

PROJECT
Sturgis, South Dakota

END PROJECT STA. 11+95.5

BEGIN PROJECT STA. 0+69.9

STORM WATER PERMIT DATA

MAJOR RECEIVING
BODY OF WATER: DEADMAN CREEK
AREA DISTURBED: 0.3 Acres
TOTAL PROJECT AREA: 0.6 Acres
APPROX. BEGIN LAT/LONG: 44.3947°, 103.5141°

SCALES

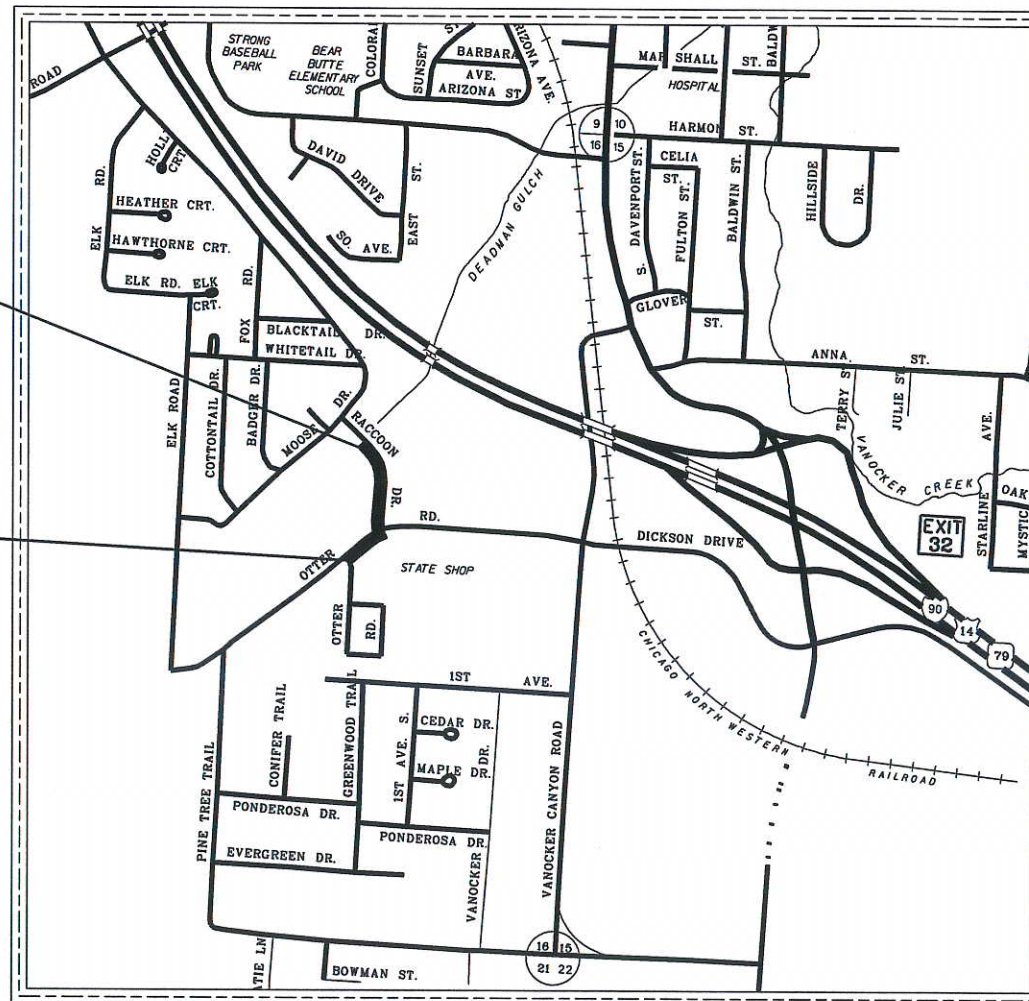
LAYOUT: 1 INCHES = 2.0 MILES
PLAN: 1 INCH = 100 FT.
PROFILE { HORIZONTAL: 1 INCH = 40 FT.
VERTICAL: 1 INCH = 8 FT.
CROSS { HORIZONTAL: 1 INCH = 10 FT.
SECTION VERTICAL: 1 INCH = 5 FT.

LEGEND

STATE LINE
COUNTY LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
PROPERTY LINE

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT P OENH(220)
CITY OF STURGIS
CONCRETE SHARED USE PATH

PCN 04C1



PLANS

Survey by: Brosz Engineering, Inc.
Sturgis, SD
Plans by: Brosz Engineering, Inc.
Sturgis, SD

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P OENH(220)	1	30
Plotting Date: 02/16/15 Revised Date: xx/xx/xx Initials: TJG			



INDEX OF SHEETS

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ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	67.0	SqYd
110E1130	Remove Concrete Driveway Pavement	33.3	SqYd
110E1140	Remove Concrete Sidewalk	28.6	SqYd
120E0010	Unclassified Excavation	166	CuYd
120E0600	Contractor Furnished Borrow	112	CuYd
230E0010	Placing Topsoil	72	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E3010	Gravel Surfacing	10.0	Ton
320E1200	Asphalt Composite	9.7	Ton
380E3020	6" PCC Driveway Pavement	10.3	SqYd
632E1320	2.0" x 2.0" Perforated Tube Post	66.0	Ft
632E3205	Flat Aluminum Sign, Non-removable Copy Super/Very High Intensity.	40.8	SqFt
632E5020	Overhead Cantilever Sign Support	1	Each
633E1400	Pavement Marking Paint, 4" White	232	Ft
633E1430	Pavement Marking Paint, 24" White	80	Ft
634E0010	Flagging	100	Hour
634E0100	Traffic Control	537	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
635E5020	2' Diameter Footing	4.5	Ft
651E0040	4" Concrete Sidewalk	5,509	SqFt
651E0060	6" Concrete Sidewalk	275	SqFt
651E0160	6" Reinforced Concrete Sidewalk	684	SqFt
651E0560	6" Colored Concrete Sidewalk	595	SqFt
651E0760	6" Reinforced Colored Concrete Sidewalk	344	SqFt
651E7000	Type 1 Detectable Warnings	64	SqFt
671E7010	Adjust Manhole	1	Each
730E0206	Type D Permanent Seed Mixture	99	Lb
731E0100	Fertilizing	480	Lb
732E0250	Fiber Mulching	600	Lb
734E0101	Type I Erosion Control Blanket	378	SqYd
734E0154	12" Diameter Erosion Control Wattle	250	Ft
900E0010	Refurbish Single Mailbox	1	Each
900E5145	Bollard	2	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

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

Action Taken/Required:

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

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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) shall 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 Project Engineer.

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

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P OENH(220)	2	30

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 designated option borrow sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 15 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 5.2 MGal. No separate payment will be made for the Water for Embankment and all costs associated shall 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 the bike path are included in the earthwork balance notes on the profile sheets.

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

RESTRICTED WORK AREA

The Contractor's work limits shall be confined to the area within the existing right-of-way except for the temporary easement in Vista Estates Sublot 16 Revised, between 6+29 and 7+75 Left.

WORKING HOURS

The Contractor's work shall be limited to between the hours of 7:00 AM and 7:00 PM.

UTILITIES

The Contractor shall 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 shall 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.

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 at the Contractor's expense.

All trees within the project limits are to remain. The Contractor shall notify the Sturgis Parks Department at 347-9018 if a conflict arises with any trees.

SRINKAGE FACTOR: Embankment +35%.

CONTRACTOR FURNISHED BORROW

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

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor.

INCIDENTAL WORK, GRADING

Station	L/R	Remarks
0+67 to 3+16	R	Sawcut and Remove Asphalt
6+09	CL	Sawcut and Remove Asphalt
7+81	L	Adjust Water Valve Box to Grade
8+44 to 8+85	L	Remove and Salvage Landscape Block
11+82 to 11+96	R	Sawcut and Remove Asphalt

SALVAGED ITEMS

All salvaged items noted on the plans shall be salvaged on site for reuse by the owners. Care shall be taken not to damage the items during dismantling and transporting. All broken concrete and materials not salvaged shall be disposed of in accordance with the Specifications. All costs for salvaging and transporting the items shall be incidental to the contract lump sum price for "Incidental Work, Grading". Before preparing his/her bid, the Contractor shall make a visual inspection of the project to verify the extent of the work and material involved.

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Station	to	Station	L/R	Quantity (SqYd)
0+67		3+15	L	67.0
Total:				67.0

TABLE OF CONCRETE DRIVEWAY PAVEMENT REMOVAL

Station	to	Station	L/R	Quantity (SqYd)
7+89		8+21	L	33.3
Total:				33.3

TABLE OF SIDEWALK REMOVAL

Station	to	Station	L/R	Quantity (SqYd)
8+21		8+85	L	28.6
Total:				28.6

ADJUSTMENT OF MANHOLES

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

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

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P OENH(220)	3	30

TABLE OF ADJUST MANHOLES

Station	L/R	Type of Adjustment
2+36	R	Raise 8"

COLORED CONCRETE FOR SHARED USE PATH

Concrete shall meet the requirements for M6 concrete with the addition of integral color pigment to be color Paver Red. The colored concrete is only for the section along Otter Road between the Bike Path and the asphalt street.

The coloring agent shall be Solomon Colors, Inc. ColorFlo Liquid Pigment or equal. The colored concrete shall be produced according to the manufacture's recommendations. The amount of coloring agent shall be 4% based on the total weight cement material used in the mix.

A curing and sealing compound compatible with the coloring pigment used that meets the requirements of ASTM C309 Type 1, shall be used as per the manufacture's recommendations.

TABLE OF SIDEWALK

Sta	to Sta	4" Conc	6" Conc	6" Reinforced Conc	6" Colored Conc	6" Reinforced Colored Concrete
0+70	- 1+83	879			405	
1+83	- 2+69			684		344
2+69	- 3+16	380			190	
6+10	- 7+87	1,516				
7+87	- 8+21		275			
8+21	- 11+95	2,734				
Total:		5,509	275	684	595	344

ASPHALT CONCRETE COMPOSITE

Mineral aggregate for Asphalt Concrete, Class E, Type 1, will be furnished by the Contractor. A mix design of this mineral aggregate and the required asphalt cement, PG 64-28 will be required from the Contractor prior to any work taking place at the project site.

The Asphalt Concrete Compaction will be to a minimum of 92% of the maximum density in accordance with the procedure for test number SD 312. Payment for the asphalt concrete will be per ton, as provided on a computerized scale ticket.

The tack applied at a rate of 0.05 pounds per square yard between asphalt lifts shall be included in the price of the Asphalt Concrete Composite,

BOLLARDS

Bollards shall be Torbeck Industries B-2 Bollard or an approved equal.

TYPE 1 DETECTABLE WARNINGS

Detectable warnings shall be in compliance with the Americans with Disability Act regulations.

The detectable warnings shall 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 shall be placed below the Type 1 Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness shall be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings shall 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 shall 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 Cast Iron Plate	Neenah Foundry Company Neenah, WI 800-558-5075 http://www.neenahfoundry.com/
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 http://www.deeter.com/
Detectable Warning Plate Cast Iron Plate(No Coating)	East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 http://www.ejiw.com
CAST-DWD Cast Iron Plate	Key 3 Casting (Northern Foundry) 555 West 25 th Street Hibbing, MN 55746 218-263-8871 http://key3casting.com

TABLE OF TYPE 1 DETECTABLE WARNINGS

Station	L/R	Quantity (SqFt)
0+80	R	16
3+08	1' L	16
6+12.7	4' L	16
11+89	1' L	16
Total:		64

MAILBOXES

The Contractor shall reset the existing mailboxes on new posts with the necessary support hardware for single mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor shall coordinate with the Engineer on the proper postal representative to contact.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware shall be incidental to the contract unit price per each for "Refurbish Single Mailbox".

A Single mailbox shall be refurbished at Sta.8+22.5 L.

FERTILIZING

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (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 shall 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 shall 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 shall 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 all-natural slow release fertilizer shall be applied according to the manufacturer's application recommendations.

The all-natural slow release fertilizer shall be from the list below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 http://www.sustane.com/

The application rate is 34 pounds per 1,000 square feet.

DRILLS

In addition to the drills specified in Section 730 of the Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of ¼" to ½".

PERMANENT SEEDING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P OENH(220)	4	30

The areas to be seeded consist of all newly graded areas within the project limits except for the top of bike path and paved areas.

All permanent seed shall be planted in the topsoil at a depth of ¼" to ½".

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for seed mixtures are preferred varieties.

Native harvest seed will be allowed.

Type D Permanent Seed Mixture shall consist of the following:

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

The area to be seeded is estimated at 14,100 square feet.

FIBER MULCHING

Fiber mulch shall be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier shall be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch shall be applied at the rate of 2000 pounds per acre.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price per pound for "Fiber Mulching".

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

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

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment shall 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 shall provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles shall remain on the project to decompose.

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

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

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
1+89	R	12	Culvert Inlet	18
2+75 to 3+50	R	12	Ditch	97
11+96 to 12+21	R	12	Along Street	40
Additional Quantity:				95
Total:				250

EROSION CONTROL BLANKET

Erosion control blanket shall be installed 12 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

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

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

The Contractor shall install erosion control blanket according to the manufacturer's installation instructions.

An additional quantity of Type 1 Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

The Erosion Control Blanket shall be installed on the finished top soil. No separate payment shall be made for Shaping for Erosion Control Blanket. The shaping shall be considered an incidental to other work.

TABLE OF EROSION CONTROL BLANKET

Station to	Station	L/R	Location	Type	Quantity (SqYd)
0+73	2+09	R	Inslope	I	181
2+46	3+28	R	Inslope	I	122
Additional Quantity:					I 75
Total Type 1 Erosion Control Blanket:					378

STREET SWEEPING

Vehicle tracking of sediment from the construction site shall be minimized. Street sweeping shall be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

The Contractor shall use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used shall be a minimum of 6 feet wide and have working gutter brooms.

All costs for cleaning the roadway with a pickup broom shall be incidental to other project bid items and no separate payment shall be made for the sweeping.

PERFORATED TUBE POST

Payment for 2.0" x 2.0" perforated tube post shall include all cost for labor, equipment, and materials necessary to complete the following work:

1. Furnish all posts, stiffeners, breakaway bases, soil stabilizers, and hardware.
2. Assembly and installation of breakaway base sign supports as per details shown in these plans.
3. Assembly of sign(s) to sign post as per erection details for Highway Signs as shown in these plans.
4. Installation of signpost and sign(s).

HARDWARE

All perforated tube signpost base material shall be fastened with 5/16" diameter corner bolts (Grade 2).

All perforated tube signposts shall have a soil stabilizer attached to the base. Soil stabilizers shall be a green painted MPJ Sign Wedge manufactured by MPJ Enterprises, Inc., 207 Park Ave., Lake Preston, SD 57249 or equal as approved by the Engineer.

FURNISH & INSTALL FLAT ALUMINUM SIGNS / NON-REMOVABLE COPY HIGH INTENSITY & SUPER/VERY HIGH INTENSITY

Measurement of sign areas will include payment for the entire sign blank before trimming for rounded corners. The square unit measurement for each sign shall be as shown in the Table of Permanent Signing. This payment for signs in the Table of Permanent Signing shall include all labor, equipment, and materials to complete the work, and shall be paid for at the contract unit price per square foot for FLAT ALUMINUM SIGN / NONREMOVABLE COPY SUPER/VERY HIGH INTENSITY.

SHEETING REQUIREMENTS

All legend and border utilizing the color black shall be vinyl or screen printed black, non-reflectorized material. All other legend and border shall be of same type of sheeting as the background of the same sign. All signs shall have Super/ Very High Intensity Prismatic retro-reflective background, Type XI as per ASTM designation ASTM D4956.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P OENH(220)	5	30

TABLE OF PERMANENT SIGNING

Station	Offset	Number	Message	Size		Area Sq Ft	Post Length
				Width	Height		
0+80	11' R	R5-3	NO MOTOR VEHICLES	24	24	4.0	7.0
2+70	11.5' R	W1-1R	LEFT TURN	18	18	2.3	7.0
3+00	11.5' R	W11-15	BICYCLE/ PED CROSSING	30	30	6.3	8.5
		W16-7P	W/ARROW	24	12	2.0	
3+15	11' R	R1-1	STOP	18	18	1.9	7.0
6+16	7.5' R	W11-15	BICYCLE/ PED CROSSING	30	30	6.3	8.5
		W16-7P	W/ARROW	24	12	2.0	
6+16	15' L	R1-1	STOP	18	18	1.9	7.0
11+25	11' L	W1-1R	RIGHT TURN	18	18	2.3	ON OEVER HEAD MOUNT
11+77	42' L	W11-15	BICYCLE/ PED CROSSING	EXIST	EXIST	EXIST	EXIST
		W16-7p	W/ARROW	24	12	2.0	
11+96	42' L	R1-1	STOP	18	18	1.9	7.0
12+00	4' L	W1-1R	STOP	18	18	1.9	7.0
12+01	2'L	R5-3	NO MOTOR VEHICLES	24	24	4.0	7.0
12+05	7'L	W11-15	BICYCLE/ PED CROSSING	EXIST	EXIST	EXIST	EXIST
		W16-7p	W/ARROW	24	12	2.0	
TOTAL:						40.8	66.0

GENERAL MAINTENANCE OF TRAFFIC

The Contractor shall maintain traffic through the project site in accordance with Section 4.4 of the Specifications, Special Provisions, and the Plan Notes pertaining to the maintenance of traffic.

Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the City or State.

Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the City or State, and to the satisfaction of the Engineer.

GENERAL MAINTENANCE OF TRAFFIC (CONT.)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P OENH(220)	6	30

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

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Access to businesses and residences along the project, shall be maintained at all times, unless arrangements are made between the Contractor and owner to provide an alternate entrance during construction.

It is the responsibility of the Contractor to provide accommodations for pedestrian traffic along the project during construction at all times. Heavy pedestrian traffic is not expected and temporary pedestrian facilities may not be required; however, the Contractor must ensure safe travel for pedestrians along the project by any means necessary. All costs associated with providing accommodations for pedestrian traffic shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Traffic Control units, 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.

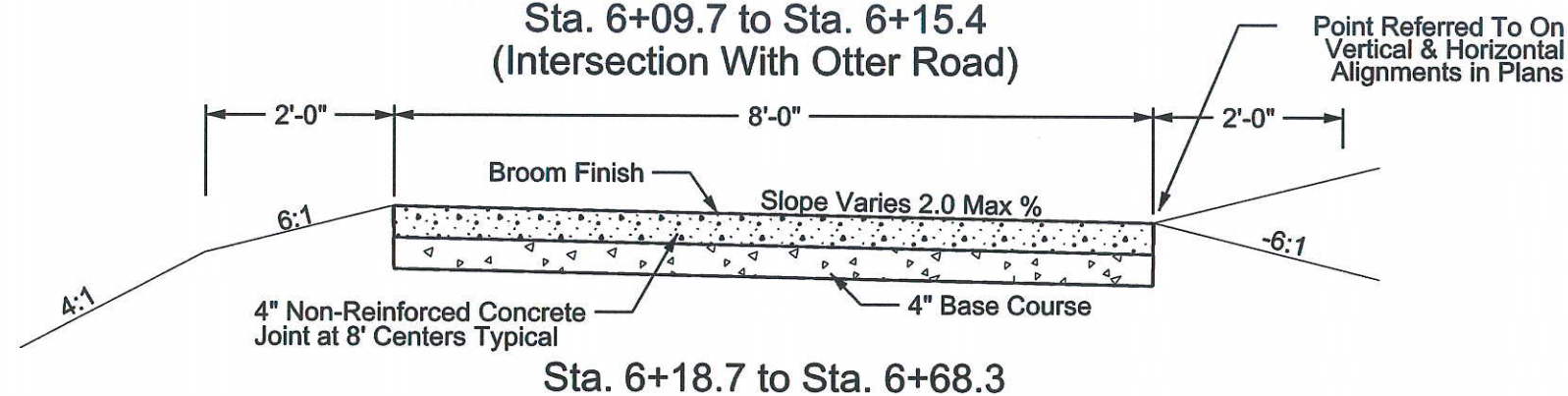
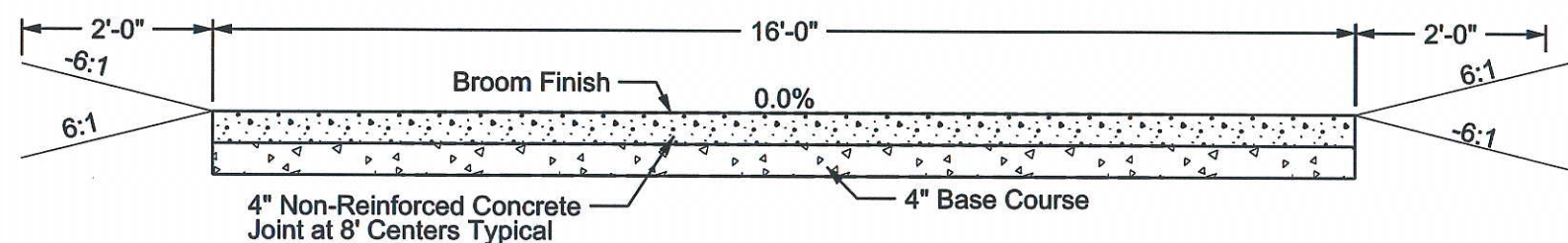
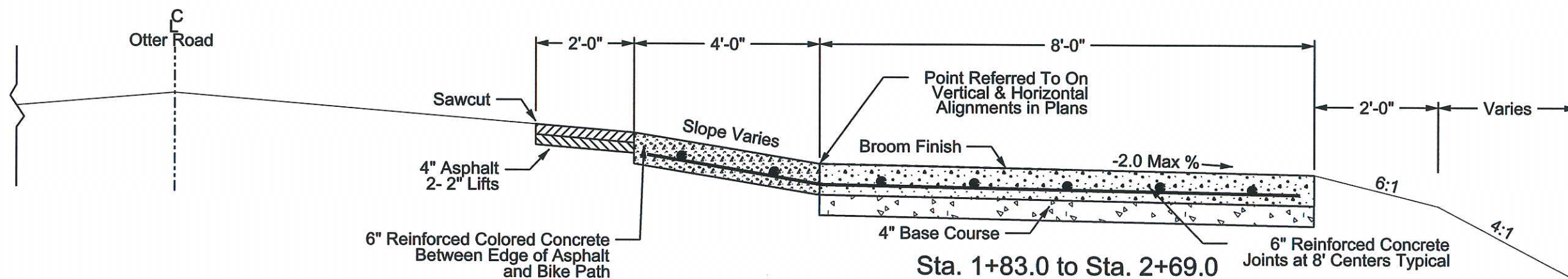
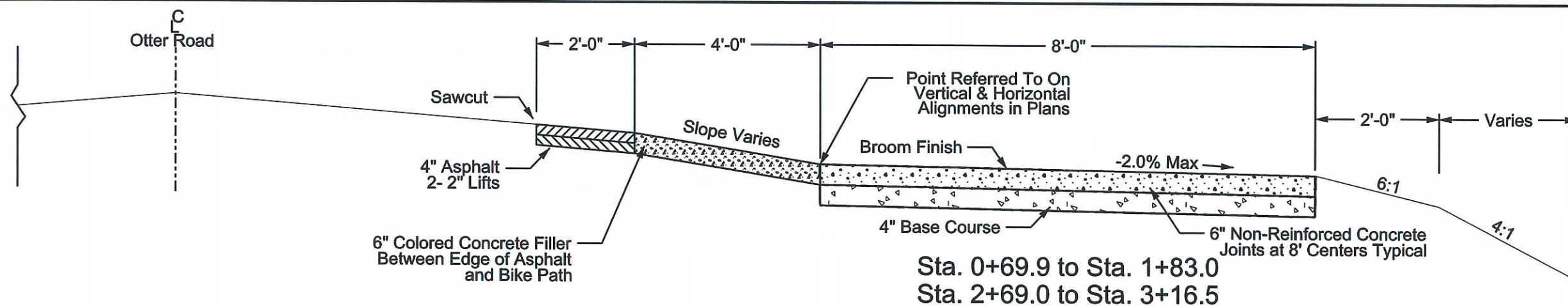
Traffic approaching the project from intersecting roadways, streets, and approaches must be adequately accommodated. Major intersections or commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

Material tracking of vehicles leaving the project must be removed from the roadway in a manner that satisfies the Engineer. All costs associated with this work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

The Contractor shall have staff available 24 hours, 7 days a week for the duration of the project to maintain traffic. In the event of traffic disruption due to unforeseen circumstances (storm, accident, etc.) during non-working hours or the weekend, the Contractor shall be responsible for resetting traffic control devices to maintain traffic. The name and cellular telephone number for this contact shall be given to the Engineer at the preconstruction meeting.

The Contractors vehicles shall be equipped with flashing amber lights which shall be flashing when working in or adjacent to traffic.

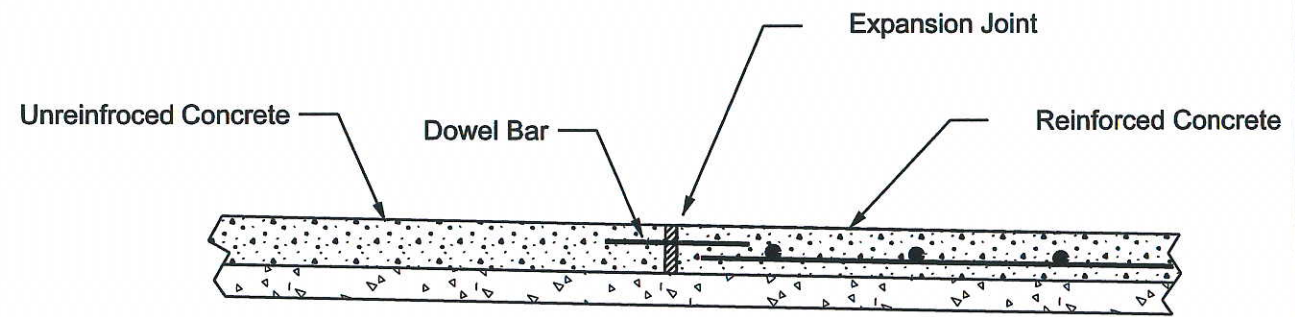
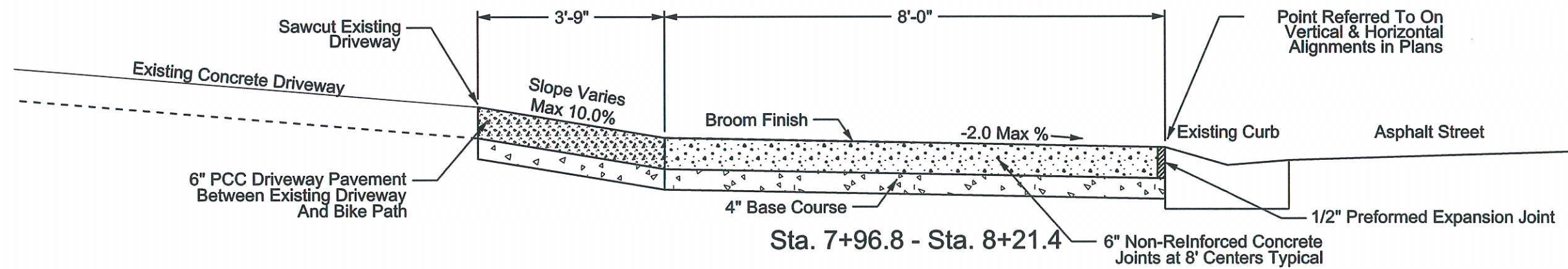
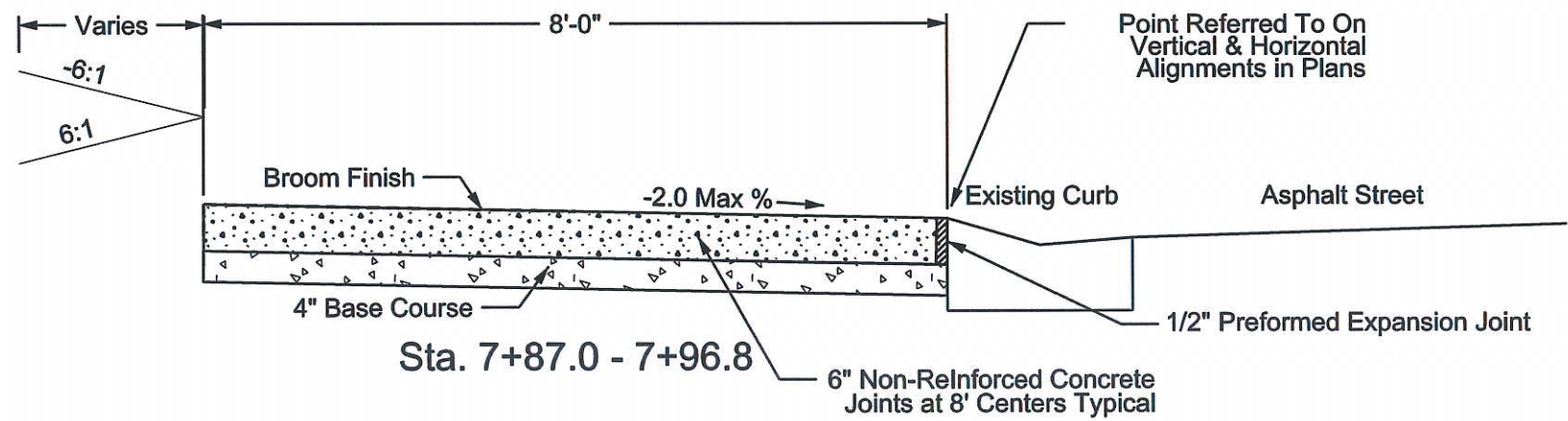
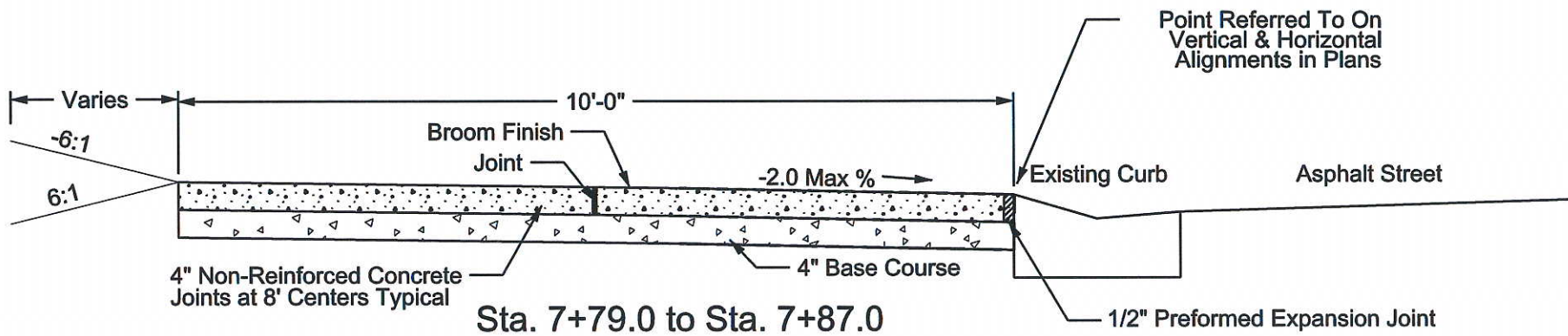
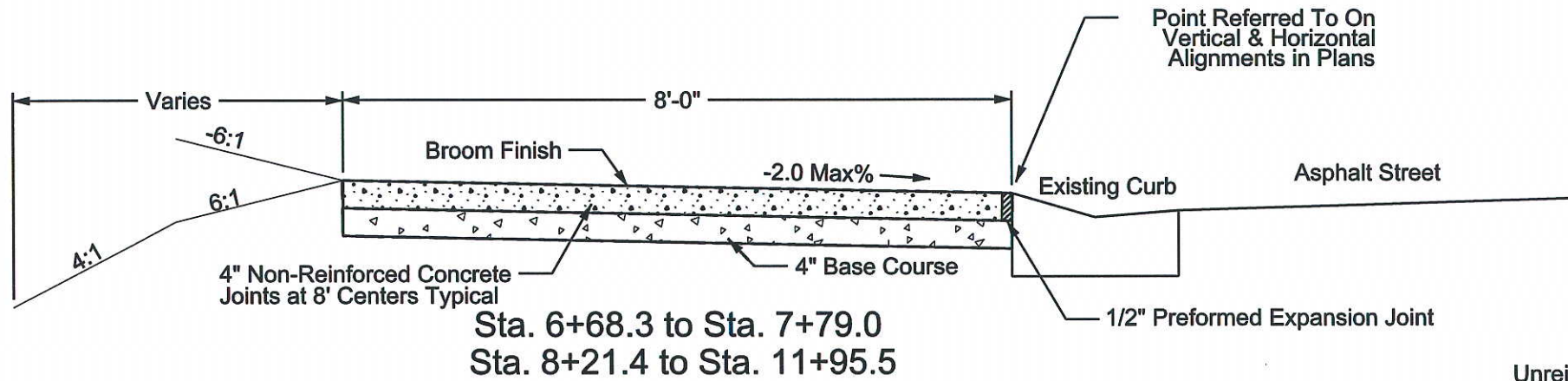
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P OENH(220)	7	30
Plotting Date: 02/16/15 Revised Date: xx/xx/xx Initials: TJG			



Notes:

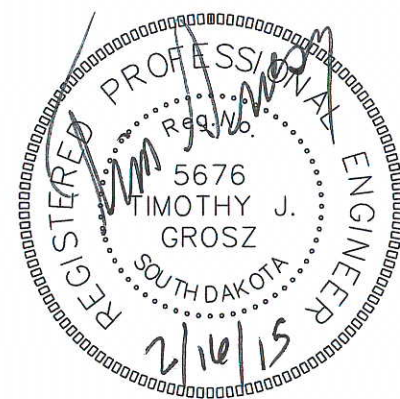
1. Strip topsoil approx 4" and compact subgrade. Install 4" cushion material on subgrade. Cushion Material shall be Base Course meeting the requirements Section of 882 of the SD DOT Specifications.
2. Stripped Topsoil shall be spread evenly along edge of new concrete bike path and then seeded & mulched.
3. Contractor to pour concrete filler between edge of asphalt and concrete shared use path. Concrete shall be earth tone in color. The asphalt shall be sawcut to a true line and shall be considered incidental to the concrete filler.
4. Re-Inforced sections shall be reinforced with #5 rebar spaced at 18" centers in each direction. The rebar shall not be paid for separately but shall be considered an incidental to square foot price for the corresponding sidewalk item. Rebar shall have a minimum clearance of 2" from edges of concrete.
5. No Separate payment shall be made for saw cutting, it shall be considered an incidental to various bid items.

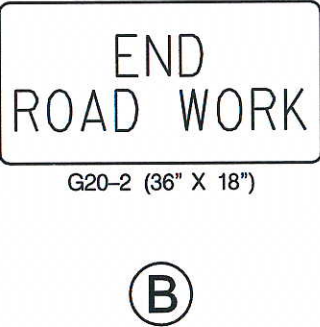
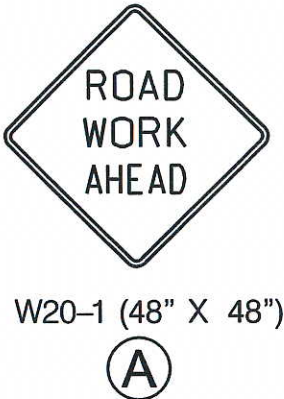
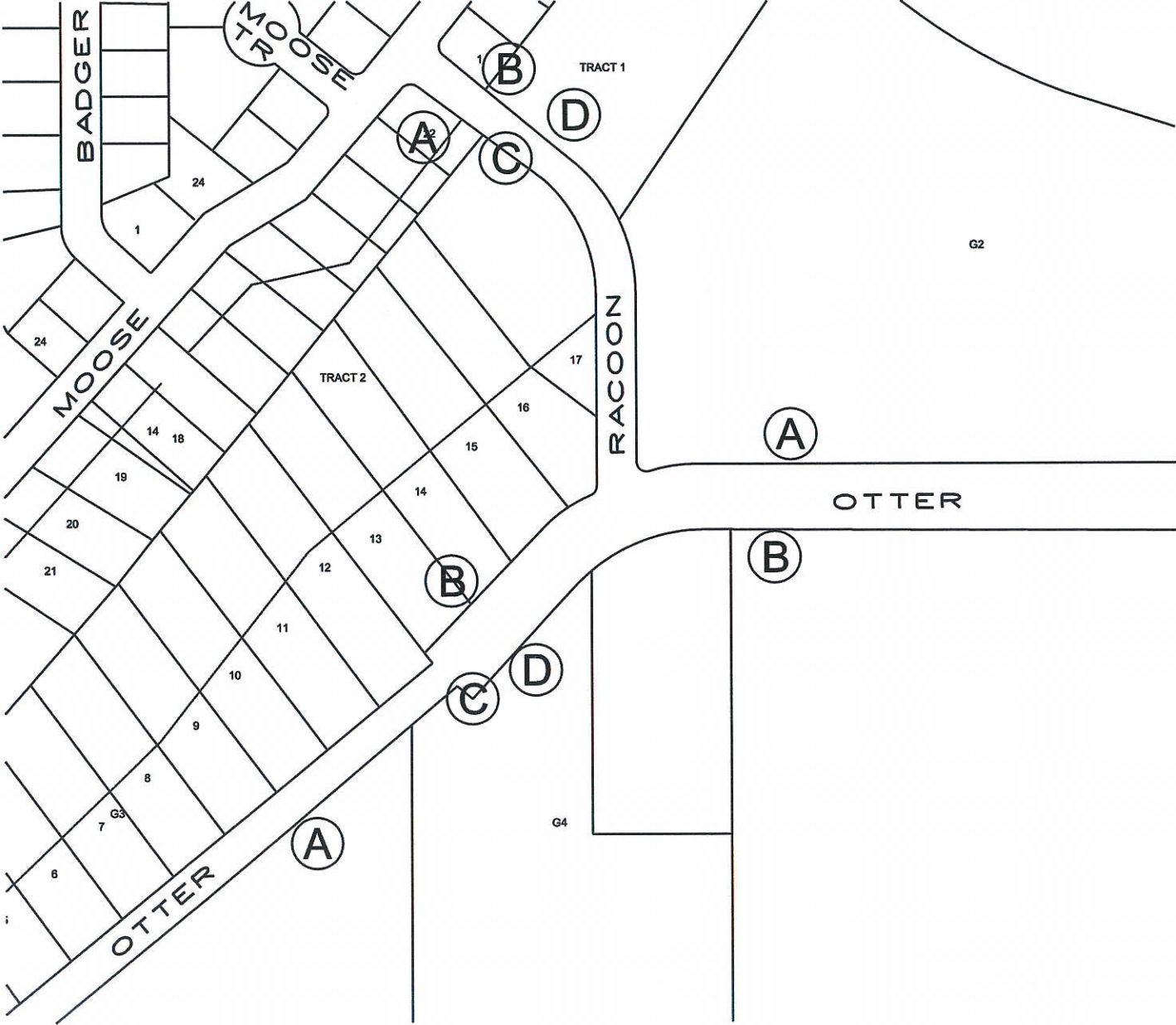




REINFORCED TO UNREINFORCED CONCRETE JOINT

At joints where reinforced concrete meets unreinforced concrete install expansion joint with #5 x 18" smooth dowels spaced at 18" centers. The dowels shall not be paid for separately but shall be considered an incidental to square foot price for the corresponding sidewalk item. Dowels shall have a minimum clearance of 2" from edges of concrete.

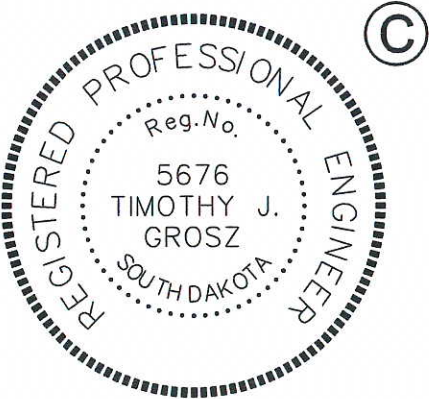


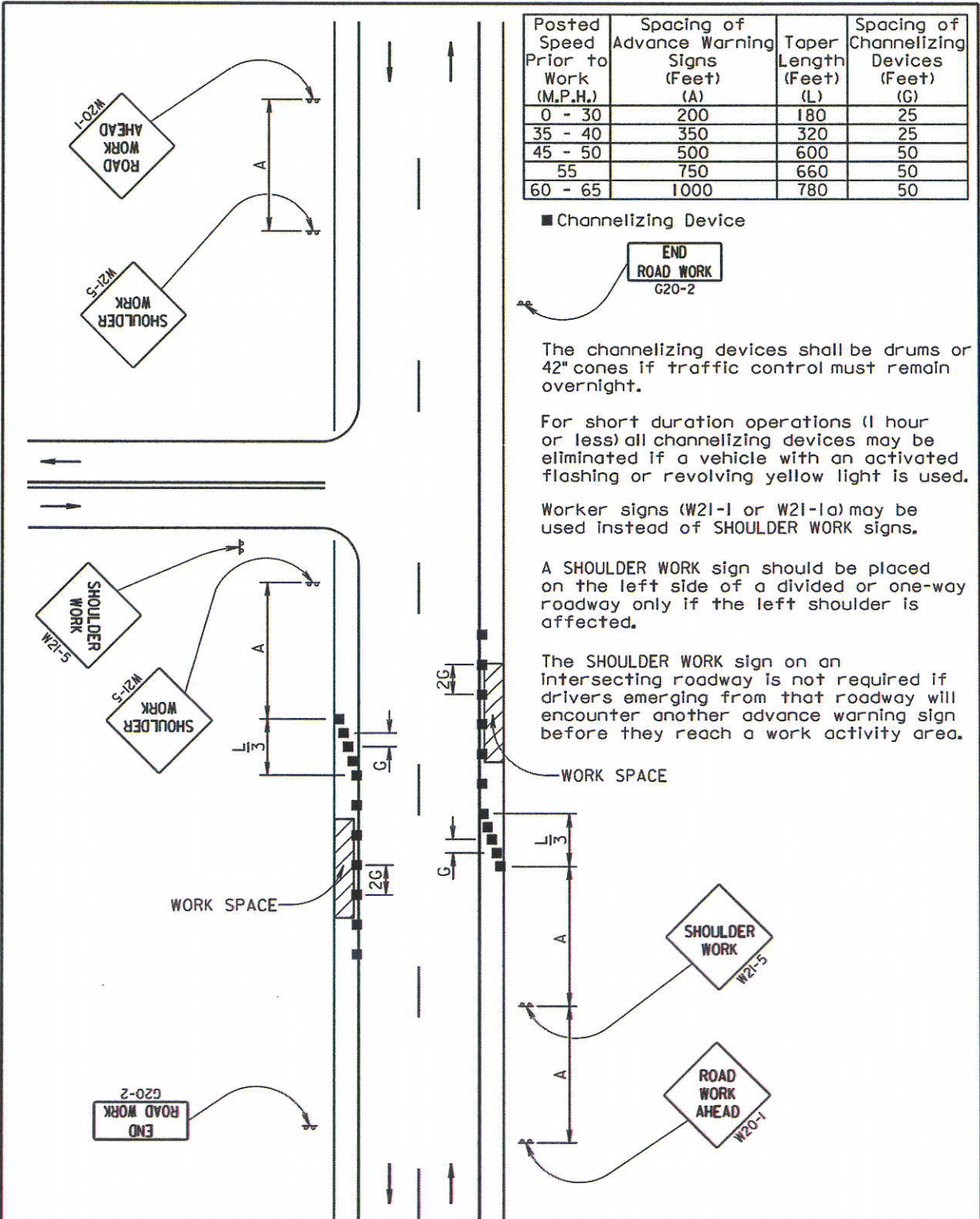


ITEMIZED LIST FOR TRAFFIC CONTROL

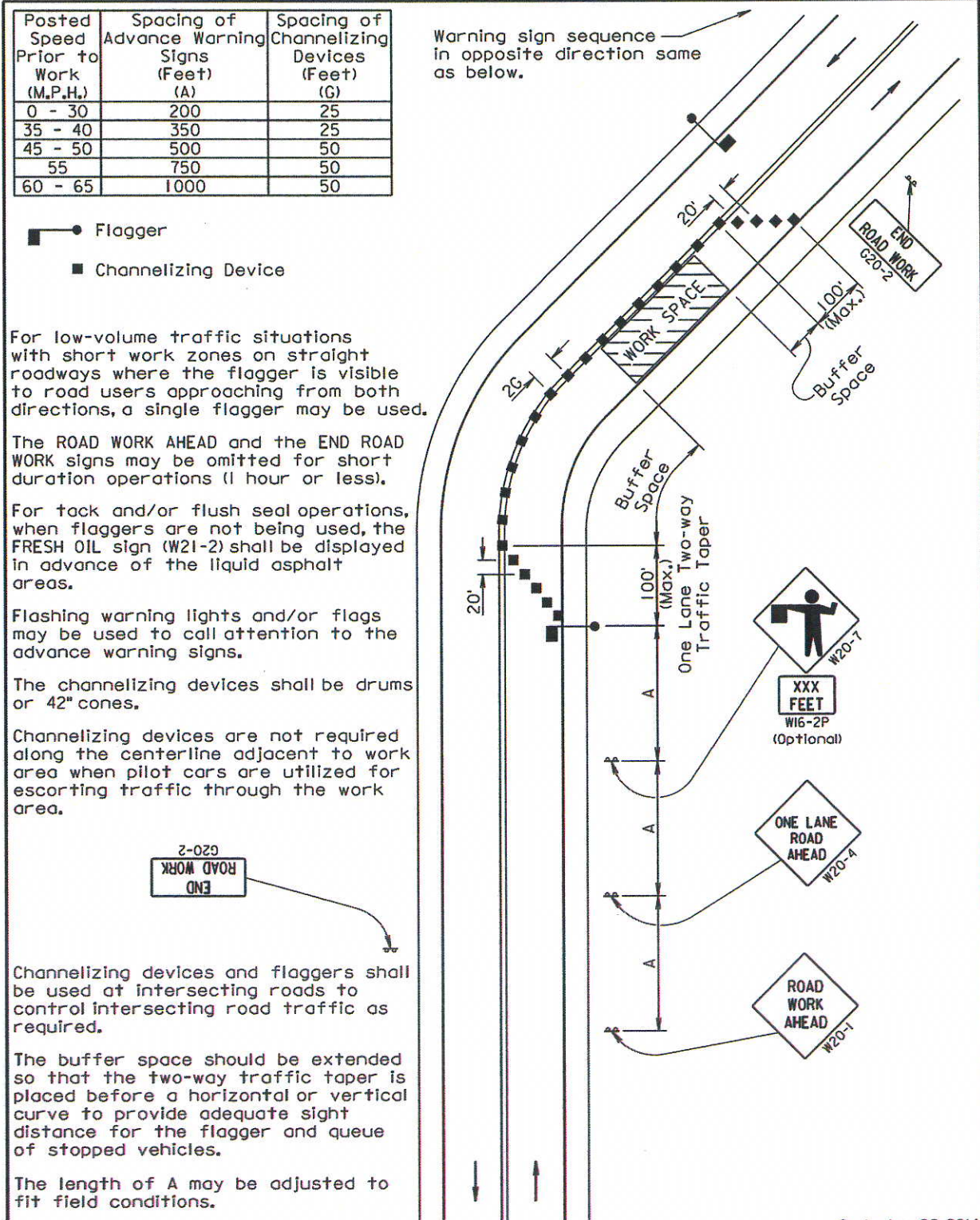
SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	3	17	51
R9-9	24" x 12"	SIDEWALK CLOSED	4	4	16
R9-11A	24" x 12"	SIDEWAQLK CLOSED CROSS HERE	4	4	16
W20-4	48" x 48"	One Lane Road Ahead	3	34	102
W20-7	48" x 48"	Flagger	3	34	102
W20-1	48" x 48"	ROAD WORK AHEAD	3	34	102
W21-5a	48" x 48"	RIGHT SHOULDER CLOSED	2	34	68
*****	*****	TYPE III BARRICADE - 8 FT. SINGLE SIDED	2	40	80
TOTAL UNITS			537		

R9-9 and R9-11a to be used at Engineers Discretion.

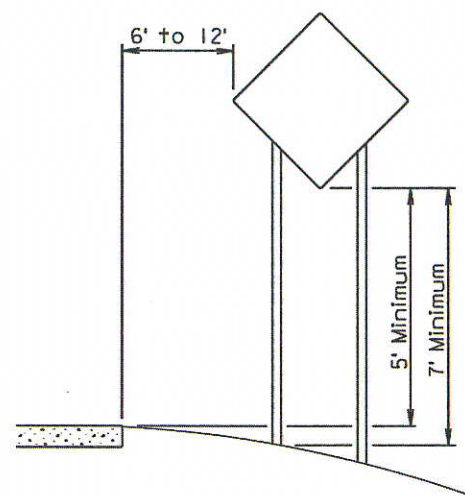




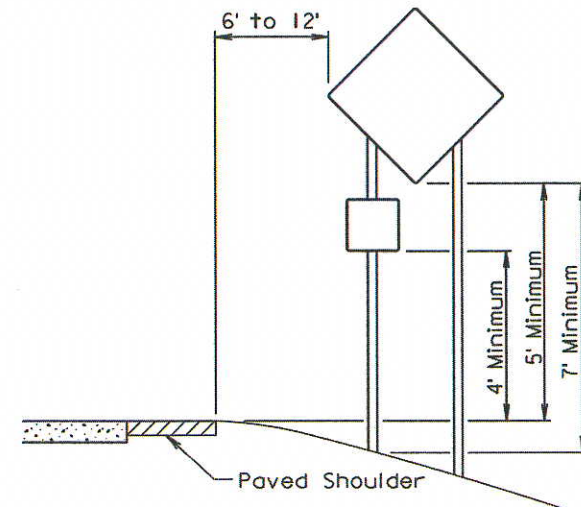
September 22, 2014



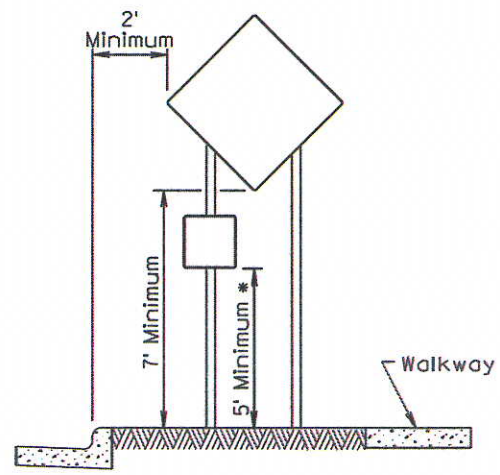
September 22, 2014



RURAL DISTRICT

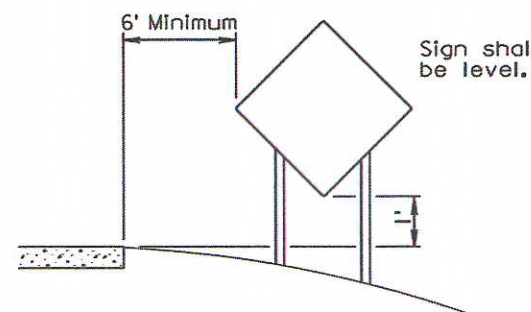


RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



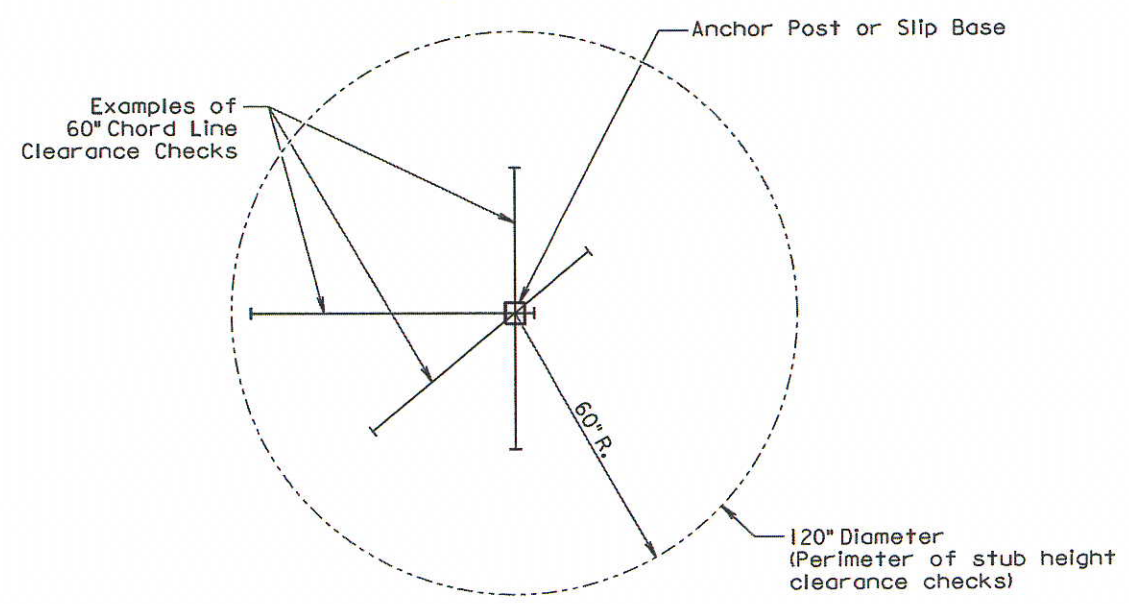
URBAN DISTRICT

* 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.

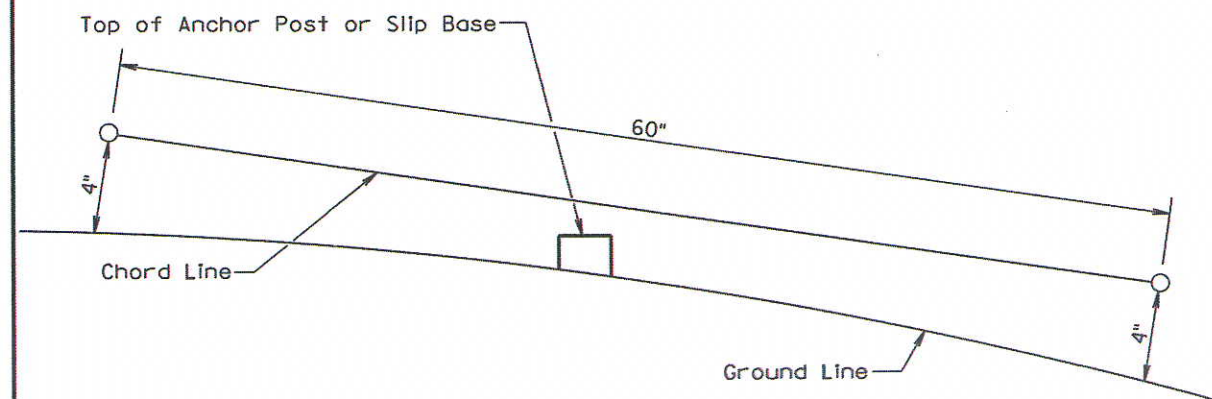


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

September 22, 2014



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

EROSION AND SEDIMENT CONTROL



Scale: 1" = 80.00'

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
	P OENH(220)	NO. 12	SHEETS 30
Plotting Date: 02/16/15 Revised Date: xx/xx/xx Initials: TJG			

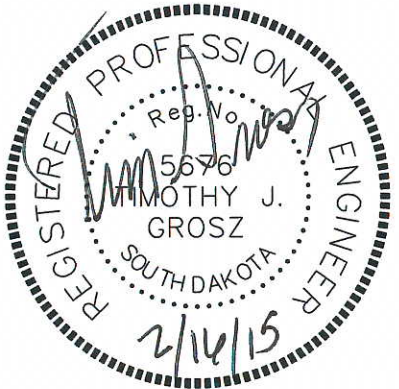


PERIMETER CONTROL

Install Erosion Control Wattles at the Following Locations:				
Station	Side	Diameter	Location	Length(Ft)
1+89	R	12"	Culvert End	18
2+75 - 3+50	R	12"	Ditch Bottom/Inslope	97
11+96 - 21+212	R	12"	Curb/Back of Curb	40

FINAL STABILIZATION

Install Type I Erosion Control Blanket at the Following Locations:				
Station	Side	Location	Sq. Yds.	
0+73 - 2+09	R	Inslope	181	
2+46 - 3+28	R	Inslope	122	



HORIZONTAL ALIGNMENT DATA

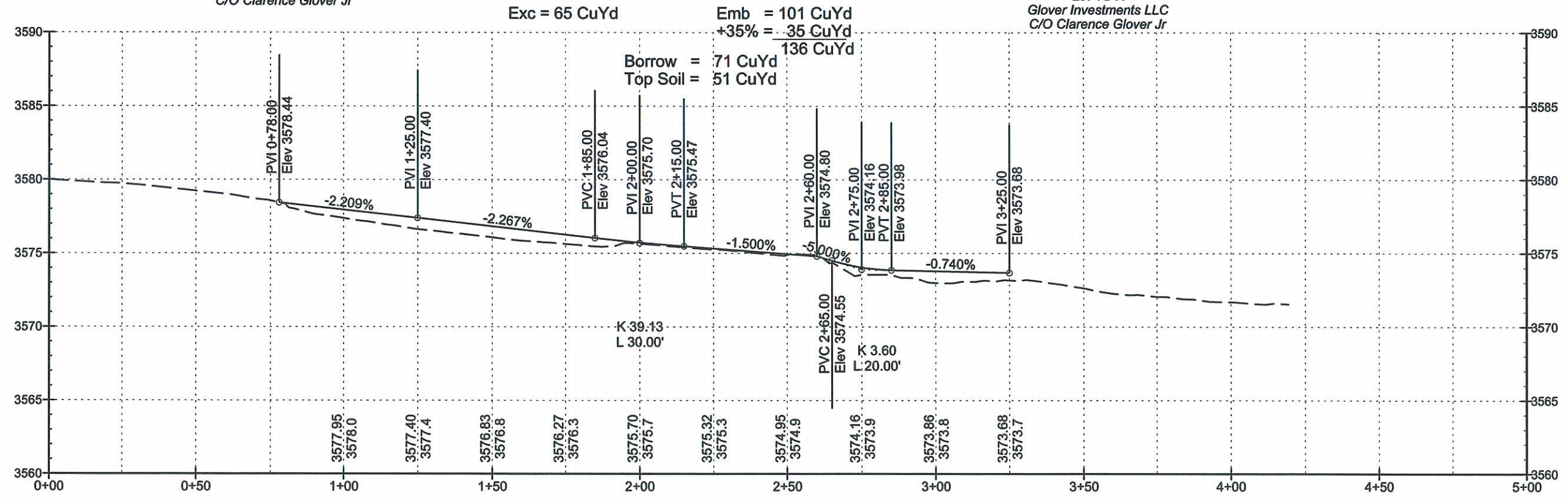
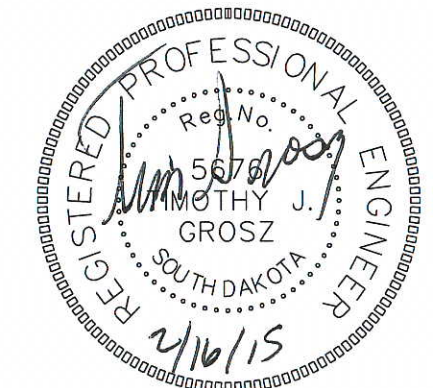
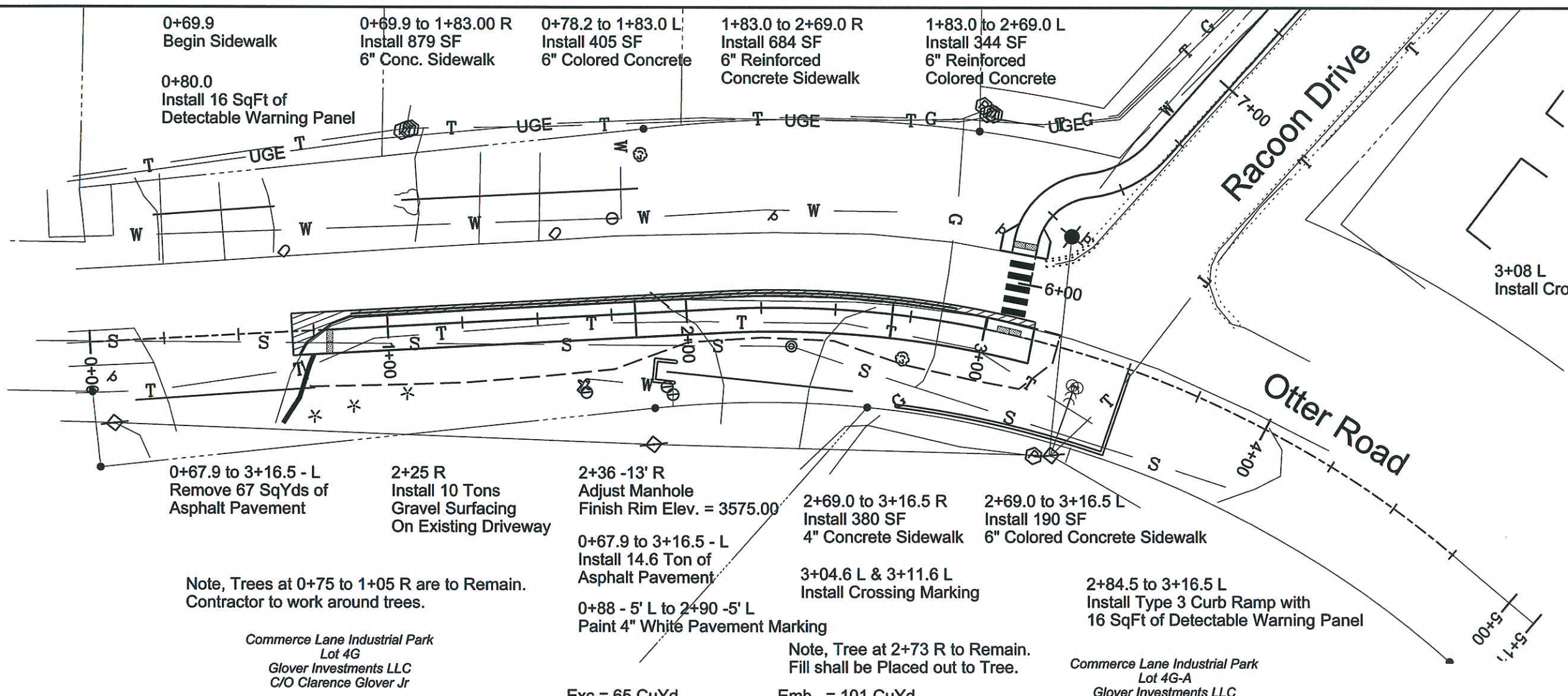
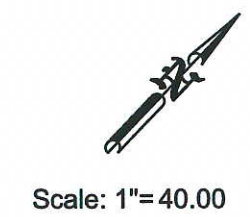
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P OENH(220)	13	30

OTTER ROAD			
Description: bike path	STATION	NORTHING	EASTING
POB	0+00.00	224342.29	1049973.23
PC	2+10.73	224482.42	1050130.62
Tangent Direction:	N 48°19'15" E		
Tangent Length:	210.73		
PC	2+10.73	224482.42	1050130.62
PI	3+50.10	224575.09	1050234.71
PT	4+75.99	224570.85	1050374.01
Radius:	350.00		
Delta:	43°25'25" Right		
Length:	265.26		
Tangent:	139.37		
Tangent Direction:	N 48°19'15" E		
Radial Direction:	S 41°40'45" E		
Chord Direction:	N 70°01'58" E		
Radial Direction:	S 1°44'40" W		
Tangent Direction:	S 88°15'20" E		
PT	4+75.99	224570.85	1050374.01
POE	5+10.63	224569.80	1050408.63
Tangent Direction:	S 88°15'20" E		
Tangent Length:	34.64		

RACoon ROAD			
Description: bike path	STATION	NORTHING	EASTING
Element: Linear			
POB	6+00.00	224553.68	1050206.96
PC	6+13.57	224565.68	1050200.62
Tangent Direction:	N 27°51'17" W		
Tangent Length:	13.57		
PC	6+13.57	224565.68	1050200.62
PI	6+28.36	224578.75	1050193.71
PT	6+39.02	224589.17	1050204.20
Radius:	19.96		
Delta:	73°02'42" Right		
Degree of Curvature(Arc):	287°03'11"		
Length:	25.45		
Tangent:	14.78		
Tangent Direction:	N 27°51'17" W		
Radial Direction:	N 62°08'43" E		
Chord Direction:	N 8°40'04" E		
Radial Direction:	S 44°48'35" E		
Tangent Direction:	N 45°11'25" E		
PT	6+39.02	224589.17	1050204.20
PC	6+39.03	224589.18	1050204.21
Tangent Direction:	N 45°11'25" E		
Tangent Length:	0.01		
PC	6+39.03	224589.18	1050204.21
PI	6+54.36	224599.98	1050215.08
PT	6+68.30	224615.28	1050215.95
Radius:	40.00		
Delta:	41°55'21" Left		
Degree of Curvature(Arc):	143°14'22"		
Length:	29.27		
Tangent:	15.32		
C			
Tangent Direction:	N 45°11'25" E		
Radial Direction:	S 44°48'35" E		
Chord Direction:	N 24°13'44" E		
Radial Direction:	S 86°43'56" E		
Tangent Direction:	N 3°16'04" E		
PT	6+68.30	224615.28	1050215.95
PC	9+26.10	224872.66	1050230.65
Tangent Direction:	N 3°16'04" E		
Tangent Length:	257.80		
PC	9+26.10	224872.66	1050230.65
PI	10+68.03	225014.36	1050238.74
PT	11+90.68	225109.11	1050133.06
Radius:	295.00		
Delta:	51°23'17" Left		
Degree of Curvature(Arc):	19°25'20"		
Length:	264.58		
Tangent:	141.94		
Tangent Direction:	N 3°16'04" E		
Radial Direction:	S 86°43'56" E		
Chord Direction:	N 22°25'35" W		

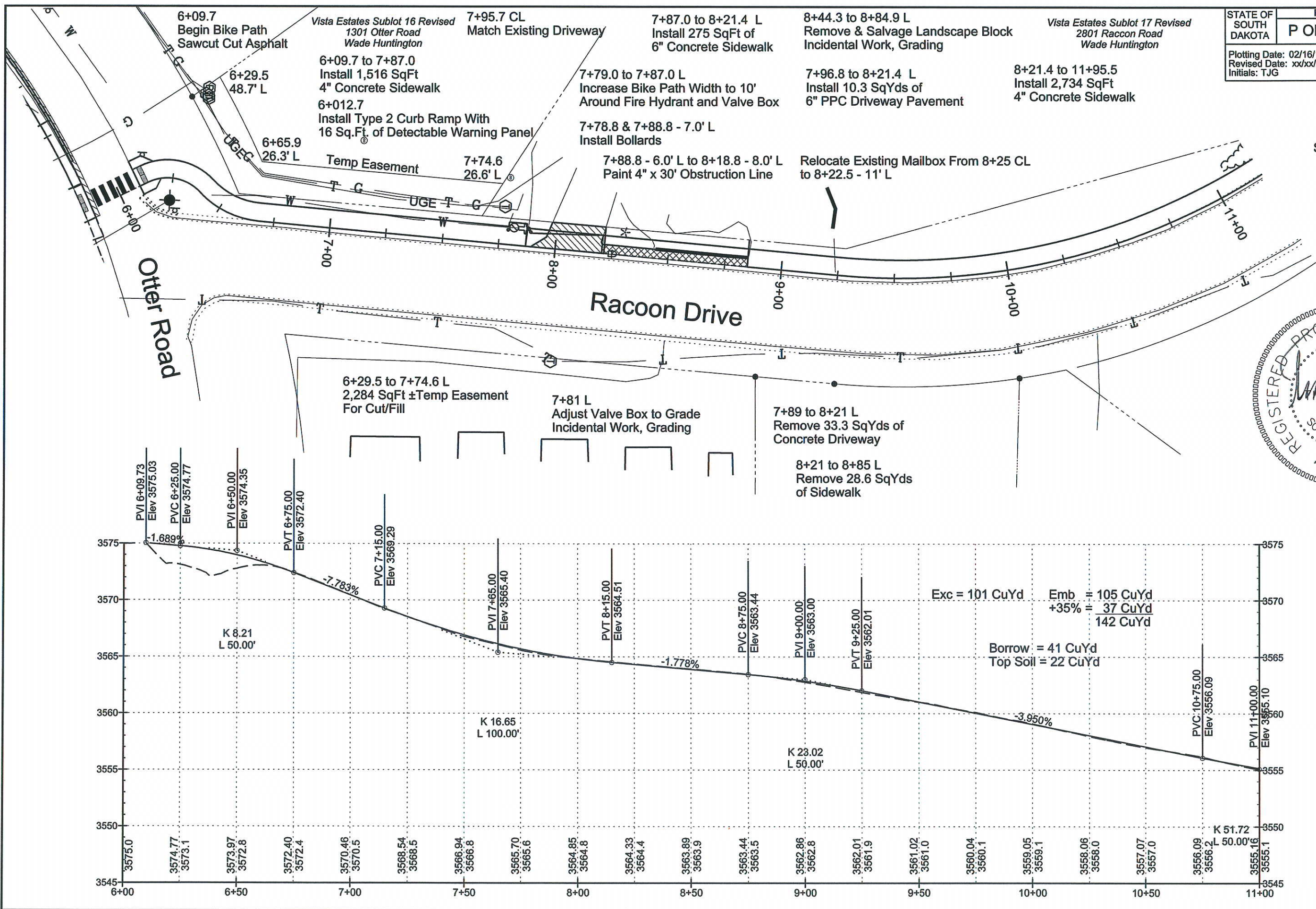
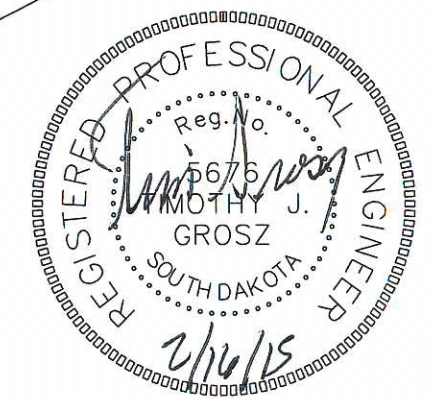
Radial Direction:	N 41°52'47" E		
Tangent Direction:	N 48°07'13" W		
PT	11+90.68	225109.11	1050133.06
POE	12+77.82	225167.29	1050068.18
Tangent Direction:	N 48°07'13" W		
Tangent Length:	87.14		

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P OENH(220)	14	30
Plotting Date: 02/16/15 Revised Date: xx/xx/xx Initials: TJG			





Scale: 1"= 40.00

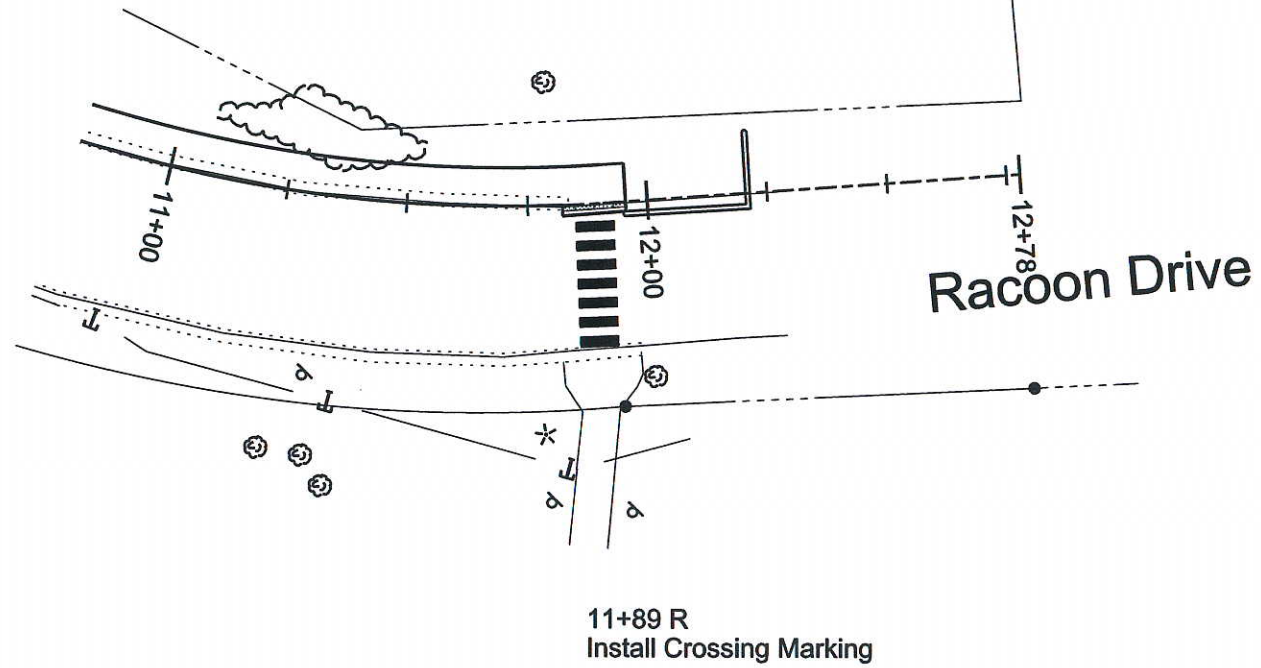


Vista Estates Sublot 17 Revised
2801 Racoon Road
Wade Huntington

11+07 to 11+52 L
Remove Bushes in Right-of Way

11+95.5
Install Type 3 Curb Ramp
With 16 Sq. Ft. of Detectable Warning Panel
At Street Crossing

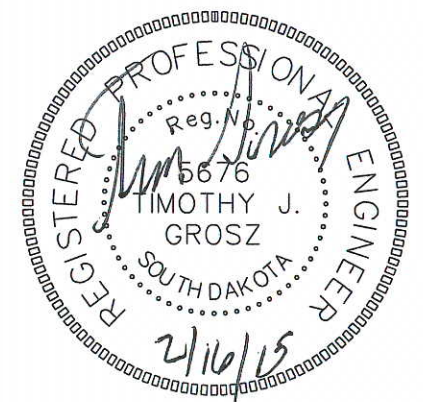
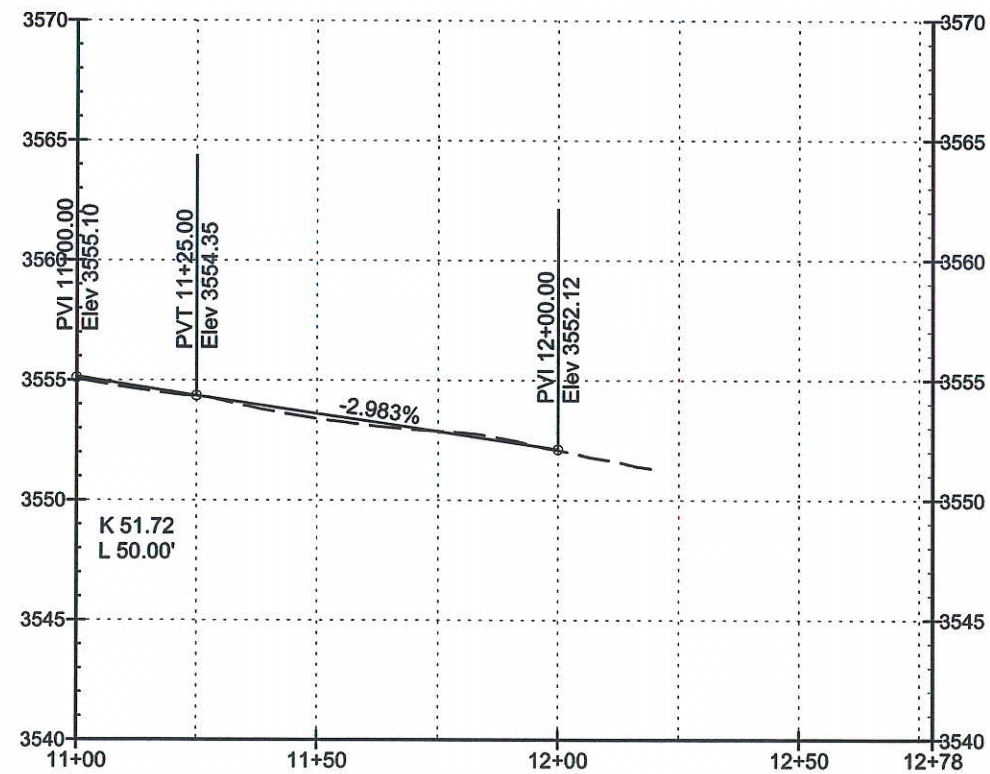
11+96 to 12+21
Install 40 ft of 12" Erosion Control Wattle

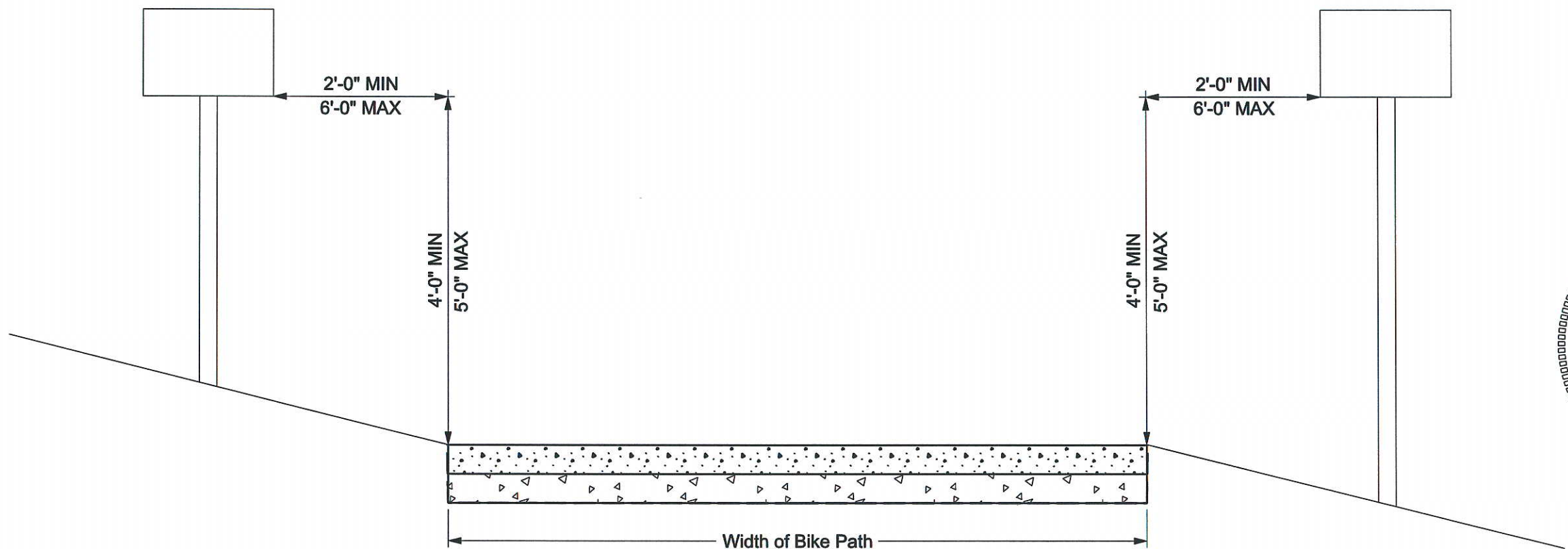


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P OENH(220)	16	30
Plotting Date: 02/16/15 Revised Date: xx/xx/xx Initials: TJG			

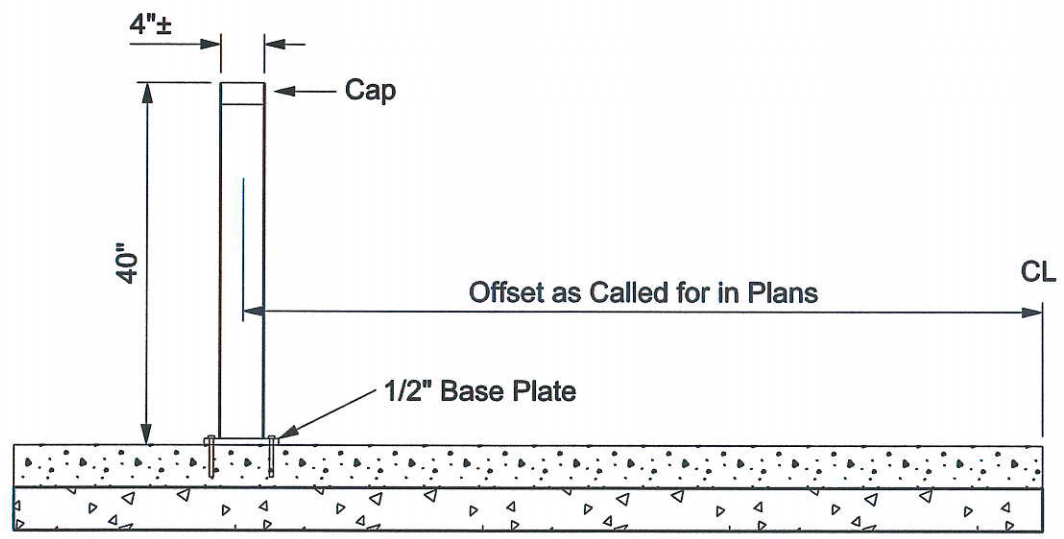


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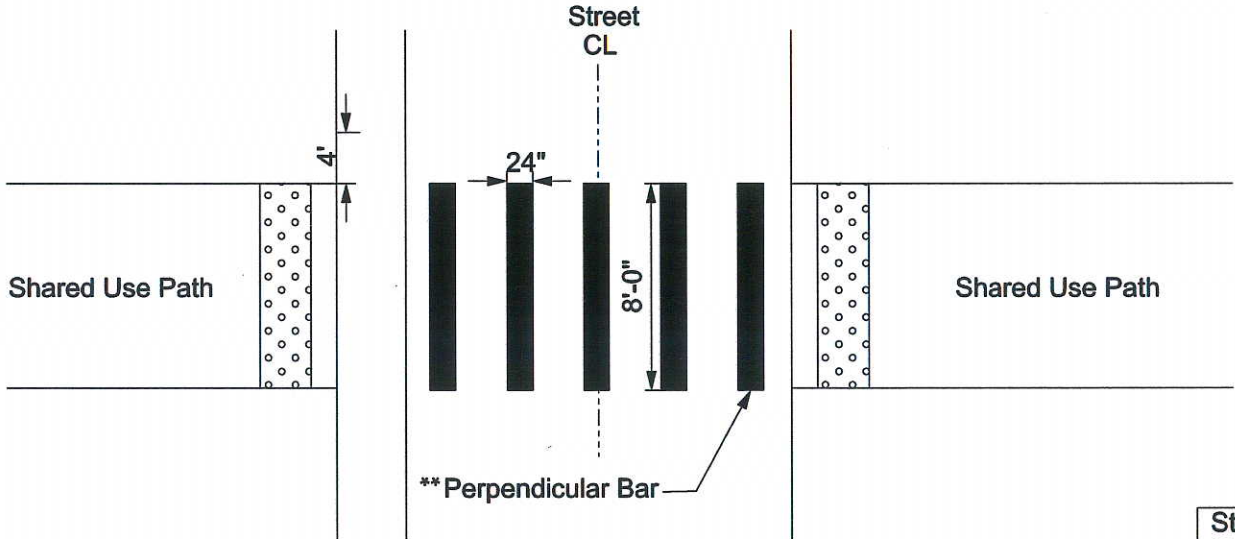


SIGN PLACEMENT ON SHARED USE PATH
(From MUTCD 2009 Edition)



BOLLARD DETAIL

Bollard to be Torbeck Industries B-2 Bollard or Equal.
 Anchor to Concrete Shared Use Path with 4 - 3/8" Anchor Bolts.
 Bollard to be Powder Coated Safety Yellow.
 Top of Bollard to be Sealed with a Cap.



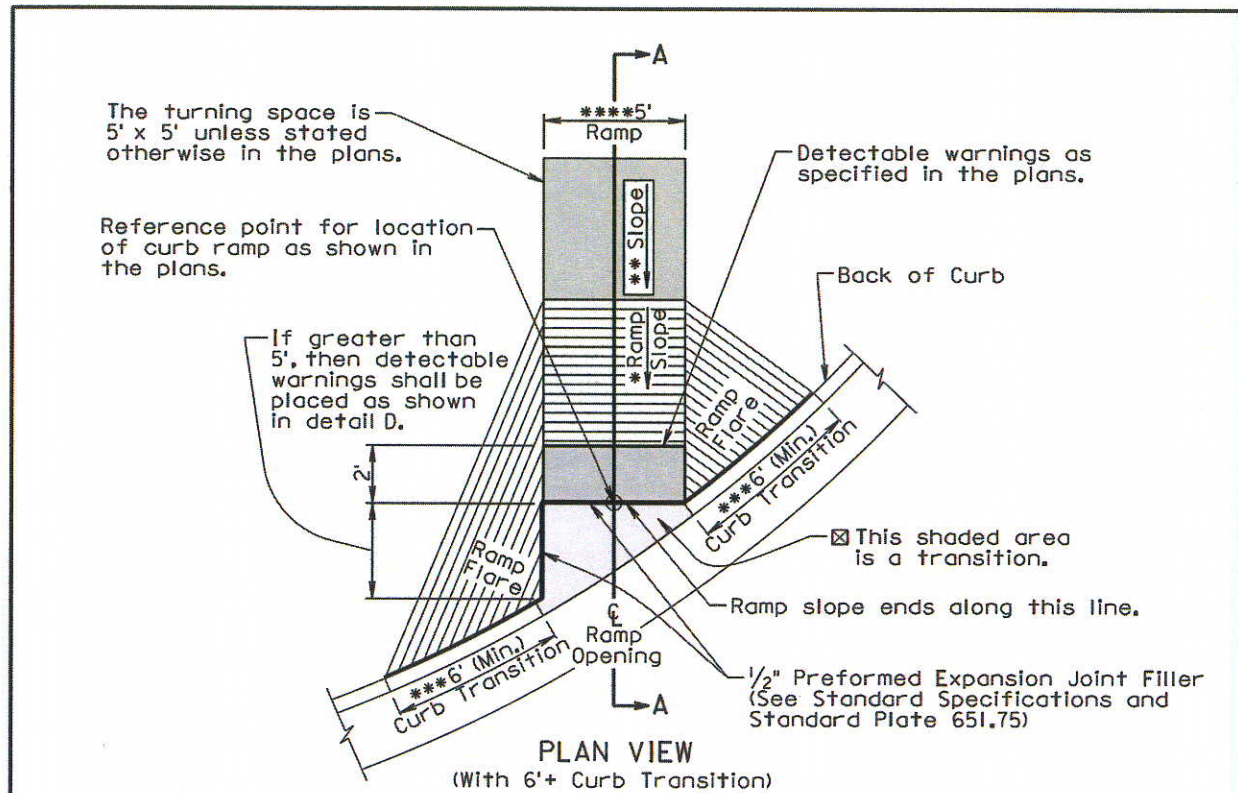
CROSSING MARKING DETAIL

All Markings to be 24" Wide, White in Color.

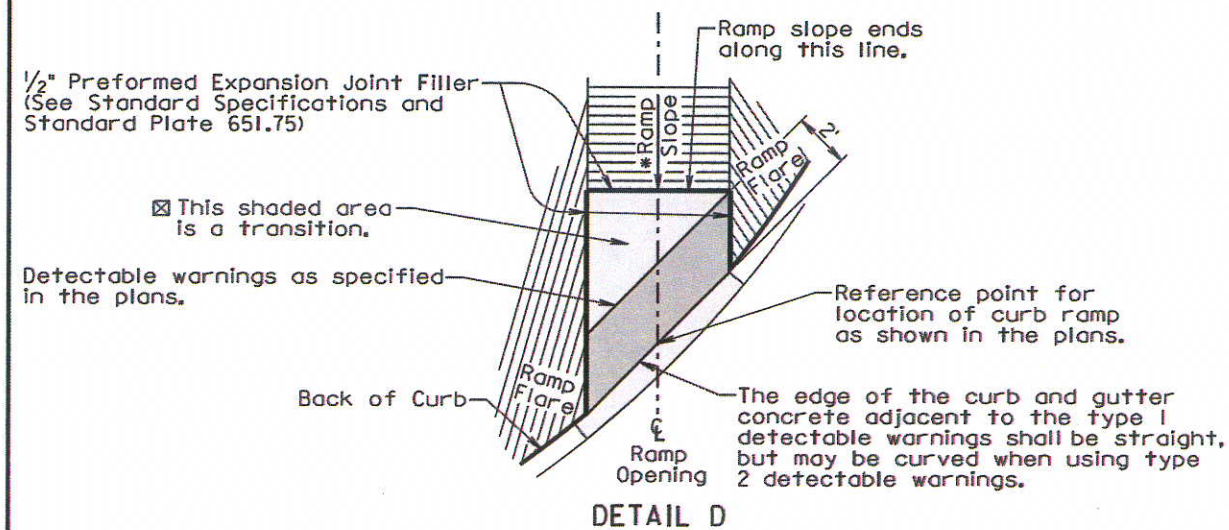
The crosswalk markings shall be placed to
 avoid wheel paths as much as possible and
 the clear space between the longitudinal markings
 shall be from 2' to 5'.

Street Crossing	No. Bars
Otter	5
Racoon	5

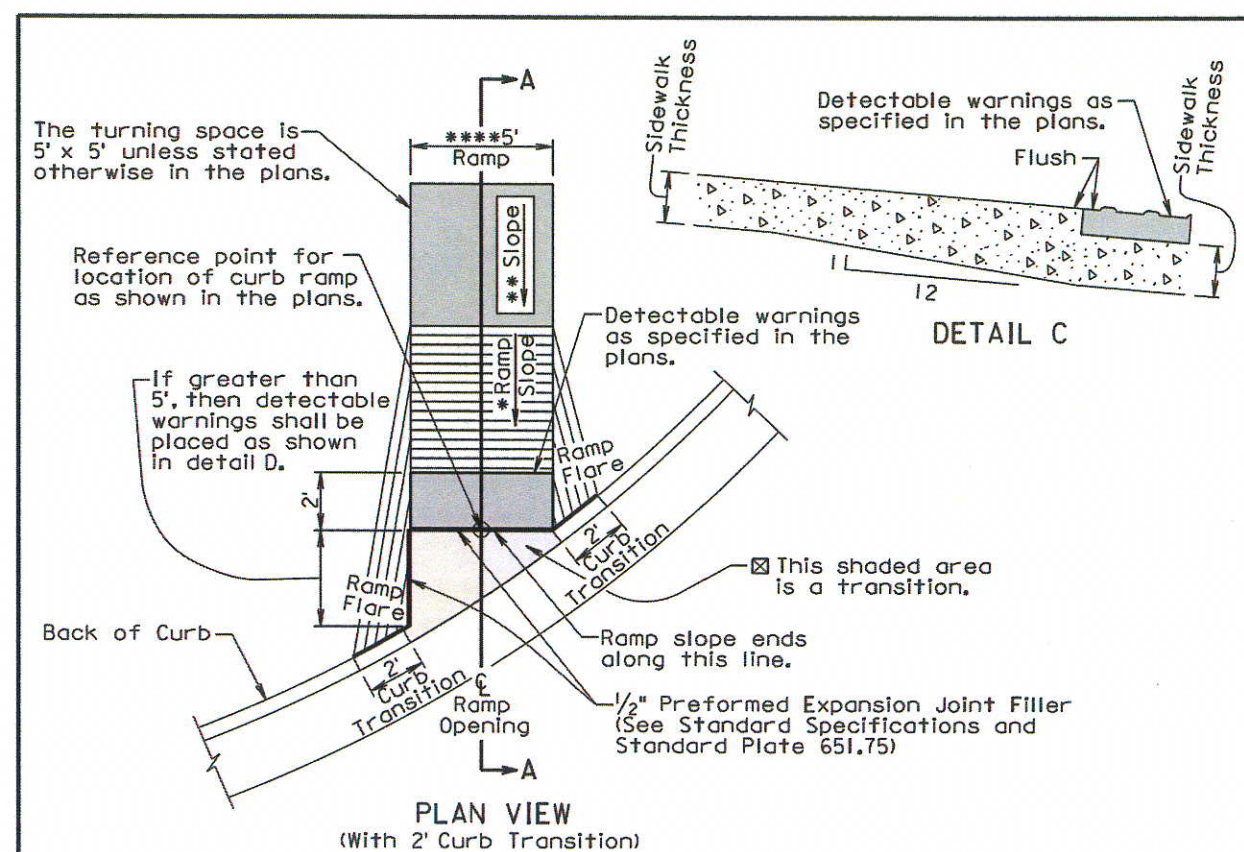




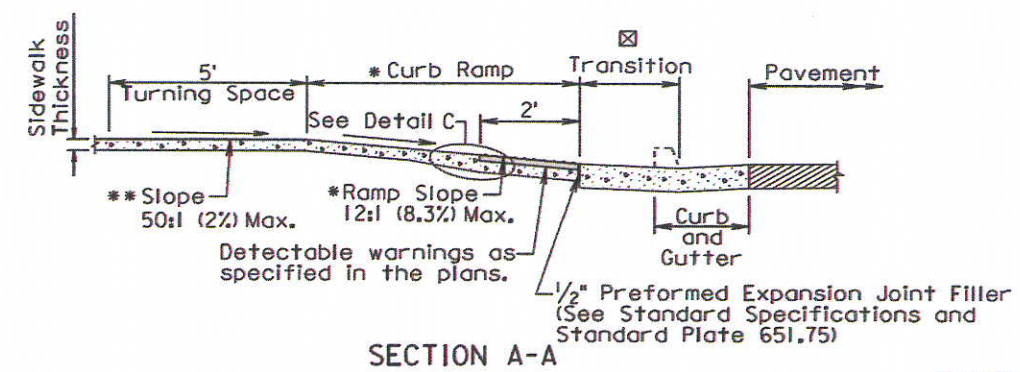
- ☒ The slope within the transition area shall not be steeper than a 20:1 (5%). The concrete within the transition shall be placed monolithic with the curb and gutter or fillet section concrete. The concrete thickness within the transition shall be the same as the curb and gutter or fillet section concrete thickness.
- ***The curb transition shall be a minimum of 6' long, a maximum of 10' long, and the curb transition slope shall not be steeper than a 10:1 (10%) unless stated otherwise in the plans.



September 6, 2013



- * The ramp slope shall be 12:1 (8.3%) maximum. The ramp length shall not exceed 15' unless stated otherwise in the plans. Ramp slopes are designed at 12:1 (8.3%) unless stated otherwise in the plans.
- The cross slope of the ramp shall not be steeper than 50:1 (2%).
- ** The slope in the turning space shall not be steeper than a 50:1 (2%) in any direction of pedestrian travel.
- **** The ramp width is 5' unless stated otherwise in the plans.



September 6, 2013

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, with curved curb and gutter, or with straight curb and gutter. The curb ramp shall be placed at the location stated in the plans.

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

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

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

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

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

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

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

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

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

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

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

The type 2 detectable warnings shall 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 shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

September 6, 2013

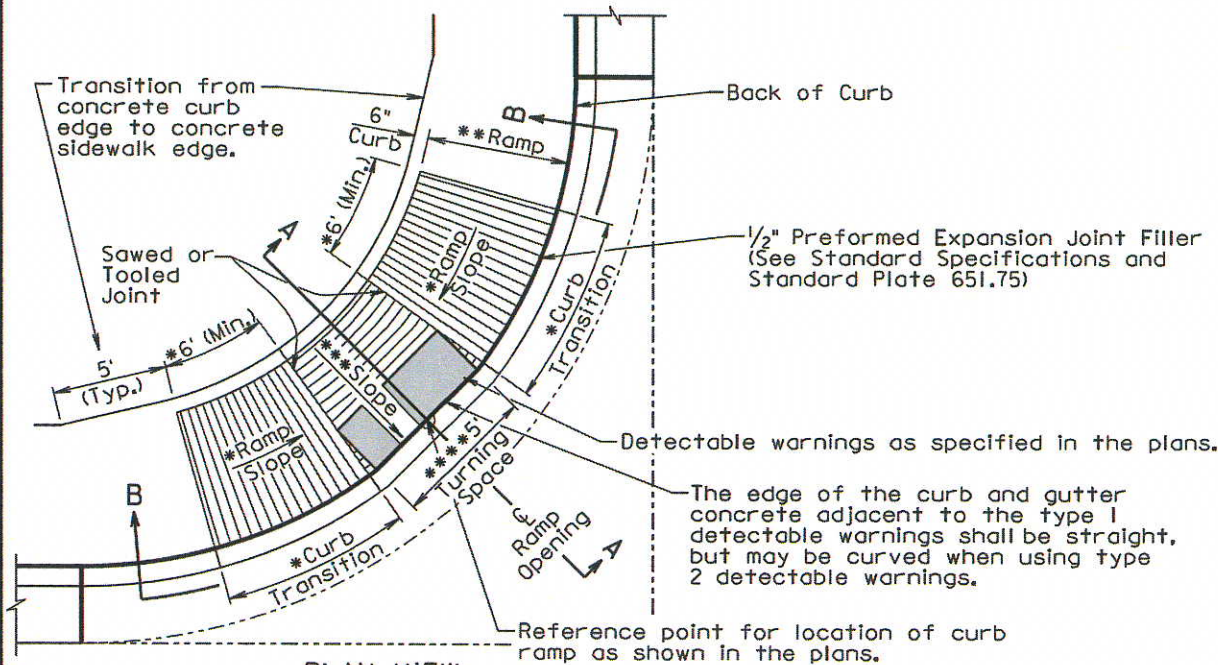
Published Date: 1st Qtr. 2015

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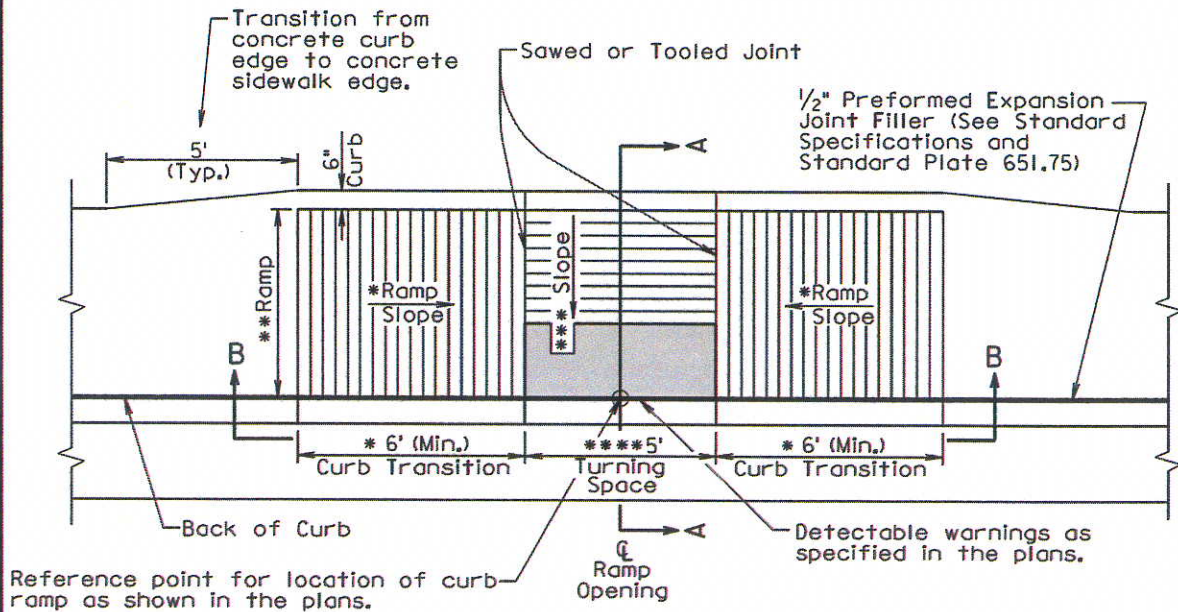
**TYPE 2 CURB RAMP
(DIRECTIONAL CURB RAMP)**

PLATE NUMBER
651.02

Sheet 3 of 3



PLAN VIEW
(With Curved Curb and Gutter)



PLAN VIEW
(With Straight Curb and Gutter)

September 6, 2013

Published Date: 1st Qtr. 2015

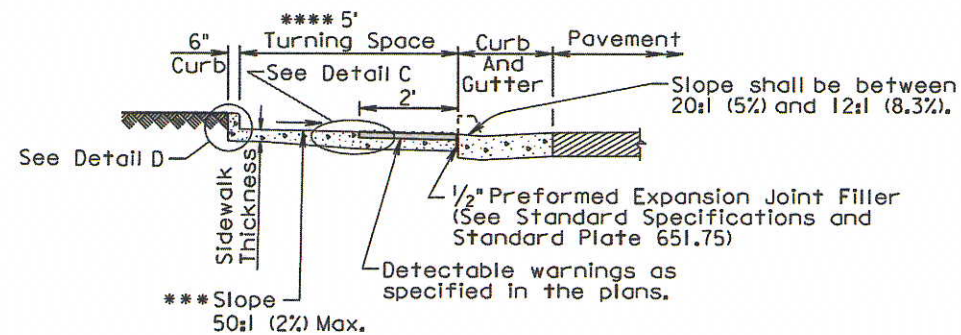
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**TYPE 3 CURB RAMP
(PARALLEL CURB RAMP)**

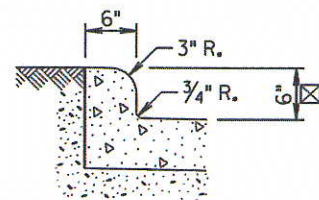
PLATE NUMBER
651.03

Sheet 1 of 3

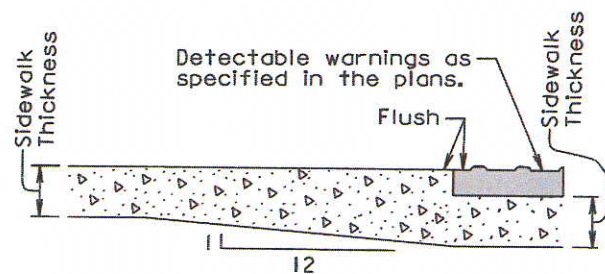
- * The curb transition slope shall match the ramp slope. The ramp slope, at any location of the ramp, shall be 12:1 (8.3%) maximum. The ramp length shall not exceed 15' unless stated otherwise in the plans. Ramp slopes are designed at 12:1 (8.3%) unless stated otherwise in the plans. The minimum length of the curb transition shall be 6'.
- ** The ramp cross slope shall not be steeper than a 50:1 (2%) and the ramp width is 5' unless stated otherwise in the plans.
- *** The slope in the turning space shall not be steeper than 50:1 (2%) in any direction of pedestrian travel.
- **** The turning space is 5' x 5' unless stated otherwise in the plans.
- ☒ The curb height shall be 6" unless stated otherwise in the plans.



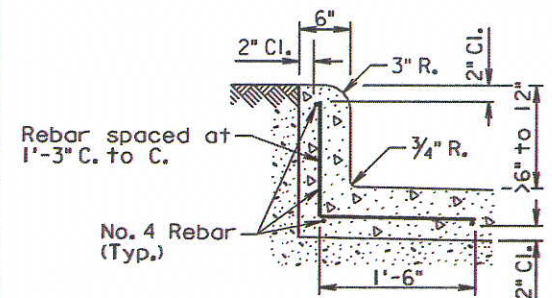
SECTION A-A



DETAIL D

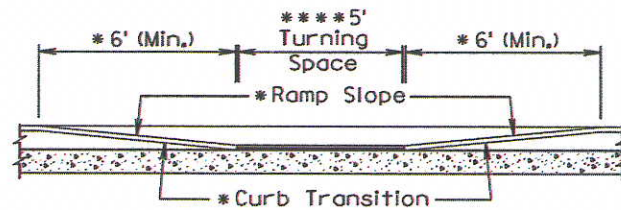


DETAIL C



DETAIL D

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



SECTIONAL VIEW B-B

September 6, 2013

GENERAL NOTES:

For illustrative purpose only, type I 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, with curved curb and gutter, or with straight curb and gutter.

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

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

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

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

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

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

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

The detectable warnings shall be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings shall be incidental to the corresponding detectable warning bid 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 shall conform to ASTM A615, Grade 60. Cost for furnishing and installing the reinforcing steel shall be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.

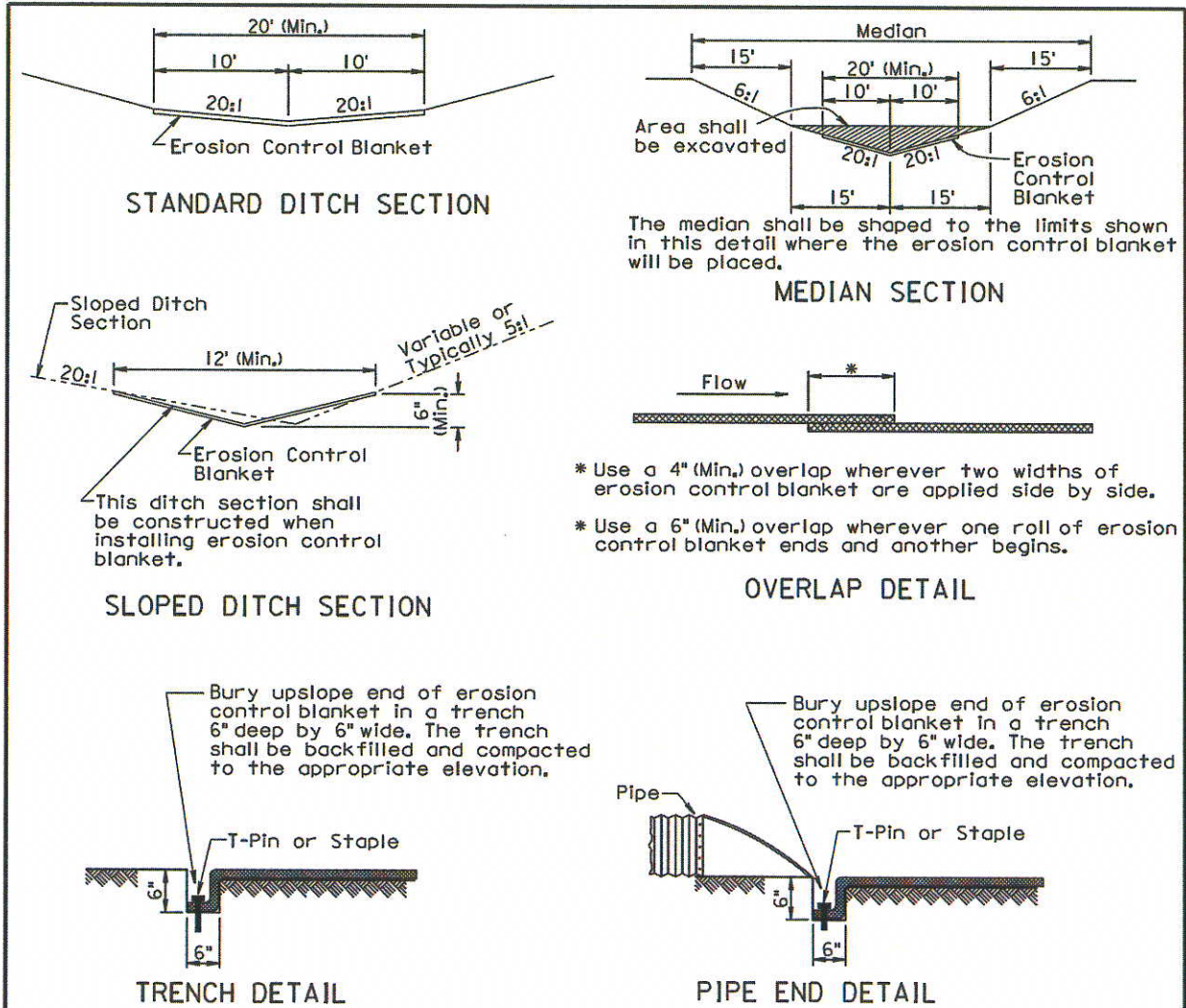
There will be no separate payment for curb ramps. The curb ramp shall be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk bid item. The square foot area of the detectable warnings and the curb along the short radius shall be included in the measured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

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

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

The type 2 detectable warnings shall 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 shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

September 6, 2013



GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas shall be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket shall be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket shall be buried in a trench 6" wide by 6" deep. There shall be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

The erosion control blanket shall be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor shall fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections shall be shaped when installing the erosion control blanket. All costs for shaping the ditches shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

December 23, 2004

Spacing Varies (See Table)

Flow

See Detail B

**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

Excavated Material from Trench

Flow

2" to 3"

3" to 5" Trench

9" Min.

Wood Stake

**DETAIL B
(TYPICAL OF ALL INSTALLATIONS)**

Ends of Erosion Control Wattles

6"

6"

Wood Stake

DETAIL C

Point A

Point B

Flow

**ISOMETRIC VIEW
DITCH INSTALLATION**

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

Point A

Flow

Point A

Point B

Wood Stake (Typ.)

**PLAN VIEW
DITCH INSTALLATION**

Point A

Point B

Point A

Wood Stake

SECTION A-A

December 23, 2004

Published Date: 1st Qtr. 2015

SD
DOT

EROSION CONTROL WATTLE

PLATE NUMBER
734.06

Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles shall 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 shall 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 shall 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 shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

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

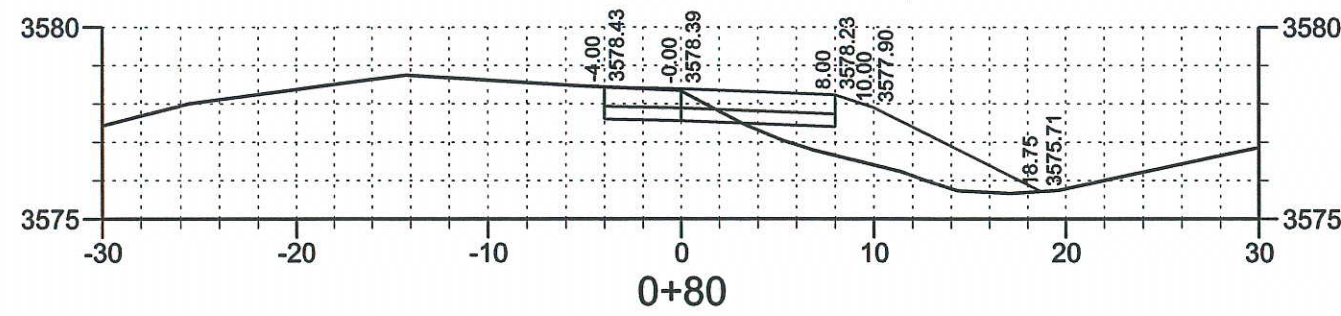
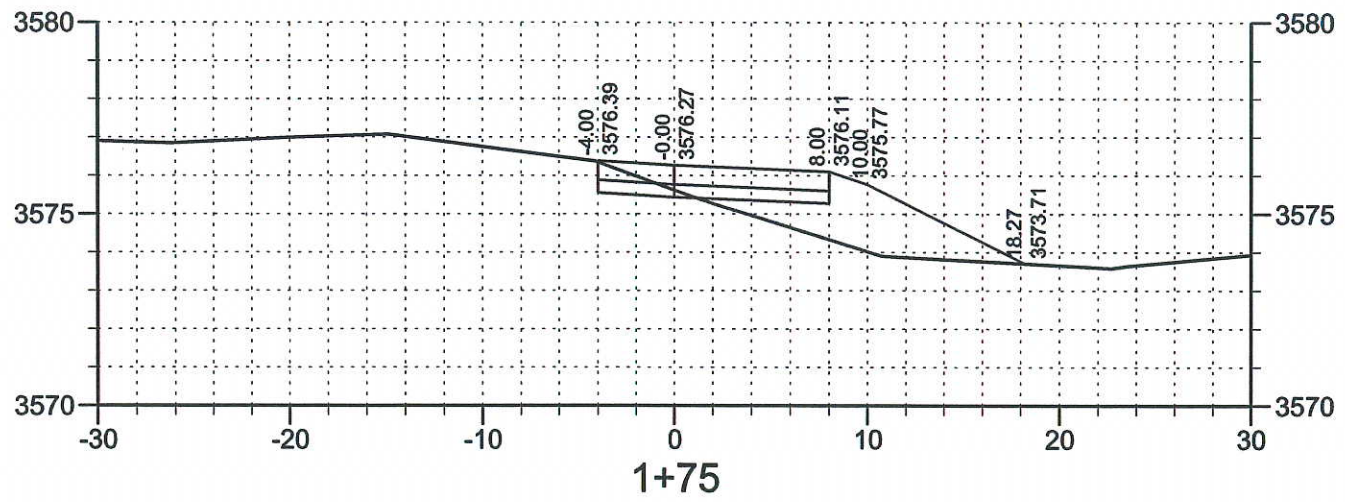
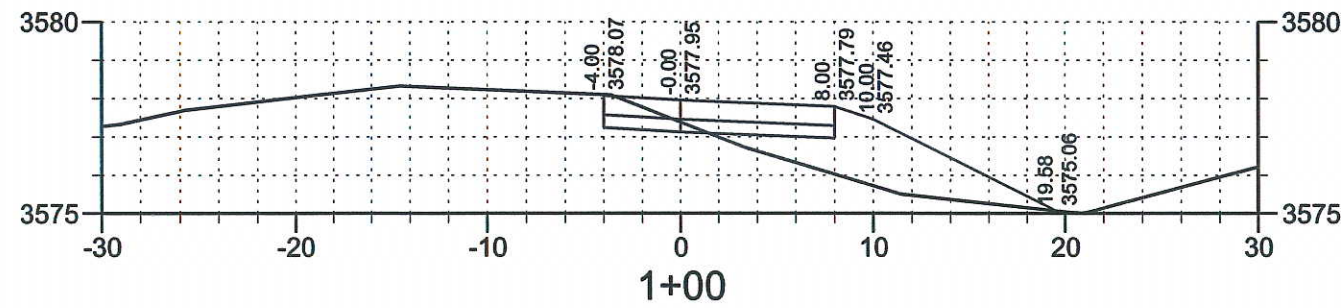
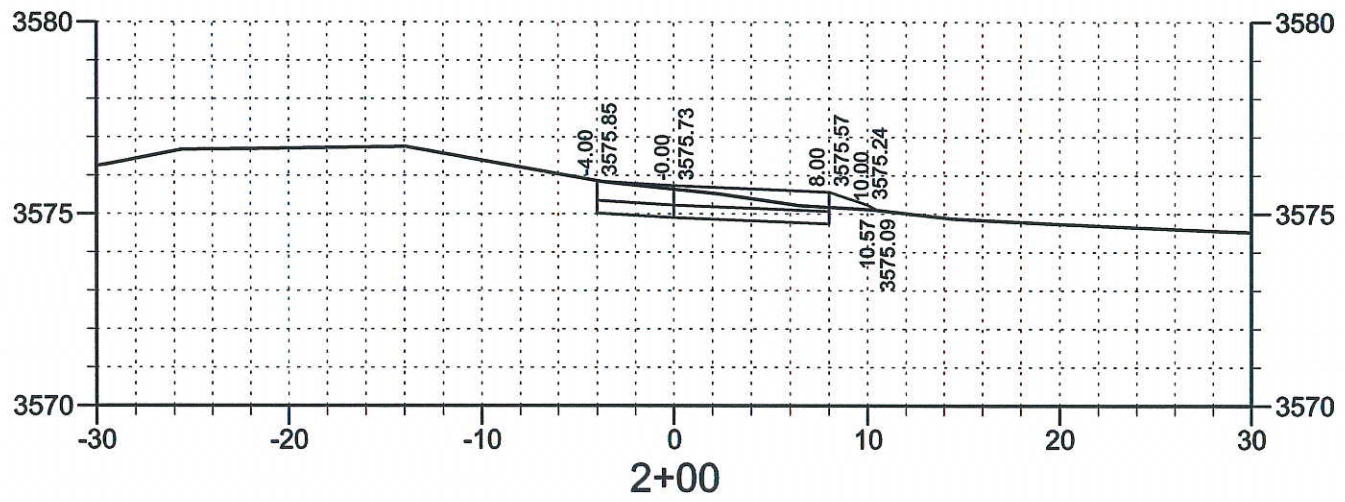
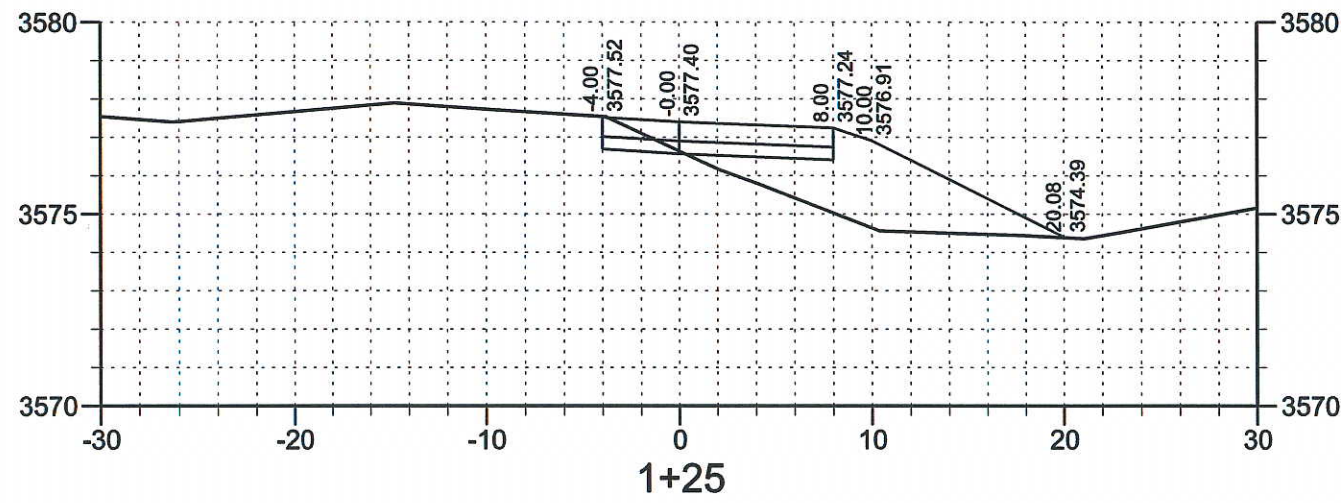
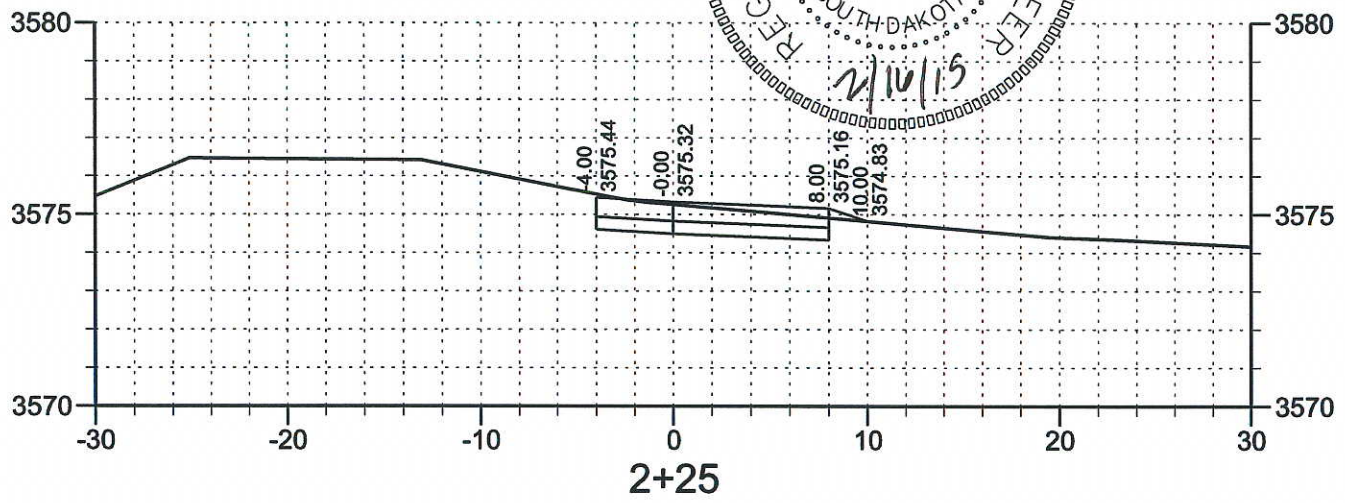
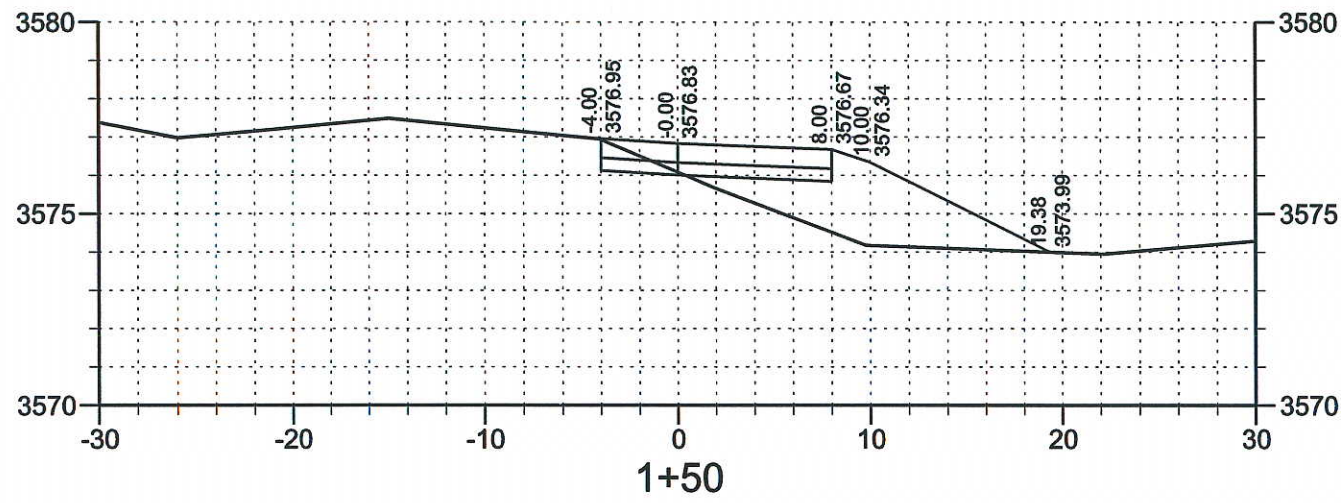
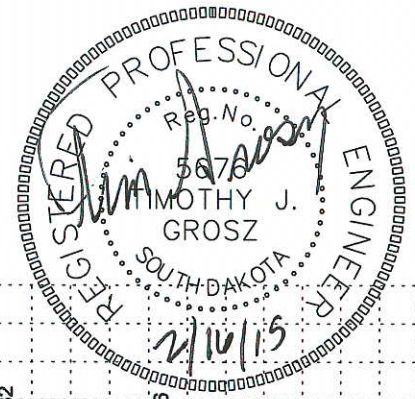
The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than 1/2". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

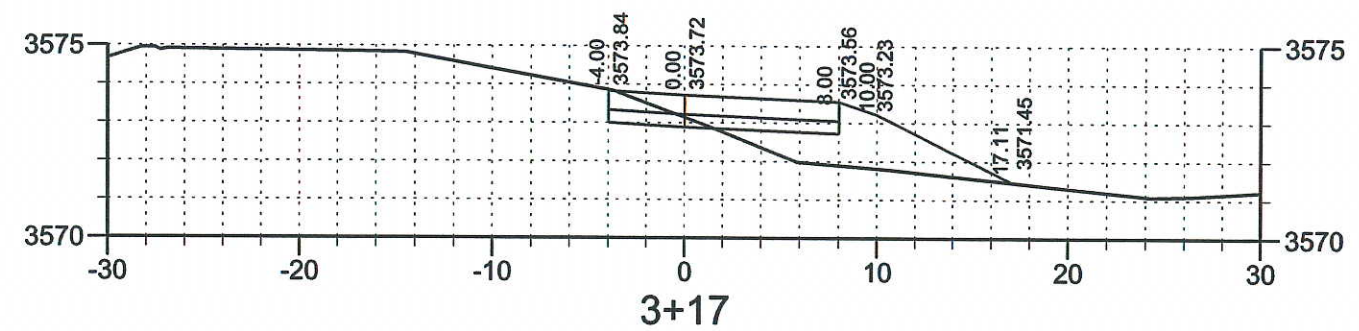
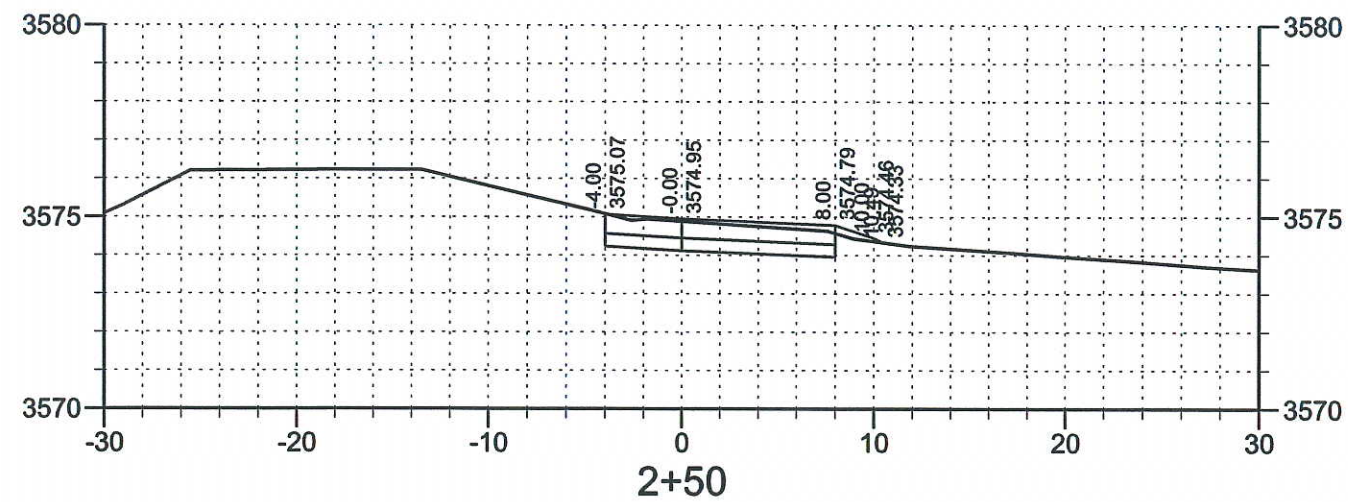
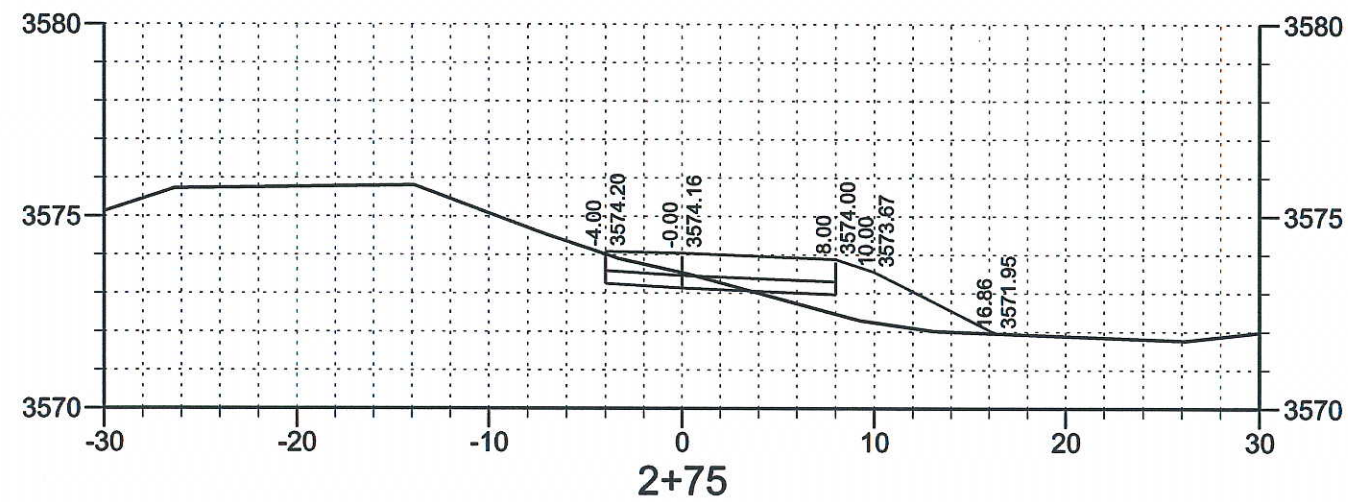
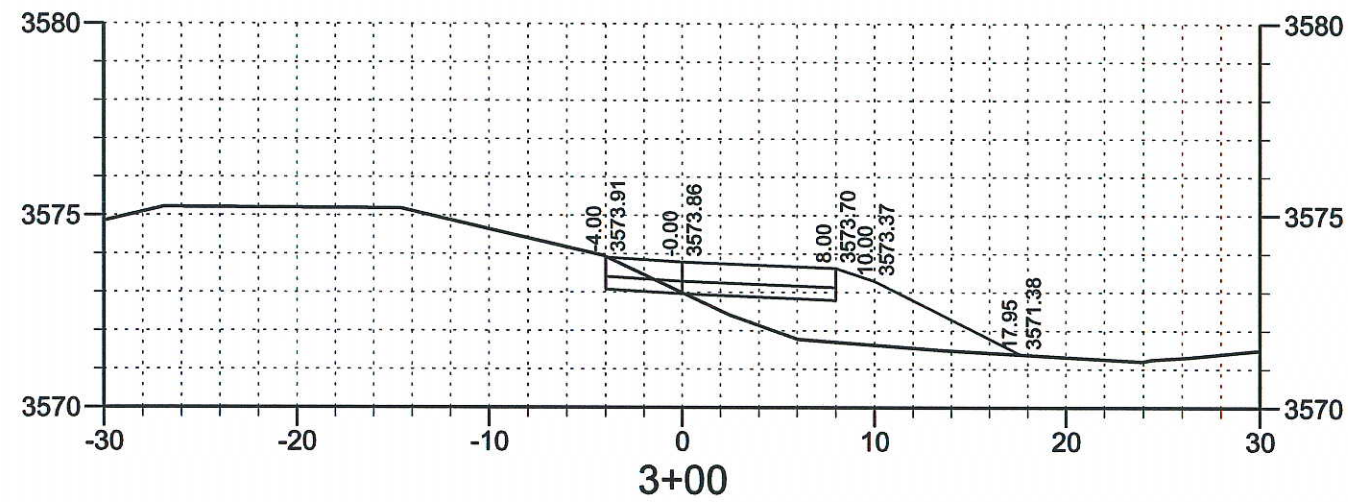
Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

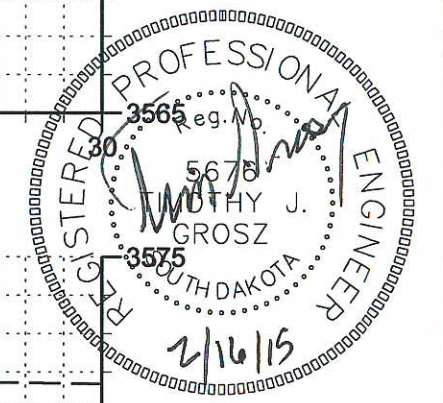
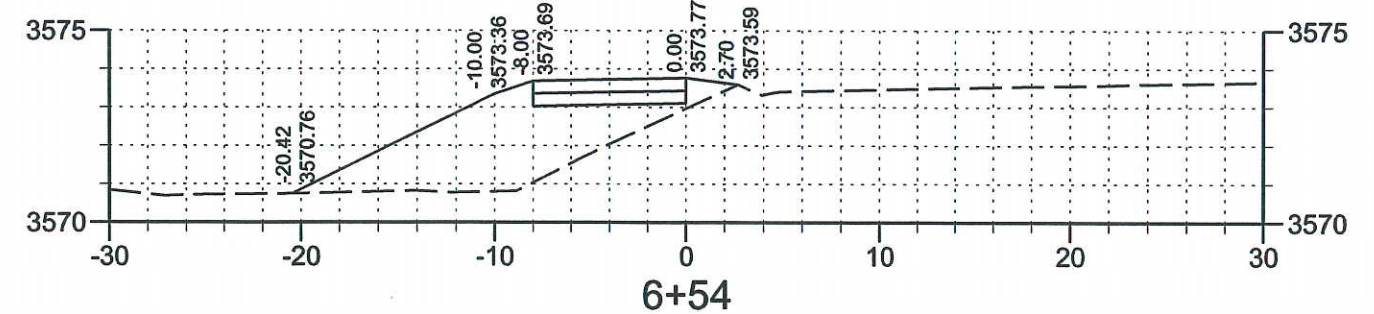
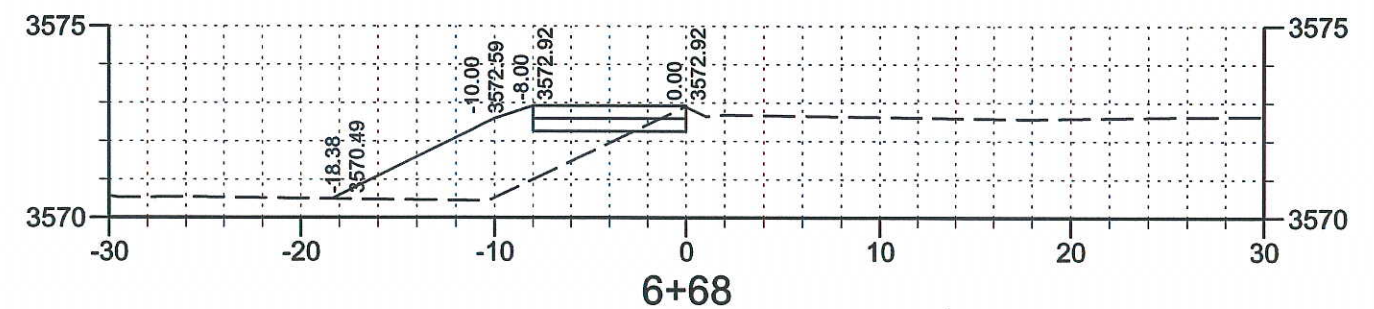
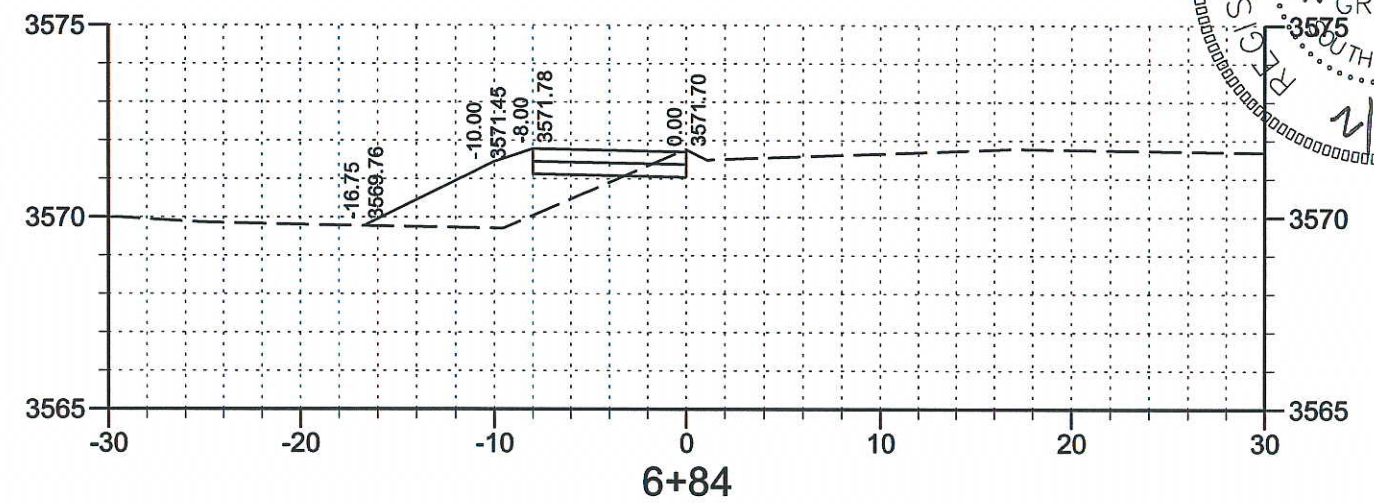
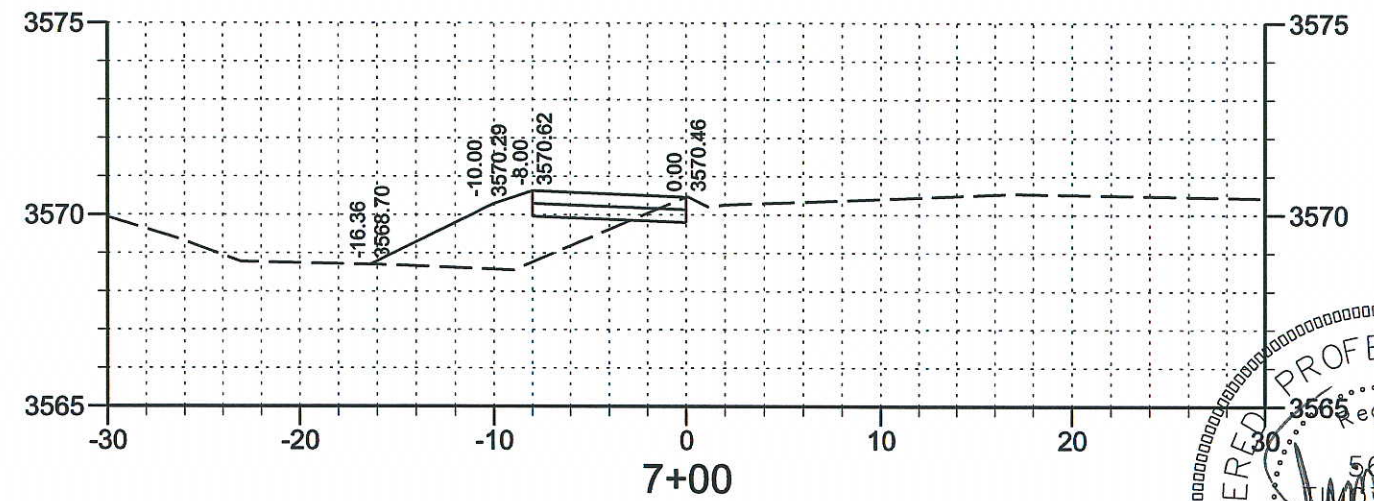
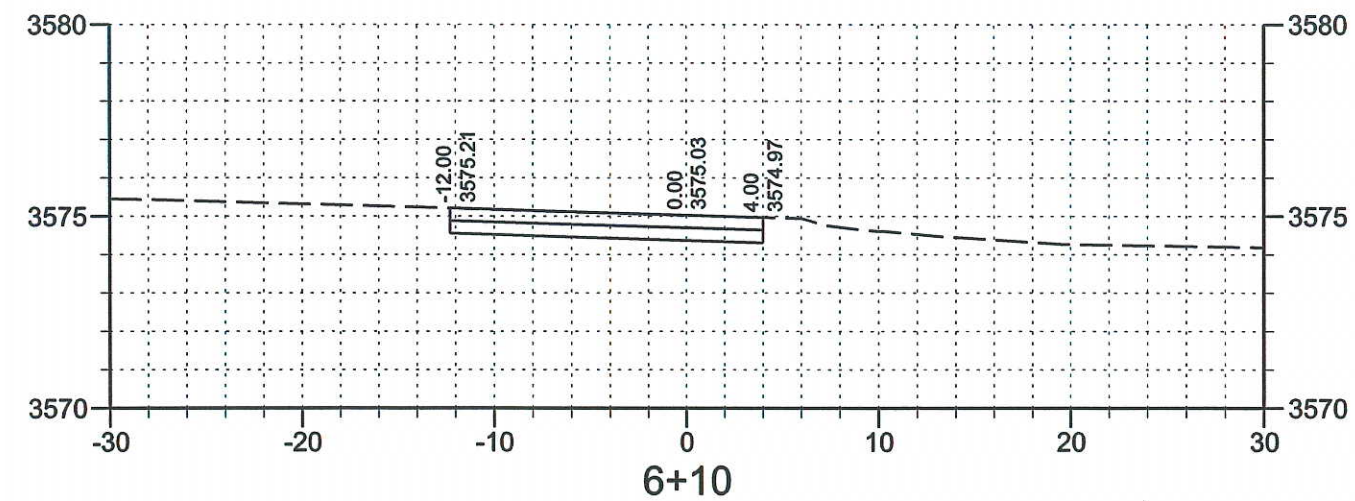
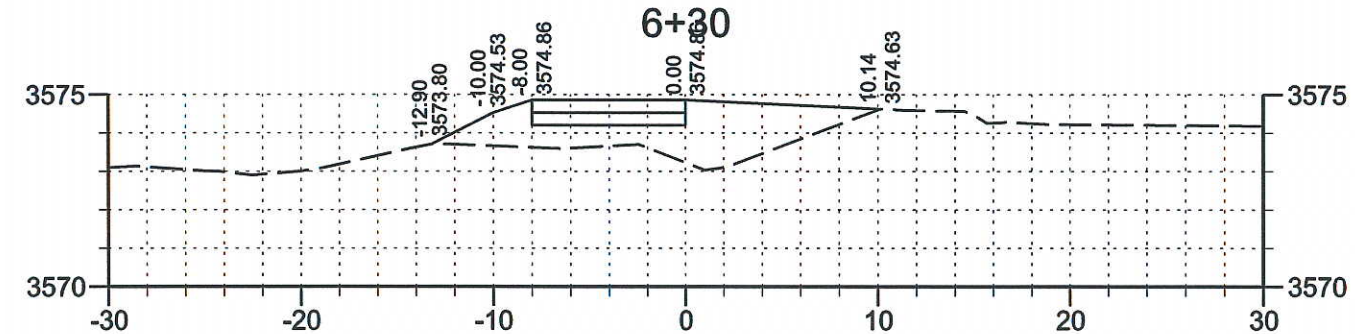
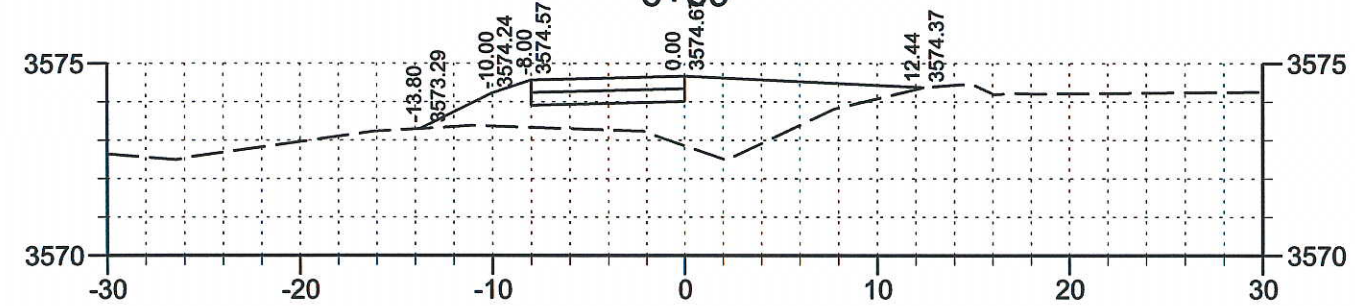
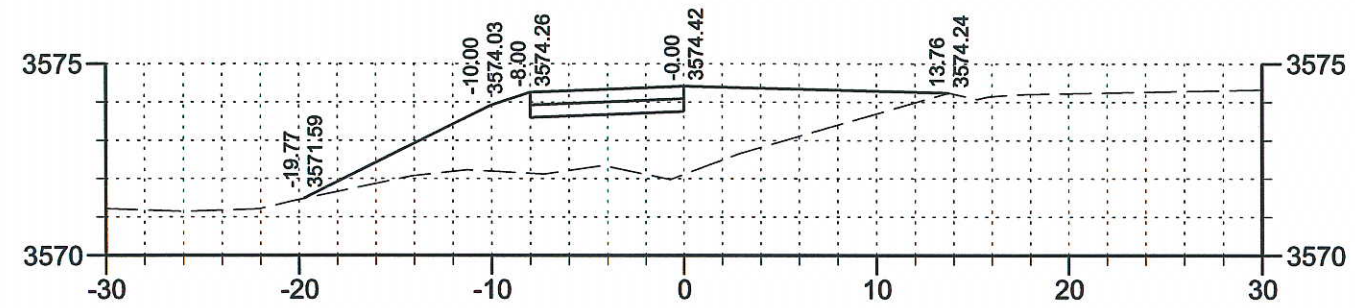
All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

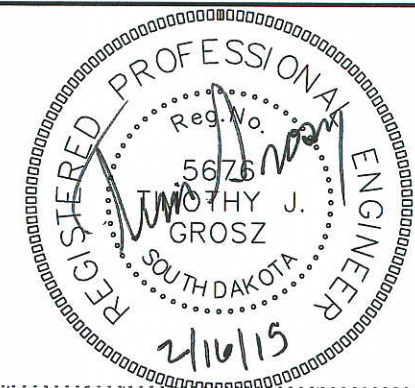
All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

Plotting Date: 02/16/15
Revised Date: xx/xx/xx
Initials: TJG









STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P OENH(220)	28	30
Plotting Date: 02/16/15 Revised Date: xx/xx/xx Initials: TJG			

