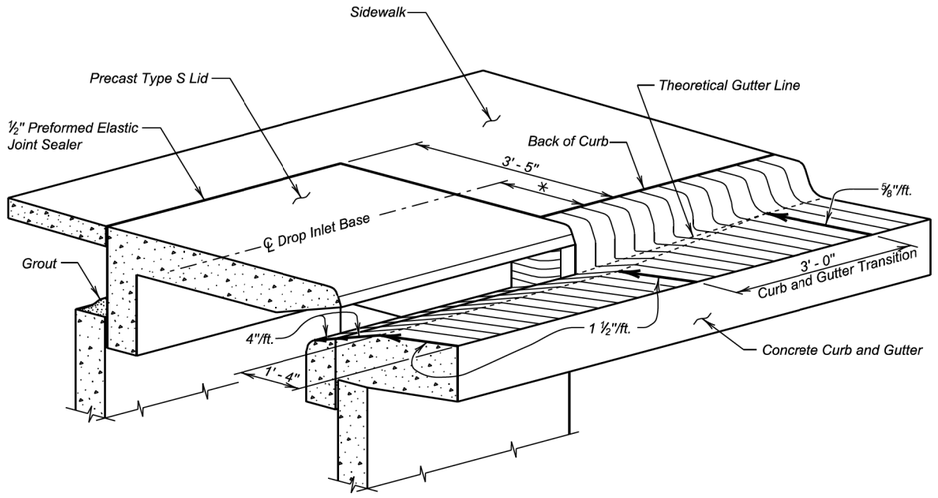


GROUTING DETAIL
(Sides and Back, Adjacent to Sidewalk)

December 23, 2012

Published Date: 1st Qtr. 2023	SDDOT	INSTALLATION DETAILS FOR PRECAST CONCRETE TYPE S DROP INLET LID	PLATE NUMBER 670.45
			Sheet 1 of 2

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn0065K\StdPlateSectionB.dgn



CURB AND GUTTER TRANSITION DETAILS

Drop Inlet Base Unit Size	* Distance
4' x 6'	1' - 5 ½"
4' x 11'	1' - 5 ½"
7' x 11'	2' - 11 ½"

GENERAL NOTES:

1. Dowels shall be used to anchor the precast concrete Type S drop inlet lid to the concrete gutter. See Standard Plate 670.38 or 670.40 as applicable. If there is sidewalk adjacent dowels shall be used to anchor the precast concrete Type S drop inlet lid to the sidewalk. If there is sidewalk adjacent to the drop inlet, the precast lid shall match the finish elevations and cross slopes of the sidewalk.

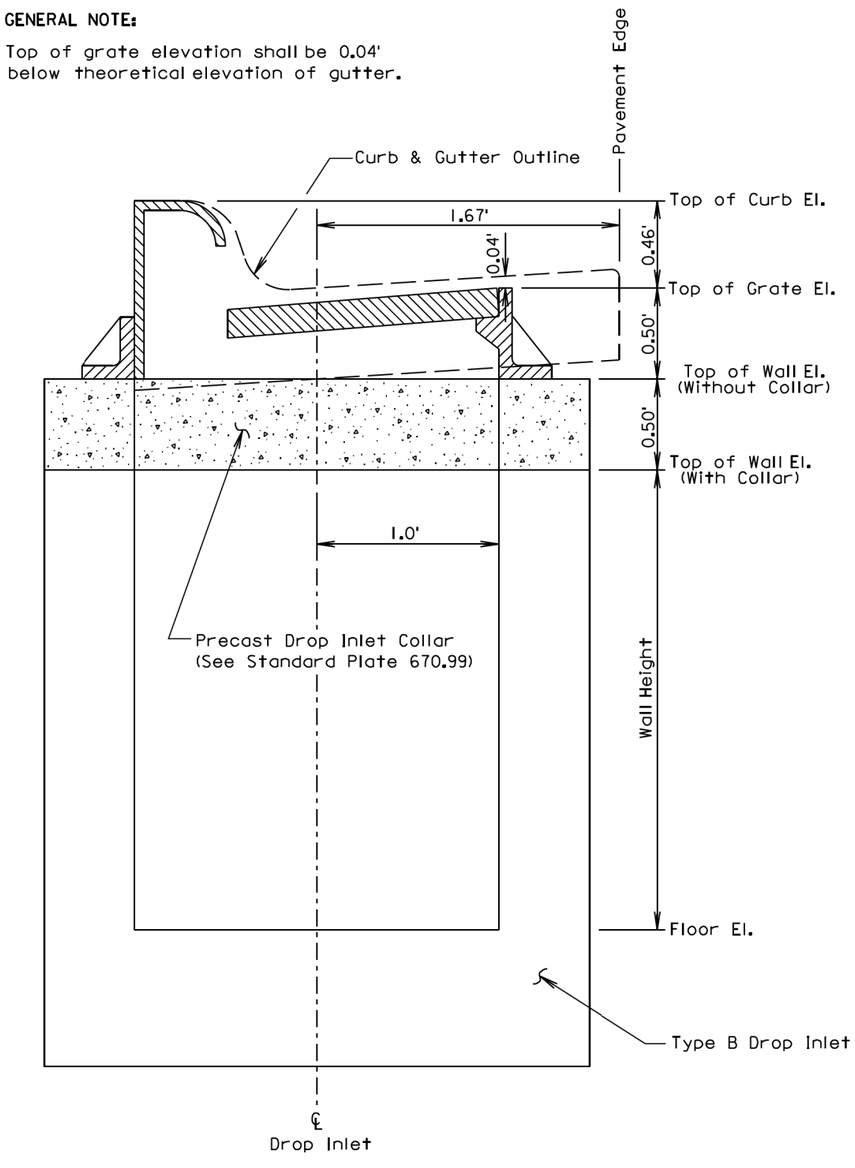
2. The sidewalk shall be steel reinforced when the sidewalk adjoins the precast lid. Refer to Standard Plate 651.70 for reinforced concrete sidewalk details.

December 23, 2012

Published Date: 1st Qtr. 2023	SDDOT	INSTALLATION DETAILS FOR PRECAST CONCRETE TYPE S DROP INLET LID	PLATE NUMBER 670.45
			Sheet 2 of 2

GENERAL NOTE:

Top of grate elevation shall be 0.04' below theoretical elevation of gutter.



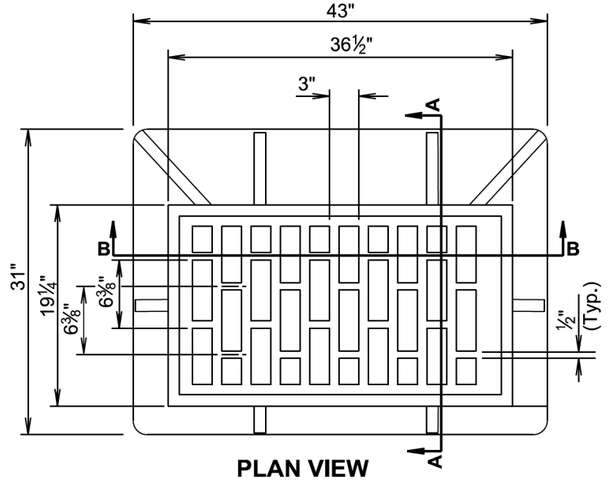
June 26, 2011

Published Date: 1st Qtr. 2023	SDDOT	INSTALLATION OF TYPE B DROP INLET	PLATE NUMBER 670.75
			Sheet 1 of 1

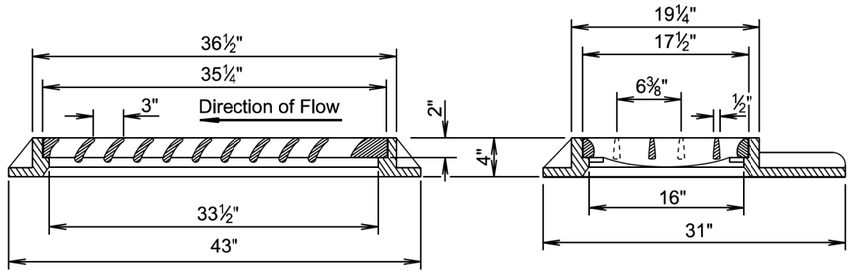
Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B60	B63

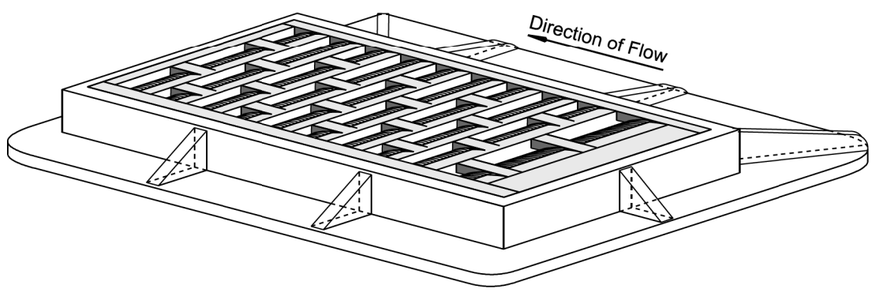
Plotting Date: 04/04/2023



PLAN VIEW



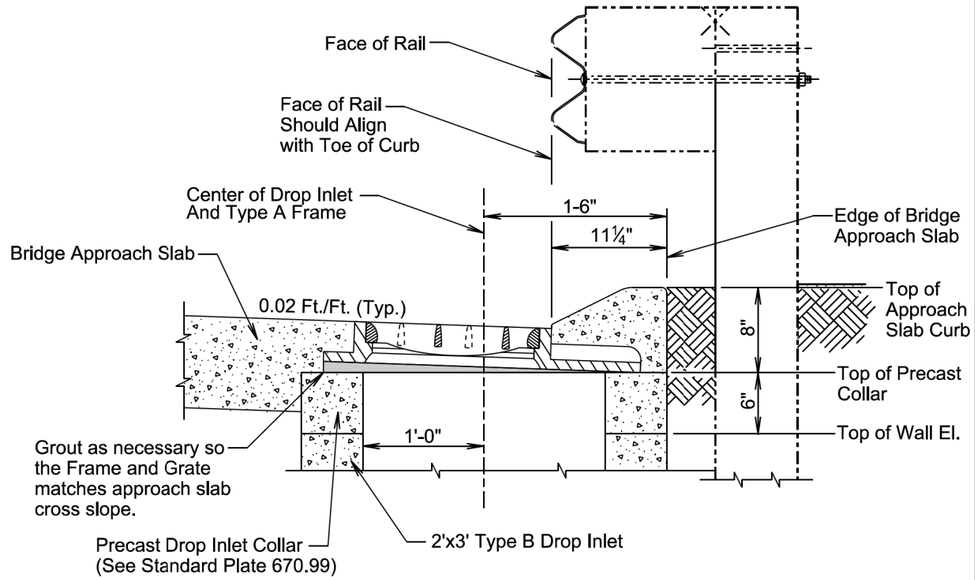
SECTION B-B **SECTION A-A**



ISOMETRIC VIEW

June 1, 2022

Published Date: 1st Qtr. 2023	SDDOT	TYPE A FRAME AND GRATE	PLATE NUMBER 670.78
			Sheet 1 of 2



ELEVATION VIEW

(Installation of Type A Frame and Grate in Bridge Approach Slab)

GENERAL NOTES:

The product dimensions may vary from those shown on the standard plate depending on the manufacturer. Grate size and configuration will be similar to the standard plate for hydraulic capacity and bicycle safety. Any variation in dimensions will be approved by the Engineer and the type A frame and grate will be from a manufacturer on the approved products list.

Design load for the grate will meet the requirements of AASHTO HL-93.

The type A frame and grate will be installed on a 2'x3' type B drop inlet.

The direction of flow is shown for illustrative purpose only. The grate will be installed to intercept the direction of flow.

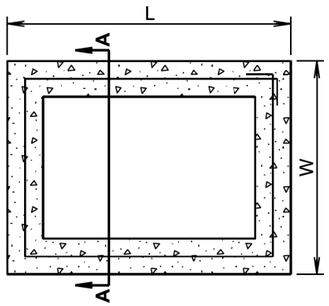
June 1, 2022

Published Date: 1st Qtr. 2023	SDDOT	TYPE A FRAME AND GRATE	PLATE NUMBER 670.78
			Sheet 2 of 2

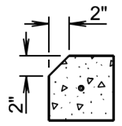
Plot Scale - 1:200

Plotted From - TRPR17192

File - ...\penn065K\StdPlateSectionB.dgn

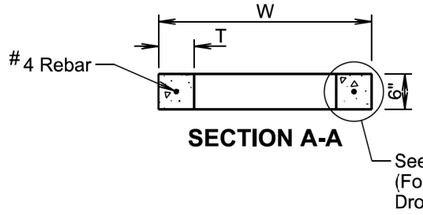


PLAN VIEW



For Type D Drop Inlets only:
Use Precast Drop Inlet Collar with
2" chamfer on L sides only.

DETAIL B



SECTION A-A

INFORMATIONAL QUANTITIES					
FRAME AND GRATE TYPE	L (Ft-in)	W (Ft-in)	T (in)	CLASS M6 CONCRETE (CuYd)	REINFORCING STEEL (Lb)
TYPE A, B, and E	4'-0"	3'-0"	6	0.11	9
TYPE C	5'-0"	4'-0"	6	0.15	11
TYPE D	4'-0"	2'-6"	6	0.10	8

GENERAL NOTES:

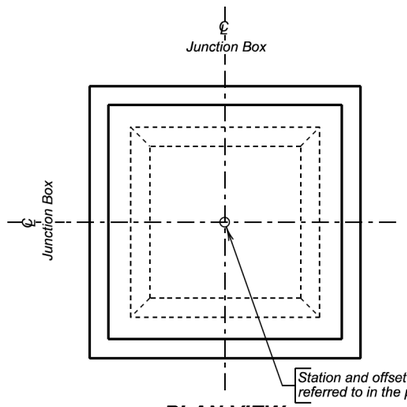
All reinforcing steel will conform to ASTM A615, Grade 60.

The ½" diameter bar will lap 6"± and will be centered in the concrete.

The cost of furnishing and installing Precast Drop Inlet Collars, including labor, materials, and incidentals will be incidental to the contract unit price per Each for "Precast Drop Inlet Collar".

June 1, 2022

Published Date: 1st Qtr. 2023	SDDOT	PRECAST DROP INLET COLLAR	PLATE NUMBER 670.99
			Sheet 1 of 1



PLAN VIEW

SPECIFICATIONS

Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.

Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition and required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

GENERAL NOTES

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

The design of the junction box is based on a maximum fill over the junction box of 5 feet and minimum fil over the junction box of 2 feet.

Reinforcing steel shall conform to ASTM A615 Grade 60. Cut and bend reinforcing steel as required to place pipe(s) through junction box wall.

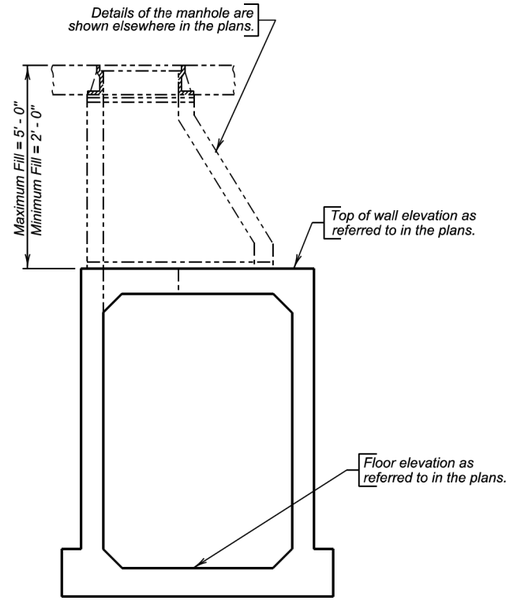
Junction box may be precast. If precast junction box details differ from this standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval.

Use 1 inch clear cover on all reinforcing steel unless otherwise noted.

All exposed edges shall be chamfered ¾ inch.

Junction box shown may be modified by the addition or omission of connecting pipes as noted elsewhere in the plans. All pipes entering junction box must fit between the inside face of walls and shall not enter through the corners.

The cost of furnishing and installing the manhole steps shall be incidental to the contract unit price per pound for "Reinforcing Steel".



ELEVATION VIEW

PIPE DISPLACEMENT REDUCTIONS

	Diameter (Inches)	Wall T (Inches)	Class M6 Concrete (Cu. Yd.)
R.C.P.	12	2	0.03
	15	2 ¼	0.04
	18	2 ½	0.06
	24	3	0.11
	30	3 ½	0.16
	36	4	0.23
	42	4 ½	0.31
	48	5	0.40
	54	5 ½	0.50

ESTIMATED QUANTITIES

ITEM	✳Class M6 Concrete	Reinforcing Steel
UNIT	Cu. Yd.	Lb.
H = 4' - 0"	4.37	821
H = 4' - 6"	4.61	846
H = 5' - 0"	4.85	908
H = 5' - 6"	5.10	933
H = 6' - 0"	5.34	958
H = 6' - 6"	5.58	1020
H = 7' - 0"	5.82	1045
H = 7' - 6"	6.06	1071
H = 8' - 6"	6.30	1132

✳*Reduce total quantities of concrete by the amount of concrete displaced by the pipe(s). Quantity shown includes reduction for a 24-inch diameter manhole opening. The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard.*

May 9, 2020

Published Date: 1st Qtr. 2023	SDDOT	5'X 5' JUNCTION BOX	PLATE NUMBER 671.01
			Sheet 1 of 3

Plot Scale - 1:200
Plotted From - TRPR17192
File - ...\penn065K\StdPlateSectionB.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B62	B63

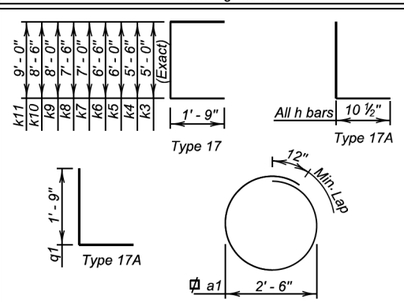
Plotting Date: 04/04/2023

Plot Scale - 1:200

REINFORCING SCHEDULE

	Mk.	No.	Size	Length	Type
H = 4' - 0"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	4	–	———	—
	h3	28	4	5' - 9"	17A
	k3	48	4	8' - 6"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	52	4	5' - 0"	Str.
	q1	8	4	3' - 6"	17A
H = 4' - 6"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	4	–	———	—
	h4	28	4	6' - 3"	17A
	k4	48	4	9' - 0"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	52	4	5' - 0"	Str.
	q1	8	4	3' - 6"	17A
H = 5' - 0"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	5	–	———	—
	h5	28	4	6' - 9"	17A
	k5	48	4	9' - 6"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	52	4	5' - 0"	Str.
	q1	8	4	3' - 6"	17A
H = 5' - 6"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	5	–	———	—
	h6	28	4	7' - 3"	17A
	k6	48	4	10' - 0"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	60	4	5' - 0"	Str.
	q1	12	4	3' - 6"	17A
H = 6' - 0"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	6	–	———	—
	h7	28	4	7' - 9"	17A
	k7	48	4	10' - 6"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	60	4	5' - 0"	Str.
	q1	12	4	3' - 6"	17A
H = 6' - 6"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	6	–	———	—
	h8	28	4	8' - 3"	17A
	k8	48	4	11' - 0"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	68	4	5' - 0"	Str.
	q1	16	4	3' - 6"	17A
H = 7' - 0"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	7	–	———	—
	h9	28	4	8' - 9"	17A
	k9	48	4	11' - 6"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	68	4	5' - 0"	Str.
	q1	16	4	3' - 6"	17A

Bending Details



	Mk.	No.	Size	Length	Type
H = 7' - 6"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	7	–	———	—
	h10	28	4	9' - 3"	17A
	k10	48	4	12' - 0"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	68	4	5' - 0"	Str.
	q1	16	4	3' - 6"	17A
H = 8' - 0"	⌀ a1	1	6	9' - 0"	T3
	▼ a2	8	–	———	—
	h11	28	4	9' - 9"	17A
	k11	48	4	12' - 6"	17
	m1	18	5	6' - 9"	Str.
	n1	18	5	5' - 9"	Str.
	p1	76	4	5' - 0"	Str.
	q1	20	4	3' - 6"	17A

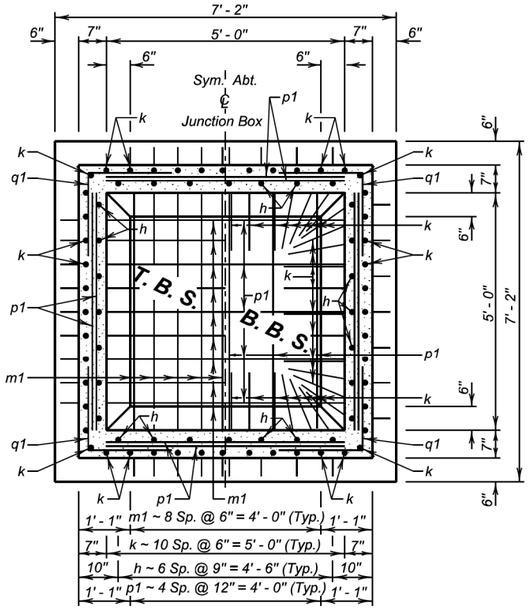
▼ Cast iron Manhole Steps (R - 1980 - C) from Neenah Foundry or equivalant.

⌀ Locate in center of top slab with 3" clearance at manhole opening.

All dimensions are out to out of bars.

LEGEND FOR PLACING RE-STEEL

T. B. S. - Top of Bottom Slab
B. B. S. - Bottom of Bottom Slab



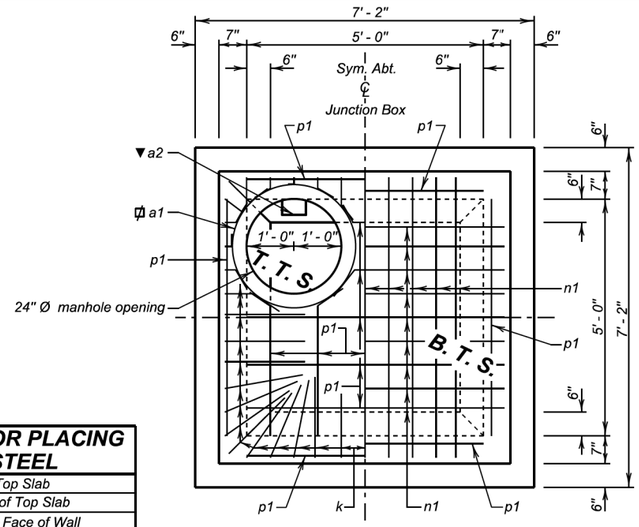
SEC. A - A

May 9, 2020

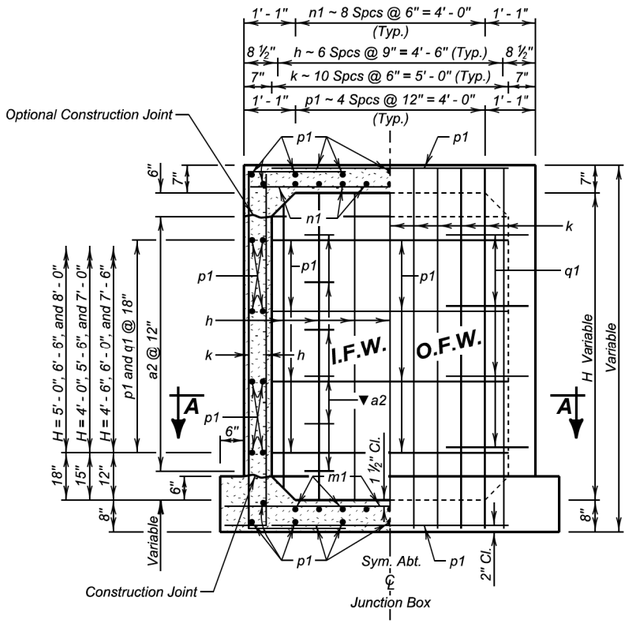
Published Date: 1st Qtr. 2023	SDDOT	5'X 5' JUNCTION BOX	PLATE NUMBER 671.01
			Sheet 2 of 3

LEGEND FOR PLACING RE-STEEL

T. T. S. - Top of Top Slab
B. T. S. - Bottom of Top Slab
O. F. W. - Outside Face of Wall
I. F. W. - Inside Face of Wall



PLAN VIEW



ELEVATION VIEW

May 9, 2020

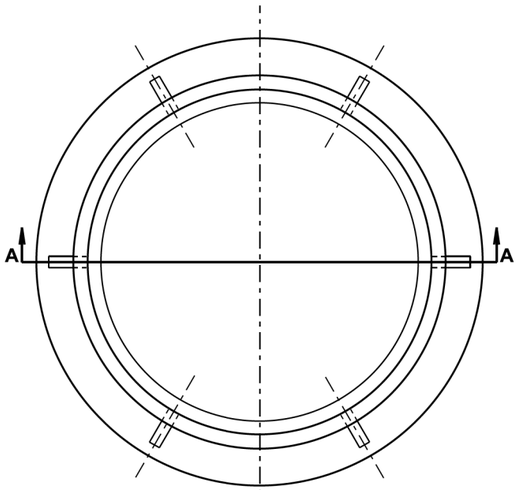
Published Date: 1st Qtr. 2023	SDDOT	5'X 5' JUNCTION BOX	PLATE NUMBER 671.01
			Sheet 3 of 3

Plotted From - TRPR17192

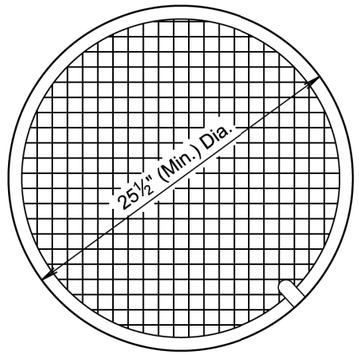
File - ...\penn065K\StdPlateSectionB.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-B 1902(67)0	B63	B63

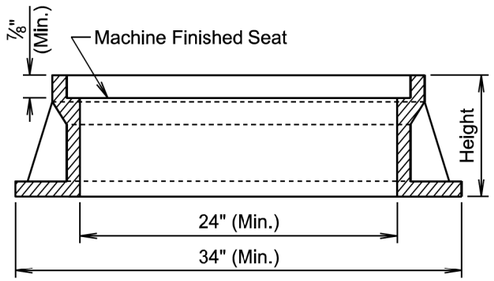
Plotting Date: 04/04/2023



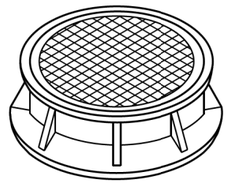
PLAN VIEW
(Frame)



PLAN VIEW
(Lid)



SECTION A-A



ISOMETRIC VIEW

TYPE	HEIGHT (Inches)
A7	7
A8	8
A9	9
A10	10

GENERAL NOTES:

The product dimensions may vary from those shown on the standard plate depending on the manufacturer. Any variation in dimensions will be approved by the Engineer and the type A manhole frame and lid will be from a manufacturer on the approved products lists.

Design load for the grate will meet the requirements of AASHTO HL-93.

Geometric pattern on top of lid other than that shown will be approved by the Engineer.

June 1, 2022

Published Date: 1st Qtr. 2023	SDDOT	***TYPE A MANHOLE FRAME AND LID***	*PLATE NUMBER* 671.10
			Sheet 1 of 1

Plot Scale - 1:200

Plotted From - TRPR17192

File - ...\penn065K\StdPlateSectionB.dgn