

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT P TAPR(34)

CITY OF VIBORG

SIDEWALK AND SHARED USE PATH

PCN 074D

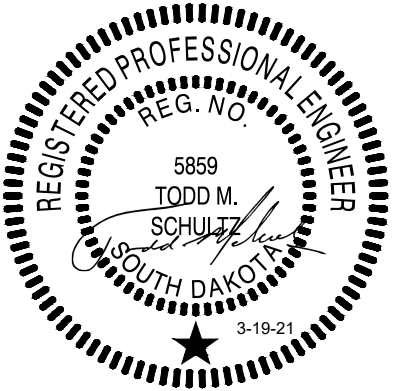
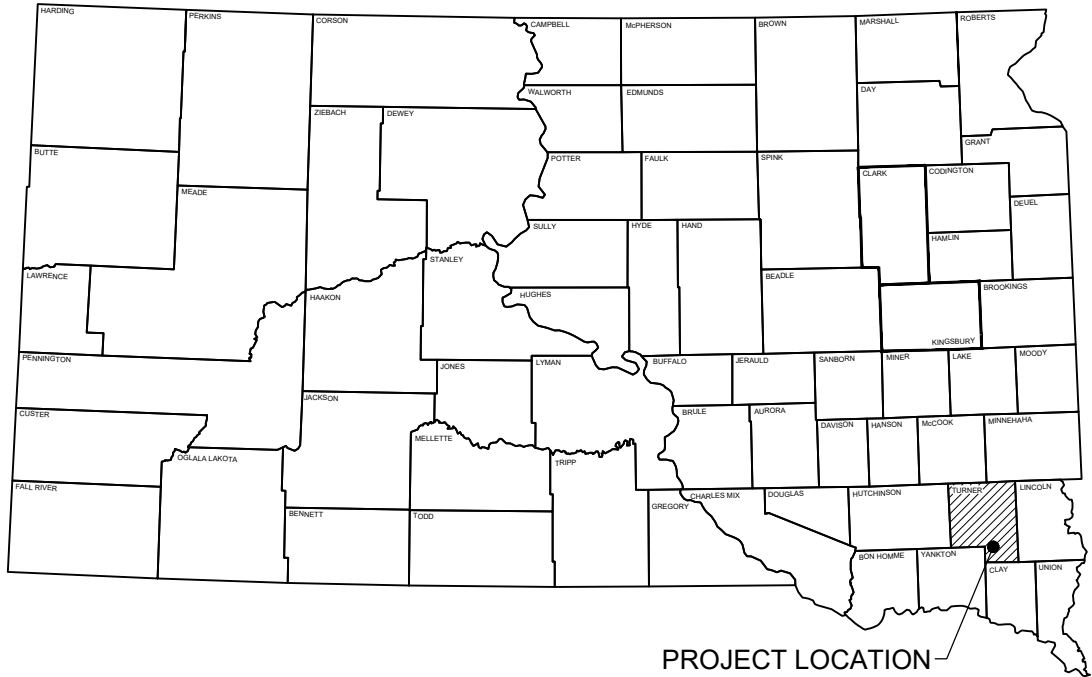
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STATE OF SOUTH DAKOTA	PROJECT	SHEET No.	TOTAL SHEETS
	P TAPR(34)	1	45

Plotting Date: MARCH 2021  
Revised 04-02-2021

BAI# 23200.00



BEGIN PROJECT P TARP(34)  
STA 1+15.62 IS  
APPROXIMATELY 151' EAST  
AND 33' NORTH OF THE SE  
CORNER OF SECTION 35,  
TOWNSHIP 96 NORTH, RANGE  
53 WEST OF THE 5TH PRIME  
MERIDIAN

END PROJECT P TARP(34)  
STA 30+40.64 IS  
APPROXIMATELY 3071' EAST  
AND 44' NORTH OF THE SE  
CORNER OF SECTION 35,  
TOWNSHIP 96 NORTH, RANGE  
53 WEST OF THE 5TH PRIME  
MERIDIAN



NOT TO SCALE

STORM WATER PERMIT  
(NONE REQUIRED)

PROJECT LOCATION MAP

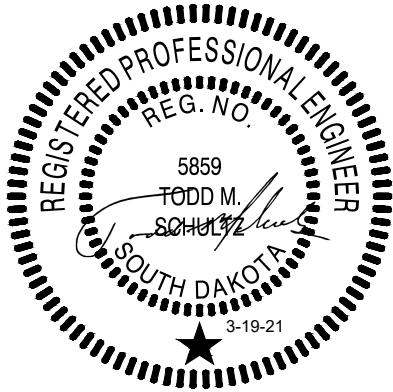
GROSS LENGTH	2923.94 FEET	0.5538 MILES
LENGTH OF EXCEPTIONS	491.94 FEET	0.0931MILES
NET LENGTH	2491.90 FEET	0.4604 MILES
LENGTH OF GRADING	2491.90 FEET	0.4604 MILES
LENGTH OF SURFACING	2491.90 FEET	0.4604 MILES
LENGTH OF BRIDGES	0.00 FEET	0.00 MILES



STATE OF SOUTH DAKOTA	PROJECT  P TAPR(34)	SHEET No.	TOTAL SHEETS
		2	45

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ESTIMATE OF QUANTITIES			
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
100E0020	Clear and Grub Tree	4	Each
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	2	Ft
110E1140	Remove Concrete Sidewalk	103.2	SqYd
110E1693	Remove Erosion Control Wattle	416	Ft
110E7802	Remove Fence for Reset	62	Ft
120E0010	Unclassified Excavation	374	CuYd
120E3000	Placing Embankment	205	CuYd
230E0010	Placing Topsoil	157	CuYd
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	32.2	Ton
260E2010	Gravel Cushion	354.2	Ton
320E1200	Asphalt Concrete Composite	26.6	Ton
420E0400	Structure Excavation, Miscellaneous	8	CuYd
451E6080	Adjust Water Valve Box	3	Each
451E6510	Move Fire Hydrant	1	Each
451E4206	6" Gate Valve with Box	1	Each
462E0100	Class M6 Concrete	3.5	CuYd
470E0020	Pipe Handrail	26.0	Ft
480E0200	Epoxy Coated Reinforcing Steel	257	Lb
530E0300	Type C Concrete Retaining Wall	400	SqFt
620E4100	Reset Fence	62	Ft
634E0110	Traffic Control Signs	104.0	SqFt
634E0120	Traffic Control, Misc.	1	LS
634E2000	Longitudinal Pedestrian Barricade	758	Ft
634E2025	Longitudinal Pedestrian Barrier	778	Ft
650E6260	6" Concrete Valley Gutter	4.0	SqYd
651E0040	4" Concrete Sidewalk	14365	SqFt
651E0060	6" Concrete Sidewalk (Thickened Curb Ramps at Alley)	84	SqFt
651E2010	Special Sidewalk (Thickened Edge)	357	SqFt
651E7000	Type 1 Detectable Warnings	177	SqFt
730E0204	Type C Permanent Seed Mixture	2	Lb
730E0206	Type D Permanent Seed Mixture	28	Lb
731E0100	Fertilizing	291	Lb
732E0100	Mulching	1.5	Ton
734E0150	6" Diameter Erosion Control Wattle	416	Ft
734E0604	High Flow Silt Fence	16	Ft
734E0610	Mucking Silt Fence	2.0	CuYd
734E0620	Repair Silt Fence	10	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	1	Each
900E1310	Concrete Washout Facility	1	Each





**ENVIRONMENTAL COMMITMENTS**

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/doing-business/environmental/about-environmental>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

**COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES**

**COMMITMENT B5: NORTHERN LONG-EARED BAT**

This project is within the range of suitable habitat for the Northern Long-Eared Bat (NLEB) and project work will avoid conflicts with NLEB roosting habitat.

**Action Taken/Required:**

The following avoidance, minimization, and mitigation measures (AMMs) are required:

**General AMM1.** Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

**Tree Removal AMM1.** Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely.

**Tree Removal AMM2.** Project activities that include tree removal, structure work, and/or work within one-quarter mile of a known hibernacula or 150 feet of a known maternity roost tree should not occur within the location(s) listed below during the NLEB seasonal work restriction timeframe without approval from the SDDOT Environmental Office.

Tree removal will occur between November 1<sup>st</sup> and March 31<sup>st</sup>.

Station	NLEB Seasonal Work Restriction
Sta 10+87.96, 0.5' R (By City)	April 1 to October 31
Sta 11+22.09, 1.54' R (By City)	
Sta 16+19.01, 7.06' R (By City)	
Sta 14+06.76, 3.41' L	
Sta 14+23.54, 3.87' L	
Sta 14+50.59, 4.04' L	
Sta 14+78.17, 3.95' L	

**Tree Removal AMM3.** Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field.

**COMMITMENT C: WATER SOURCE**

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment shall be power washed with hot water ( $\geq 140^{\circ}\text{F}$ ) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

**Action Taken/Required:**

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at: <http://sdleastwanted.com/maps/default.aspx>.

**South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:**  
<https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04>

**COMMITMENT D: WATER QUALITY STANDARDS**

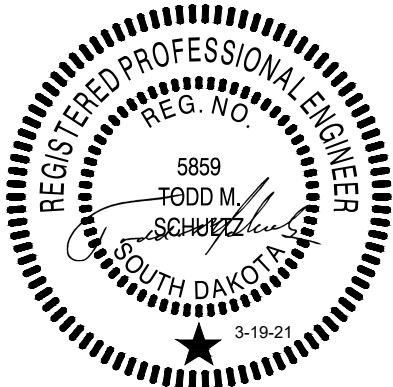
**COMMITMENT D1: SURFACE WATER QUALITY**

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special

construction measures may have to be taken to ensure that this water body is not impacted.

**Action Taken/Required:**

The Contractor is advised the South Dakota Surface Water Quality Standards, administered by the Department of Environment and Natural Resources (DENR), apply to this project. Special construction measures shall be taken to ensure the above standard(s) of the surface waters are maintained and protected.





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SOUTH DAKOTA	P TAPR(34)	No. 4	SHEETS 45

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**COMMITMENT D2: SURFACE WATER DISCHARGE**

The DENR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

**Action Taken/Required:**

If construction dewatering is required and this project is not required to be covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the Contractor will obtain the General Permit for Temporary Discharge Activities from the DENR Surface Water Program, 605-773-3351.

<http://denr.sd.gov/des/sw/swqformsandpermits.aspx>

The Contractor will provide a copy of the approved permit or the submitted dewatering information to the Project Engineer prior to proceeding with any dewatering activities. The approved permit or submitted dewatering information must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DENR monthly. Additional information can be found at <http://denr.sd.gov/des/sw/WhatisaDMR.aspx>

**COMMITMENT E: STORM WATER**

Construction activities constitute less than 1 acre of disturbance.

**Action Taken/Required:**

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

**COMMITMENT H: WASTE DISPOSAL SITE**

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

**Action Taken/Required:**

**COMMITMENT H: WASTE DISPOSAL SITE (CONTINUED)**

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

**COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES**

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

**Action Taken/Required:**

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work

includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

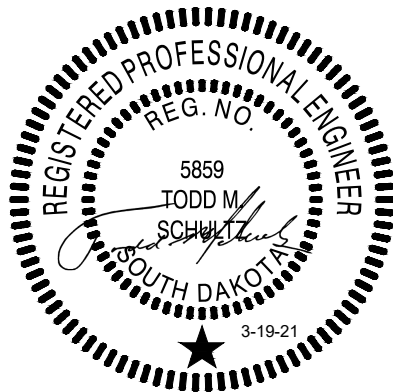
The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.





**SPECIFICATIONS**

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.

**SCOPE OF WORK AND SEQUENCE OF OPERATIONS**

The work in this project consists of, but is not limited to, removal of existing pavement, trail grading and installation, relocation of existing fire hydrants, installation of Type C walls and seeding and mulching.

The Contractor will complete this project according to the following sequence.

1. Install erosion control measures.
2. Place traffic control as needed when working along public road shoulders.
3. Remove existing sidewalk, sod and topsoil in area of trail.
4. Excavate for relocation of existing fire hydrants and perform relocation.
5. Perform grading, paving, seeding and mulching.
6. Remove traffic control.

Deviations from this sequence may be allowed if approved by the Engineer.

**CONTRACTOR COORDINATION SANITARY SEWER CONSTRUCTION**

Replacement of the sanitary sewer in E Park Avenue from N Agnes Street to the east will be ongoing at the same time as construction of the recreational trail. This construction will include new sewer services to the north side of E Park Avenue. Contractor shall coordinate with sanitary sewer Contractor concerning phasing of construction. No recreation trail shall be installed prior to the sanitary sewer service installation to the north of E Park Avenue.

**CITY OF VIBORG REQUIREMENTS**

The City of Viborg will be responsible for the following items without federal participation.

1. Clear and Grub three (3) trees as shown on the drawings as BY CITY.
2. Remove Concrete Curb and/or Gutter as indicated on the drawings as BY CITY.
3. Remove asphalt Concrete Pavement (88.1 SY) as indicated on the drawings as BY CITY.
4. Remove Concrete Sidewalk (184.6 SY) as indicated on the drawing as BY CITY)

**INCIDENTAL WORK**

Incidental Work shall include the following items.

1. Remove, salvage and relocate flagpole as indicated on the drawings.
2. Remove, salvage and replace street sign as indicated on the drawings.

**GRADING OPERATIONS**

Water for Embankment is estimated at the rate of 12 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 0.1 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.

**TABLE OF EXCAVATION QUANTITIES**

Excavation	239 CuYd	Embankment	205 CuYd
Topsoil	157 CuYd	+25% Shrinkage	51 CuYd
Contractor Furnished Borrow	0 CuYd		
Unclassified Excavation	396 CuYd		256 CuYd

SHRINKAGE FACTOR: **Embankment +25%**

**TABLE OF SIDEWALK REMOVAL**

Station	to	Station	L/R	Quantity (SqYd)
1+16		1+31	R	11.7
1+55		2+23	R	31.5
2+55		3+93	R	60.0
Total:				103.2

**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. Cast iron plates may be a natural patina (weathered steel).

When Type 1 Detectable Warnings are specified, the Contractor will furnish and install only one of the products listed in the Type 1 Detectable Warnings table.

**Type 1 Detectable Warnings**

Product	Manufacturer
Detectable Warning Plate	Neenah Foundry Company Neenah, WI

Cast Iron Plate  
800-558-5075  
<http://www.nfco.com/>

Detectable Warning Plate  
Cast Iron Plate  
Deeter Foundry  
Lincoln, NE  
800-234-7466  
<http://www.deeter.com/>

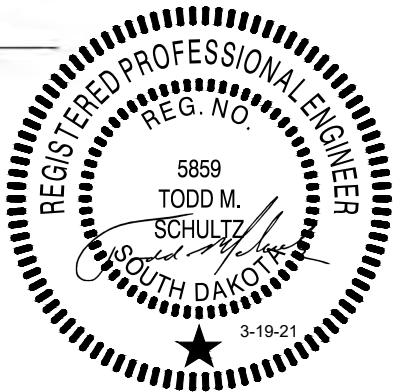
Detectable Warning Plate  
East Jordan Iron Works, Inc.  
301 Spring Street

Cast Iron Plate (No  
Coating)  
East Jordan, MI 49727  
800-626-4653  
<http://www.ejw.com>

Pre-Manufactured  
Detectable Warning Paver  
Concrete Panel  
M.R. Castings, Inc.  
PO Box 34232  
Omaha, NE 68134  
402-510-3279  
<http://mrcastings.com/>

**TABLE OF TYPE 1 DETECTABLE WARNINGS**

Station	L/R	Quantity (SqFt)
1+30	3.21' R	13
1+56	2.50' R	10
2+20	2.50' R	10
2+58	2.50' R	10
4+84	2.50' R	20
5+25	2.50' R	10
10+44	61.94' R	10
10+49	4.50' R	10
10+49	55.81' R	10
11+37	2.50' R	14
11+66	2.50' R	10
13+27	2.50' R	10
13+42	2.50' R	10
14+92	2.50' R	10
15+27	2.50' R	10
30+34	2.50' R	10
Total:		177





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	P TAPR(34)	6	45

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TABLE OF 4" CONCRETE SIDEWALK

Station	to	Station	L/R	Quantity (SqFt)
1+16		1+31	R	108
1+55		2+24	R	358
2+55		4+91	R	1183
5+25		5+40	R	87
10+32		10+58	R	130
10+42		10+66	R	170
10+59		10+65	L	22
11+29		11+40	R	58
11+64		13+22	R	797
13+50		14+92	R	727
14+34		14+40	L	22
15+24		19+57	R	2978
19+82		20+86	R	839
20+99		21+76	R	579
21+92		23+54	R	1269
23+77		27+99	R	3365
28+30		30+39	R	1673
Total:				14,365

TABLE OF 6" CONCRETE SIDEWALK

Station	to	Station	L/R	Quantity (SqFt)
13+22		13+28	R	42
13+44		13+50	R	42
Total:				84

TABLE OF SPECIAL CONCRETE SIDEWALK

Station	to	Station	L/R	Quantity (SqFt)
10+58		11+29	R	357
Total:				357

SLIP RESISTANT COATING FOR CONCRETE STAIRWAY

Curing compounds will not be utilized on concrete stairway treads during the concrete curing process. Curing will be accomplished with a double layer of burlap mats and polyethylene sheeting.

The Contractor will apply a 2" wide slip resistant coating at the front of each stairway tread for the full width of the tread.

The slip resistant coating will be a red, tile red, or brick red color. The coating will be a single component epoxy and have a minimum coefficient of friction value of 0.9 for dry and 0.9 for wet as determined by ASTM F 609.

The slip resistant coating will be applied in accordance with the manufacturer's recommendations.

All cost for furnishing and applying the slip resistant epoxy coating including equipment, labor, and materials will be incidental to various contract items.

TABLE OF CONCRETE STAIRWAYS IN TYPE C RETAINING WALLS

Station	L/R	Top Land- ing Elev.	Bottom Landing Elev.	No. of Steps (w)	Class M6 Con- crete (CuYd)	Epoxy Coated Reinf. Steel (Lb)	*Struc- ture Exc. (CuYd)	Pipe Hand rail (Ft)
10+62	L	1299.26	1297.15	3	1.8	130	4.3	13
14+37	L	1303.08	1301.3	3	1.7	127	4.0	13
Totals					3.5	257	8.3	26

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

All construction operations will be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

LONGITUDINAL PEDESTRIAN BARRICADE

Longitudinal pedestrian barricades should not be used to provide positive protection for pedestrians.

To prevent any tripping hazard to pedestrians, ballast will be located behind or internal to the device.

When longitudinal pedestrian barricades are combined in a series, the maximum gap between devices that do not interlock will be one inch. Joints between devices that do interlock will be closed and flush to prevent canes or small wheels from being trapped and to facilitate safe hand trailing. When used as a sidewalk closure mechanism, longitudinal pedestrian barricade must run the entire width of the sidewalk. Longitudinal pedestrian barricade should provide a color contrasting pattern. Black should not be used to color any base

on a device. The devices should comply with the general color and stripe pattern requirements of Section 6F.68 of the MUTCD.

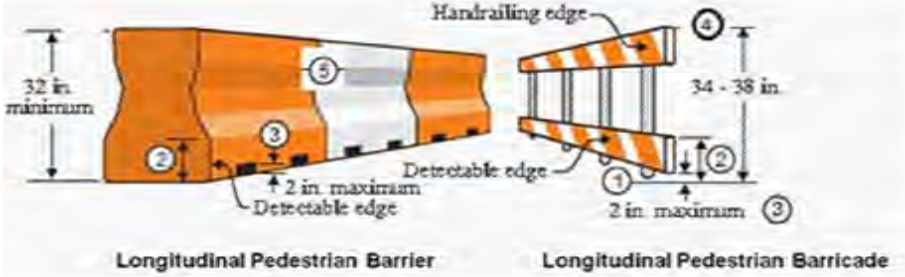
Longitudinal pedestrian barricade will have continuous bottom and top surfaces. The top surface will be smooth to allow safe hand trailing. Both upper and lower surfaces will share a common vertical plane.

All costs will be incidental to the contract unit price per foot for "Longitudinal Pedestrian Barricade".





PEDESTRIAN CHANNELIZING DEVICE DETAILS



1. Barricade rail supports may not extend into the pedestrian walkway more than 4 inches from the face of the barricade.
2. The top edge of the bottom portion will be a minimum of 8 inches above the walkway.
3. Devices will not block water drainage from the walkway. A gap height or opening from the walkway surface up to a maximum of 2 inches in height is allowed for drainage purposes.
4. The top edge of the longitudinal pedestrian barricade is to be used as a guiderail to provide visual and tactile guidance to pedestrians along a designated route. The top surface should have a minimum width of 0.5 inches to allow the hand to feel the surface. The surface should be smooth and free of any sharp or abrasive elements to allow safe hand trailing.
5. Longitudinal pedestrian barrier used to provide positive protection from traffic to pedestrians should be crashworthy.

ITEMIZED LIST FOR TRAFFIC CONTROL

Sign Code	Sign Size	Description	Number Required	Sq. Ft. Per Sign	Units
G20-2	48"X24"	END ROAD WORK	1	8	8
W20-1	48"X48"	ROAD WORK AHEAD	1	16	16
W-21-5	48"X48"	SHOULDER WORK	5	80	80
				Totals	104

FULL DEPTH CUTTING OF ASPHALT

Full depth sawcutting of asphalt shall be incidental to the various bid items.

GRAVEL CUSHION

Cushion material shall consist of rock, gravel, or sand; crushed or screened to eliminate material retained on a 1-inch sieve.

TABLE OF GRAVEL CUSHION

Station	to	Station	L/R	Quantity (Ton)
1+16		1+31	R	2.6
1+55		2+24	R	8.6
2+55		4+91	R	28.3
5+25		5+40	R	2.1
10+32		10+58	R	3.1
10+42		10+66	R	4.1
10+58		11+29	R	8.5
10+59		10+65	L	0.5
11+29		11+40	R	1.4
11+64		13+22	R	19.1
13+22		13+28	R	1.0
13+44		13+50	R	1.0
13+50		14+92	R	17.4
14+34		14+40	L	0.5
15+24		19+57	R	71.2
19+82		20+86	R	20.1
20+99		21+76	R	13.9
21+92		23+54	R	30.4
23+77		27+99	R	80.5
28+30		30+39	R	40.0
Total:				354.2

TABLE OF BASE COURSE

Station	to	Station	L/R	Quantity (Ton)
1+15		1+33	R	2.0
1+53		2+28	R	7.9
2+53		2+61	R	0.9
4+77		4+93	R	1.3
5+23		5+32	R	1.1
10+32		11+42	R	8.4
10+39		10+54	R	1.7
11+62		11+67	R	0.7
13+28		13+30	R	0.7
13+37		13+45	R	1.6
13+42		13+42	R	1.3
14+93		14+95	R	0.7
15+22		15+28	R	0.8
19+82		20+10	R	2.3
30+35		30+41	R	0.9
Total:				32.2

CLEARING

Before clearing activities begin, the Contractor shall contact the Engineer to determine the limits of clearing for the project. If the trees or shrubs that are supposed to remain within the limits of work are damaged or destroyed by the Contractor, the Contractor shall replace them with the same size and type of tree at the Contractor's expense.

This bid item consists of the entire trail including accessible ramps at each road or paved alley intersection including the flares on each side.

UTILITIES

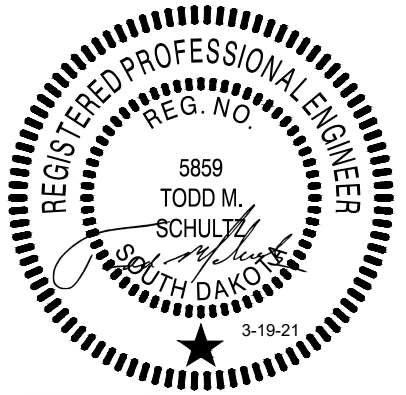
The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

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.

South Dakota One Call identified the following utilities in the vicinity of the project limits:

Vast Broadband	866-964-1277
Fort Randall Telephone Company	605-563-2863
Southeastern Electric Cooperative	800-333-2859
City of Viborg	605-326-5103



PLACING TOPSOIL

The thickness will be approximately 6 inches within the right-of-way and in temporary easements. Excess topsoil may be used in the Park Avenue Utility project in the area south of the new trail. Coordinate with Park Avenue Utility Contractor.



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	P TAPR(34)	8	45

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The estimated amount of topsoil to be placed is as follows:

Station	to	Station	Topsoil (CuYd)
10+32		10+60	2
10+41		10+67	1
10+64		11+24	4
11+70		12+80	9
12+83		13+25	2
13+41		14+92	32
15+31		19+57	38
19+82		20+86	6
20+99		21+77	5
21+92		23+54	7
23+77		24+98	5
25+06		25+80	2
25+97		27+99	18
28+30		30+39	26
Total:			157

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include the following fungal species:

25% *Glomus intraradices*  
25% *Glomus aggregatum or deserticola*  
25% *Glomus mosseae*  
25% *Glomus etunicatum*

TYPE C SEED INNOCULATION

All seed will be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

TYPE D SEED INNOCULATION

All seed will be inoculated by the seed supplier with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation. Type C Seed will be used in the ditches at the east end of the project. Type D Seed will be used for lawn areas adjacent to houses.

Lawn and turf seed, such as the Type D Permanent Seed Mixture, will be tested within 12 months prior to planting, exclusive of the calendar month in which the test was completed.

FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer will be applied at a rate of 1,500 pounds per acre, in accordance with the manufacturer's recommended method of application, when used for Type C Seed.

The all-natural slow-release fertilizer will be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

The application rate is 34 pounds per 1,000 square feet when used for Type D Seed.

MULCHING (GRASS HAY OR STRAW)

An additional 1.5 tons of Grass Hay or Straw Mulch has been added to the Estimate of Quantities for temporary erosion control on areas determined by the Engineer during construction.

If the Contractor uses a no-till drill, mulch may be applied prior to seeding and the mulch can then be punched into the soil by the no-till drill. If the Contractor uses this process, the no-till drill seeding will be completed immediately following the mulch application and the mulch will be punched into the soil at a 3-inch depth.

Type C Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	16
Canada Wildrye	Mandan	2
Total:		18

Type D Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet, Action	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal, Chantilly	1.4
Chewings Fescue	Ambrose, K2, Zodiac, Shadow III	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
Total:		7

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

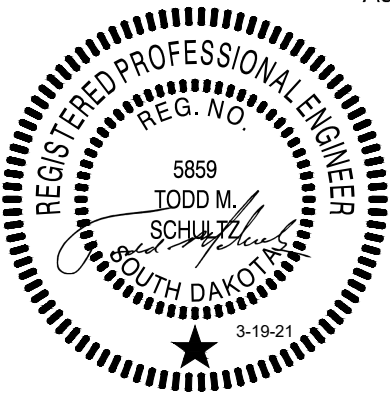
Erosion control wattles will remain on the project until vegetation has been established and then they will be removed in accordance with the Engineer.

The erosion control wattle provided will be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
11+71 to 13+25	R	6	Toe Slope	154
13+47 to 14+90	R	6	Toe Slope	145
15+33 to 16+50	R	6	Toe Slope	117
Additional Quantity:				0
Total:				416





STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
SOUTH DAKOTA	P TAPR(34)	9	45

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**HIGH FLOW SILT FENCE**

The high flow silt fence fabric provided will be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

High flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

**TABLE OF HIGH FLOW SILT FENCE**

Station	L/R	Location	Quantity (Ft)
18+35 to 18+48	L	Culvert	16
Total:			16

**SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES**

This type of sediment control device should be used where there is pavement in the vicinity of the drop inlets and storm water or sediment could possibly enter the frame and grate. Sediment Control at Inlet with Frame and Grate will be installed prior to working in the vicinity of the drop inlets.

The Contractor will be responsible for maintaining and repairing the sediment control device for the duration of the project for which sediment control measures are required. Maintenance will be scheduled to prevent storm water from backing up into the driving lane.

"Sediment Control at Inlet with Frame and Grate" will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced. All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Inlet with Frame and Grate will be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

A sediment control device as shown on Standard Plate 734.10. Filter fabric used for constructing the sediment control at inlets with frames and grates will be the same type of fabric that is used in high flow silt fence from the approved product list. The approved product list may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

**TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES**

Station	L/R	Quantity (Each)
2+14.81	R	1
Total:		1

**Sediment Control at Inlet with Frame and Grate Approved List:**

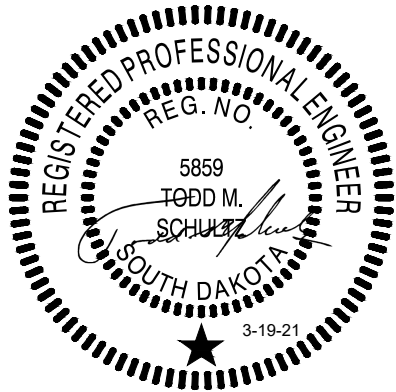
Product	Manufacturer
InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 <a href="http://www.royalenterprises.net">www.royalenterprises.net</a>
Dandy Curb Sack and Dandy Curb Bag for curb inlets. Dandy Bag, Dandy Sack, and Dandy Pop for median drains.	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 <a href="http://www.dandyproducts.com">www.dandyproducts.com</a>
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 <a href="http://www.silttrapper.com">www.silttrapper.com</a>
DIP Basket	Skyview Construction Co., LLC Summit, SD Phone: 1-605-520-0555
FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 <a href="http://www.inletfilters.com">www.inletfilters.com</a>
GR-8 Guard or Combo Guard	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 <a href="http://www.ertecsystems.com">www.ertecsystems.com</a>
Sediment Catchers	Shaun Jensen Brookings, SD Phone: 1-605-690-4950
Grate FX, Slammer, or VertiPro	Enviroscape ECM, Ltd. Oakwood, OH Phone: 1-419-594-3210 <a href="http://www.strawblanket.com">www.strawblanket.com</a>
BX Inlet Sediment Boxes	BX Civil and Construction Dell Rapids, SD Phone: 1-605-428-5483 <a href="http://bx-cc.com">bx-cc.com</a>

EZ-Flo and EZ-Catch

Flo-Water, LLC  
West Des Moines, IA  
Phone: 1-515-577-6763  
[www.flo-water.net](http://www.flo-water.net)

Basin Bag

Pro Drain Systems, Inc.  
Highland, MI  
Phone: 1-248-329-7001  
[www.prodrainsystems.com](http://www.prodrainsystems.com)



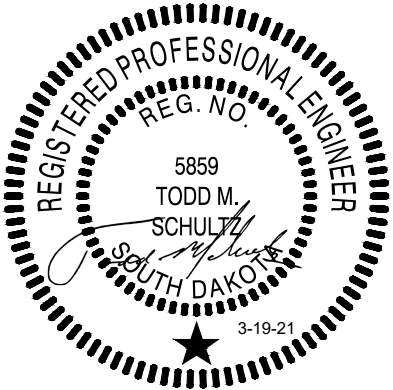


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	10	45

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TABLE OF CONSTRUCTION STAKING FOR PROJECT P TARP(34)  
(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Length (Ft)	Length (Mile)	Miscellaneous Staking Quantity (Mile)	Slope Staking Quantity (Mile)	Accessible Ramp Quantity (Each)	Structure Staking Quantity (Each)
Viborg Sidewalk and Shared Use Path (5' Wide)	1+15	5+40	425	0.080	0.080	0	6	0
Viborg Sidewalk and Shared Use Path (5' Wide)	10+32	16+84	656	0.125	0.125	0	9	2
Viborg Sidewalk and Shared Use Path (Concrete Retaining Wall)	10+32	11+05	73					1
Viborg Sidewalk and Shared Use Path (Concrete Retaining Wall)	13+50	14+80	130					1
Viborg Sidewalk and Shared Use Path (Transition from 5' Wide to 8' Wide)	16+84	16+94	10	0.002	0.002	0.002	0	0
Viborg Sidewalk and Shared Use Path (8' Wide)	16+94	30+40	780	0.148	0.148	0.148	1	0
TOTAL					0.355	0.150	16	4



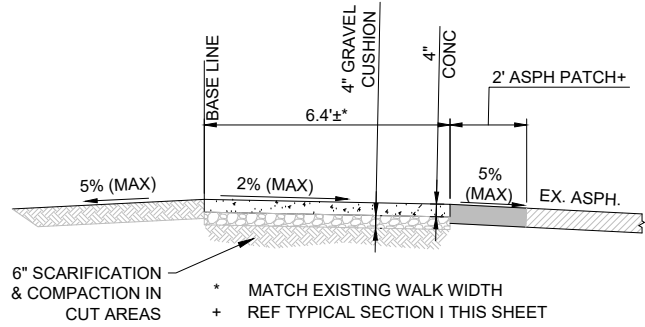


FOR BIDDING PURPOSES ONLY

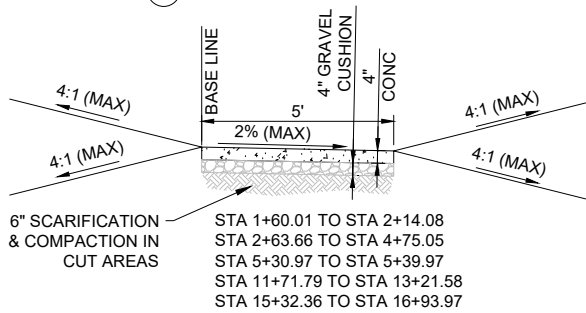
STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO.	TOTAL SHEETS
		11	45

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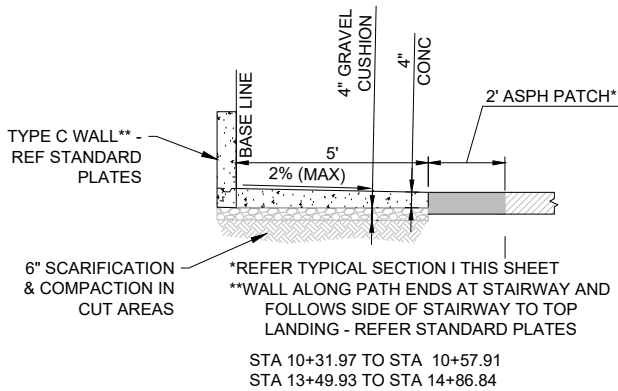
BAI# 23200.00



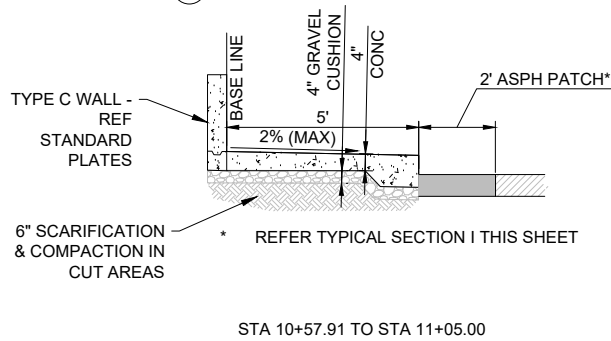
STA 1+15.62 TO 1+24.62  
**6.4'± WIDE PATH - MATCH EXISTING**



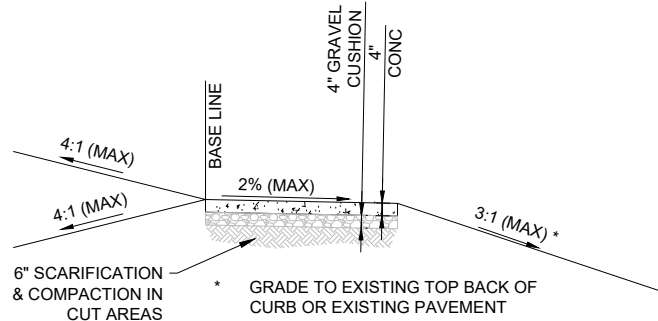
**5' WIDE PATH - NEGATIVE SLOPE**



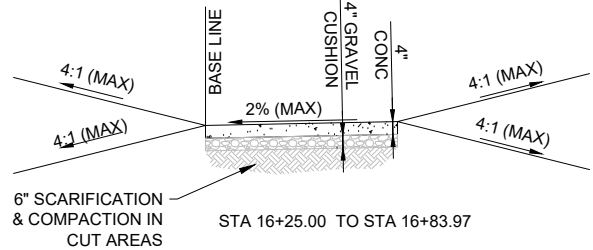
**5' WIDE PATH W/TYPE C WALL**



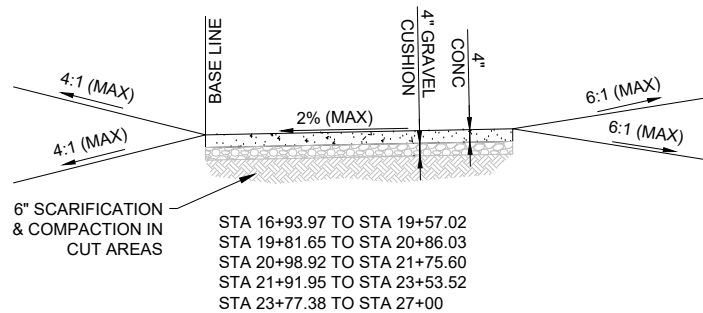
**5' WIDE PATH W/TYPE C WALL & SPECIAL SIDE WALK (THICKENED EDGE)**



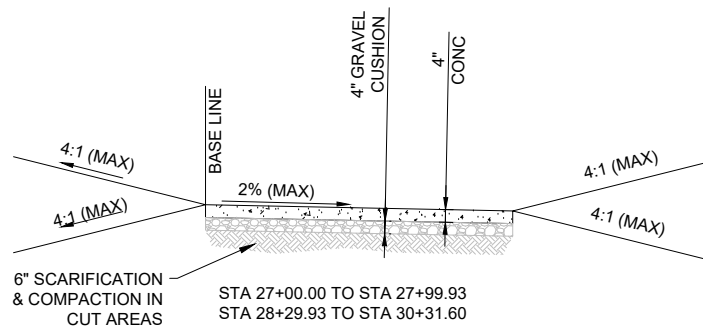
STA 13+49.93 TO STA 14+86.84  
**5' WIDE PATH - RT SLOPE MATCHES EX. ROAD**



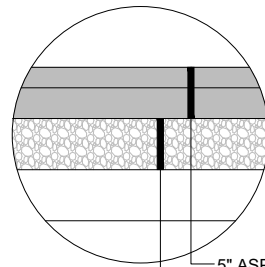
**5' WIDE PATH - POSITIVE SLOPE**



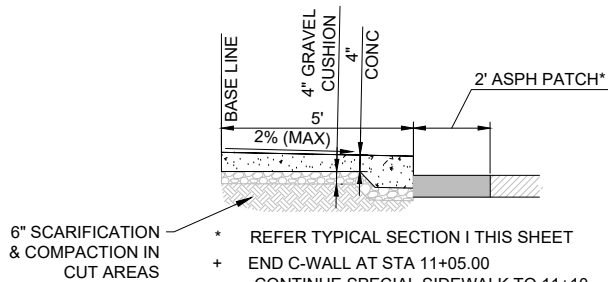
**8' WIDE PATH - POSITIVE SLOPE**



**8' WIDE SLOPE - NEGATIVE SLOPE**

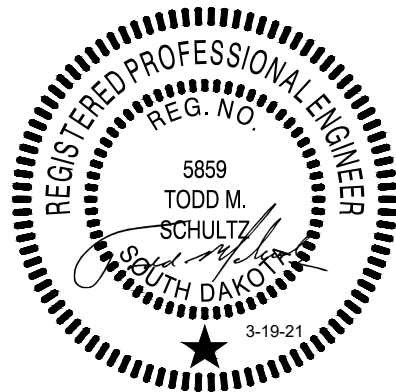


STA 13+47.93 TO STA 14+86.84  
**5' WIDE PATH - RT SLOPE MATCHES EX. ROAD**



STA 11+05.00 TO STA 11+29.36

**5' WIDE PATH W/TYPE C WALL & SPECIAL SIDE WALK (THICKENED EDGE)**



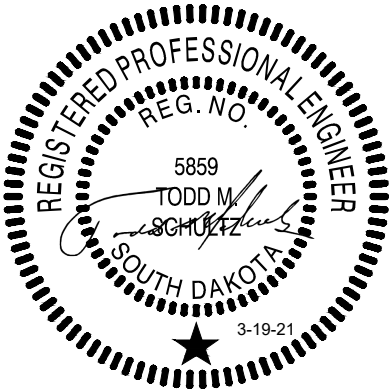


FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	12	45

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CONTROL DATA						
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
600	29+69.92	85.25' R	CPBASE - 18" REBAR W/CAP	322117.63	2838734.07	1302.30
601	3+73.60	56.73' R	CP FUJI - 18" REBAR W/CAP	322014.71	2836144.38	1305.20
602	8+81.68	53.44' R	CP GALA - 18" REBAR W/CAP	322040.95	2836652.05	1295.22
603	17+18.20	60.05' R	CP PINK LADY - 18" REBAR W/CAP	322072.25	2837487.69	1299.16
604	24+20.70	46.46' R	CP HONEYCRISP - 18" REBAR W/CAP	322112.55	2838188.77	1302.31



HORIZONTAL ALIGNMENT DATA					
TYPE	STATION			NORTHING	EASTING
POB	0+00			322054.195	2835768.568
		TL=168.19'	N87°21'46"E		
PI	1+68.19			322061.934	2835936.578
		TL=37.54'	N87°21'46"E		
PI	2+05.73			322063.661	2835974.080
		TL=270.23'	N87°21'46"E		
PI	4+75.96			322076.095	2836244.024
		TL=61.60'	N87°21'46"E		
PI	5+37.56			322078.929	2836305.554
		TL=220.39'	N87°21'46"E		
PI	7+57.95			322089.070	2836525.715
		TL=67.01'	N87°58'49"E		
PI	8+24.96			322091.431	2836592.686
		TL=143.39'	N87°04'28"E		
PI	9+68.35			322098.750	2836735.890
		TL=16.00'	N87°21'46"E		
PI	9+84.35			322099.486	2836751.871
		TL=140.59'	N87°22'00"E		
PI	11+24.95			322105.946	2836892.316
		TL=59.80'	N87°57'41"E		
PI	11+84.75			322109.072	2836952.039
		TL=68.15'	N87°18'09"E		
PI	12+52.89			322111.279	2837020.137
		TL=71.75'	N87°25'07"E		

- NOTES:
- The coordinates shown on the drawing are based on the South Dakota State Plane Coordinate System Grid South Zone NAD 83/2011 epoch 2010.00 Geoid 18 SF 0.9998794556.

HORIZONTAL ALIGNMENT DATA					
TYPE	STATION			NORTHING	EASTING
PI	13+24.65			322114.512	2837091.832
		TL=16.00'	N87°25'07"E		
PI	13+40.65			322115.232	2837107.816
		TL=139.52'	N87°25'07"E		
PI	14+80.17			322121.516	2837247.194
		TL=60.00'	N87°25'07"E		
PI	15+40.17			322124.219	2837307.133
		TL=209.83'	N87°25'07"E		
PI	17+50.00			322133.669	2837516.753
		TL=50.08'	N85°54'32"E		
PI	18+00.08			322130.097	2837566.702
		TL=156.95'	N87°23'18"E		
PI	19+57.02			322137.248	2837723.487
		TL=57.38'	N86°45'06"E		
PI	20+14.41			322140.499	2837780.779
		TL=255.46'	N87°24'37"E		
PI	22+69.86			322152.042	2838035.973
		TL=144.98'	N87°22'13"E		
PI	24+14.84			322158.693	2838180.798
		TL=256.85'	N87°23'40"E		
PI	26+71.70			322170.370	2838437.386
		TL=46.62'	N62°57'27"E		
PI	27+18.32			322191.567	2838478.912
		TL=629.52'	N87°26'30"E		
POE	30+47.84			322206.275	2838808.102



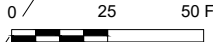
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# TRAFFIC CONTROL LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	13	45

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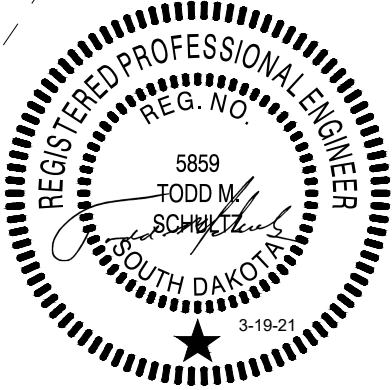
BAI# 23200.00



## TRAFFIC CONTROL LEGEND

- SIDEWALK CLOSED SIGN MOUNTED TO BARRICADE - (A)(R OR L - REFER NOTE 5)
- SIGN
- CHANNELIZATION DEVICE
- TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR)

- NOTES:
- REFER TO PLATE NUMBER 634.03 GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS.
  - TEMPORARY PEDESTRIAN ACCESS ROUTES (TPAR) MUST BE INSTALLED AND MAINTAINED PRIOR TO REMOVING EXISTING CONCRETE WALK UNTIL AFTER THE NEW WALK IS SUFFICIENTLY CURED TO BE OPENED FOR TRAFFIC. TPAR WILL BE INSTALLED PER THE GUIDELINES FOUND IN THE MANUAL ON UNIFORM TRAFFIC DEVICES (MUTCD).
  - TPAR IS ONLY NEEDED WHERE WALKS ARE CLOSED. IF THE CONTRACTOR DOES ONE SECTION OF WALK WHILE LEAVING OTHERS OPEN THE TPAR CAN BE MOVED FROM SECTION TO SECTION AS NEEDED AS LONG AS THE ADJACENT SECTION IS EXISTING OR IS NEW AND HAS BEEN ADEQUATELY CURED.
  - IN ORDER TO MAINTAIN ACCESS TO N NORA STREET AND N AGNES STREET, CONTRACTOR WILL NOT WORK ON BOTH CORNERS SIMULTANEOUSLY.
  - SIDEWALK CLOSED SIGN DENOTED WITH AN "R" MEANS INCLUDE AN ARROW POINTING TO THE RIGHT. AN "L" INDICATES AN ARROW TO THE LEFT.



### LONGITUDINAL PEDESTRIAN BARRICADE

STA/OFF	TO	STA/OFF	LENGTH, FT
1+11, 0.7' L		2+23, 1.9' L	134
2+54, 0.3' L		4+93, 2.5' L	253
5+21, 0.8' L		5+53, 0' R	49
		TOTAL	436

### LONGITUDINAL PEDESTRIAN BARRIER

STA/OFF	TO	STA/OFF	LENGTH, FT
1+03, 7' R		2+30, 4.3' R	138
2+47, 4.3' R		4+92, 7.3' R	252
5+20, 5.3' R		5+66, 5.6' R	56
		TOTAL	446

END  
ROAD WORK

G20-2  
48"x24"

CHANNELIZATION DEVICE (TYP)

TPAR - REFER GENERAL  
NOTES THIS SHEET

TPAR - REFER GENERAL  
NOTES THIS SHEET



TRAFFIC CONTROL LEGEND

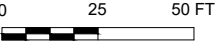
- SIDEWALK CLOSED SIGN MOUNTED TO BARRICADE - (A)(R OR L -REFER NOTE 5)
- SIGN
- CHANNELIZATION DEVICE
- TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR)

TRAFFIC CONTROL LAYOUT

STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO.	TOTAL SHEETS
		14	45

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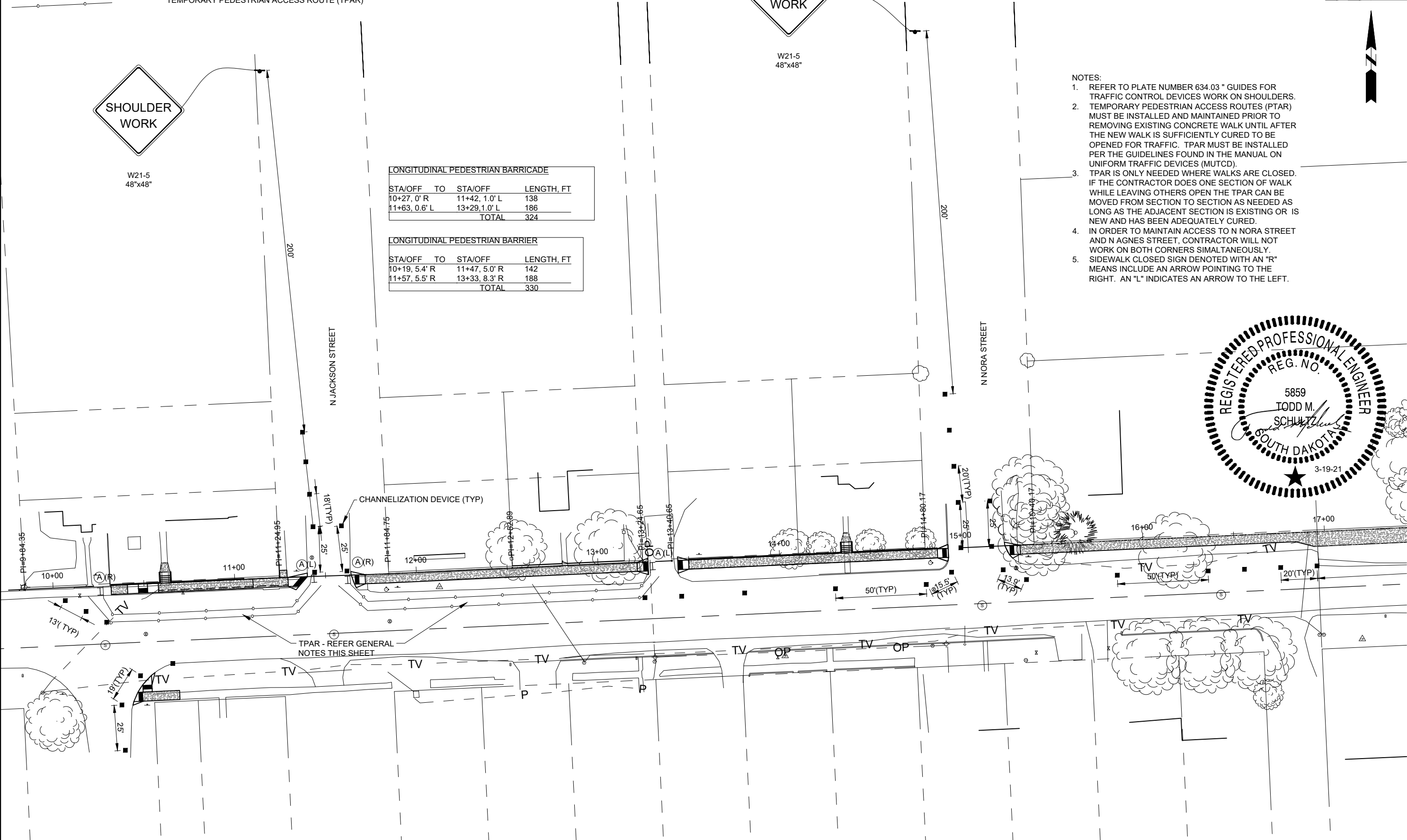
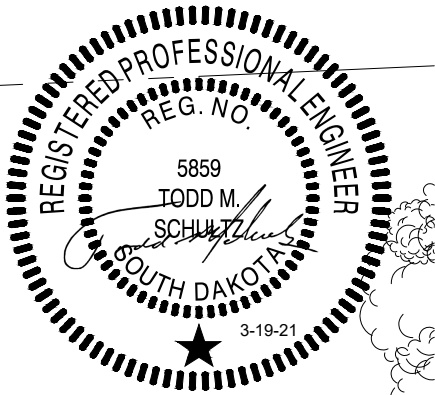
- NOTES:
- REFER TO PLATE NUMBER 634.03 " GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS.
  - TEMPORARY PEDESTRIAN ACCESS ROUTES (TPAR) MUST BE INSTALLED AND MAINTAINED PRIOR TO REMOVING EXISTING CONCRETE WALK UNTIL AFTER THE NEW WALK IS SUFFICIENTLY CURED TO BE OPENED FOR TRAFFIC. TPAR MUST BE INSTALLED PER THE GUIDELINES FOUND IN THE MANUAL ON UNIFORM TRAFFIC DEVICES (MUTCD).
  - TPAR IS ONLY NEEDED WHERE WALKS ARE CLOSED. IF THE CONTRACTOR DOES ONE SECTION OF WALK WHILE LEAVING OTHERS OPEN THE TPAR CAN BE MOVED FROM SECTION TO SECTION AS NEEDED AS LONG AS THE ADJACENT SECTION IS EXISTING OR IS NEW AND HAS BEEN ADEQUATELY CURED.
  - IN ORDER TO MAINTAIN ACCESS TO N NORA STREET AND N AGNES STREET, CONTRACTOR WILL NOT WORK ON BOTH CORNERS SIMULTANEOUSLY.
  - SIDEWALK CLOSED SIGN DENOTED WITH AN "R" MEANS INCLUDE AN ARROW POINTING TO THE RIGHT. AN "L" INDICATES AN ARROW TO THE LEFT.

LONGITUDINAL PEDESTRIAN BARRICADE

STA/OFF	TO	STA/OFF	LENGTH, FT
10+27, 0' R		11+42, 1.0' L	138
11+63, 0.6' L		13+29, 1.0' L	186
TOTAL			324

LONGITUDINAL PEDESTRIAN BARRIER

STA/OFF	TO	STA/OFF	LENGTH, FT
10+19, 5.4' R		11+47, 5.0' R	142
11+57, 5.5' R		13+33, 8.3' R	188
TOTAL			330



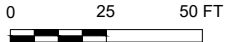


TRAFFIC CONTROL LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	15	45

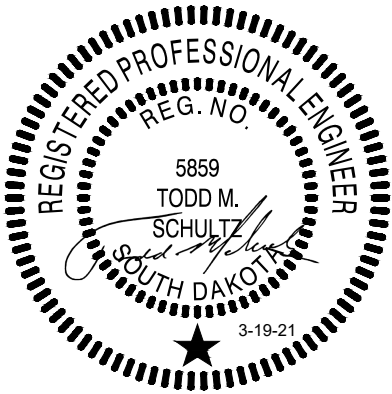
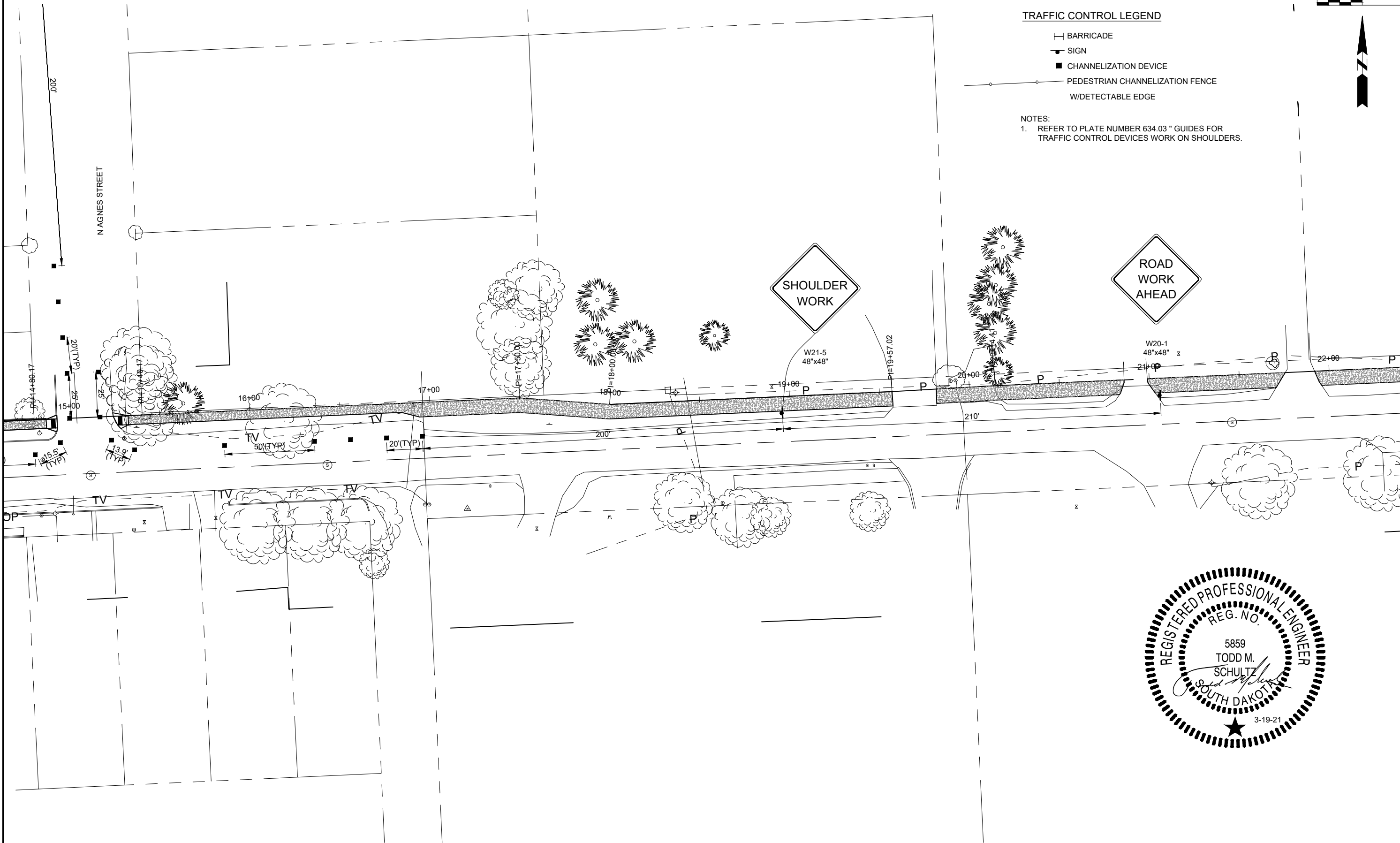
Plotting Date: MARCH 2021 BAI# 23200.00



TRAFFIC CONTROL LEGEND

- BARRICADE
- SIGN
- CHANNELIZATION DEVICE
- PEDESTRIAN CHANNELIZATION FENCE
- W/DETECTABLE EDGE

NOTES:  
1. REFER TO PLATE NUMBER 634.03 " GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS.





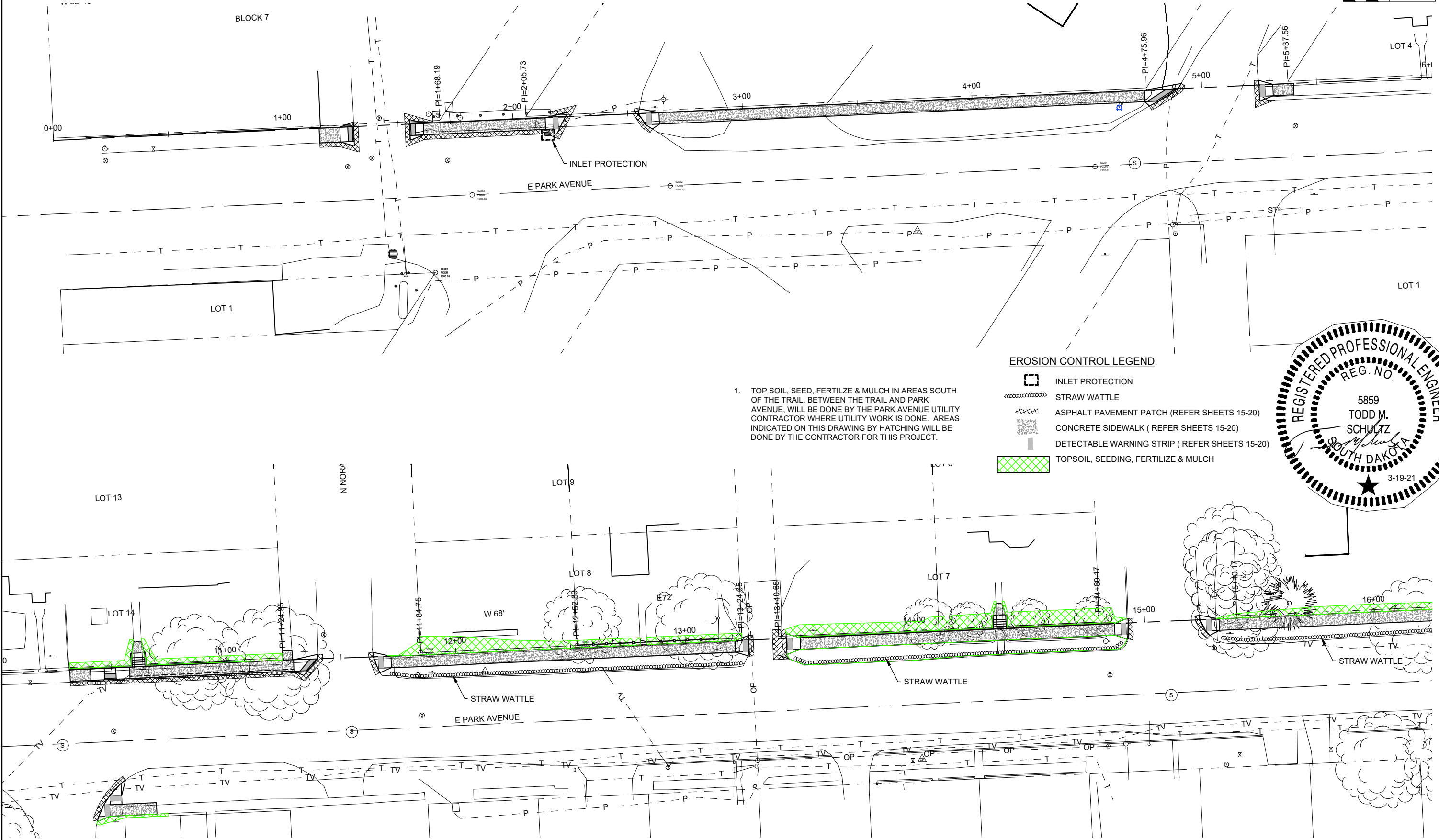
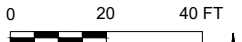
# EROSION CONTROL LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO. 16	TOTAL SHEETS 45
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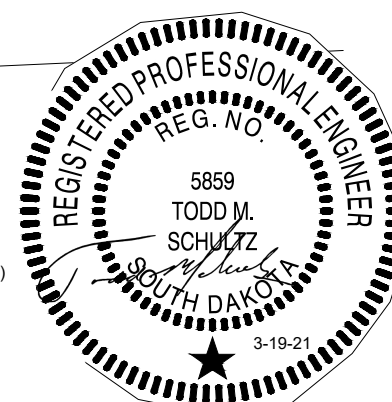
Plotting Date: MARCH 2021  
Revised 04-02-2021

BAI# 23200.00



## EROSION CONTROL LEGEND

- INLET PROTECTION
- STRAW WATTLE
- ASPHALT PAVEMENT PATCH (REFER SHEETS 15-20)
- CONCRETE SIDEWALK (REFER SHEETS 15-20)
- DETECTABLE WARNING STRIP (REFER SHEETS 15-20)
- TOPSOIL, SEEDING, FERTILIZE & MULCH





EROSION CONTROL LAYOUT

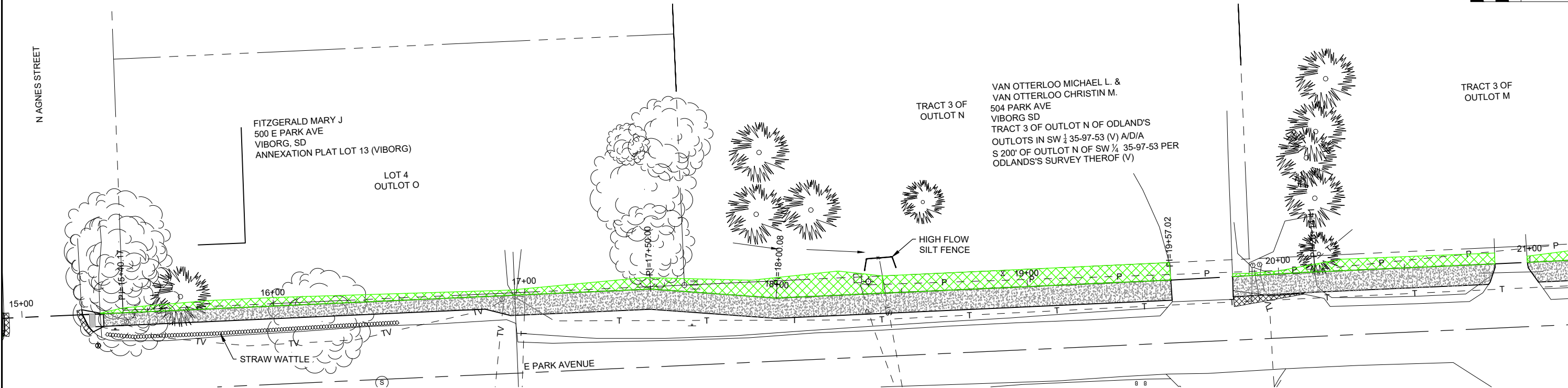
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	17	45

Plotting Date: MARCH 2021  
Revised 04-02-2021

BAI# 23200.00

0 20 40 FT

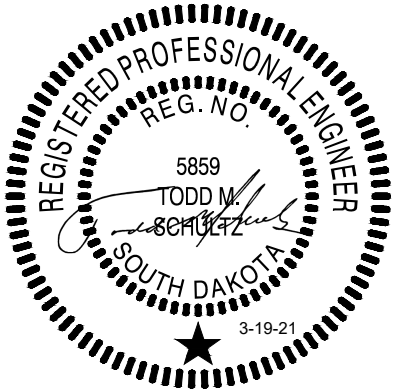


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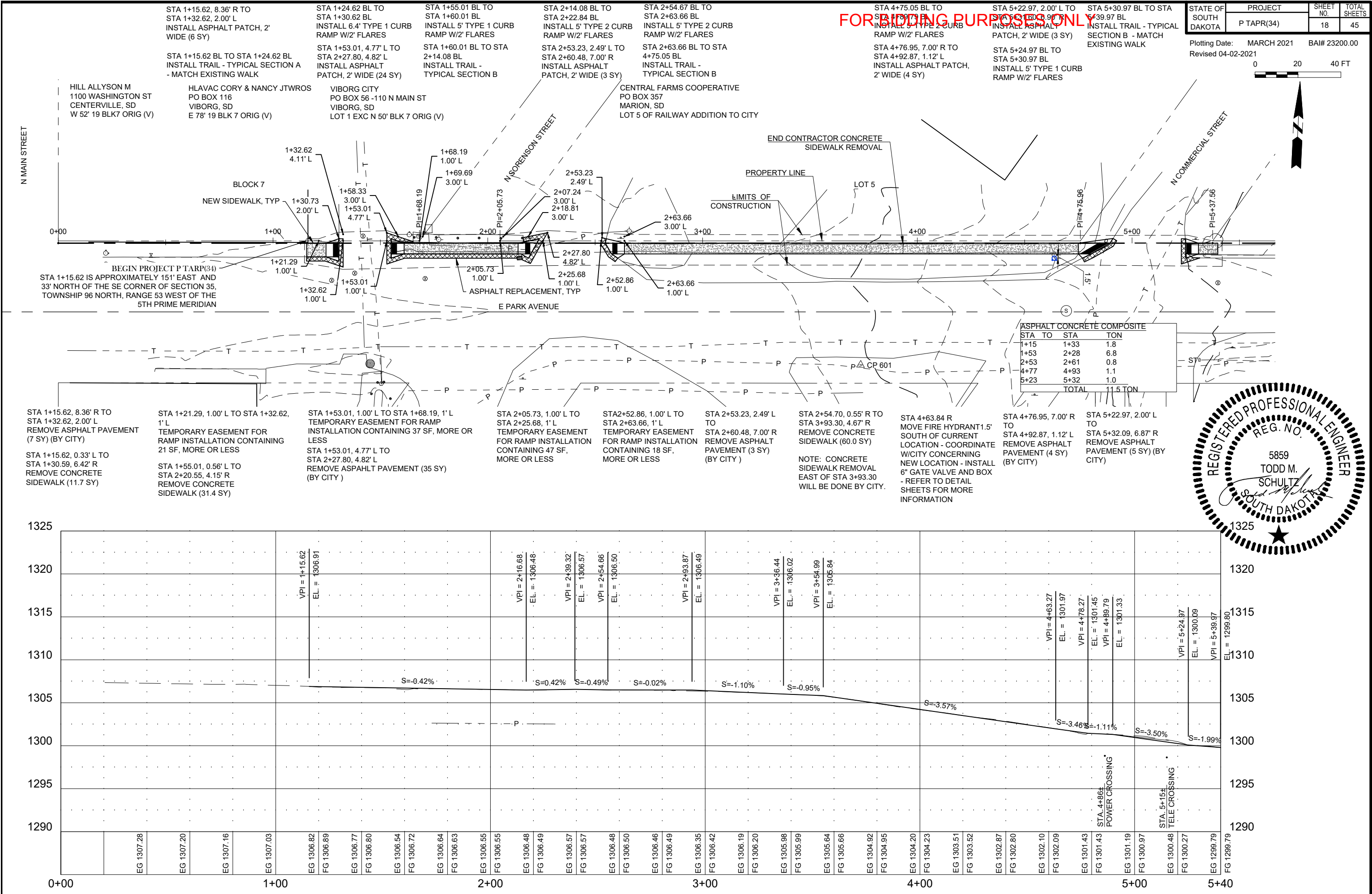
1. TOP SOIL, SEED, FERTILIZE & MULCH IN AREAS SOUTH OF THE TRAIL, BETWEEN THE TRAIL AND PARK AVENUE, WILL BE DONE BY THE PARK AVENUE UTILITY CONTRACTOR WHERE UTILITY WORK IS DONE. AREAS INDICATED ON THIS DRAWING BY HATCHING WILL BE DONE BY THE CONTRACTOR FOR THIS PROJECT.

EROSION CONTROL LEGEND

- INLET PROTECTION
- STRAW WATTLE
- ASPHALT PAVEMENT PATCH (REFER SHEETS 15-20)
- CONCRETE SIDEWALK ( REFER SHEETS 15-20)
- DETECTABLE WARNING STRIP ( REFER SHEETS 15-20)
- TOPSOIL, SEEDING, FERTILIZE & MULCH









STA 10+31.90, 5.00' R TO STA 10+80.00, 7.00' R REMOVE ASPHALT PAVEMENT, 2' WIDE (11 SY) (BY CITY)

STA 10+31.90, 5.00' R TO STA 10+80.00, 7.00' R INSTALL ASPHALT PATCH, 2' WIDE (11 SY)

STA 10+31.91 BL TO STA 10+57.91 BL INSTALL TRAIL - TYPICAL SECTION C - MATCH EXISTING WALK

STA 10+40.91 BL TO STA 10+57.91 BL INSTALL 5' TYPE 3 CURB RAMP W/6' FLARES

STA 10+31.91 BL TO STA 10+80.00 BL INSTALL TRAIL - TYPICAL SECTION D - NO WALL AT CONCRETE STAIRS

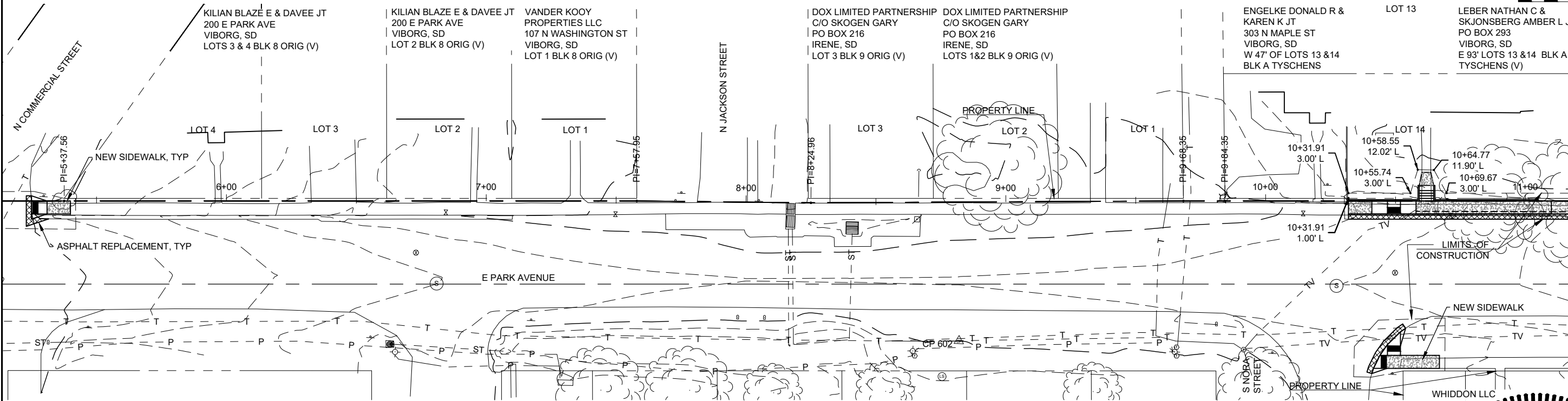
STA 10+61.88, 0.00' L TO STA 10+61.92, 6.00' L INSTALL CONCRETE STAIRWAY IN TYPE C WALLS

STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO.	TOTAL SHEETS
		19	45

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0 20 40 FT



ASPHALT CONCRETE COMPOSITE		
STA TO	STA	TON
10+32	10+80	3.0
10+39	10+56	1.4
TOTAL		4.4 TON

TYPE C RETAINING WALL		
STA TO	STA	SQFT
10+32	10+58	64
10+64	10+80	40
TOTAL		104 SQFT

STA 10+31.91, 1.00' L TO STA 11+24.75, 1.01' L TEMPORARY EASEMENT FOR WALK, WALL & STAIR INSTALLATION CONTAINING 369 SF, MORE OR LESS (REFER NEXT SHEET FOR CONTINUATION)

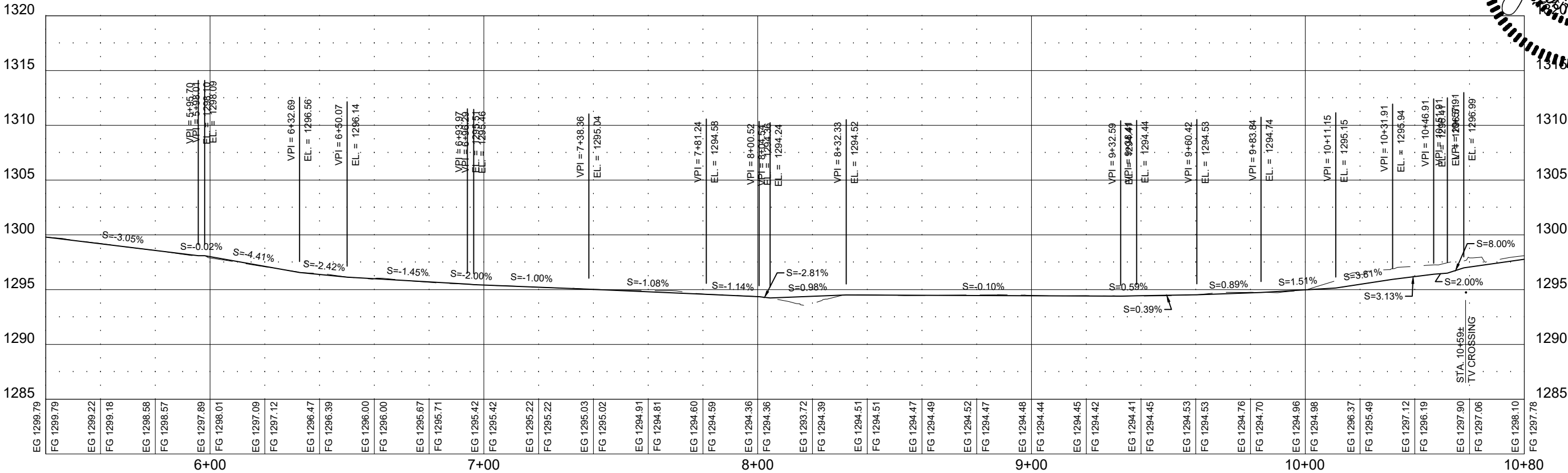
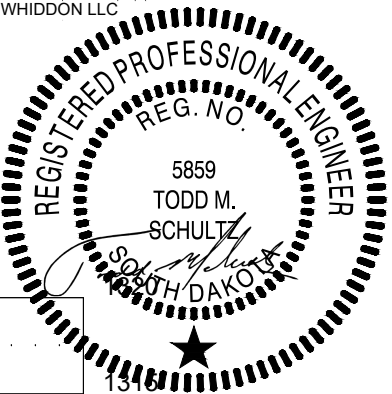
STA 10+38.98, 65.85' R TO STA 10+52.78, 47.34' R REMOVE ASPHALT PAVEMENT, 2' WIDE (5 SY) (BY CITY)

STA 10+38.98, 65.85' R TO STA 10+52.78, 47.34' R INSTALL ASPHALT PATCH, 2' WIDE (5 SY)

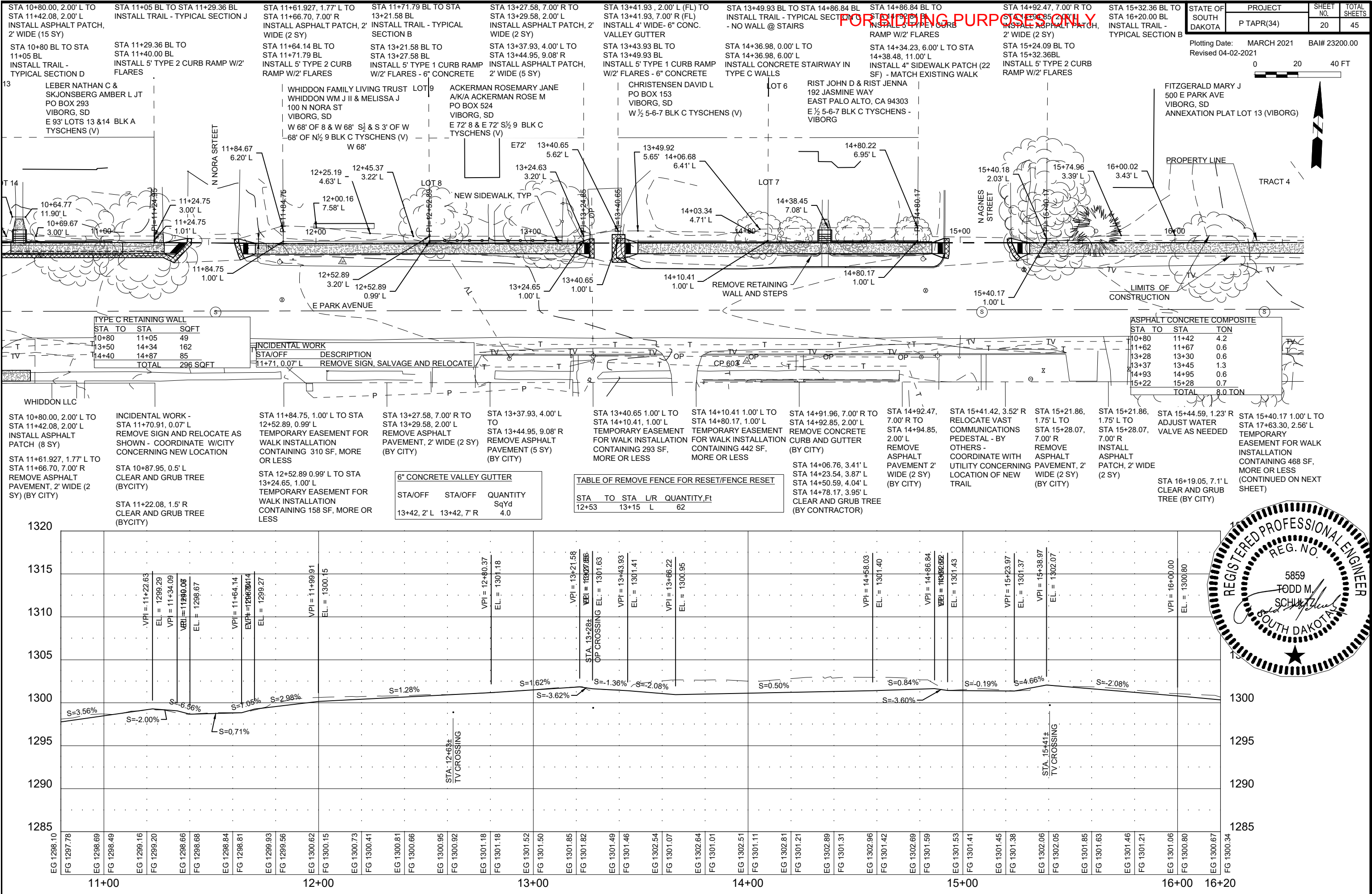
STA 10+41.51, 64.44' R TO STA 10+46.51, 59.44' R INSTALL 5' TYPE 2 CURB RAMP W/2' FLARE S - SHARE N FLARE WITH ADJACENT RAMP

STA 10+46.91, 59.44' R TO STA 10+51.91, 50.42' R INSTALL 5' TYPE 2 CURB RAMP W/2' FLARE E - SHARE W FLARE WITH ADJACENT RAMP

STA 10+46.98, 59.42' R TO STA 10+66.91, 64.42' R INSTALL TRAIL - TYPICAL SECTION F - SLOPE TOWARDS STREET









STA 16+20 BL TO STA  
16+83.97 BL  
INSTALL TRAIL -  
TYPICAL SECTION B

STA 16+83.97 BL TO  
STA 16+93.97 BL  
TAPER TRAIL FROM  
TYPICAL SECTION B  
TO TYPICAL  
SECTION G

STA 16+93.97 BL TO  
STA 19+57.02 BL  
INSTALL TRAIL -  
TYPICAL SECTION G

ASPHALT CONCRETE COMPOSITE		
STA	TO STA	TON
19+82	20+10	2.0
TOTAL		2.0 TON

STA 19+81.65, 11.97'R  
TO  
STA 20+09.57, 8.00" R  
INSTALL ASPHALT  
PATCH, WIDTH  
VARIES (7 SY)

STA 19+81.65 BL TO  
STA 20+85.00 BL  
INSTALL TRAIL -  
TYPICAL SECTION G

STA 20+98.92 BL TO  
STA 21+60.00 BL  
INSTALL TRAIL -  
TYPICAL SECTION G

STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO.	TOTAL SHEETS
		21	45

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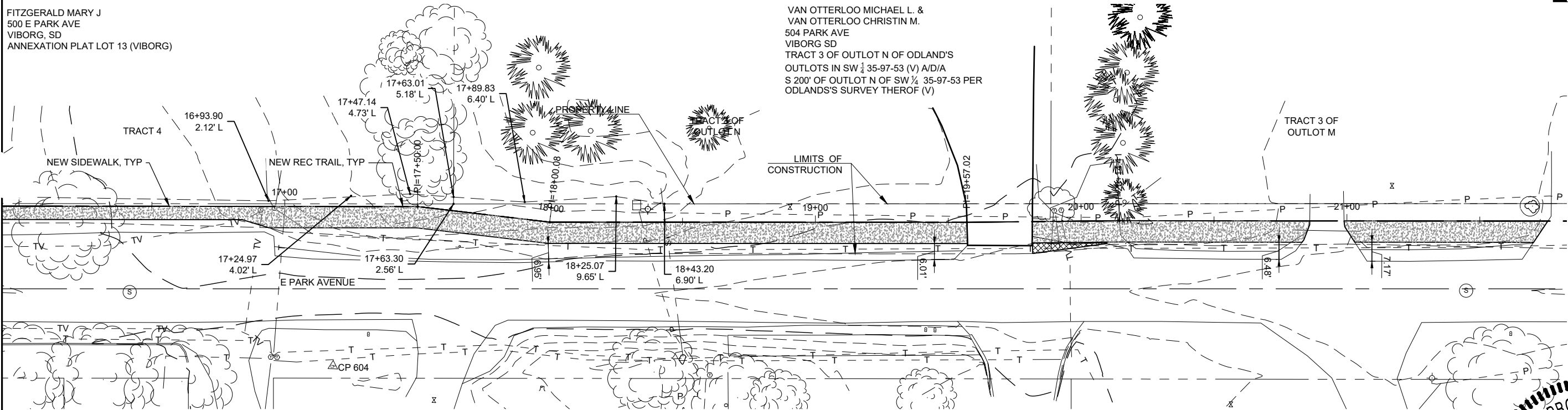
BAI# 23200.00

0 20 40 FT



FITZGERALD MARY J  
500 E PARK AVE  
VIBORG, SD  
ANNEXATION PLAT LOT 13 (VIBORG)

VAN OTTERLOO MICHAEL L. &  
VAN OTTERLOO CHRISTIN M.  
504 PARK AVE  
VIBORG SD  
TRACT 3 OF OUTLOT N OF ODLAND'S  
OUTLOTS IN SW 1/4 35-97-53 (V) A/D/A  
S 200' OF OUTLOT N OF SW 1/4 35-97-53 PER  
ODLAND'S SURVEY THEROF (V)

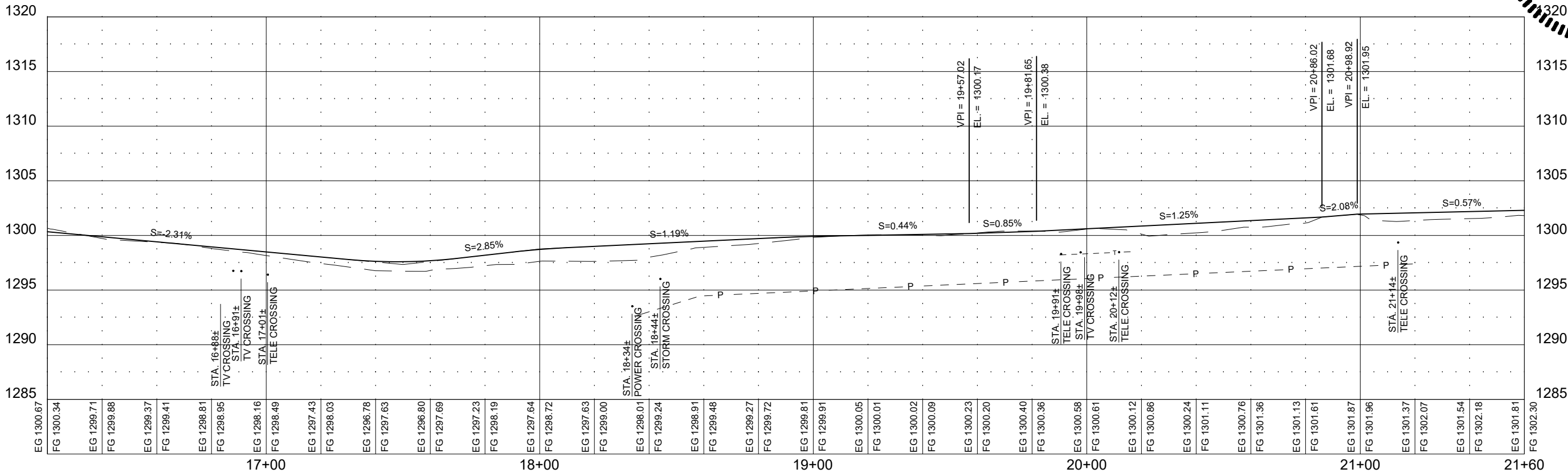
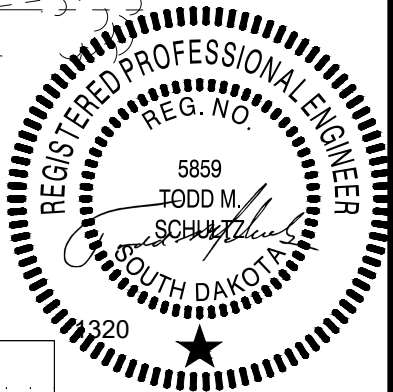


STA 16+90.90, 1.30' R  
RELOCATE COMMUNICATION PEDESTAL - FT  
RANDALL TELEPHONE - BY OTHERS - COORDINATE  
WITH UTILITY CONCERNING TRAIL LOCATION

STA 16+96.12, 0.66' R  
RELOCATE COMMUNICATION PEDESTAL - VAST  
- BY OTHERS - COORDINATE WITH UTILITY  
CONCERNING TRAIL LOCATION

STA 17+63.30, 2.56' L TO  
STA 18+43.20, 6.90' L  
TEMPORARY EASEMENT  
FOR TRAIL INSTALLATION  
CONTAINING 129 SF,  
MORE OR LESS

STA 19+81.65, 11.97'R  
TO  
STA 20+09.57, 8.00' R  
REMOVE ASPHALT  
PAVEMENT, WIDTH  
VARIES (7 SY)  
(BY OTHERS)





STA 21+60.00 BL TO  
STA 21+75.60 BL  
INSTALL TRAIL -  
TYPICAL SECTION G

STA 21+91.95 BL TO  
STA 23+53.52 BL  
INSTALL TRAIL -  
TYPICAL SECTION G

STA 23+77.38 BL TO  
STA 27+00.00 BL  
INSTALL TRAIL -  
TYPICAL SECTION G

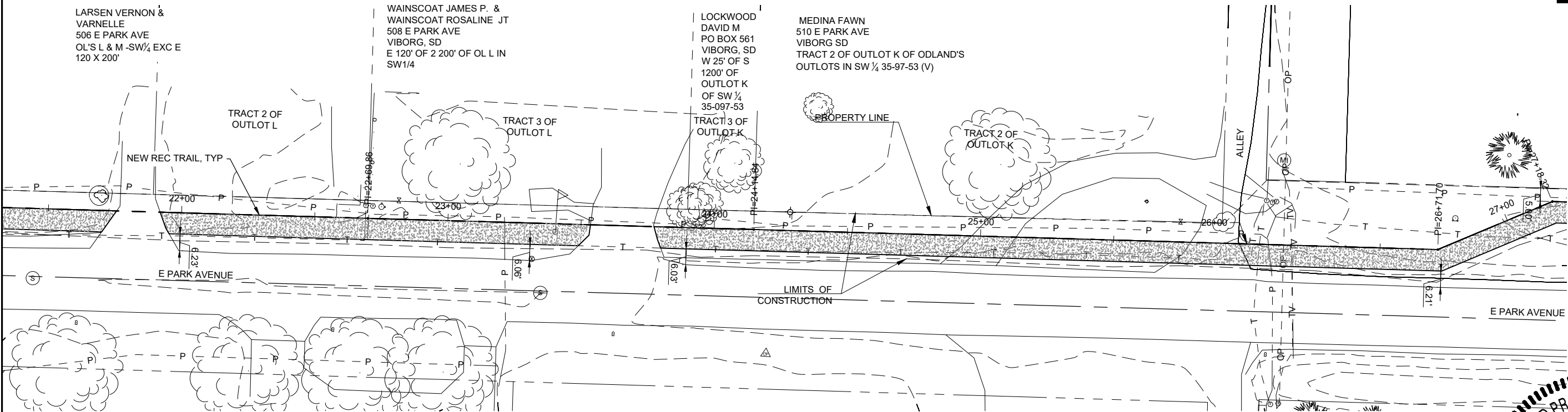
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STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO.	TOTAL SHEETS
		22	45

Plotting Date: MARCH 2021  
Revised 04-02-2021

BAI# 23200.00

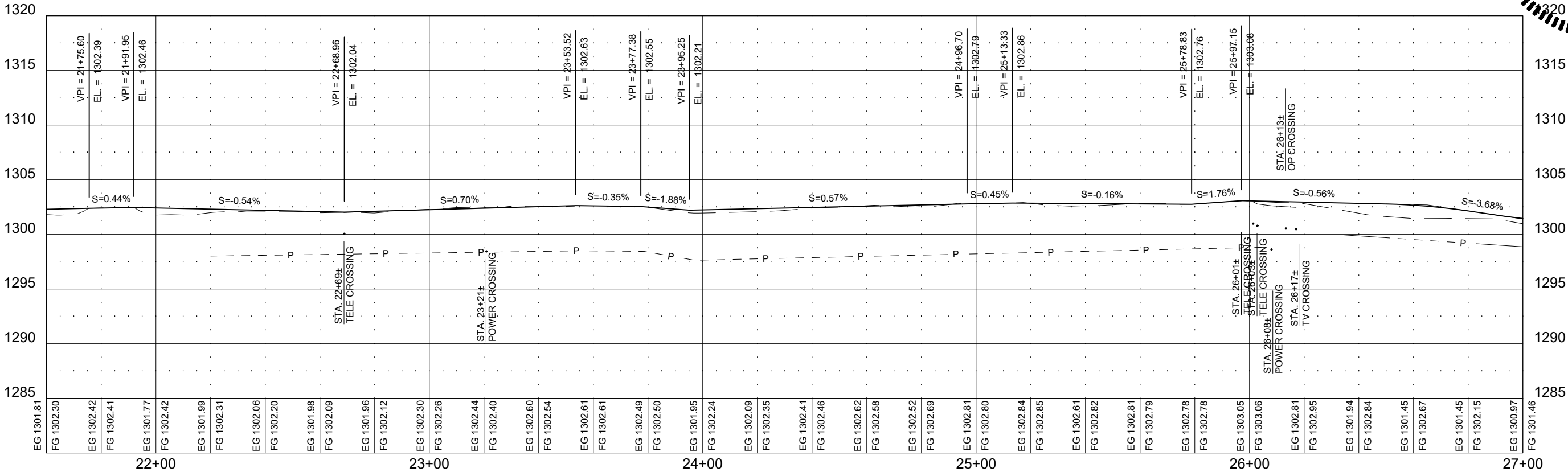
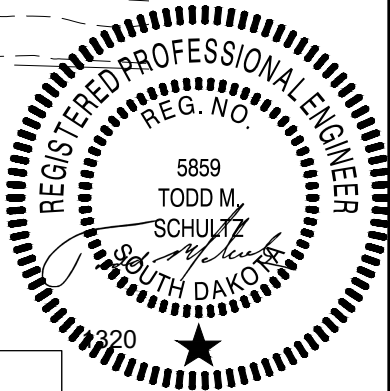
0 20 40 FT



INCIDENTAL WORK  
STA 23+40.04, 8.87' R  
RELOCATE FLAG POLE -  
COORDINATE NEW  
LOCATION WITH LAND  
OWNER. REFER TO  
FLAGPOLE RELOCATION  
NOTE THIS SHEET.

STA/OFF	DESCRIPTION
23+40, 8.87' R	REMOVE FLAGPOLE, SALVAGE AND RELOCATE

- FLAGPOLE RELOCATION NOTES - INCIDENTAL WORK:
- FOR THIS ITEM, CONTRACTOR WILL REMOVE THE FLAGPOLE FROM ITS CURRENT LOCATION, REMOVE EXISTING FOUNDATION CONCRETE AND RE-INSTALL AT LOCATION DESIGNATED BY PROPERTY OWNER USING A CONCRETE FOUNDATION EQUAL TO THE EXISTING FOUNDATION.
  - FLAG POLE ASSUMED TO BE 20' TALL WITH A FOUNDATION WIDTH OF APPROXIMATELY 24 INCHES AND A DEPTH OF APPROXIMATELY 30 INCHES.
  - TYPICAL FOUNDATION DETAILS CAN BE FOUND AT [www.concordamericanflagpole.com/resource/design/flagpole-height-flag-size](http://www.concordamericanflagpole.com/resource/design/flagpole-height-flag-size) OR OTHER FLAGPOLE MANUFACTURER WEBSITES.





STA 27+00 BL TO STA  
27+99.33 BL  
INSTALL TRAIL -  
TYPICAL SECTION H

STA 28+29.93 BL TO  
STA 30+31.60 BL  
INSTALL TRAIL -  
TYPICAL SECTION H

STA 30+31.60 BL  
TO  
STA 30+38.68 BL  
INSTALL 8' TYPE1  
CURB RAMP W/2'  
FLARES

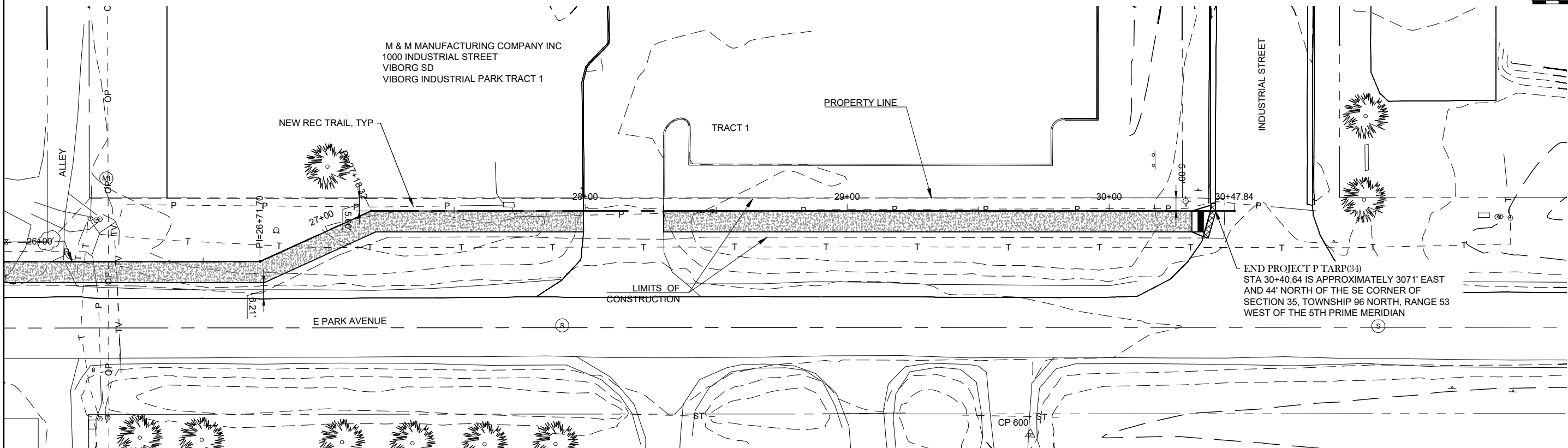
STA 30+35.92, 9.77' R  
TO  
STA 30+40.57, 2.95' L  
INSTALL ASPHALT  
PATCH, 2' WIDTH (3  
SY)

ASPHALT/CONCRETE COMPOSITE		
STA TO STA	TON	
30+36	30+41	0.8
TOTAL		0.8 TON

STATE OF SOUTH DAKOTA	PROJECT P TAPR(34)	SHEET NO.	TOTAL SHEETS
		23	45

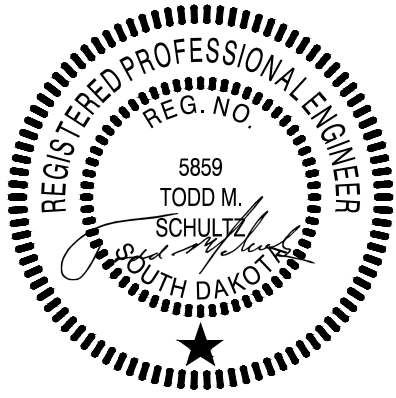
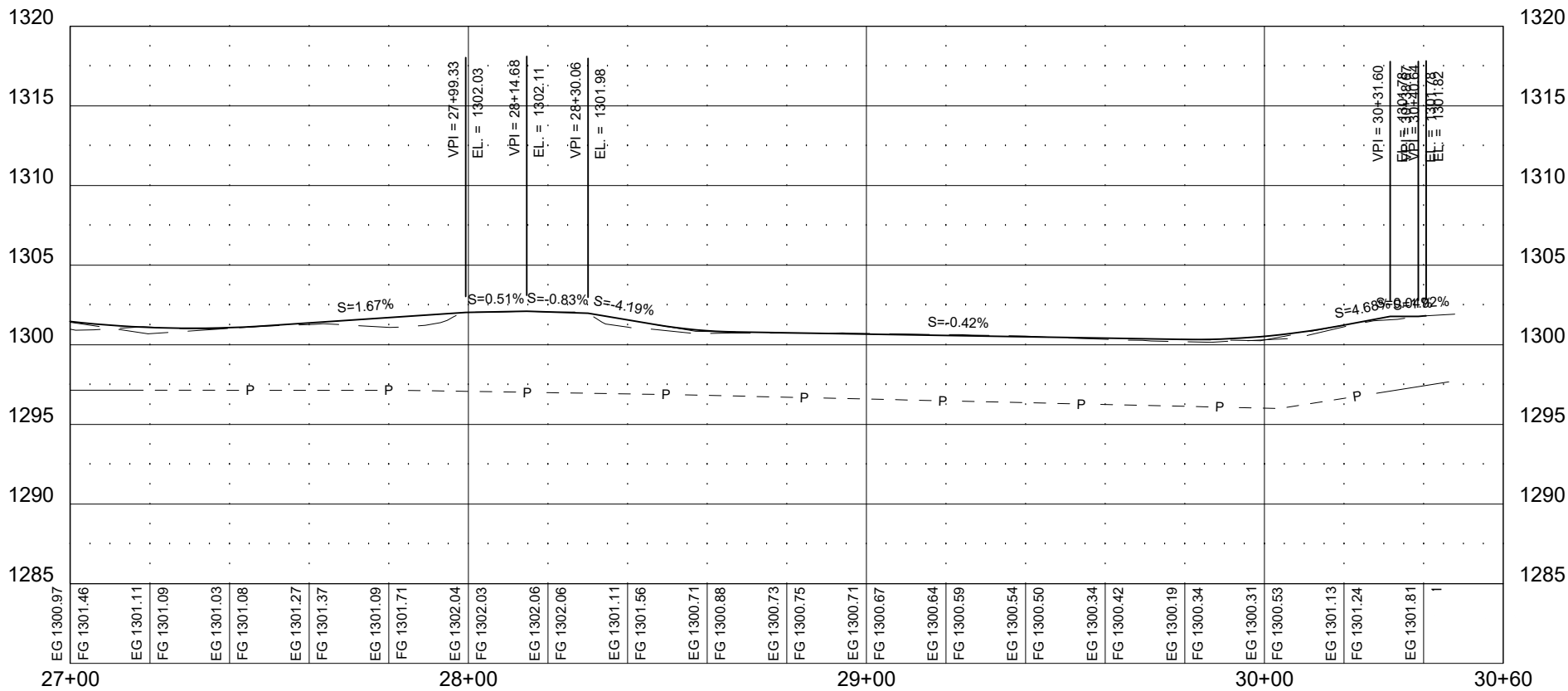
Plotting Date: MARCH 2021 BAI# 23200.00  
Revised 04-02-2021

0 20 40 FT



END PROJECT P TARP(34)  
STA 30+40.64 IS APPROXIMATELY 3071' EAST  
AND 44' NORTH OF THE SE CORNER OF  
SECTION 35, TOWNSHIP 96 NORTH, RANGE 53  
WEST OF THE 5TH PRIME MERIDIAN

STA 30+35.92, 9.77' R  
TO  
STA 30+40.57, 2.95' L  
REMOVE ASPHALT  
PAVEMENT, 2' WIDTH  
(3 SY) (BY OTHERS)





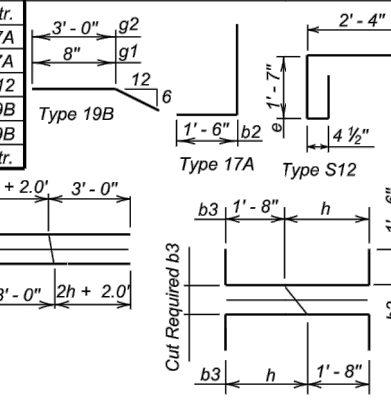
GENERAL NOTES:

- All concrete shall be Class M6 in accordance with Section 462.
- All reinforcing steel shall be epoxy coated and shall conform to ASTM A615, Grade 60. Epoxy coating shall conform to ASTM A775.
- Use 2 inch clear cover on all reinforcing steel except as shown.
- All concrete shall be thoroughly tamped and spaded against forms to leave a smooth surface without honeycomb. Finish of step treads to be steel troweled and then brush finished with brush strokes on treads at right angles to width. All exposed edges shall be chamfered 3/4 inch except as shown.
- Place concrete on undisturbed soil. If backfilling is necessary, compact with mechanical tampers to the satisfaction of the Engineer.
- The concrete sidewalk shall be constructed in accordance with Section 651.
- Cost of the double thickness of 1/2 inch Preformed Expansion Joint Filler shall be incidental to the contract unit price per cubic yard for "Class M6 Concrete".

SPECIAL NOTE:

Details for construction of the concrete stairway and handrails shown on sheet 2 of 2 are typical only, and are not intended to depict specific installations. Adjust the length of the stairway as required to fit specific site requirements. Use the formulas given on this sheet to adjust the unit price bid quantities to the required length of the stairway. Refer to project plans for requirements of individual locations. Alternate design details may be submitted through proper channels to the Office of Bridge Design for approval, including aluminum handrail installation.

REINFORCING SCHEDULE

Mk.	ΔNo.	Size	Δ Length	Type	Bending Details
b1	★	4	2h + 5	Str.	
b2	6	4	h + 1.67	17A	
b3	6	4	h + 4.67	17A	
e	7	4	5' - 8"	S12	
g1	7	4	1.12w + 2.0	19B	
g2	2	4	1.12w + 3.7	19B	
p	2w + 7	4	6' - 2"	Str.	

★2 bars for h = 0 - 2.0'  
3 bars for h = 2.1' - 3.5'  
4 bars for h = 3.6' - 5.0'

2.67h - 3.33

ESTIMATED QUANTITIES

ITEM	UNIT	Δ QUANTITY
Class M6 Concrete	Cu. Yd.	0.87 + 0.23w + 0.04h <sup>2</sup>
Structure Excavation, Miscellaneous	Cu. Yd.	1.79 + 0.59w + 0.15h <sup>2</sup>
Epoxy Coated Reinforcing Steel	Lb.	∅
Pipe Handrail	Ft.	6.22 + 2.24w
Sidewalk	Sq. Ft.	33

$\emptyset 72.62 + 14.97w + 1.78h^2 + 12.78h$  for h = 0 - 2.0'  
 $75.96 + 14.97w + 1.78h^2 + 14.12h$  for h = 2.1' - 3.5'  
 $79.30 + 14.97w + 1.78h^2 + 15.46h$  for h = 3.6' - 5.0'

Δ w = Number of steps NOT including landings (i. e. w = 9 in Sec. A - A).

August 8, 2014

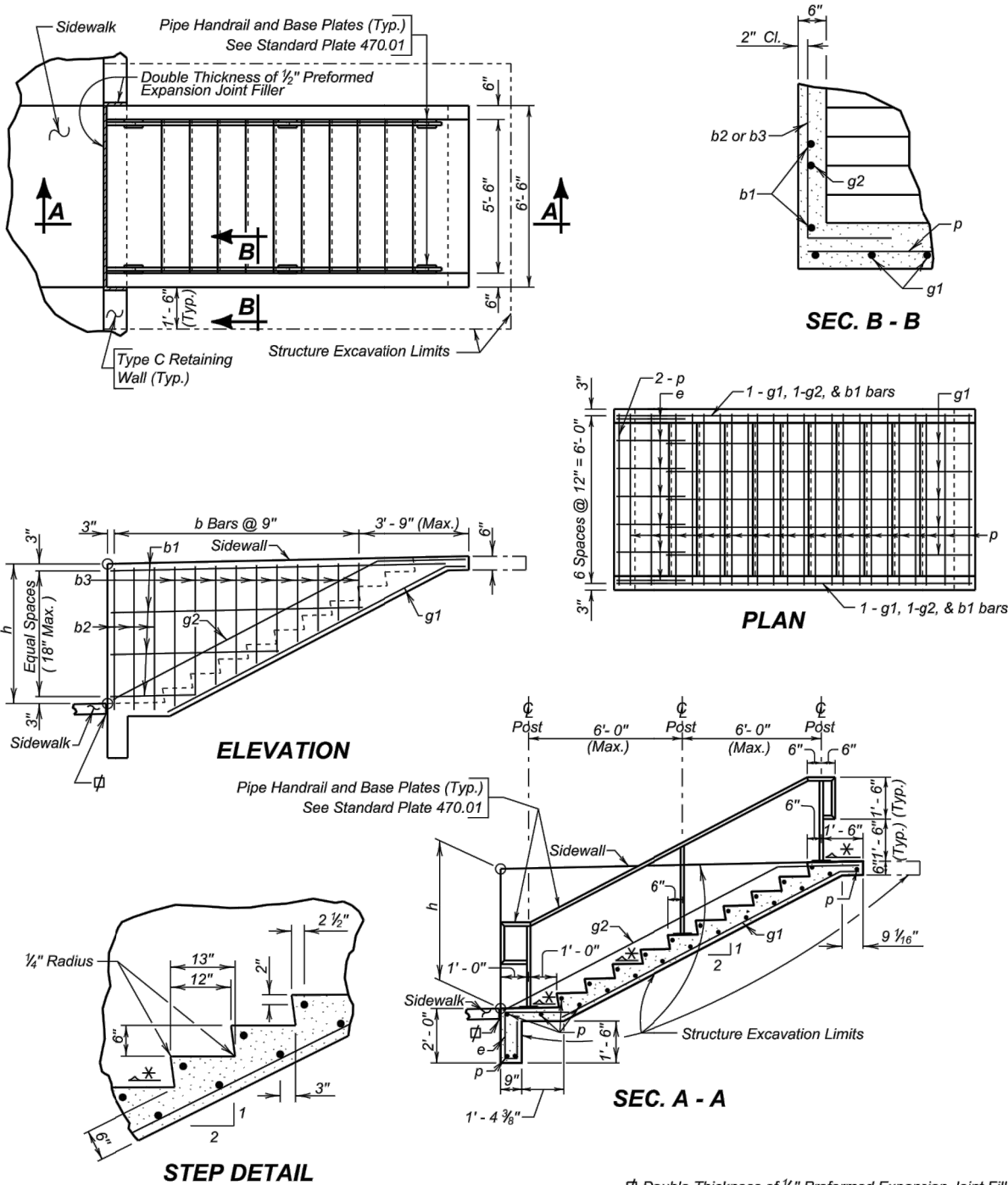
Published Date: 1st Qtr. 2021

S  
D  
D  
O  
T

CONCRETE STAIRWAY FOR  
TYPE C CONCRETE RETAINING WALL

PLATE NUMBER  
460.20

Sheet 1 of 2



∅ Double Thickness of 1/2" Preformed Expansion Joint Filler  
\* Slope 1/4" per foot.

August 8, 2014

Published Date: 1st Qtr. 2021

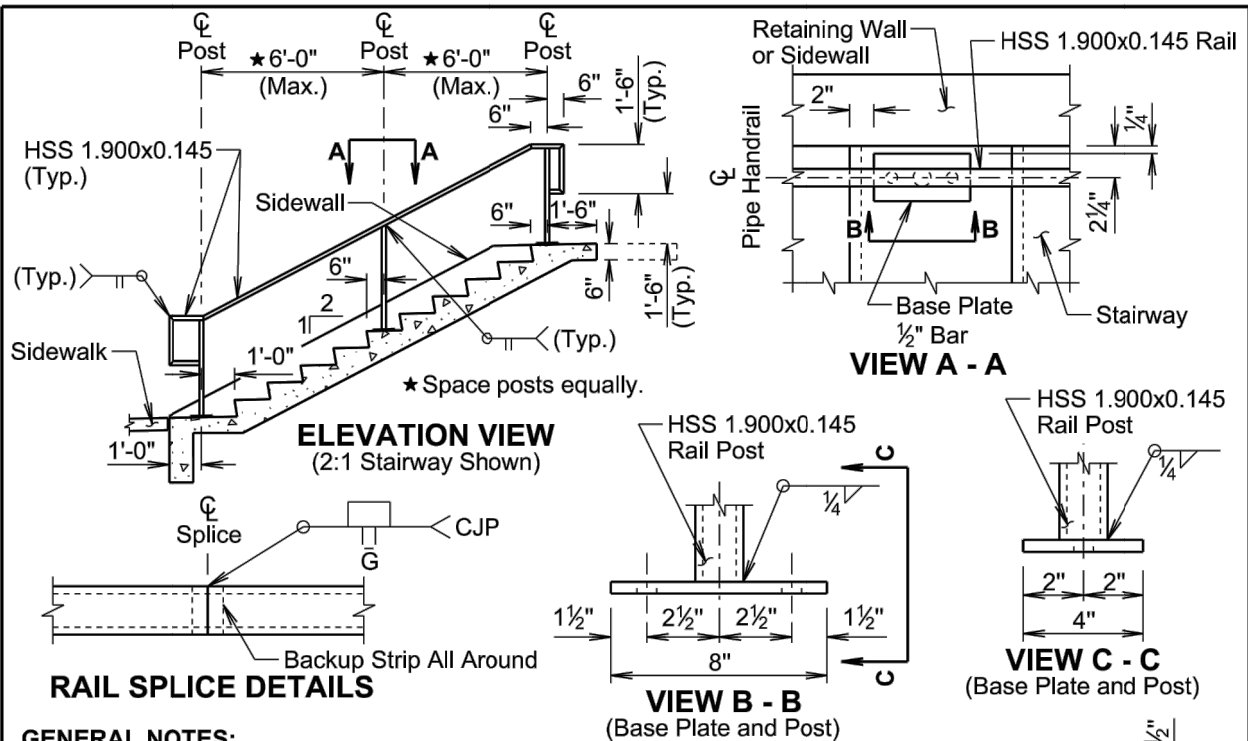
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CONCRETE STAIRWAY FOR  
TYPE C CONCRETE RETAINING WALL

PLATE NUMBER  
460.20

Sheet 2 of 2





**GENERAL NOTES:**

All rail posts will be built vertical.

Steel pipe for railing and posts will conform to ASTM A500, Grade B. Rail post base plates will conform to ASTM A709, Grade 36.

Anchor bolts and nuts will conform to ASTM A307. Washers will be in accordance with ASTM F436. Hardware will be galvanized in accordance with ASTM F2329. Bolts will be hex head structural type with heavy hex lock nuts and round washers.

All anchor bolts will be tightened to a torque of 120 ft-lbs (approximated without the use of a calibrated torque wrench).

Painting of steel railing will be done in accordance with Section 411 of the Specifications. The finish color will be Federal Standard 595B, color 27038 (semi-gloss black) unless stated otherwise in the plans.

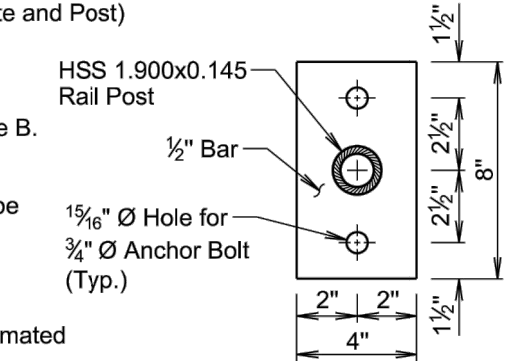
Welding and weld inspection will be done in accordance with AWS D1.1-(Current Year) Structural Welding Code - Steel.

The cost of structural steel, anchor bolts, painting, galvanizing, fabrication, and installation of the pipe handrail will be incidental to welding, weld inspection, and that which is incidental to the contract unit price per foot for "Pipe Handrail".

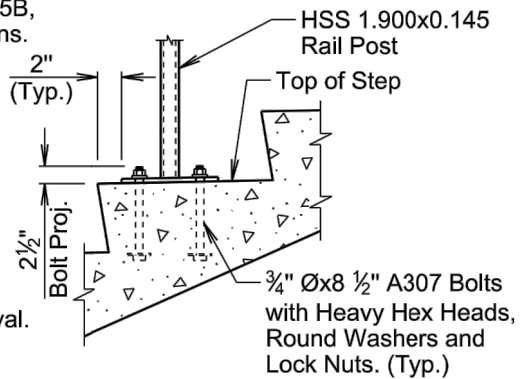
Alternate rail designs, including aluminum rail, may be submitted through proper channels to the Office of Bridge Design for approval.

**SHOP PLANS**

The fabricator will submit shop drawings in accordance with the Specifications.



**BASE PLATE DETAILS**

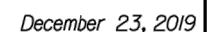
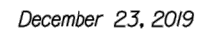


**ANCHOR BOLT DETAIL**

February 14, 2020

<i>Published Date: 1st Qtr. 2021</i>	<b>S D D O T</b>	<b>STAIRWAY HANDRAIL</b>	<b>PLATE NUMBER</b> 470.01
			Sheet 1 of 1

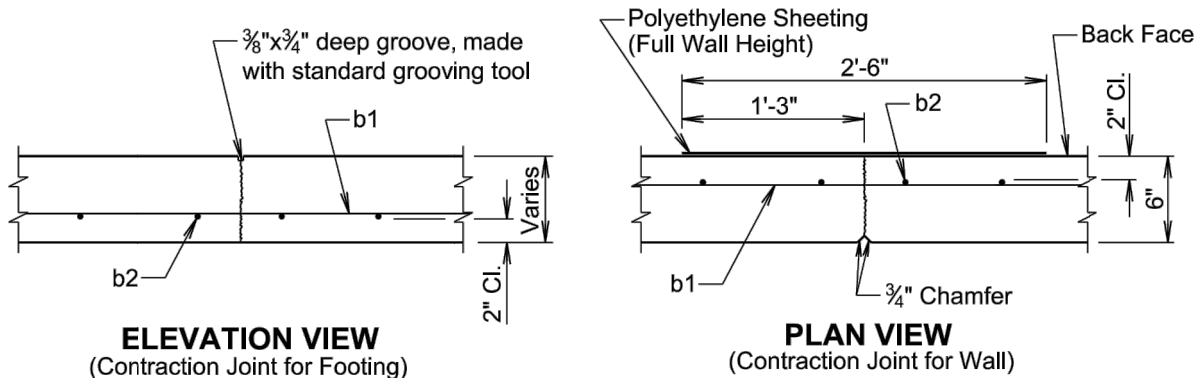






STATE OF SOUTH DAKOTA	PROJECT  P TAPR(34)	SHEET No.	TOTAL SHEETS
		27	45

Plotting Date: MARCH 2021 BAI# 23200.00



**GENERAL NOTES:**

The type C concrete retaining wall will be placed adjacent to pavement or curb and gutter as shown in section D-D on sheet 1 of 3.

★ The sidewalk width of the type C concrete retaining wall will not be wider than 8 feet or narrower than 5 feet. See plans for specified width.

In the areas where the retaining wall footing is to be placed, a 2-inch thickness of cushion material will be placed and compacted. The cushion material will conform to Section 651.2 C of the Specifications.

All concrete will be Class M6 and conform to Section 462 of the Specifications.

All reinforcing steel will be epoxy coated and will conform to ASTM A615, Grade 60. The smooth bar may conform to ASTM A615, Grade 40. The epoxy coating will conform to ASTM A775.

For variable height walls, the top b1 bar will be placed parallel to the top of the wall.

The b1 bars will be lapped a minimum of 12 inches.

A 3/4 inch chamfer will be provided on all exposed retaining wall edges.

Use Detail B on sheet 2 of 3 for constructing corners in the retaining wall.

The maximum expansion joint spacing will be 90 feet and the maximum contraction joint spacing will be 30 feet. The contraction and expansion joints will be placed to match pavement or curb joints where possible.

The exposed retaining wall surfaces will receive a finish in accordance with 460.3 L of the Specifications. The exposed surface of the retaining wall footing, when used as a sidewalk, will receive a broom finish.

The type C concrete retaining wall will be measured to the nearest square foot of front face area of the wall. The front face area of the footing is excluded from the measurement.

All costs for excavation, furnishing and placing backfill and cushion material, labor, equipment, preformed expansion joint filler, all reinforcing steel including the smooth bars, and all concrete except in the areas of PCC driveway and approach pavement, will be incidental to the contract unit price per square foot for "Type C Concrete Retaining Wall".

The concrete used for the retaining wall footing that extends into the approach and/or driveway pavement will be paid for at the contract unit price per square yard for the corresponding "PCC Approach Pavement" and/or "PCC Driveway Pavement" contract items.

December 23, 2019

Published Date: 1st Qtr. 2021

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TYPE C CONCRETE RETAINING WALL

PLATE NUMBER  
530.01

Sheet 3 of 3



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

END ROAD WORK G20-2

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

WORK SPACE

SHOULDER WORK W21-5

ROAD WORK AHEAD W20-1

END ROAD WORK G20-2

June 3, 2016

**SD DOT**

**GUIDES FOR TRAFFIC CONTROL DEVICES  
WORK ON SHOULDERS**

PLATE NUMBER  
634.03

Sheet 1 of 1

Published Date: 1st Qtr. 2021

Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs, as needed.

Signs may be placed along a temporary diversion to guide or direct pedestrians. Examples include KEEP RIGHT and KEEP LEFT signs.

Additional advance warning may be necessary.

For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing sidewalks. Type C steady-burn lights may be used on channelizing devices separating the temporary pedestrian diversion from vehicular traffic.

Street lighting should be considered.

Longitudinal Pedestrian Barricade and

PEDESTRIAN DETOUR

PEDESTRIAN DIVERSION

September 14, 2016

**SD DOT**

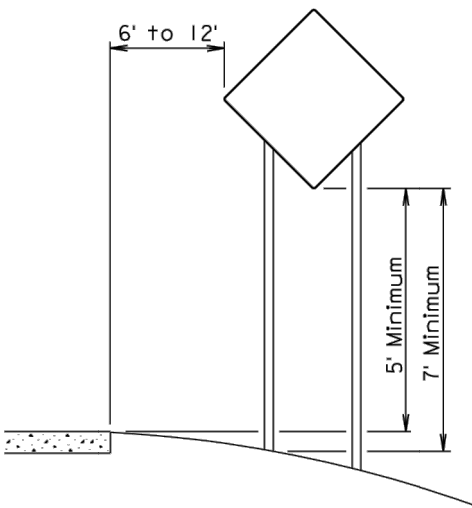
**GUIDES FOR TRAFFIC CONTROL DEVICES  
PEDESTRIAN DETOUR AND  
PEDESTRIAN DIVERSION**

PLATE NUMBER  
634.34

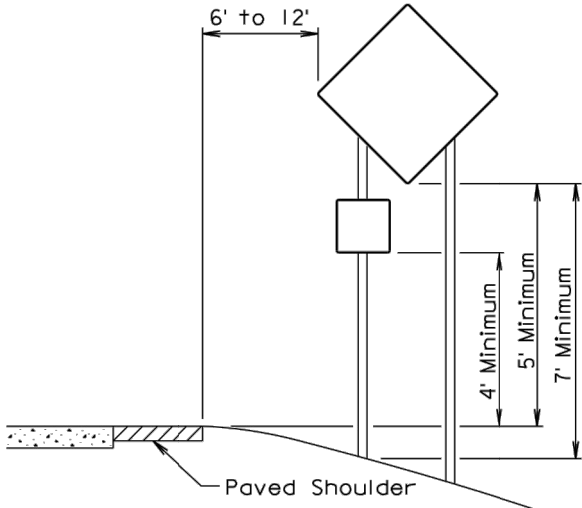
Sheet 1 of 1

Published Date: 1st Qtr. 2021

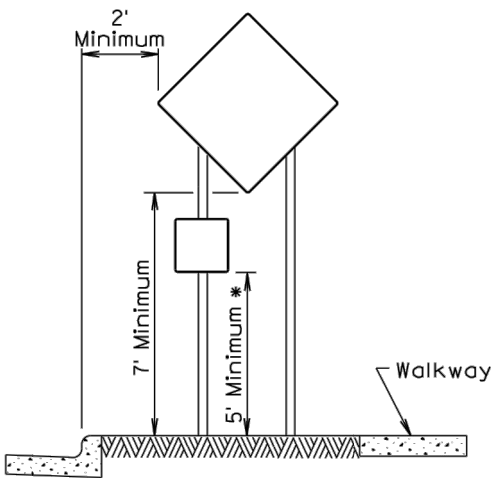




RURAL DISTRICT

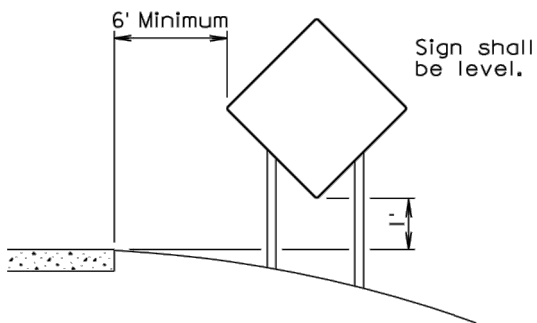


RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT

\* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



RURAL DISTRICT  
3 DAY MAXIMUM  
(Not applicable to regulatory signs)

September 22, 2014

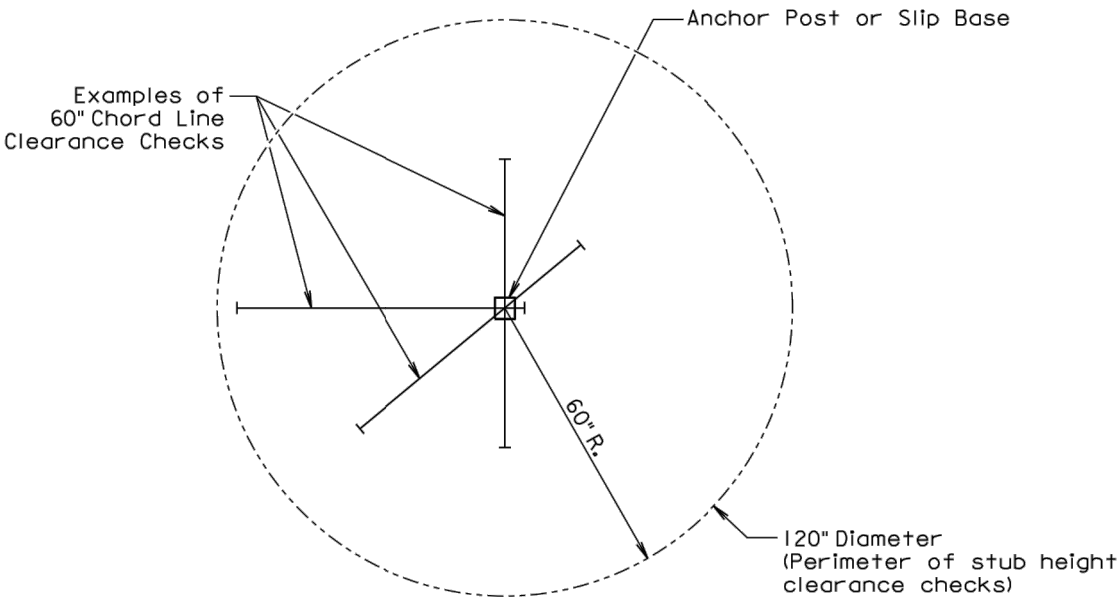
Published Date: 1st Qtr. 2021

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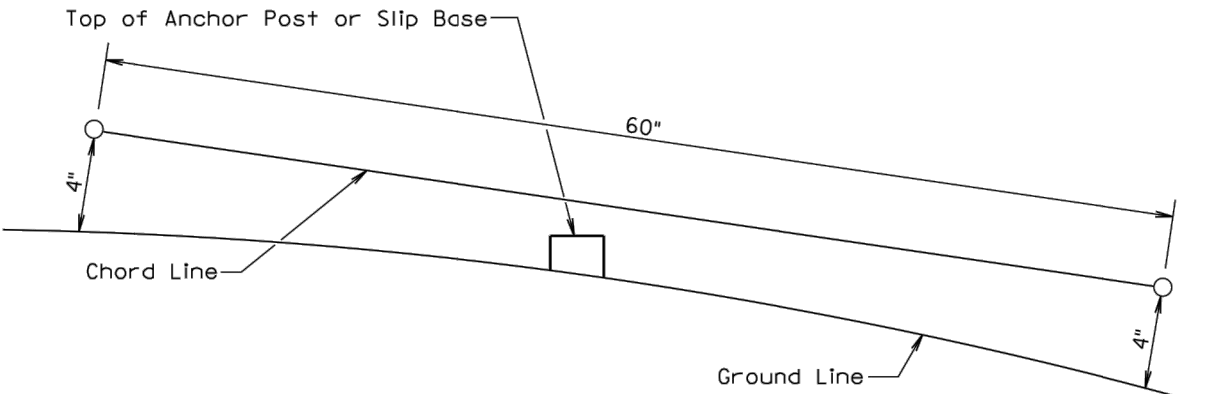
CRASHWORTHY SIGN SUPPORTS  
(Typical Construction Signing)

PLATE NUMBER  
634.85

Sheet 1 of 1



PLAN VIEW  
(Examples of stub height clearance checks)



ELEVATION VIEW

**GENERAL NOTES:**  
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.  
At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.  
The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 1st Qtr. 2021

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BREAKAWAY SUPPORT STUB CLEARANCE

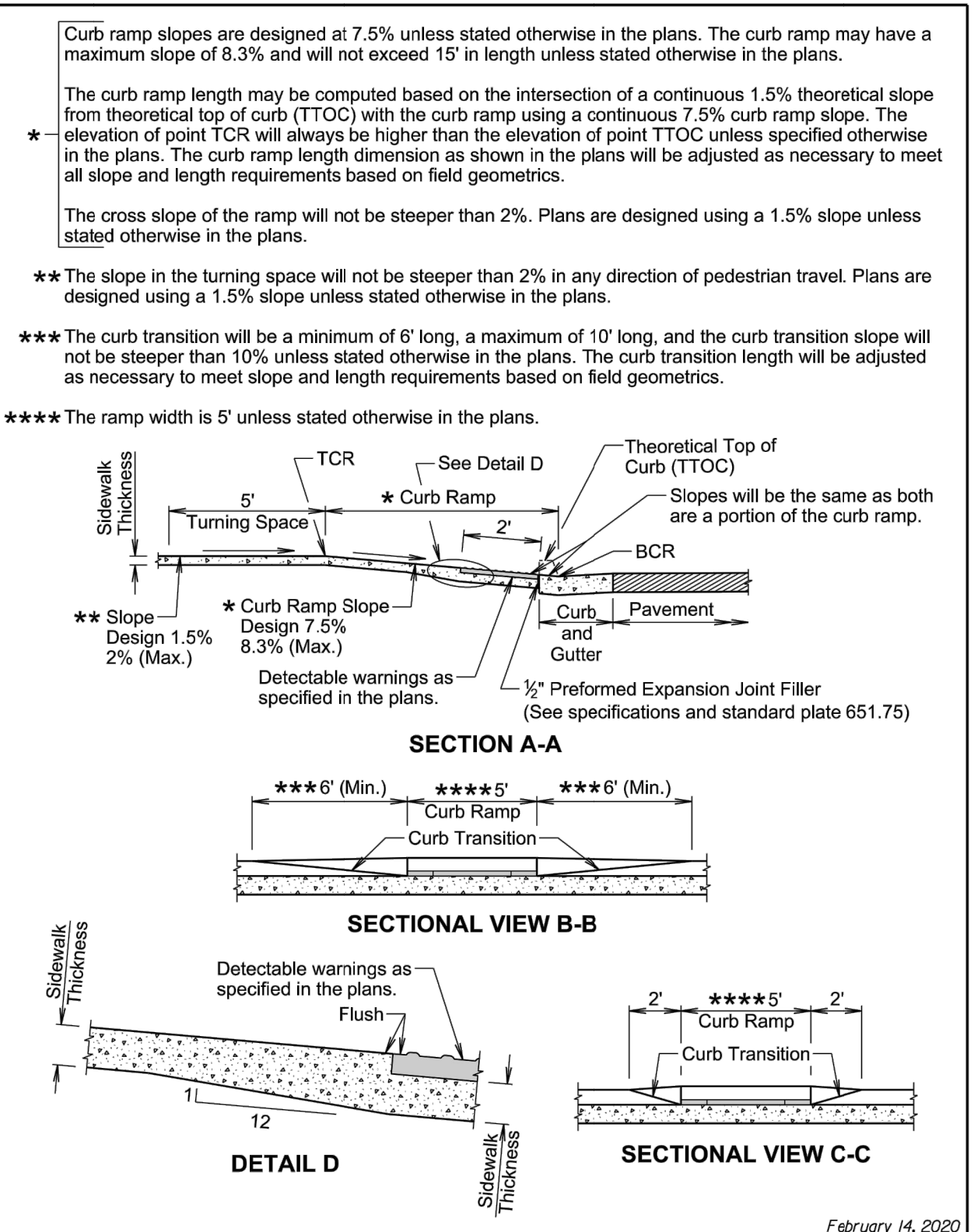
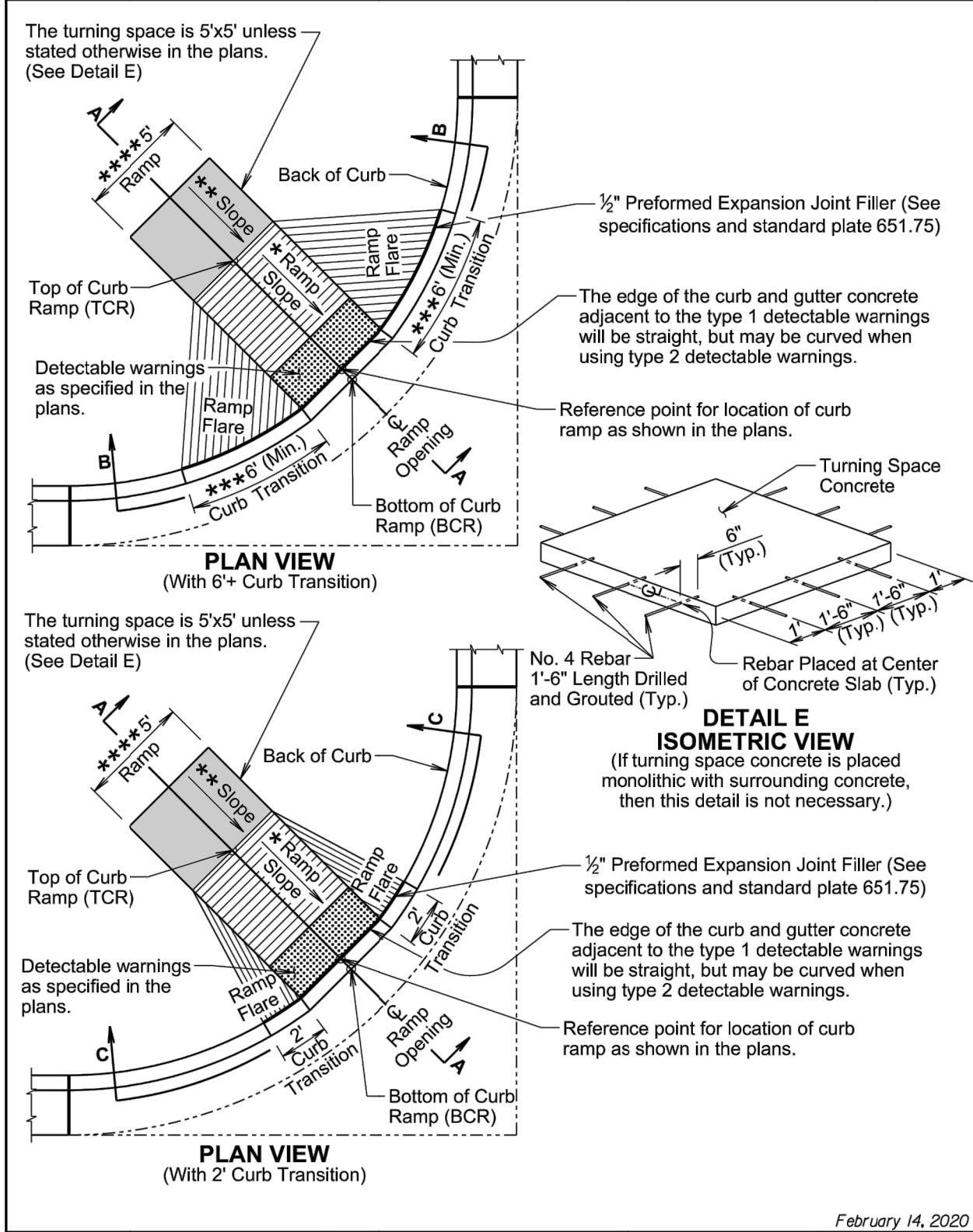
PLATE NUMBER  
634.99

Sheet 1 of 1











STATE OF	PROJECT	SHEET	TOTAL
SOUTH		No.	SHEETS
DAKOTA	P TAPR(34)	32	45

Plotting Date: MARCH 2021 BAI# 23200.00  
Revised 04-02-2021

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.

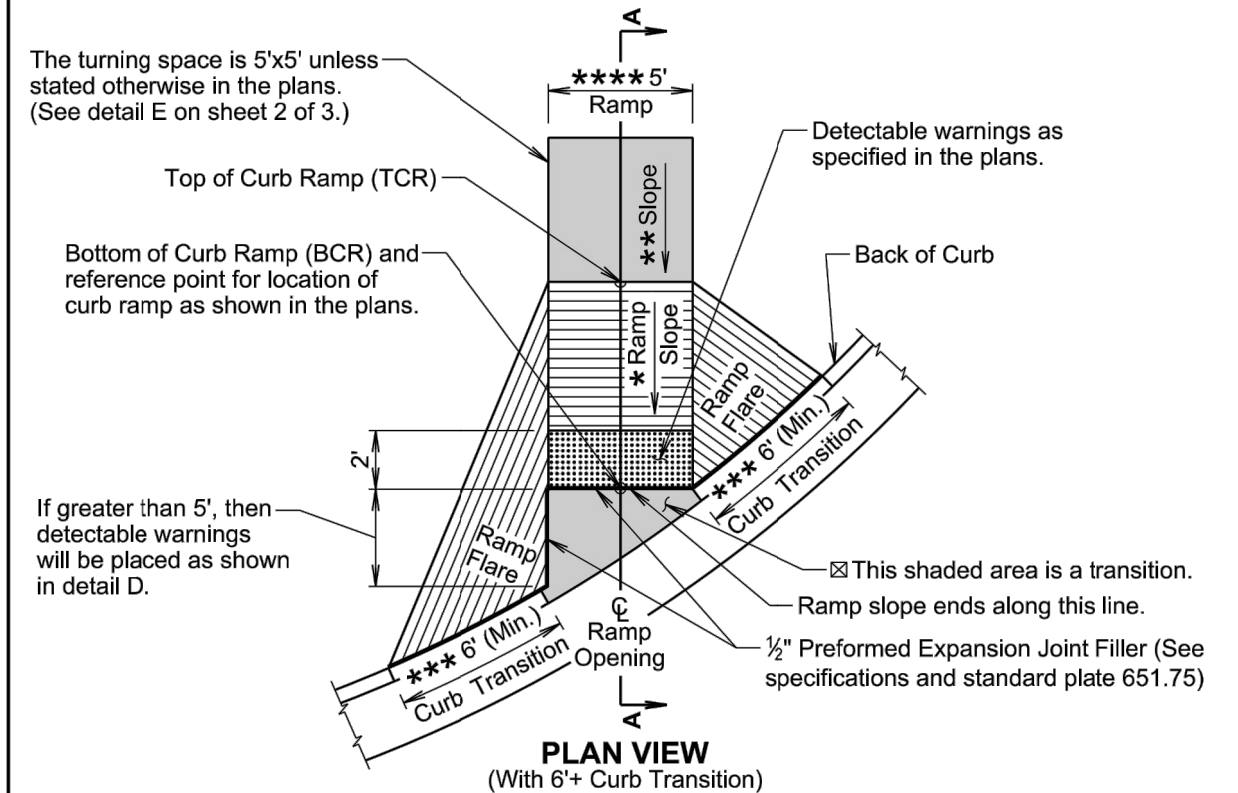
For illustrative purpose only, the curb ramp location is shown at the center of a PCC fillet section. The curb ramp will be placed at the location stated in the plans.

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".

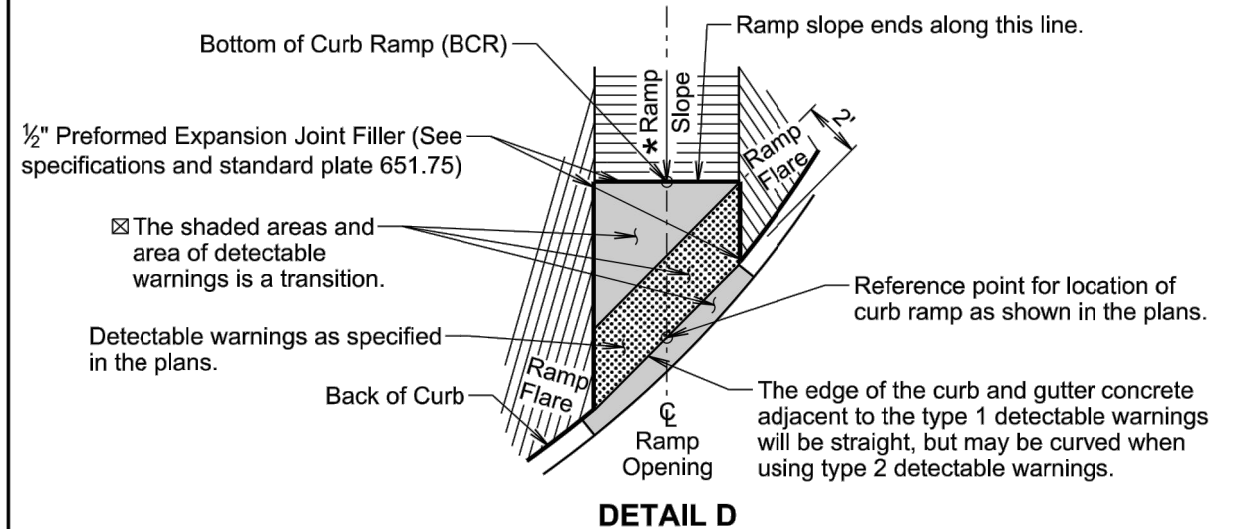
February 14, 2020

Published Date: 1st Qtr. 2021	S D D O T	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER
			651.01
			Sheet 3 of 3



☒ The slope within the transition area will not be steeper than 5%. The concrete within the transition will be placed monolithic with the curb and gutter or fillet section concrete. The concrete thickness within the transition will be the same as the curb and gutter or fillet section concrete thickness.

\*\*\* 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.



February 14, 2020

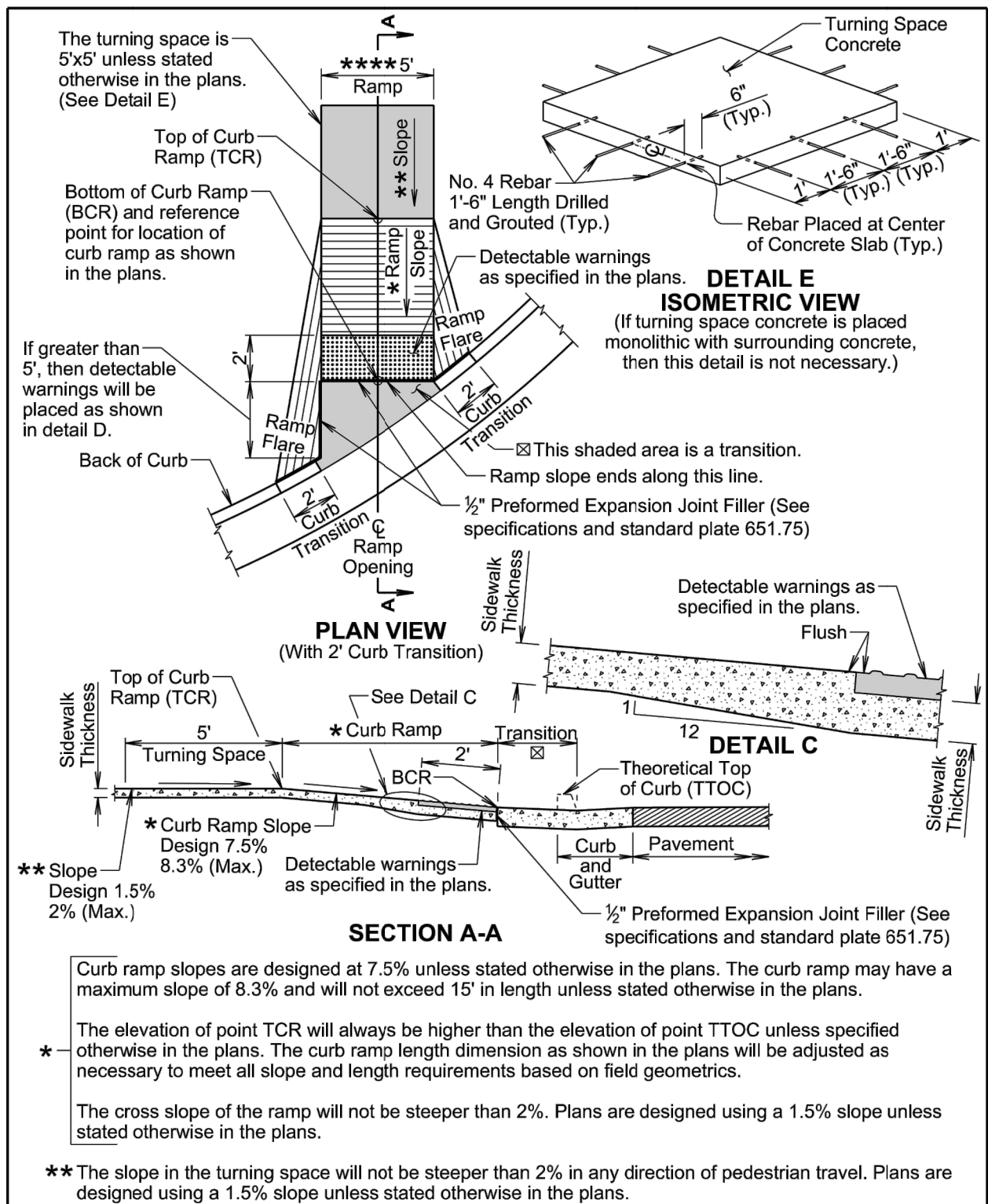
Published Date: 1st Qtr. 2021	S D D O T	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER
			651.02
			Sheet 1 of 3



STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	P TAPR(34)	No. 33	SHEETS 45

Plotting Date: MARCH 2021  
Revised 04-02-2021

BAI# 23200.00



GENERAL NOTES:

For illustrative purpose only, type 1 detectable warnings 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. 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.

All costs for furnishing and installing the transition area at the base of the curb ramp will be incidental to the contract unit price per foot for the corresponding curb and gutter contract item when curb and gutter is used and will be incidental to the contract unit price per square yard for the corresponding PCC fillet section contract item when a PCC fillet section is used.

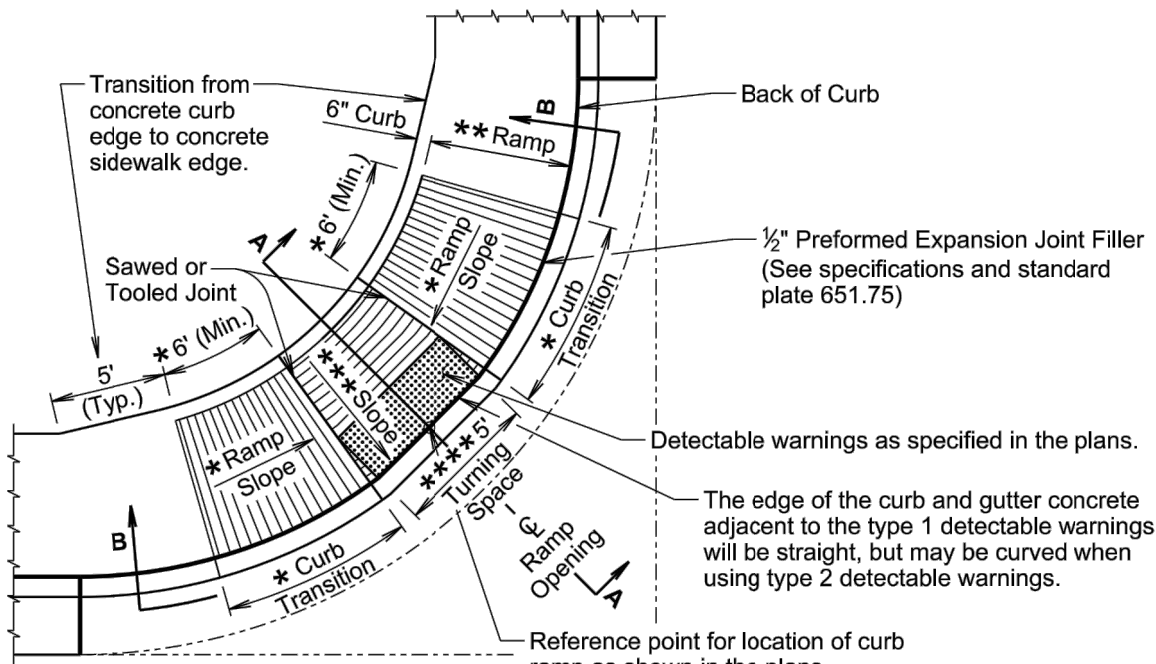
The type 1 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals will be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

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".

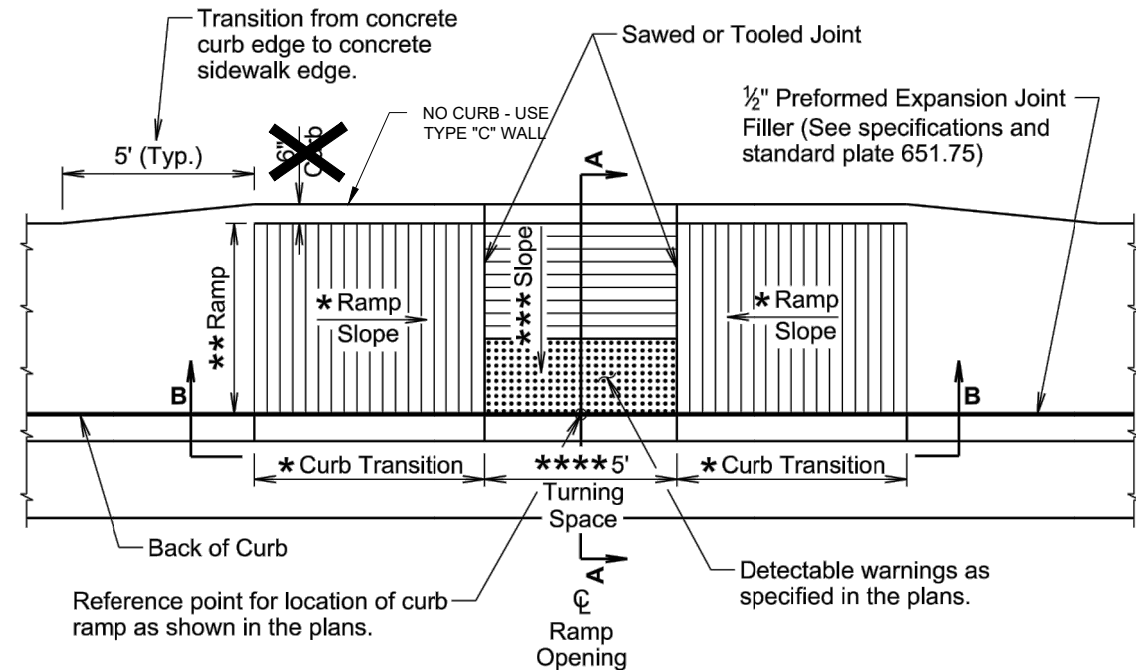
Published Date: 1st Qtr. 2021	S D D O T	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02 Sheet 2 of 3
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Published Date: 1st Qtr. 2021	S D D O T	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02 Sheet 3 of 3
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PLAN VIEW  
(With Curved Curb and Gutter)



PLAN VIEW  
(With Straight Curb and Gutter)

Published Date: 1st Qtr. 2021

SDOT

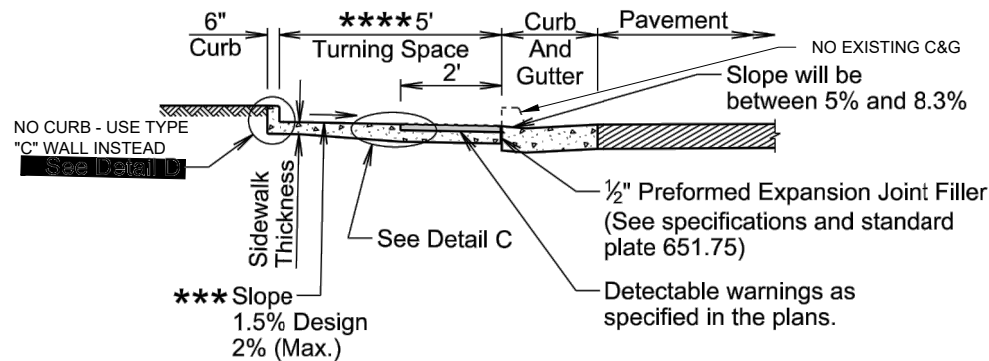
TYPE 3 CURB RAMP  
(PARALLEL CURB RAMP)

PLATE NUMBER  
651.03

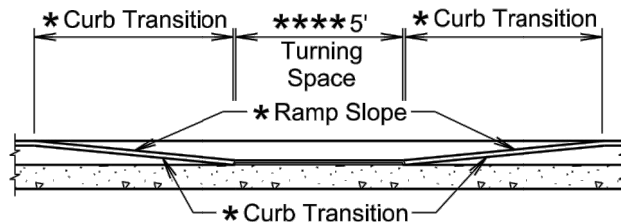
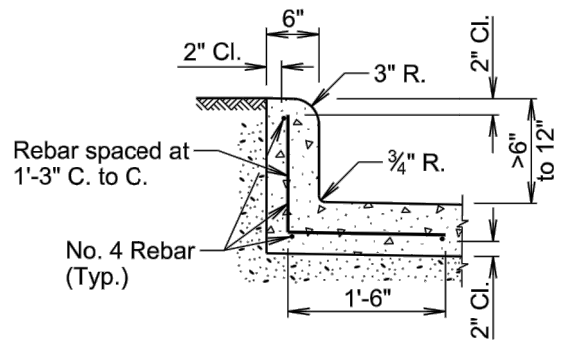
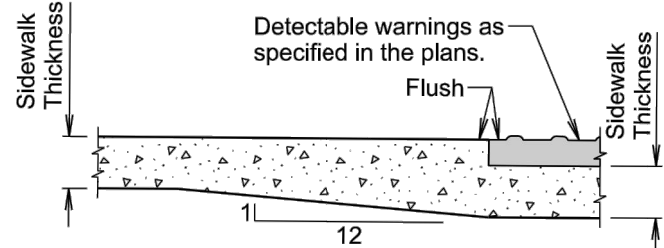
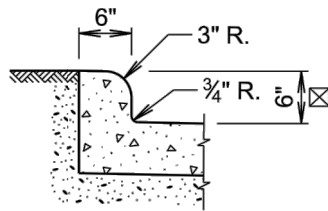
Sheet 1 of 3

February 14, 2020

- \* 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



SECTIONAL VIEW B-B

Published Date: 1st Qtr. 2021

SDOT

TYPE 3 CURB RAMP  
(PARALLEL CURB RAMP)

PLATE NUMBER  
651.03

Sheet 2 of 3

February 14, 2020



STATE OF	PROJECT	SHEET	TOTAL
SOUTH		No.	SHEETS
DAKOTA	P TAPR(34)	35	45

Plotting Date: MARCH 2021 BAI# 23200.00

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".

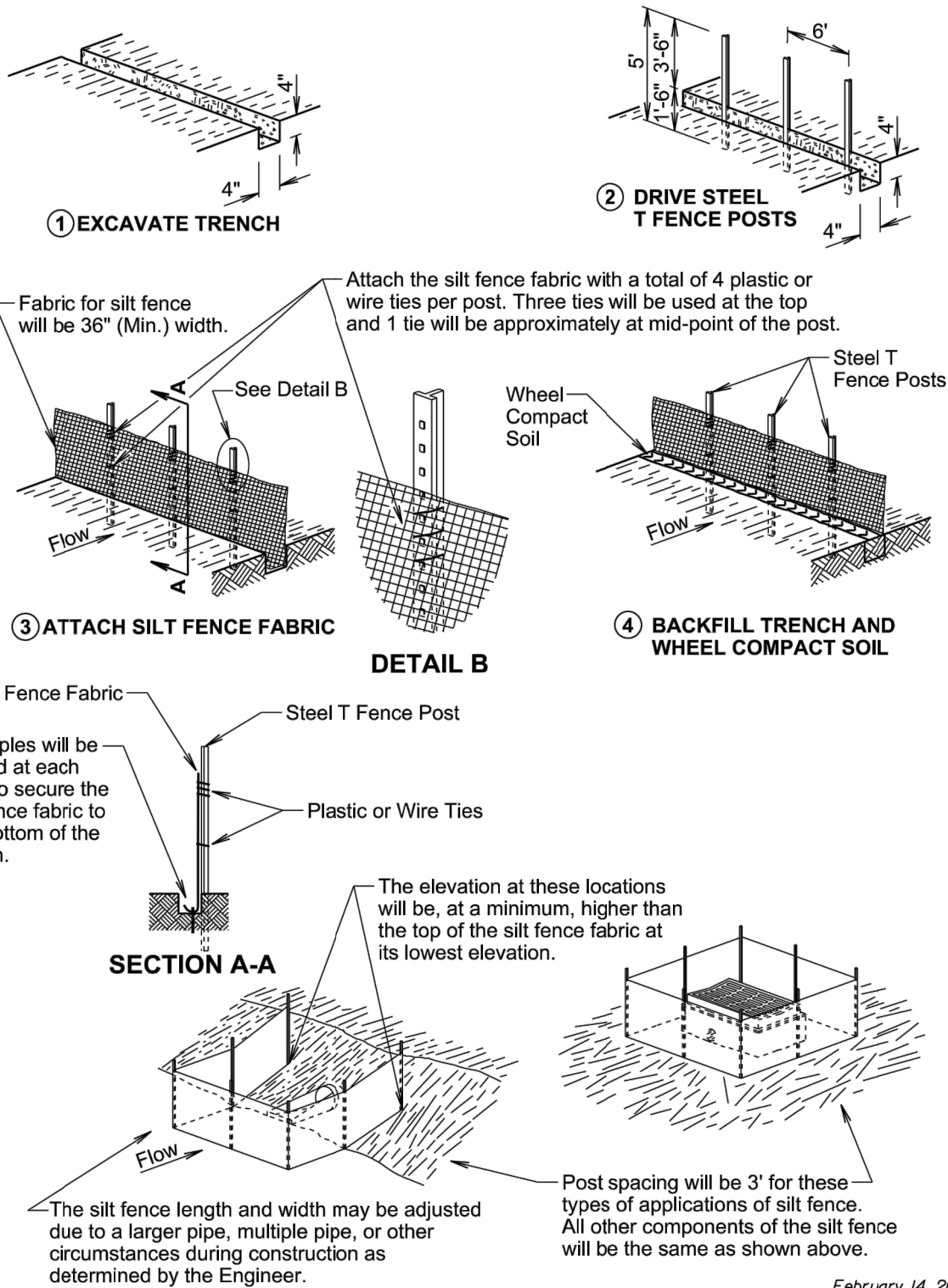
The type 2 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding will be paid for at the contract unit price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

February 14, 2020

Published Date: 1st Qtr. 2021	S D D O T	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 3 of 3



MANUAL HIGH FLOW SILT FENCE INSTALLATION



Published Date: 1st Qtr. 2021

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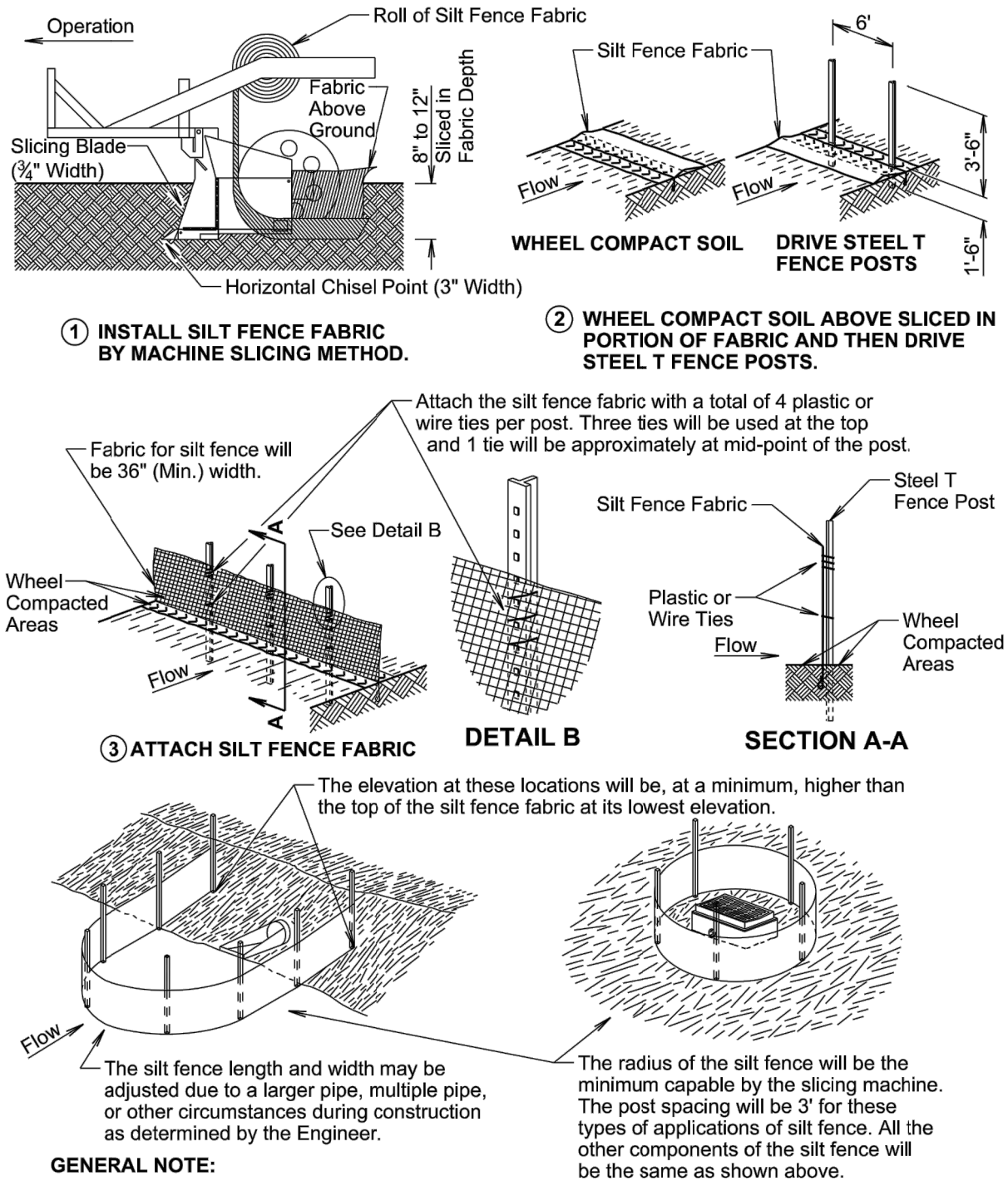
HIGH FLOW SILT FENCE

February 14, 2020

PLATE NUMBER  
734.05

Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



GENERAL NOTE:

If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end will be provided on top of the extra length of silt fence fabric to prevent underflow.

Published Date: 1st Qtr. 2021

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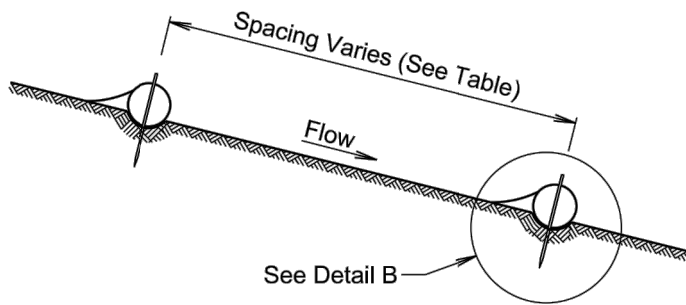
HIGH FLOW SILT FENCE

February 14, 2020

PLATE NUMBER  
734.05

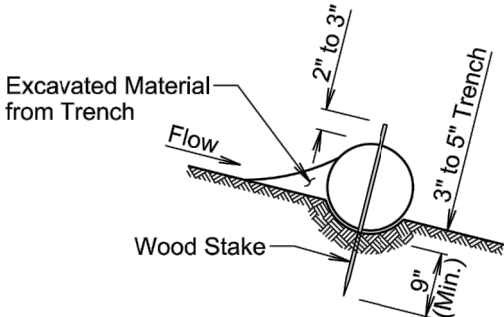
Sheet 2 of 2



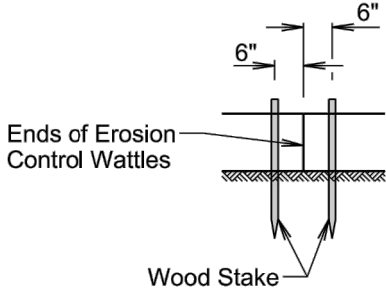


ELEVATION VIEW  
(Cut or Fill Slope Installation)

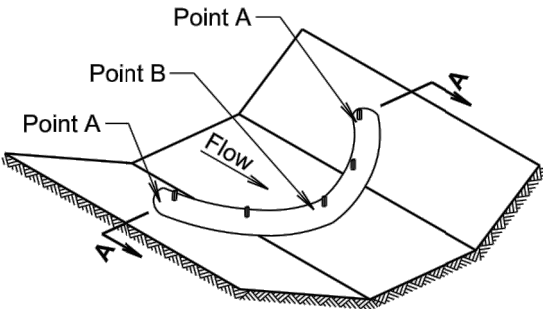
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft.)
1:1	10
2:1	20
3:1	30
4:1	40



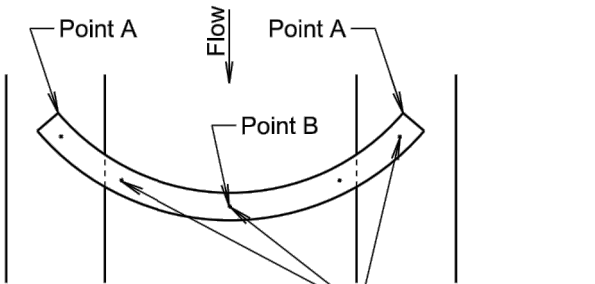
DETAIL B  
(Typical of All Installations)



DETAIL C  
(See General Notes)

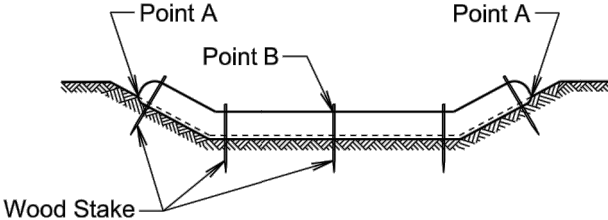


ISOMETRIC VIEW  
(Ditch Installation)



PLAN VIEW  
(Ditch Installation)

DITCH INSTALLATION	
Grade	Spacing (Ft.)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

February 14, 2020

Published Date: 1st Qtr. 2021

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EROSION CONTROL WATTLE

PLATE NUMBER  
734.06

Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles will be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor will dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes will be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes will be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles will be 3' to 4'.

Where installing running lengths of wattles, the Contractor will butt the second wattle tightly against the first and will not overlap the ends. See Detail C.

The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping will be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping will be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials will be incidental to the contract unit price per foot for the corresponding erosion control wattle contract item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

February 14, 2020

Published Date: 1st Qtr. 2021

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EROSION CONTROL WATTLE

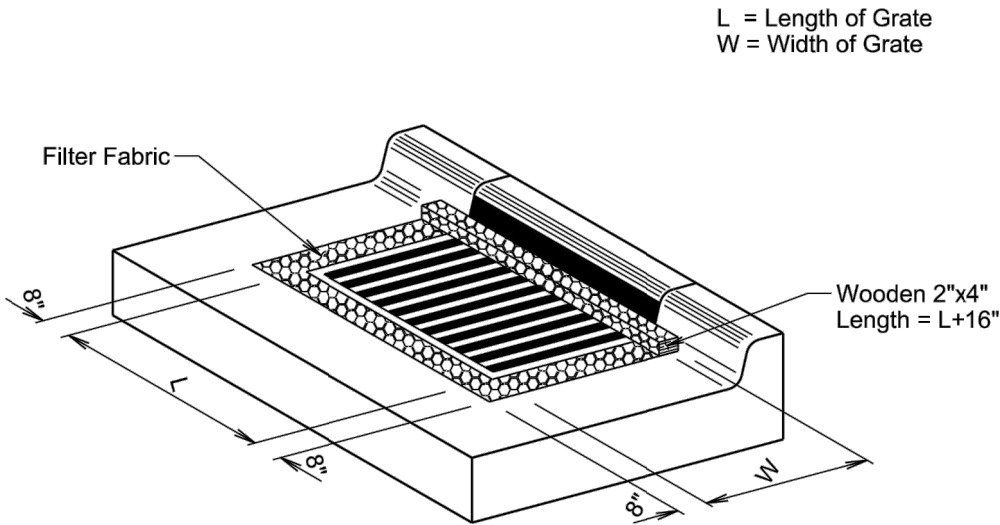
PLATE NUMBER  
734.06

Sheet 2 of 2



STATE OF SOUTH DAKOTA	PROJECT  P TAPR(34)	SHEET No.	TOTAL SHEETS
		38	45

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ISOMETRIC VIEW

GENERAL NOTES:

- The grate and curb and gutter shown are for illustrative purposes only.
- The sediment control at inlet with frame and grate will be placed at locations stated in the plans or at locations determined by the Engineer.
- The filter fabric will be the type specified in the plans.
- The filter fabric will be placed in the inlet opening prior to placing the grate. Approximately 18 inches of excess filter fabric will be wrapped around the 2"x4" and stapled securely to the 2"x4" after the grate has been placed.
- The Contractor and Engineer will inspect the sediment control device in accordance with the storm water permit. The Contractor will maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.
- The removed sediment will be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.
- All costs for furnishing, installing, inspecting, maintaining, removing, and replacing the sediment control device at the inlet including labor, equipment, and materials will be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

February 14, 2020

<i>Published Date: 1st Qtr. 2021</i>	<b>S D D O T</b>	<b>SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES</b>	<b>PLATE NUMBER</b> <b>734.10</b>
			Sheet 1 of 1







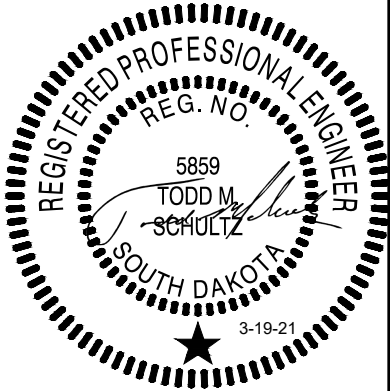
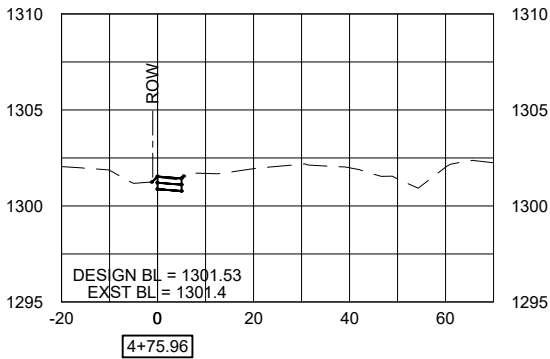
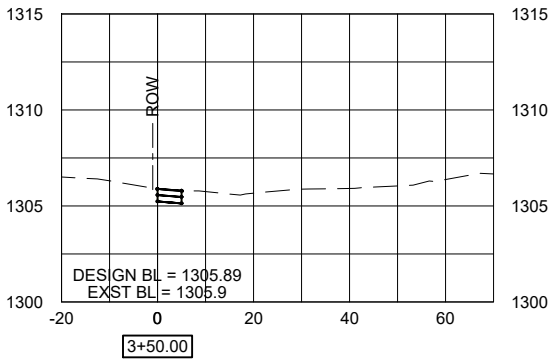
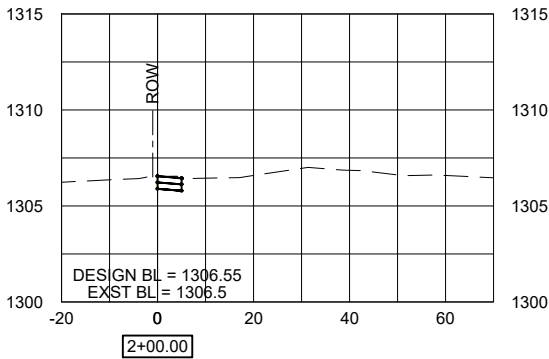
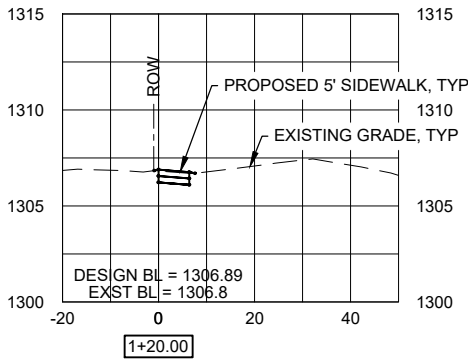
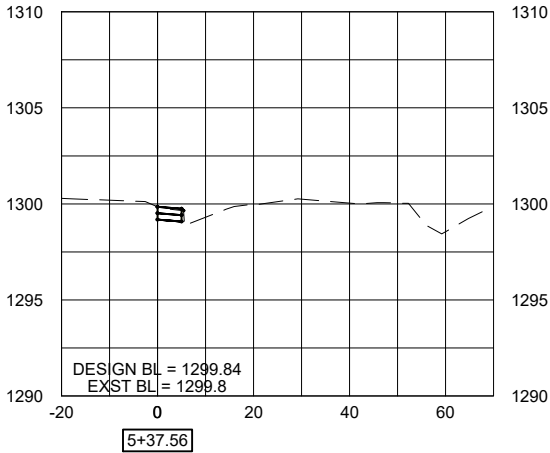
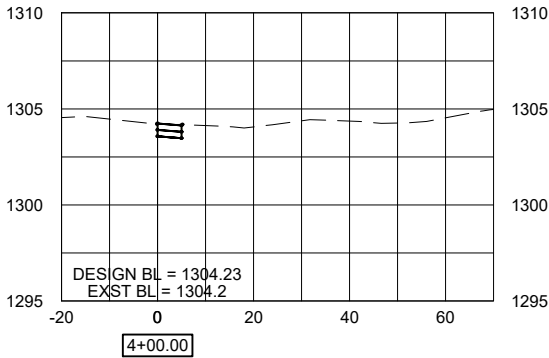
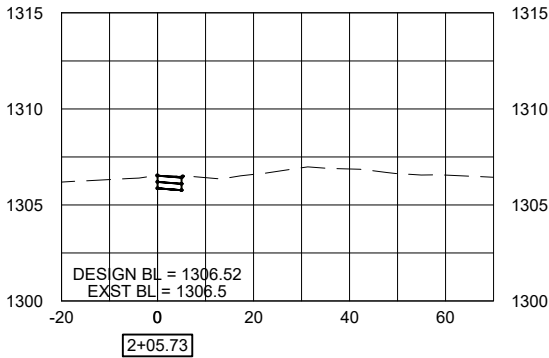
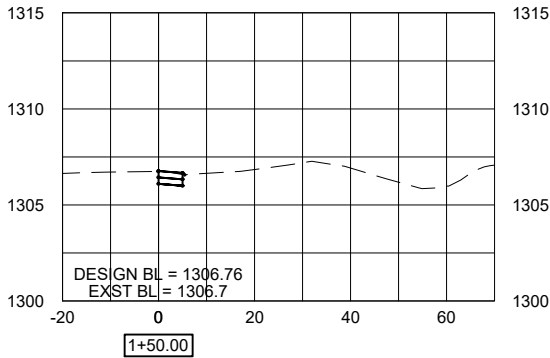
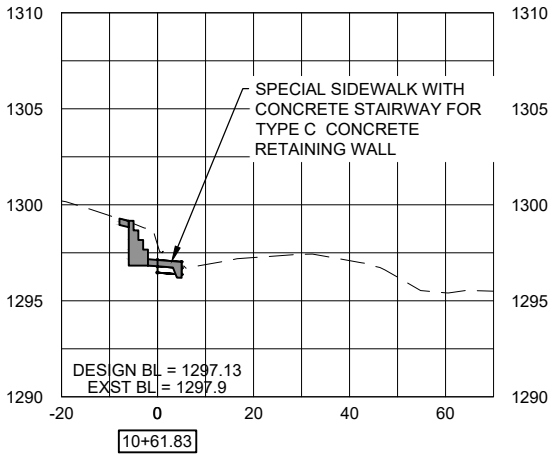
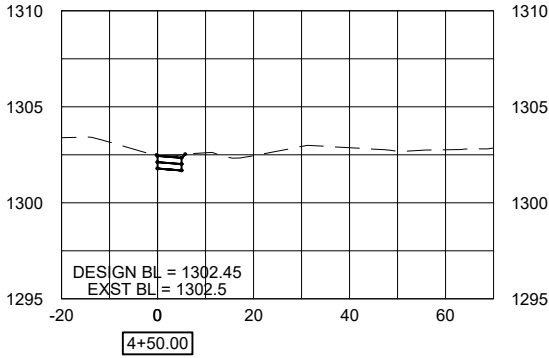
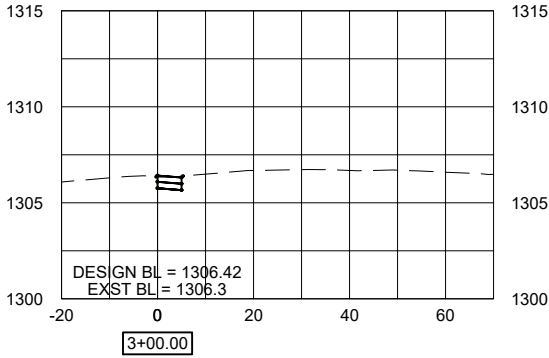
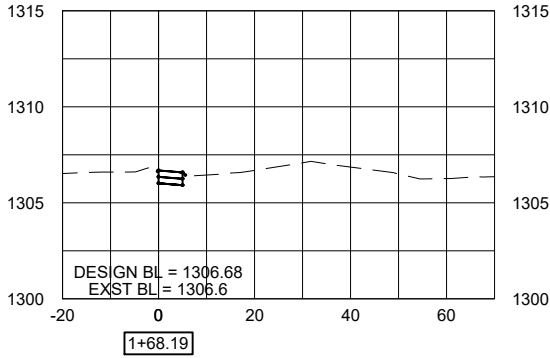
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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	40	45

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0 20 40 FT

SCALE: 1" = 40' HORZ  
1" = 10' VERT

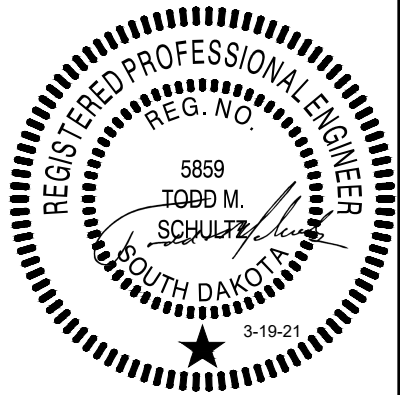
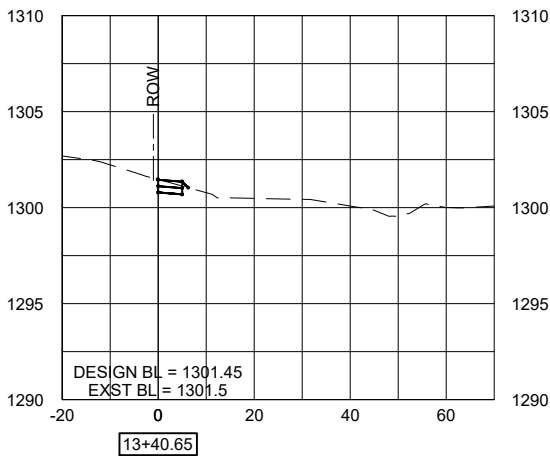
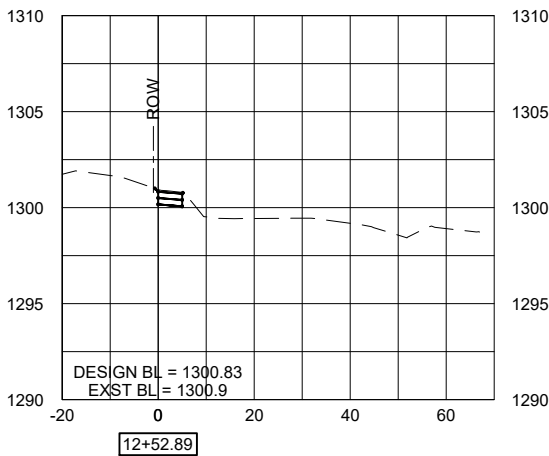
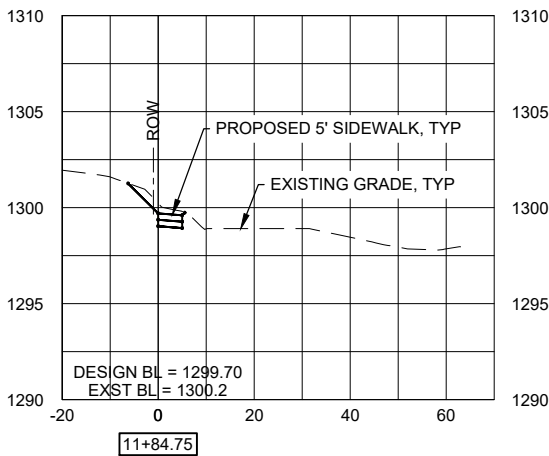
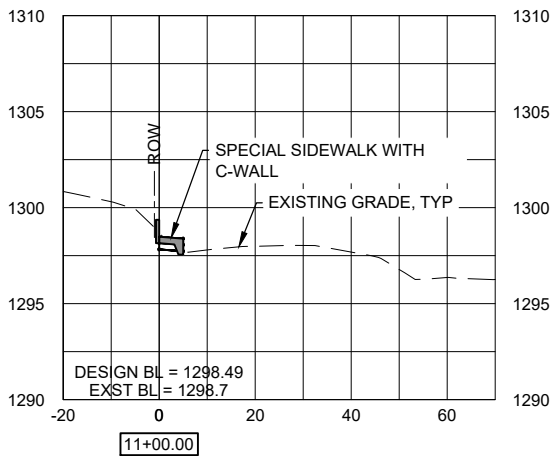
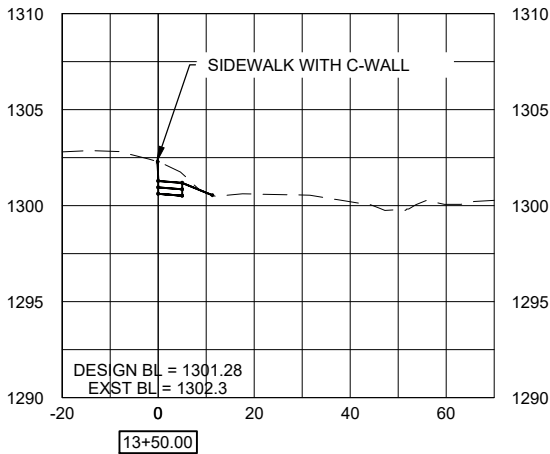
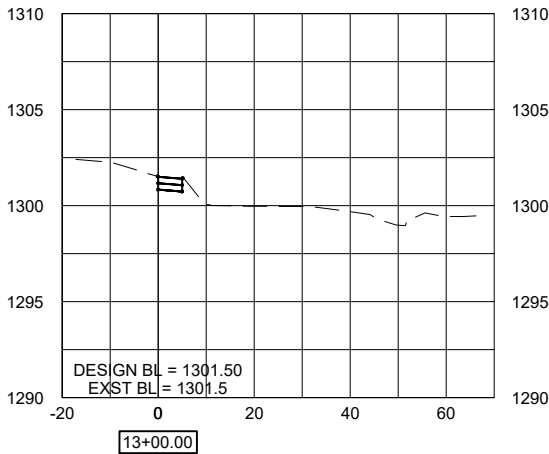
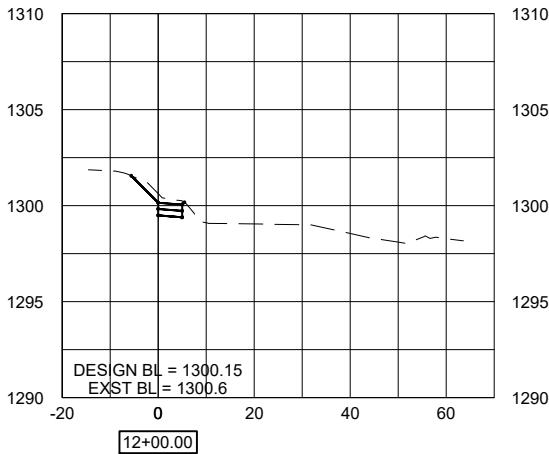
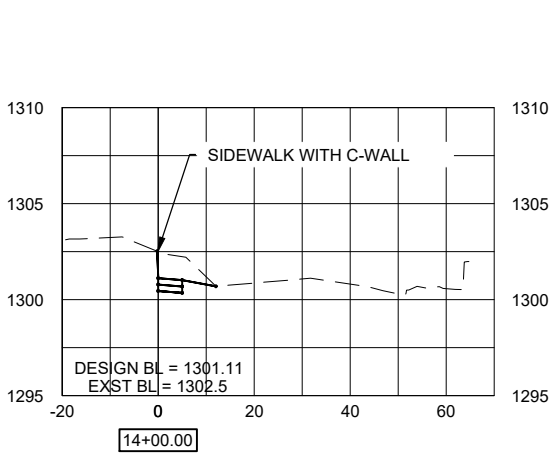
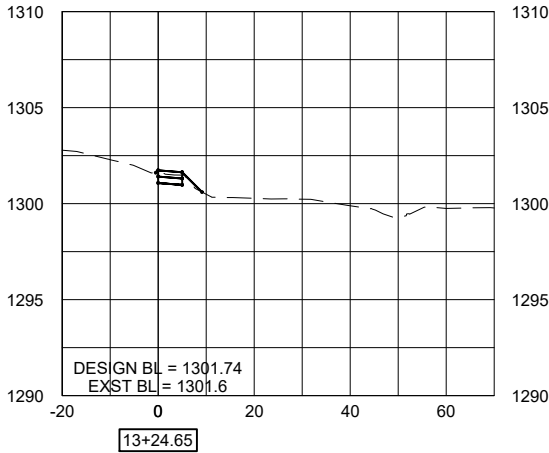
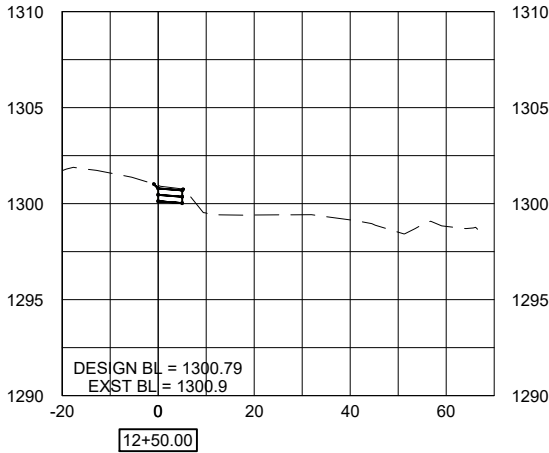
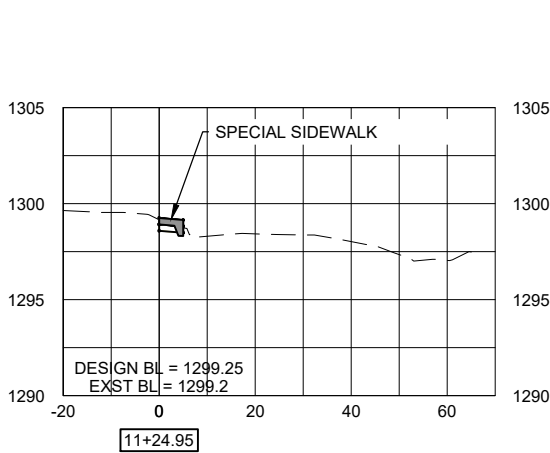




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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	41	45

Plotting Date: MARCH 2021 BAI# 23200.00

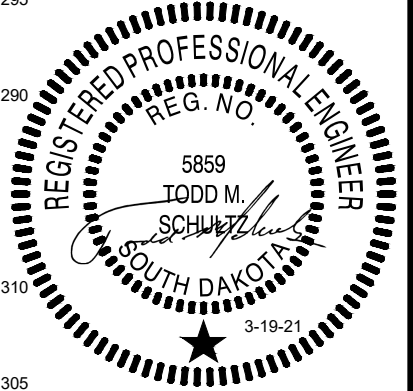
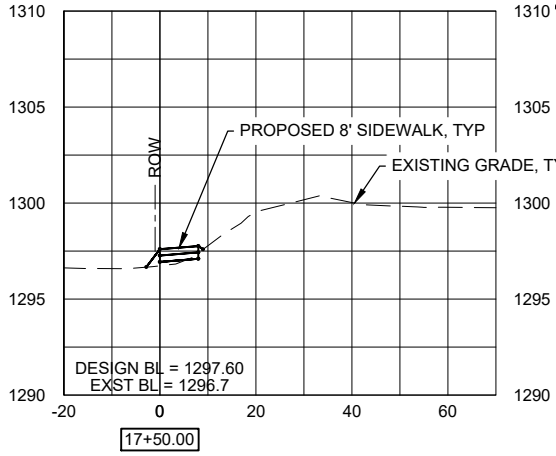
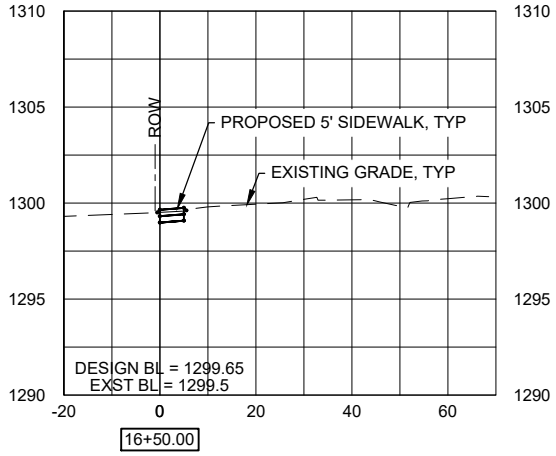
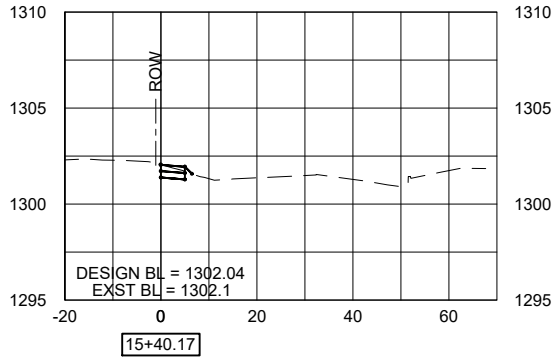
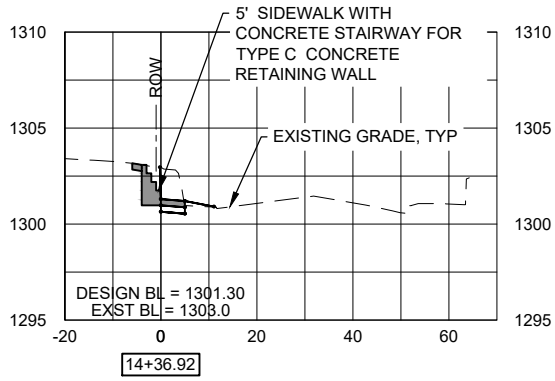
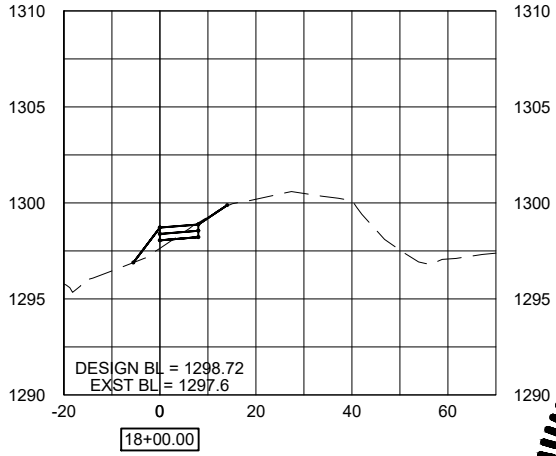
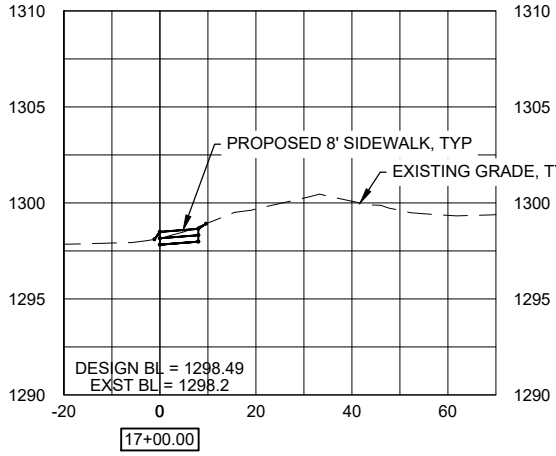
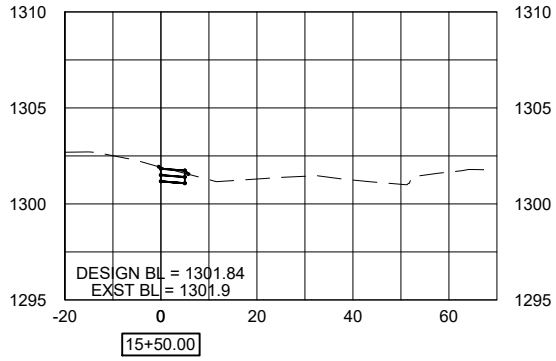
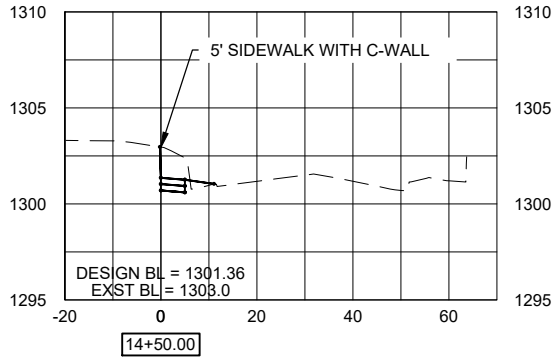
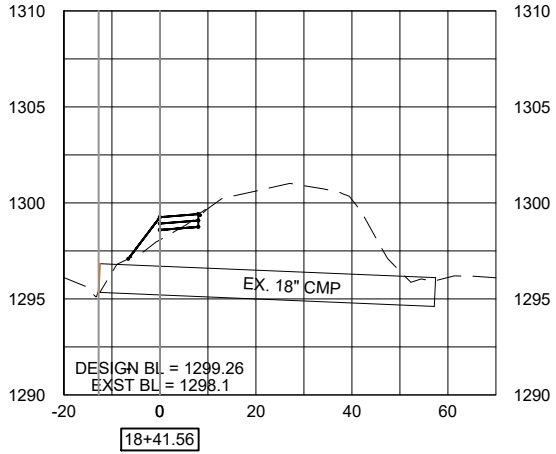
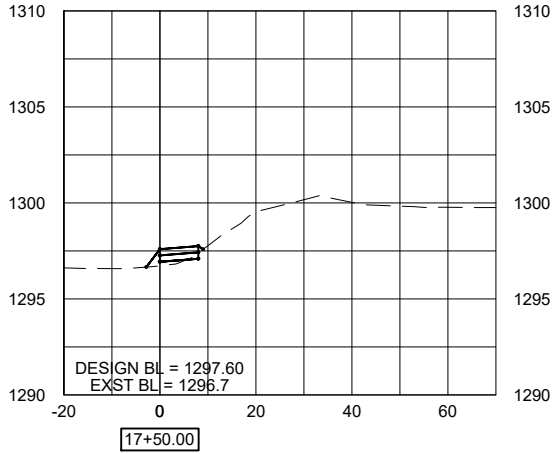
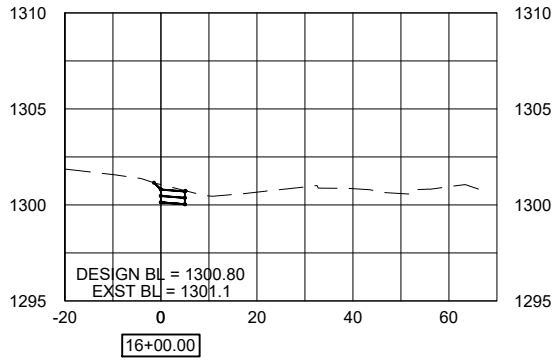
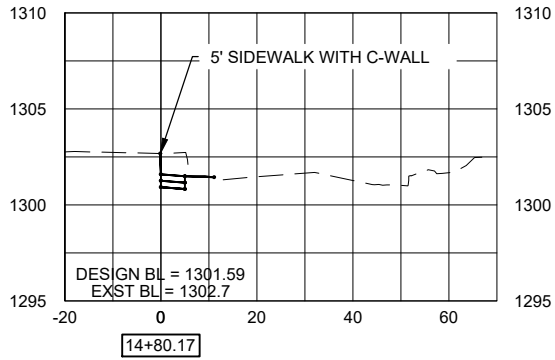




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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	42	45

Plotting Date: MARCH 2021 BAI# 23200.00

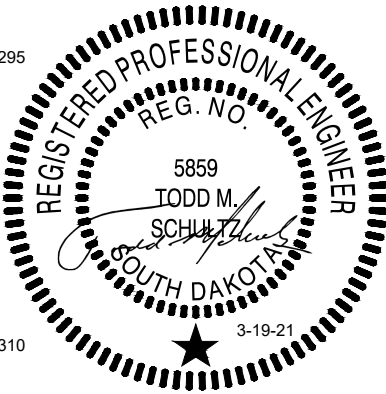
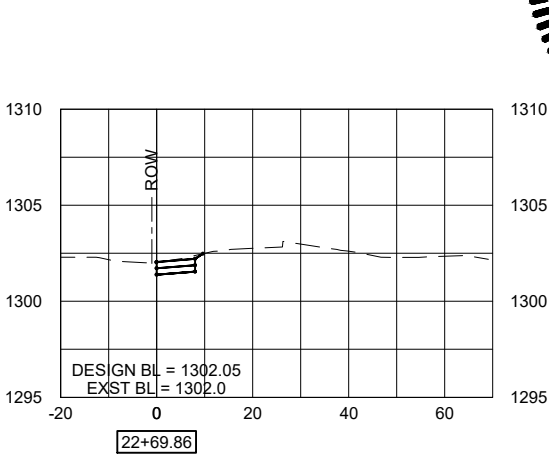
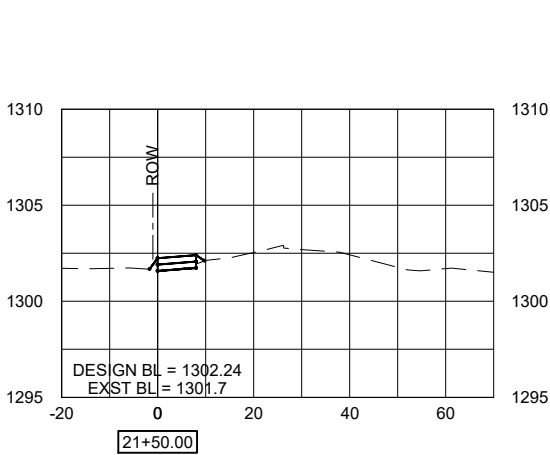
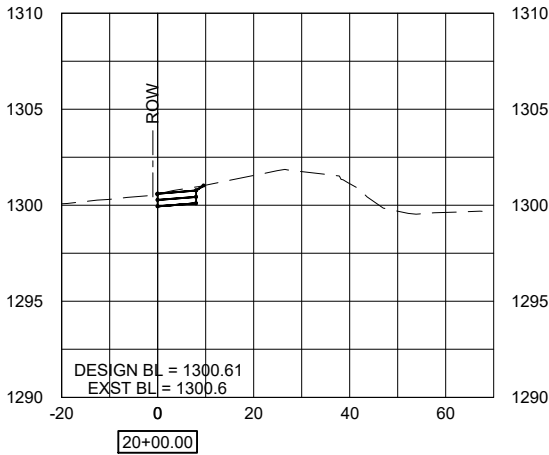
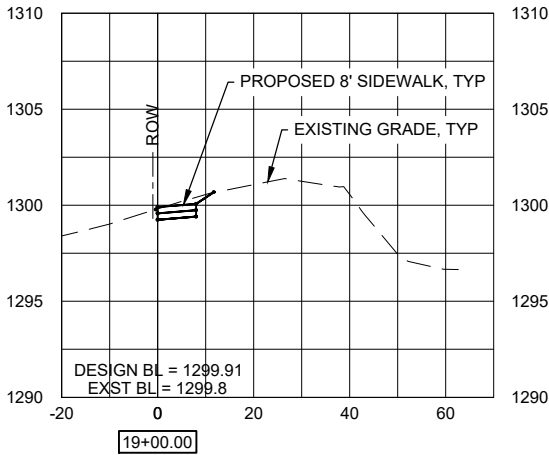
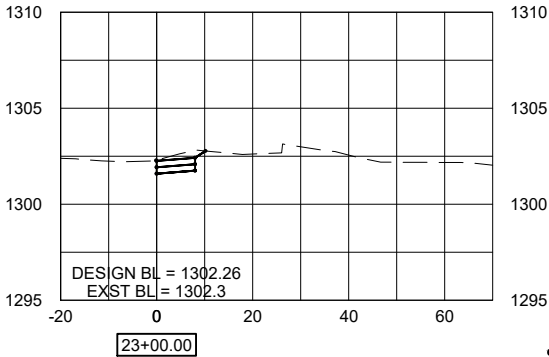
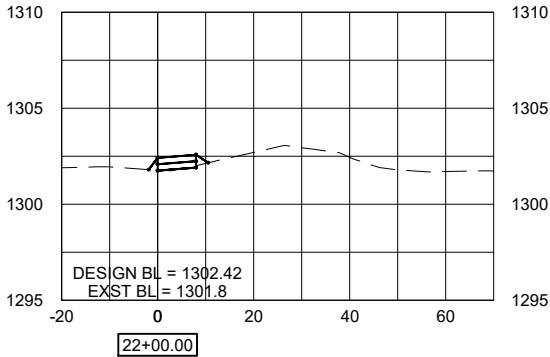
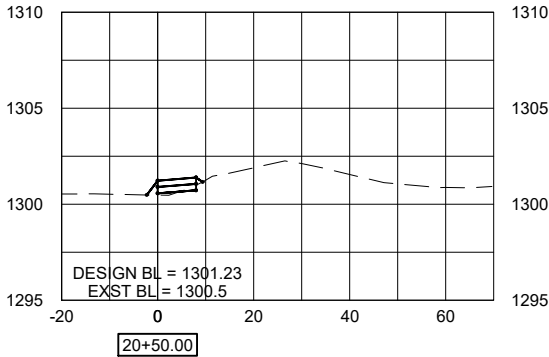
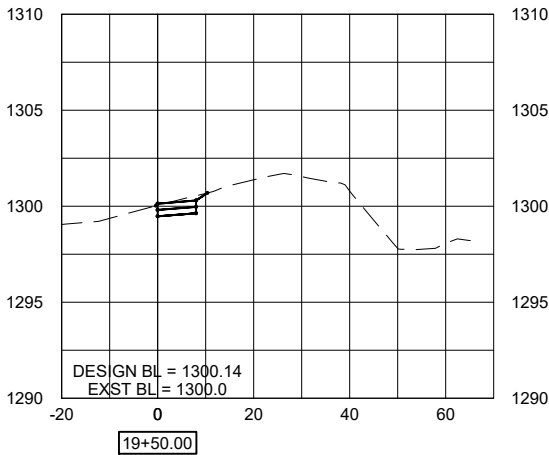
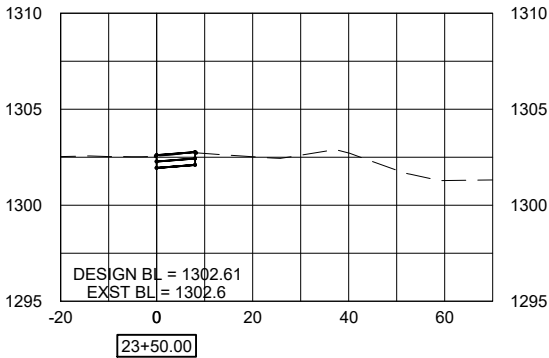
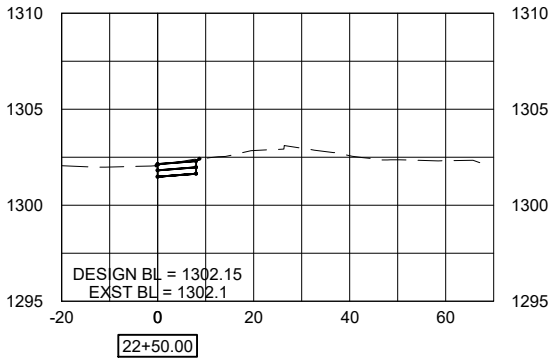
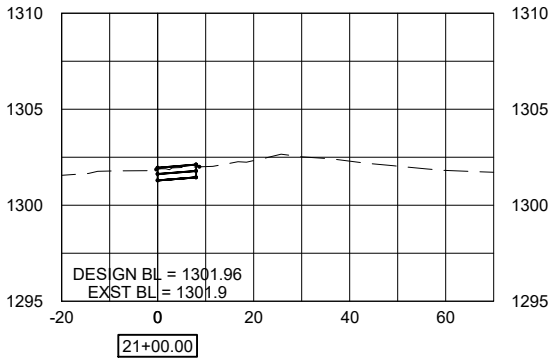




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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	43	45

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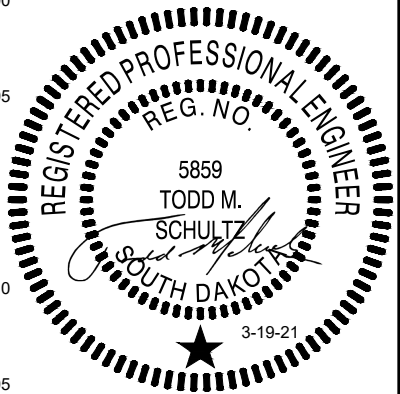
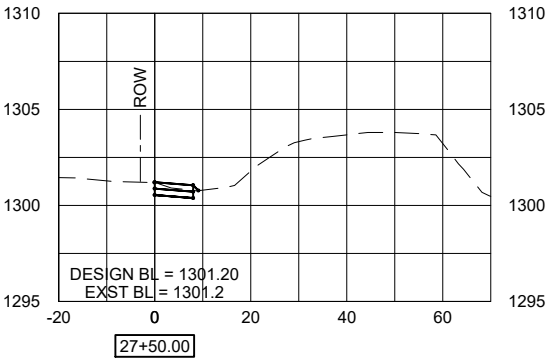
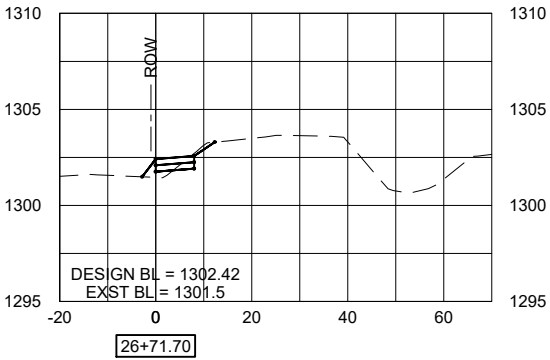
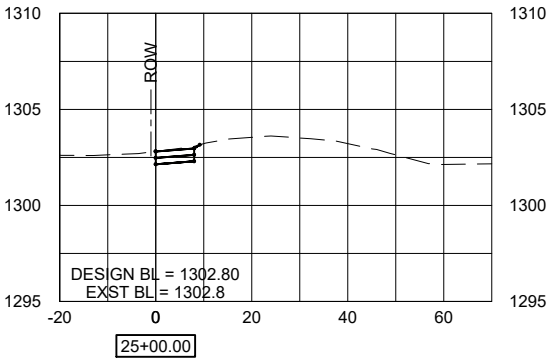
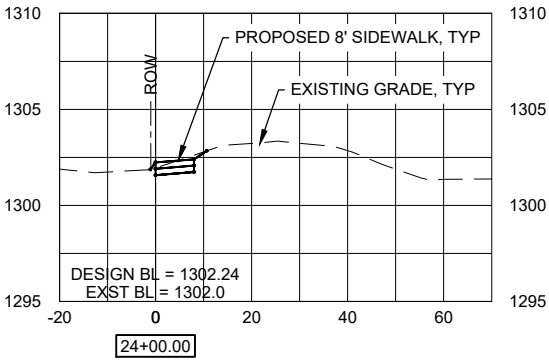
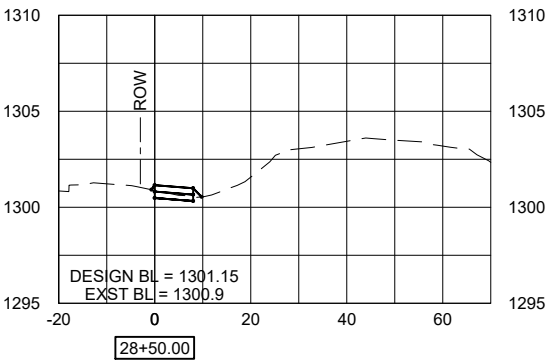
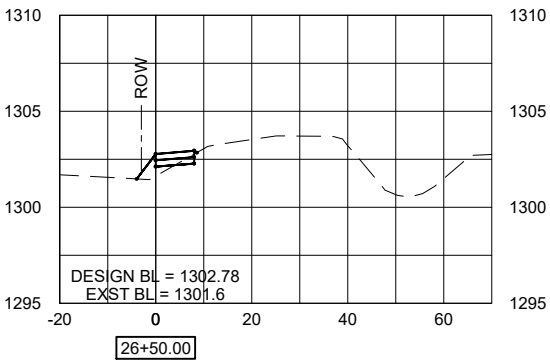
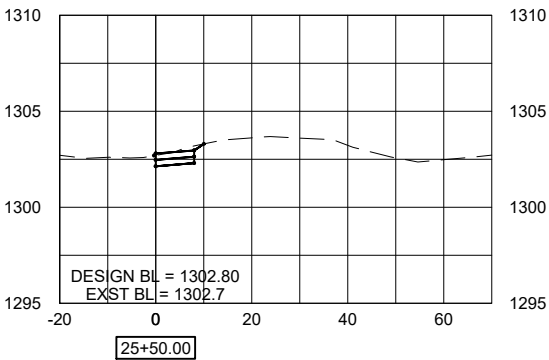
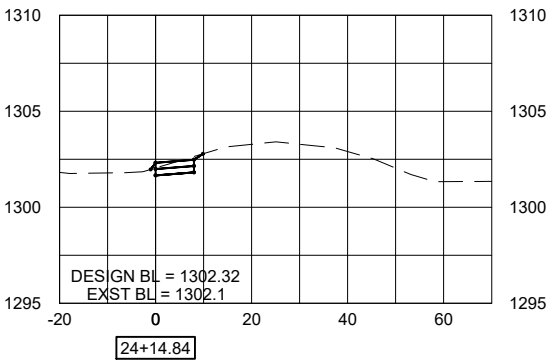
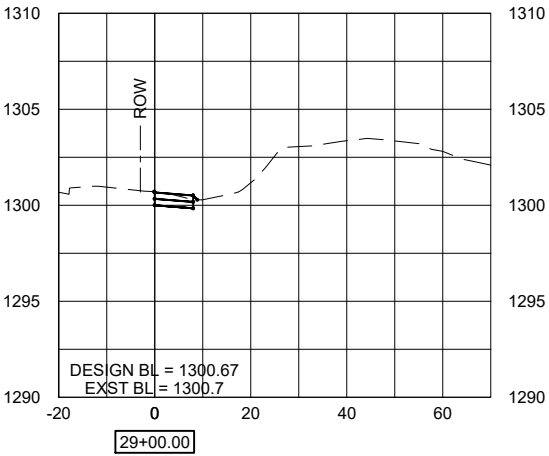
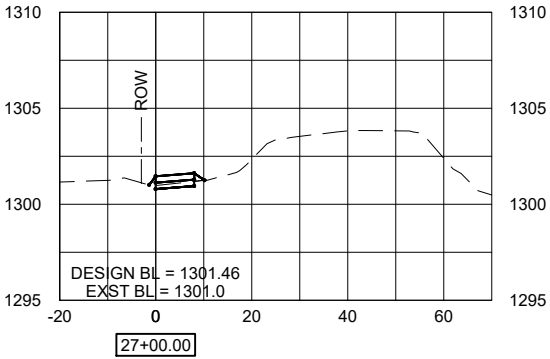
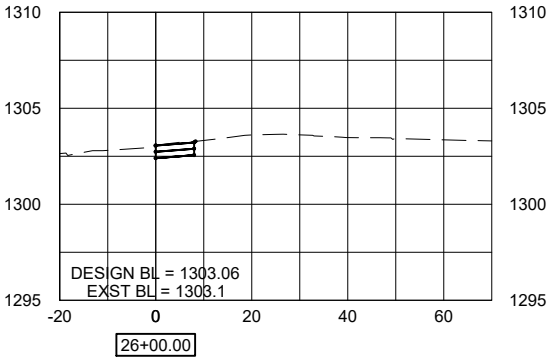
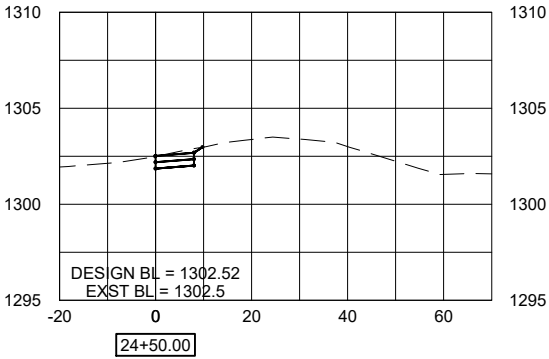




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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(34)	44	45

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STATE OF SOUTH DAKOTA	PROJECT  P TAPR(34)	SHEET NO.	TOTAL SHEETS
		45	45

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