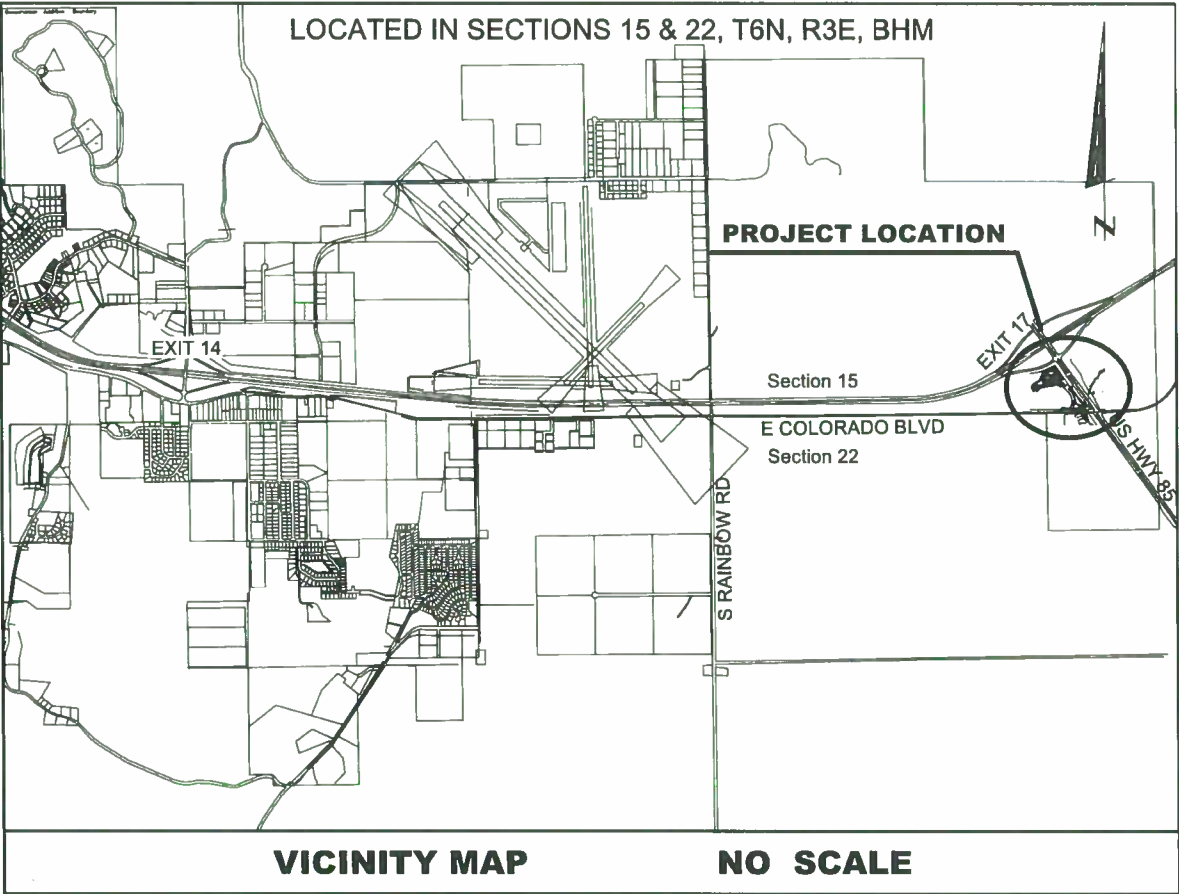


CONSTRUCTION PLANS
PROJECT NH 0085(00)36
**TURN LANES FOR HIGHWAY
SERVICE CENTER AT EXIT 17
& US HIGHWAY 85**
CITY OF SPEARFISH
LAWRENCE COUNTY, SOUTH DAKOTA
PCN 0630



PROJECT DESCRIPTION:

- Construct:
- Turn Lanes on US HWY 85 with Grading

PREPARED FOR:

Elkhorn Ridge @ Frawley Estates
12600 Colfax Ave. Suite B-130
Lakewood, CO 80215

PREPARED BY:



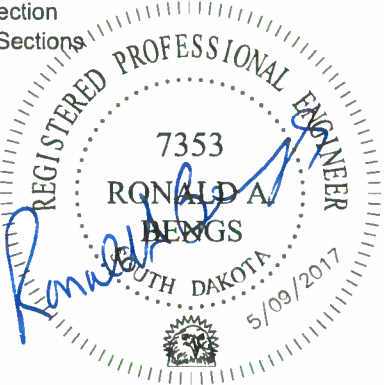
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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	Title Sheet
2-3	Estimate of Quantities and Environmental Commitments
4-6	General Notes and Tables
7	Permanent Signing Table
8-10	SWPPP
11	General Plan
12-14	Demolition Plans
15-18	Turn Lane Plans
19-21	Turn Lane Grading Plans
22-36	Details
37	Traffic Control Plans
38	Pipe Section
39-43	Cross Sections

STORM WATER PERMIT DATA

Major Stream: Miller Creek
Area Disturbed: 1.55 Acres
Total Project Area: 1.55 Acres
Approx. Begin Lat/ Long: N44.4774°, E103.7402°



ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Grading

BID ITEM NUMBER	ITEM	QUANT.	UNIT	HSC Lanes	CO Blvd Lane
009E0010	Mobilization	Lump Sum	LS	1	1
009E3200	Construction Staking	Lump Sum	LS	1	1
009E3300	Three Man Survey Crew	Hour	24	16	8
100E0020	Clear and Grub Tree	1	Each	1	0
110E0130	Remove Traffic Sign	4	Each	0	4
110E0135	Remove Delineator	17	Each	3	14
110E0500	Remove Pipe Culvert	73	Ft	73	0
110E0510	Remove Pipe End Section	2	Each	2	0
110E1010	Remove Asphalt Concrete Pavement	1220	SqYd	1039	181
110E1690	Remove Sediment	5	CuYd	3	2
120E0010	Unclassified Excavation	401	CuYd	343	58
120E0600	Contractor Furnished Borrow Excavation	2759	CuYd	2128	631
230E0010	Placing Topsoil	385	CuYd	328	57
250E0010	Incidental Work	Lump Sum	LS	1	1
260E1010	Base Course	1831	Ton	1416	415
320E1200	Asphalt Concrete Composite	1366.2	Ton	1057.1	309.1
332E0010	Cold Milling Asphalt Concrete	23	SqYd	23	0
450E0122	18" RCP Class 2, Furnish	164	Ft	164	0
450E0130	18" RCP, Install	164	Ft	164	0
450E0408	18" RCP Bend, Furnish	1	Each	1	0
450E0409	18" RCP Bend, Install	1	Each	1	0
450E2305	18" RCP Safety End with Bars, Furnish	1	Each	1	0
450E2307	18" RCP Safety End, Install	1	Each	1	0
632E1320	2.0"x2.0" Perforated Tube Post	305	Ft	170	135
632E2020	4"X4" White Delineator with 1.12 Lb/Ft Post	3	Each	3	0
632E2028	4" Tubular White Delineator with 1.12 Lb/Ft Post	20	Each	0	20
632E2510	Type 2 Object Marker Back to Back	1	Each	1	0
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	58.5	SqFt	34	25
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/ Very High Intensity	98.4	SqFt	82	16
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	9	Each	2	7
633E0010	Cold Applied Plastic Pavement Marking, 4"	4000	Ft	3059	941
633E0030	Cold Applied Plastic Pavement Marking, 24"	75	Ft	75	0
633E0040	Cold Applied Plastic Pavement Marking, Arrow	12	Each	9	3
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	4000	Ft	3059	941
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	75	Ft	75	0
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	12	Each	9	3
634E0010	Flagging	320	Hr	160	160
634E0110	Traffic Control Signs	326.0	SqFt	133.0	193.0
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS	1	1
634E0280	Type 3 Barricade, 8' Single Sided	2	Each	1	1
634E0420	Type C Advance Warning Arrow Board	2	Each	1	1
634E0560	Remove Pavement Marking, 4" or Equivalent	50.3	Ft	50.3	0

650E1060	Type F66 Concrete Curb and Gutter	158	Ft	158	0
650E1360	Type FL66 Concrete Curb and Gutter	318	Ft	318	0
651E0040	4" Concrete Sidewalk	950	SqFt	950	0
670E4200	Type M Median Drain	2	Each	1	1
670E4205	Type M Frame and Grate Assembly	2	Each	1	1
730E0204	Type C Permanent Seed Mixture	13	Lb	11	2
731E0100	Fertilizing	1071	Lb	912	159
732E0100	Mulching	2.5	Ton	2.1	0.4
734E0151	9" Diameter Erosion Control Wattle	1750	Ft	1150	600

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 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 B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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:

Project activities that include tree removal should not occur within the location(s) listed below during the NLEB seasonal work restriction timeframe without approval from the SDDOT Environmental Office.

Station	NLEB Seasonal Work Restriction
US 85 NB LT HSC 0+00 – 4+86.51 (RT)	April 1 to September 30

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

Action Taken/Required:

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

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.



Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T&N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS	
Drawn By: CDK / CLG	Project No: L15-00-157
Checked By: NEH	Date: 02/01/2017
Surveyed By: CLG / GMT	
Designed By: CLG	

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ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: <http://www.sddot.com/business/environmental/stormwater/Default.aspx>

DENR: <http://www.denr.sd.gov/des/sw/stormwater.aspx>

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Contractor Certification Form:

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at: <http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf>

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 Public ROW.

The waste disposal site(s) shall 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) 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:

1. 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 Public 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 Public ROW through the use of 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 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.

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 review of cultural resources impacts. 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 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.

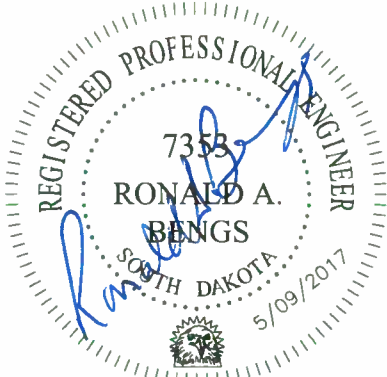
SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered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

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - B1M
CITY OF SPEARFISH, LAWRENCE COUNTY, SD
ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS (Continued)
Drawn By: CDK/CLG
Surveyed By: CLG/CLG
Checked By: NEH
Project No: L15-00-157
Date: 02/01/2017

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3
Sheet Number



INCIDENTAL WORK

Incidental work shall include, but is not limited to, inlet protection at the existing catch basin, removal of the two existing median drains and associated pipe removal and any approach or crossover obliteration work without an applicable bid item. The Contractor will be responsible for obtaining all required permits which will also be incidental to the project.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 12 gallons of water per cubic yard of Embankment minus Waste. 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 outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

Special ditch grades and other sections of the roadway different than the typical section 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.

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

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.

SHRINKAGE FACTOR: Embankment +25%

TABLE OF EXCAVATION QUANTITIES BY BALANCES

Identified Turn Lane	Station to	Station	Excavation (CuYd)	* Contractor Furnished Borrow Exc. (CuYd)
US 85 NB LT HSC	0+00	4+86.51	88	998
US 85 SB RT HSC	0+00	5+24.91	255	1130
US 85 NB LT CO Blvd	0+00	5+59.97	58	631
Totals:			401	2759

*This quantity is listed in the Estimate of Quantities under the bid item "Contractor Furnished Borrow Excavation".

TABLE OF UNCLASSIFIED EXCAVATION

Excavation	15 CuYd
Topsoil	385 CuYd
Total	400 CuYd

PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

When plan quantities are used for payment, the Unclassified Excavation quantity shall be used for final payment.

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

The Topsoil quantity in the Table of Unclassified Excavation is an estimate. When finaling a project, the total quantity of field measured Topsoil shall be used in place of the estimated Topsoil quantity. The quantity of Topsoil from the cuts will be paid for twice as Unclassified Excavation, as it will be in both the Excavation and Topsoil quantities. This will be full compensation for Excavation, which includes necessary undercutting to provide space for placement of topsoil.

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

CONTRACTOR FURNISHED BORROW EXCAVATION

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

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

REINFORCED CONCRETE PIPE

High sulfate levels are likely to be encountered on this project. The type of cement used for the reinforced concrete pipes shall be either a type II with 0% class F modified fly ash substituted for cement in accordance with Specifications Section 605 or a type V. The water/cementitious material ratio shall not exceed 0.45 as defined in Specifications Section 460.3 A. The mix shall be as per the fabricator's design; however, minimum compressive strength shall not be less than 4500 psi at 28 days. The pipe must be marked in an acceptable way to designate meeting requirements for sulfate resistance.

TABLE OF TYPE FL66 CONCRETE CURB AND GUTTER

Station to	Station	L/R	Quantity (Ft)
US 85 SB RT HSC			
5+48	5+61	L	49
US 85 NB LT HSC			
-1+50	0+00	L	269
Total:			318

TABLE OF TYPE F66 CONCRETE CURB AND GUTTER

Station to	Station	L/R	Quantity (Ft)
US 85 NB LT HSC			
-0+81	0+00	L	158
Total:			158

CURB AND GUTTER

The Contractor will not be required to use forms during installation of the curb & gutter adjacent to existing asphalt edge of shoulder as required by the specifications. At these locations, the contractor will sawcut the existing shoulder to provide a clean, vertical edge that may be used as the curb and gutter form work.

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Station to	Station	L/R	Quantity (SqYd)
0+20.0 (SB HSC)	6+36.6	R	711
3+00 (Median)	3+50		159
0+02.5 (NB HSC)	4+20.5	R	169
0+00.0 (NB C)	5+60.0	R	181
Total:			1220

PLACING TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and 6 inches on temporary easements.

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

Identified Turn Lane	Station	To Station	Topsoil (CuYd)
US 85 NB LT HSC	0+00	4+86.51	85
US 85 SB RT HSC	0+00	5+24.91	243
US 85 NB LT CO Blvd	0+00	5+59.97	57
Total:			385



Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
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3	03-15-17	CLG	SDDOT Redlines
4	03-28-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	GENERAL NOTES AND TABLES
Drawn By: CDK / CLG Checked By: NEH	Surveyed By: CLG / GNT Designed By: CLG Project No: L15-00-157 Date: 02/01/2017

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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 fertilizer shall be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer shall 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

PERMANENT SEEDING

Type C Permanent Seed Mixture shall consist of the following:

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

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall 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 shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	25%

All seed shall 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 shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

MULCHING (GRASS HAY OR STRAW)

An additional 1 ton 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.

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)
US 85 NB LT HSC	L	9	Toe of Slope	550
US 85 SB RT HSC	R	9	Toe of Slope	500
US 85 NB LT CO Blvd	L	9	Toe of Slope	600
Additional Quantity:				100
Total:				1750

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials shall be applied as per the manufacturer's recommendations.

Cold Applied Plastic Pavement Markings shall be 3M Series 380 AW or an approved equal.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving shall be vacuumed. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue from wet grooving shall not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, shall be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. All costs for removal of grinding and/or grooving residue shall be included in the contract unit price per foot for "Grooving for Cold Applied Plastic Pavement Marking".

REMOVE PAVEMENT MARKING, 4" OR EQUIVALENT

Markings that fall outside of the new groove shall be obliterated using additional methods approved by the Engineer. Removal of the existing markings shall be accomplished without causing damage to the pavement, pavement joints, or

joint sealant. The Contractor shall repair any damage to the pavement, pavement joints, or joint sealant for no additional payment and at no cost to the State. All costs for materials, labor, and equipment necessary to remove the existing markings shall be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or Equivalent".

TABLE OF CONSTRUCTION STAKING

(See Special Provision for Contractor Staking)

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 45	4	24" x 30"	5.0	20.0
R2-6aP	FINES DOUBLE (plaque)	3	24" x 18"	3.0	9.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	3	48" x 48"	16.0	48.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16.0	64.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		326.0			

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Single Sided	2 Each

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	2 Each

TABLE OF ASPHALT CONCRETE COMPOSITE PAVEMENT PLACEMENT

Station	to	Station	L/R	Quantity (Ton)
0+00.0	(SB HSC)	6+36.6	R	570.1
-1+53.0	(NB HSC)	4+64.5	R	487.0
0+00.0	(NB C)	5+60.0	R	309.1
Total:				1366.2

TABLE OF BASE COURSE

Station	to	Station	L/R	Quantity (CuYd)
0+00.0	(SB HSC)	6+36.6	R	377
-1+53.0	(NB HSC)	4+64.5	R	322
0+00.0	(NB C)	5+60.0	R	205
Total:				904

4" SIDEWALK

The M6 concrete shown on sheets 15 and 16 shall be 4" concrete sidewalk constructed per standard plate 651.75.



TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

GENERAL NOTES AND TABLES (Continued)

Drawn By: CDK / CLG
Checked By: NEH
Surveyed By: CLG / GMT
Designed By: CLG
Project No: L15-00-157
Date: 02/01/2017

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TRAFFIC CONTROL – GENERAL NOTES

- Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence shall be submitted for review a minimum of one week prior to potential implementation.
- Unless otherwise stated in these plans, no work will be allowed during hours of darkness.
- Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.
- Non-applicable traffic control devices shall be completely covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 2 calendar days.
- All regulatory signs shall have a minimum mounting height of 5' in rural locations, even when mounted on portable supports.
- All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.
- The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.
- All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.
- All construction operations shall 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 shall be used, as determined by the Engineer.
- Temporary Flexible Vertical Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

PERMANENT SIGNING

The Contractor shall furnish all signs, posts, stiffeners, bases, hardware, and labor for installation of permanent signs in size, type, and quantity as shown in these plans and/or as required by the Engineer.

All existing signs, posts, and hardware removed as per these plans remain property of the State of South Dakota and shall be transported to the Deadwood Maintenance Yard by the Contractor. The Contractor shall notify the Engineer

two days prior to time of delivery to the Maintenance Yard so correct placement for storage and inventory of materials can be made upon receipt.

The Contractor shall provide all labor and equipment necessary to install permanent signing, remove existing signs, and reset existing signs as detailed in these plans and/or as required by the Engineer. Payment for furnishing and installing permanent signs will be paid for at the contract unit price for each type of sign based on sheeting requirements per square foot of sign. All signs shall have Type III or Type IV sheeting as noted on the sign detail sheets or these notes. Payment for new signposts, hardware, bases, and labor will be made at the contract unit price per foot for 2" x 2" and 2½" x 2½" PERFORATED TUBULAR POST. See breakaway post details regarding posts, hardware, bases, and footings. Measurement of post lengths for payment will be for above ground post lengths as field measured. The sign post contract items shall include post bases and all hardware. The lengths of the posts in the sign tables are approximate lengths only. The post lengths shall be verified by the Contractor. The Contractor is urged to cut posts to length on job site after site by site verification of post length.

The Contractor shall use Telespar brand (or equal) posts and bases on all new standard highway signs as approved by the Engineer. All post materials shall conform to Section 982 of the Standard Specifications, and be in accordance with ASTM specifications. Signs designated as requiring a 2 ½" sign post base shall have a 3 foot long base assembly with a shear breakaway base (slip base anchor) connecting the base to the signpost.

The length of the post shall not exceed the minimum length needed by more than 0.5 feet. Any portion that extends above the sign shall be cut off. No separate payment will be made for cutting the post or for that length cut off. All posts shall be accompanied by Certificates of Compliance and shall meet all safety standards as set forth in the current edition of the Manual on Uniform Traffic Control Devices.

Locations of all new signs and all relocated signs are shown in the plans for reference only. Final placement of permanent signs will be determined by the Engineer.

PERFORATED TUBE POST

- Payment for 2" x 2" and 2 ½" x 2 ½" 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 and Standard Plate 634.85.
 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).
 5. Signs calling for reinforced post as indicated in the Remarks column of the table of Permanent Signing shall have a 2 ¼" tubular post installed and bolted inside the 2 ½" sign post. Length of the 2 ¼" post shall extend from the base to a minimum of the bottom of the sign.

REMOVE, SALVAGE, RELOCATE & RESET TRAFFIC SIGN

The Contractor shall remove signs, posts, and bases for reset as shown in the table for Permanent Signing. All existing posts, bases, and signs listed in the table that are scheduled for Removal shall be dismantled and delivered to the Deadwood Maintenance Yard. All bolts, nuts, and washers shall be placed in individual 5-gallon pails. Backing materials shall be separated from the signs and may be reused at the Contractor's discretion. Non-threaded connections (rivets) shall be cut when necessary to reduce sign sections to a 4' x 6'

maximum size. Wooden posts shall be carefully removed to avoid damage and cleaned of excess dirt and neatly stockpiled separate from the steel posts. All existing Delineators shall be removed and salvaged. All cost for labor and equipment necessary to remove, dismantle, and deliver signs and delineators to the Maintenance Yard shall be incidental to in the contract unit price per each for REMOVE TRAFFIC SIGN.

HARDWARE

Aluminum U-Channel stiffeners shall be used on all standard highway signs greater than 36" in width and shall conform to Alloy 6063-T6 or 6061-T6. The U-Channel shall be 2 inches in width and free of holes. The U-Channel stiffeners shall also be used to connect various signs and perforated tube posts together so that an entire sign can be erected as a single installation. Stiffeners may be fastened to signs by use of ¼" drive rivets. Installation of the stiffeners shall be incidental to other contract items.

A 3/8" diameter straight bolt (Grade 8) shall be used in all breakaway shear bases for the 2 ½" perforated tube posts. All other perforated tube signpost 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 MPJ Sign Wedge manufactured by MPJ Enterprises, Inc., 304 Spring Ave. N., Lake Preston, SD 57249 or equal as approved by the Engineer.

Slip Base Anchors for use with the 2 ½" posts shall be Telespar Slip Base Anchor brand or equal meeting the requirements of NCHRP Report 350.

SEQUENCE OF OPERATIONS

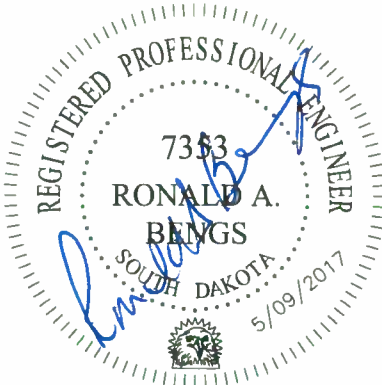
The Contractor shall start construction on the right turn lane into the highway service center prior to starting any work in the median. The Contractor shall construct temporary 3:1 slopes to remove any pavement edge drop offs during construction. All costs associated with this work shall be incidental to the various bid items on the project.

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

GENERAL NOTES AND TABLES (Continued)

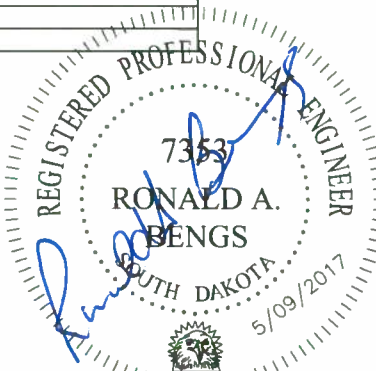
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PERMANENT SIGNING - Hwy #: 085																
EX/STING STA (Approx.)	NEW STA (Approx.)	SIGN								POST					SIGN DESCRIPTION	WORK TO BE DONE
		Number	Width (in)	Height (in)	Facing Traffic	New Sign	Remove Existing	Square Footage	Sheeting Type	Now Post	Length (ft)	Size (in)	# of Posts	Shear Slip Base		
SB 85																
1+00	Same	M1-4	24	24	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	ROUTE MARKER (US HIGHWAYS)	LEAVE AS IS
1+90	Same	R-NS2	126	96	SOUTHBOUND	NO	YES	-	-	NO	-	-	-	-	CLOSED WHEN FLASHING	REMOVE & REINSTALL EXISTING SIGN AT SAME LOCATION
3.80	Same	ADO-5	60	24	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	ADOPT A HIGHWAY LITTER CONTROL COURTESY OF	LEAVE AS IS
3.80	Same	ADO-6	30	30	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	LITTER CREW AHEAD - Hinged	LEAVE AS IS
4+50	Same				SOUTHBOUND	NO	YES	-	-	NO	-	-	-	-	JUST A REMINDER, SPEED LIMIT 65, PLEASE BUCKLE UP	REMOVE & REINSTALL EXISTING SIGN AT SAME LOCATION
NA	4+75	R5-1	48	48	NORTHBOUND	FLAT ALUM	NO	16.0	XI	YES	12	2.0	2	YES	DO NOT ENTER	INSTALL NEW SIGN AND POST
NA	5+20	R5-1	36	36	EASTBOUND	FLAT ALUM	NO	9.0	XI	YES	11	2.0	2	YES	DO NOT ENTER	INSTALL NEW SIGN AND POST
NA	5+20	R6-1R	36	12	EASTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	INSTALL NEW SIGN ABOVE DO NOT ENTER SIGN
NA	6+00	R5-1	36	36	EASTBOUND	FLAT ALUM	NO	9.0	XI	YES	11	2.0	2	YES	DO NOT ENTER	INSTALL NEW SIGN AND POST
NA	6+00	R6-1R	36	12	EASTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	INSTALL NEW SIGN ABOVE DO NOT ENTER SIGN
NA	6+00	R1-1	48	48	EASTBOUND	FLAT ALUM	NO	16.0	XI	YES	12	2.0	2	YES	STOP	INSTALL NEW SIGN AND POST
NA	6+00	R6-1R	36	12	EASTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	INSTALL NEW SIGN ABOVE STOP SIGN
NA	6+00	R6-1L	36	12	WESTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON LEFT ARROW	INSTALL NEW SIGN ABOVE STOP SIGN
2+40	Same	D1-1L	-	-	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	DESTINATION - 1 LINE W/ARROW-LEFT (ST. ONGE)	LEAVE AS IS
4+50	Same	D1-1R	-	-	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	DESTINATION - 1 LINE W/ARROW-RIGHT (AIRPORT)	LEAVE AS IS
4+50	Same	R5-1A	36	36	NORTHBOUND	NO	NO	-	-	NO	-	-	-	-	WRONG WAY	LEAVE AS IS
NA	4+50	R5-1A	48	48	NORTHBOUND	FLAT ALUM	NO	16.0	XI	YES	12	2.0	2	YES	WRONG WAY	INSTALL NEW SIGN AND POST
5+86	Same	R5-1	36	36	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	DO NOT ENTER	LEAVE AS IS
5+86	Same	R5-1	48	48	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	DO NOT ENTER	LEAVE AS IS
LT TURN LANE CO																
0+00	Same	R4-7R	24	30	SOUTHBOUND	NO	YES	-	-	NO	-	-	-	-	KEEP RIGHT - SYMBOL	RESET EXISTING SIGN & POST
CO BLV																
"-0+55	Same	R1-1	48	48	EASTBOUND	NO	YES	-	-	YES	12	2.0	2	YES	STOP	REMOVE EXISTING SIGN & INSTALL EXISITNG SIGN ON NEW POST
"-0+55	Same	R6-1R	36	12	EASTBOUND	FLAT ALUM	YES	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	REMOVE EXISITNG SIGN & INSTALL NEW SIGN ABOVE STOP SIGN
"-0+55	Same	R6-1L	36	12	WESTBOUND	FLAT ALUM	YES	3.0	IV	NO	-	-	-	-	ONE WAY ON LEFT ARROW	REMOVE EXISITNG SIGN & INSTALL NEW SIGN ABOVE STOP SIGN
"-0+55	Same	R6-3	30	24	EASTBOUND	FLAT ALUM	NO	5.0	IV	NO	-	-	-	-	DIVIDED HIGHWAY CROSSING THRU	INSTALL NEW SIGN BELOW STOP SIGN
"-0+52	Same	D3-1			SOUTHBOUND	NO	NO			NO					STREET SIGN (E COLORADO BLVD)	LEAVE AS IS
"-0+52	Same	D3-1			EASTBOUND	NO	NO			NO					STREET SIGN (HWY 85)	LEAVE AS IS
NB 85																
2+80	Same	D1-1R	-	-	NORTHBOUND	NO	NO	-	-	NO	-	-	-	-	DESTINATION - 1 LINE W/ARROW-RIGHT	LEAVE AS IS (ST. ONGE 6)
4+50	Same	D1-1L	-	-	NORTHBOUND	NO	NO	-	-	NO	-	-	-	-	DESTINATION - 1 LINE W/ARROW-LEFT	LEAVE AS IS (AIRPORT)
2+10	Same	R5-1A	36	36	SOUTHBOUND	NO	NO	-	-	NO	-	-	-	-	WRONG WAY	LEAVE AS IS
NA	2+10	R5-1A	48	48	SOUTHBOUND	FLAT ALUM	NO	16.0	XI	YES	12	2.0	2	YES	WRONG WAY	INSTALL NEW SIGN AND POST
1+70	Same	R5-1	36	36	SOUTHBOUND	NO	-	-	XI	NO	-	-	-	-	DO NOT ENTER	LEAVE AS IS
1+70	Same	R5-1	48	48	SOUTHBOUND	NO	YES	-	XI	YES	12	2.0	2	YES	DO NOT ENTER	REMOVE EXISTING SIGN & RESET SIGN ON NEW POSTS
0+00	Same	R1-2	36	36	EASTBOUND	NO	YES	-	XI	YES	11	2.0	2	YES	YIELD	REMOVE EXISTING SIGN & INSTALL EXISTING SIGN ON NEW POST
0+00	Same	R6-1R	36	12	EASTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	INSTALL NEW SIGN ABOVE YIELD SIGN
0+00	Same	R6-1L	36	12	WESTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON LEFT ARROW	INSTALL NEW SIGN ABOVE YIELD SIGN
"-0+30	Same	R1-1	48	48	WESTBOUND	NO	YES	-	-	YES	12	2.0	2	YES	STOP	REMOVE EXISTING SIGN & INSTALL EXISTING SIGN ON NEW POST
"-0+30	Same	R6-1R	36	12	WESTBOUND	FLAT ALUM	YES	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	REMOVE EXISITNG SIGN & INSTALL NEW SIGN ABOVE STOP SIGN
"-0+30	Same	R6-1L	36	12	EASTBOUND	NO	YES	-	-	NO	-	-	-	-	ONE WAY ON LEFT ARROW	REMOVE EXISITNG SIGN & INSTALL EXISTING SIGN ABOVE STOP SIGN
"-0+30	Same	R6-3	30	24	WESTBOUND	FLAT ALUM	NO	5.0	IV	NO	-	-	-	-	DIVIDED HIGHWAY CROSSING THRU	INSTALL NEW SIGN UNDER STOP SIGN
"-1+00	Same	R1-2	36	36	WESTBOUND	NO	YES	-	-	YES	11	2.0	2	YES	YIELD	REMOVE EXISTING SIGN & INSTALL EXISTING SIGN ON NEW POST
"-1+00	Same	R6-1R	36	12	WESTBOUND	FLAT ALUM	YES	3.0	IV	NO	-	-	-	-	ONE WAY ON RIGHT ARROW	REMOVE EXISITNG SIGN & INSTALL NEW SIGN ABOVE YIELD SIGN
"-1+00	Same	R6-1L	36	12	EASTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON LEFT ARROW	INSTALL NEW SIGN ABOVE YIELD SIGN
"-0+35	Same	D3-1			NORTHBOUND	NO				NO					STREET SIGN (ST. ONGE ROAD)	LEAVE AS IS
"-0+35	Same	D3-1			WESTBOUND	NO				NO					STREET SIGN (HWY 85)	LEAVE AS IS
NB LT TURN HSC																
NA	5+20	R1-2	36	36	WESTBOUND	FLAT ALUM	NO	3.9	XI	YES	11	2.0	2	YES	YIELD	INSTALL NEW SIGN AND POST
	5+20	R6-1L	36	12	WESTBOUND	FLAT ALUM	NO	3.0	IV	NO	-	-	-	-	ONE WAY ON LEFT ARROW	INSTALL NEW SIGN ABOVE YIELD SIGN
CO LOOP SOUTH ENT																
NA	40' LT CL	R3-8	30	30	SOUTHBOUND	FLAT ALUM	NO	6.3	IV	YES	10	2.0	1	YES	ADVANCED INTERSECTION LANE CONTROL-LT & RT ARROW ONLY	INSTALL NEW SIGN AND POST
NA	80' LT CL	R1-1	30	30	SOUTHBOUND	FLAT ALUM	NO	6.3	XI	YES	10	2.0	1	YES	STOP	INSTALL NEW SIGN AND POST
CO LOOP EAST ENT																
NA	5+20	R1-1	30	30	WESTBOUND	FLAT ALUM	NO	6.3	XI	YES	10	2.0	1	YES	STOP	INSTALL NEW SIGN AND POST
NA	5+70	R3-5R	30	30	EASTBOUND	FLAT ALUM	NO	6.3	IV	YES	10	2.0	1	YES	RIGHT TURN ONLY - ARROW	INSTALL NEW SIGN AND POST

PERMANENT SIGNING TOTALS				
	Flat Alum IV	Flat Alum XI	Salvg Traffic Sign	Salvage & Reset
2"	305.0	58.5	98.4	4.0
				9.0



Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	06-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T&N - R&E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
PERMANENT SIGNING TABLE	
Drawn By: CDK / CLG	Surveyed By: CLG / CMT
Checked By: NEH	Project No: L15-00-157- Date: 02/01/2017

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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST
(The numbers right of the title headings are **reference numbers** to the
GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED
WITH CONSTRUCTION ACTIVITIES

SITE DESCRIPTION (4.2 1)

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
 - ☒ Clearing and grubbing
 - ☒ Excavation/borrow
 - ☒ Grading and shaping
 - ☐ Filling
 - ☒ Cutting and filling
 - ☐ Other (describe):
- **Total Project Area 1.55 (4.2 1.b.)**
- **Total Area To Be Disturbed 1.55 (4.2 1.b.)**
- **Existing Vegetative Cover (%) 75%**
- **Soil Properties:** AASHTO Soil or USDA-NRCS Soil Series Classification A-4 ,A-6 & A-7 **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Miller Creek **(4.2 1.e.)**

ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Special sequencing requirements** (see sheet)
- **Install stabilized construction entrance(s).**
- **Install perimeter protection where runoff sheets from the site.**
- **Remove and store topsoil.**
- **Install storm sewer.**
- **Install inlet and culvert protection after completing storm drainage and other utility installations.**
- **Complete final grading.**
- **Complete final paving and sealing of concrete.**
- **Complete traffic control installation and protection devices.**
- **Reseed areas disturbed by removal activities.**

EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
 - ☐ Temporary Seeding (Cover Crop Seeding)
 - ☒ Permanent Seeding
 - ☐ Sodding
 - ☐ Planting (Woody Vegetation for Soil Stabilization)
 - ☒ Mulching (Grass Hay or Straw)
 - ☐ Hydraulic Mulch (Wood Fiber Mulch)
 - ☐ Soil Stabilizer
 - ☐ Bonded Fiber Matrix
 - ☐ Erosion Control Blankets or Mats
 - ☐ Vegetation Buffer Strips
 - ☐ Roughened Surface (e.g. tracking)
 - ☐ Dust Control
 - ☐ Other:

➤ **Structural Temporary Erosion and Sediment Controls**

- ☐ Silt Fence
- ☐ Floating Silt Curtain
- ☐ Straw Bale Check
- ☐ Temporary Berm
- ☐ Temporary Slope Drain
- ☒ Straw Wattles or Rolls
- ☐ Turf Reinforcement Mat
- ☐ Rip Rap
- ☐ Gabions
- ☐ Rock Check Dams
- ☐ Sediment Traps/Basins
- ☒ Inlet Protection
- ☐ Outlet Protection
- ☐ Surface Inlet Protection (Area Drain)
- ☐ Curb Inlet Protection
- ☐ Stabilized Construction Entrances
- ☐ Entrance/Exit Equipment Tire Wash
- ☐ Interceptor Ditch
- ☐ Concrete Washout Facility
- ☐ Temporary Diversion Channel
- ☐ Work Platform
- ☐ Temporary Water Barrier
- ☐ Temporary Water Crossing
- ☐ Other:

➤ **Wetland Avoidance**

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

➤ **Storm Water Management (4.2 2.b., (1) and (2))**

Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

➤ **Other Storm Water Controls (4.2 2.c., (1) and (2))**

- **Waste Disposal**

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general Contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.
- **Hazardous Waste**

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the Contractor's on-site representative will be responsible for seeing that these practices are followed.
- **Sanitary Waste**

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management Contractor or as required by any local regulations.

MAINTENANCE AND INSPECTION (4.2 3. and 4.2 4.)

➤ **Maintenance and Inspection Practices**

- Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches 1/2 the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance, repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

NON-STORM WATER DISCHARGES (3.0)

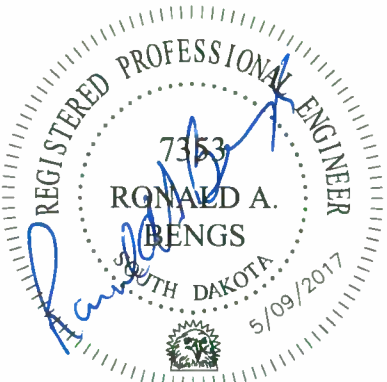
The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- ☐ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☐ Uncontaminated ground water associated with dewatering activities.

MATERIALS INVENTORY (4.2. 2.c.(2))

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

- ☒ Concrete and Portland Cement
- ☐ Detergents
- ☒ Paints
- ☐ Metals
- ☒ Bituminous Materials
- ☐ Petroleum Based Products
- ☐ Cleaning Solvents
- ☐ Wood
- ☐ Cure
- ☐ Texture
- ☐ Chemical Fertilizers
- ☐ Other:



Rev. No.	Date	By	Description
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4	03-28-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	PROJECT No. 15-00-157- Drawn By: CDK / CLG Checked By: NEH	Surveyed By: CLG / GMT Designed By: CLG	Date: 02/01/2017
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST			

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SPILL PREVENTION (4.2 2.c.(2))

➤ Material Management

▪ Housekeeping

- Only needed products will be stored on-site by the Contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off-site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.
- Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

▪ Hazardous Materials

- Products will be kept in original containers unless the container is not resealable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➤ Product Specific Practices (6.8)

▪ Petroleum Products

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ Fertilizers

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ Paints

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the

manufacturer's instructions and any applicable state and local regulations.

▪ Concrete Trucks

Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any storm water outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

➤ Spill Control Practices (4.2 2 c.(2))

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the Contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for cleanup purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The Contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The Contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➤ Spill Response (4.2 2 c.(2))

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The Contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the Contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The Contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.

- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean up will receive training by the Contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

SPILL NOTIFICATION

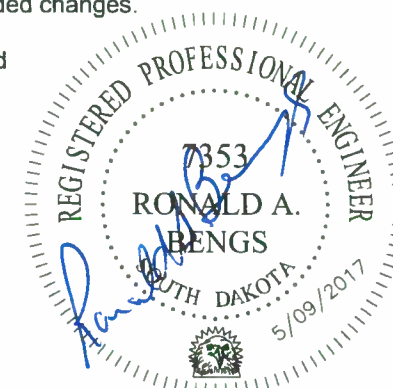
In the event of a spill, the Contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately if any one of the following conditions exists:
 - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
 - The discharge causes an immediate danger to human health or safety.
 - The discharge exceeds 25 gallons.
 - The discharge causes a sheen on surface water.
 - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
 - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
 - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
 - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

CONSTRUCTION CHANGES (4.4)

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.



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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST
Drawn By: CDK/CLG	Surveyed By: CLG / GMT
Checked By: NEH	Designed By: CLG
Project No: L15-00-157	Date: 02/01/2017

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CERTIFICATIONS

Certification of Compliance with Federal, State, and Local Regulations

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

South Dakota Department of Transportation

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Tom Lehnert

Authorized Signature (See the General Permit, Section 6.9.1.C.)

Prime Contractor

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature

CONTACT INFORMATION

Contractor Information:

- Prime Contractor Name: _____
- Contractor Contact Name: _____
- Address: _____
- City: _____ State: _____ Zip: _____
- Office Phone: _____ Field: _____
- Cell Phone: _____ Fax: _____

Erosion Control Supervisor

- Name: _____
- Address: _____
- City: _____ State: _____ Zip: _____
- Office Phone: _____ Field: _____
- Cell Phone: _____ Fax: _____

SDDOT Project Engineer

- Name: _____
- Business Address: _____
- Job Office Location: _____
- City: _____ State: _____ Zip: _____
- Office Phone: _____ Field: _____
- Cell Phone: _____ Fax: _____

SD DENR Contact Spill Reporting

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

SD DENR Contact for Hazardous Materials.

- (605) 773-3153

National Response Center Hotline

- (800) 424-8802.

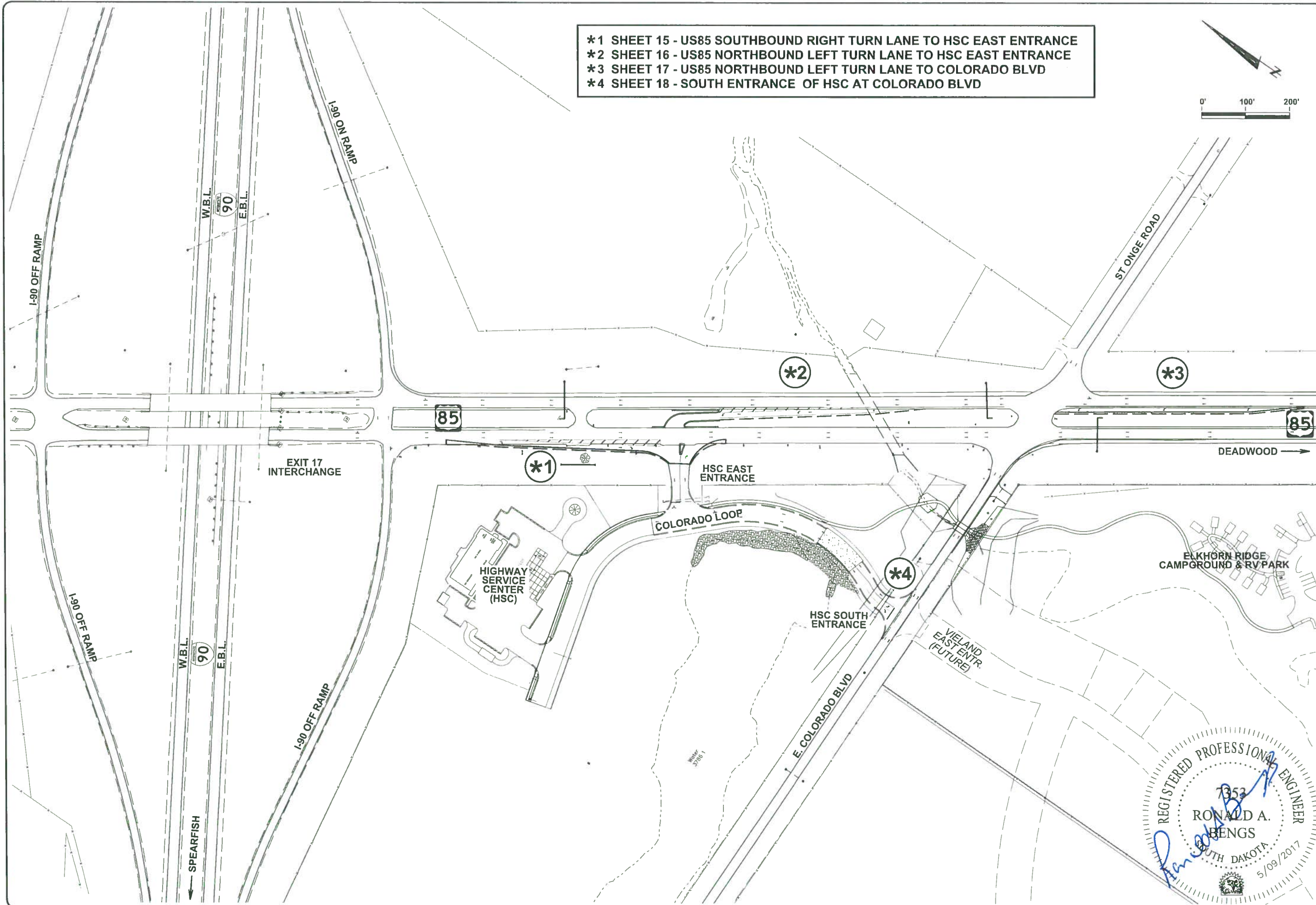
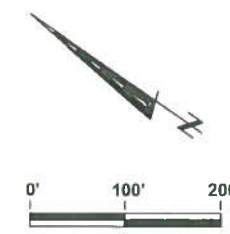
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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - B1M CITY OF SPEARFISH, LAWRENCE COUNTY, SD	Project No. L15-00-157- Drawn By: CDK/CLG Checked By: NEH	Date: 02/01/2017
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST	Surveyed By: CLG/CMT Designed By: CLG	

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- *1 SHEET 15 - US85 SOUTHBOUND RIGHT TURN LANE TO HSC EAST ENTRANCE
- *2 SHEET 16 - US85 NORTHBOUND LEFT TURN LANE TO HSC EAST ENTRANCE
- *3 SHEET 17 - US85 NORTHBOUND LEFT TURN LANE TO COLORADO BLVD
- *4 SHEET 18 - SOUTH ENTRANCE OF HSC AT COLORADO BLVD



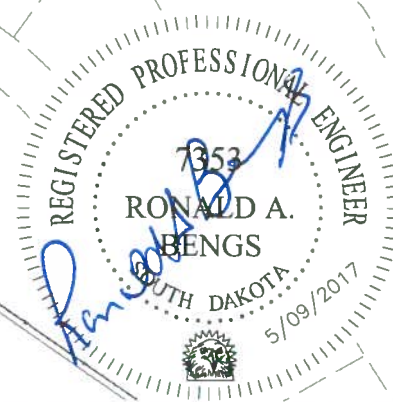
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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
GENERAL PLAN	
Drawn By: CDK / CLG	Surveyed By: CLG / CMT
Checked By: NEH	Designed By: CLG
Project No: L15-00-157	Date: 02/01/2017

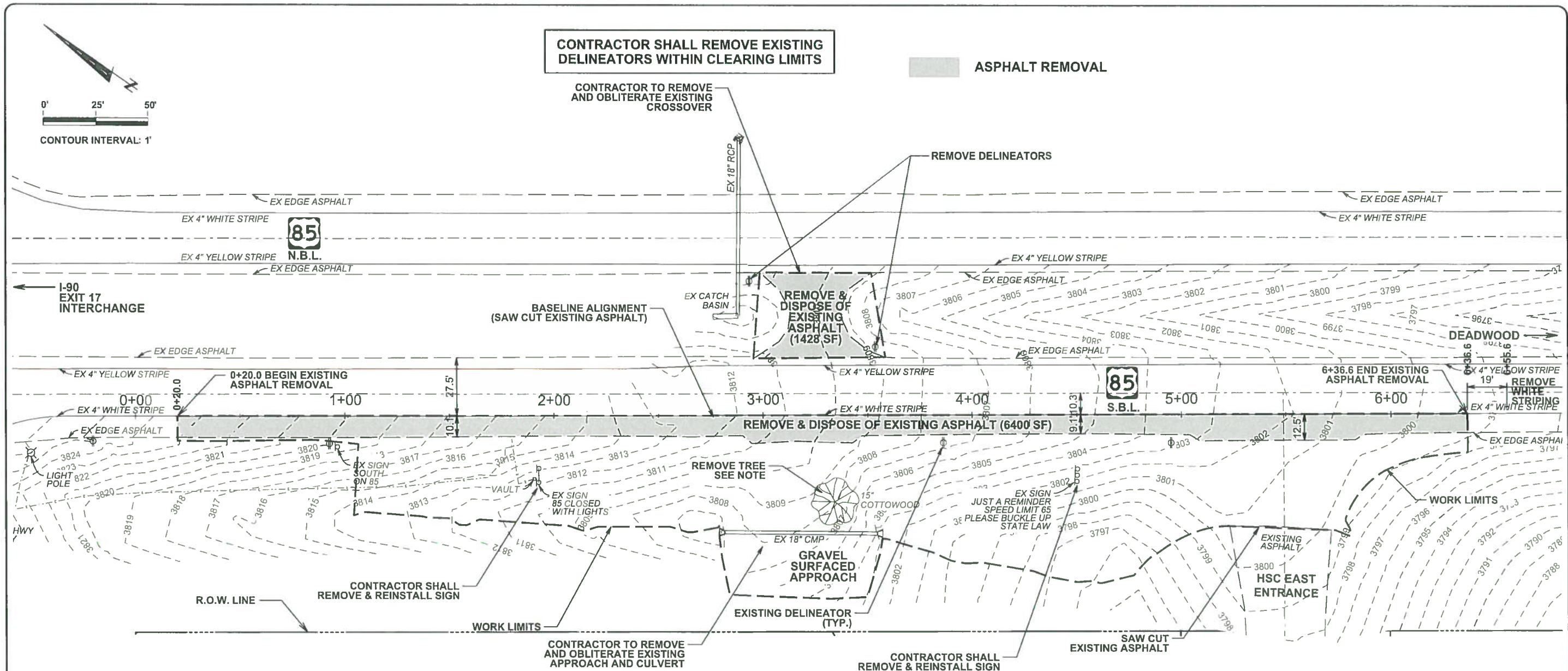
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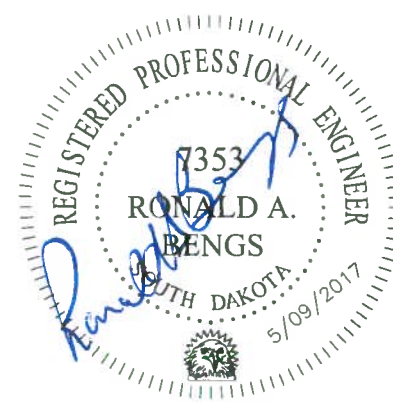
REGISTERED PROFESSIONAL ENGINEER
7353
RONALD A. BENGS
SOUTH DAKOTA
5/09/2017



NOTE:
TREE REMOVAL IS RESTRICTED BETWEEN
APRIL 1 TO SEPTEMBER 30 DUE TO THE
NORTHERN LONG-EARED BAT. CONTACT
SDDOT ENVIRONMENTAL OFFICE FOR
APPROVAL OF TREE REMOVAL DURING
THE RESTRICTED TIME FRAME.

Survey Information			
Horizontal Datum		GPS Observed North	
Vertical Datum		NGVD 1929	
Scale Factor		1.000176326	
Control Point List			
Point	Northing	Easting	Elevation
CP 131	7997.863	5919.77	3788.518
CP 132	8732.424	5655.338	3806.824
CP 158	12108.882	7663.412	3726.364
CP 501	7932.415	6017.817	3788.92

HORIZONTAL BASELINE ALIGNMENT DATA				
Type	Station		Northing	Easting
POB	0+00.00		9039.1166	5517.3386
		TL=524.91 S 34°51'47" E		
POE	5+24.91		8608.4190	5817.3837



Rev. No.

1

12-01-16

CDK

1st Submittal City Comments 10/24/15

Date

12-01-16

CDK

Charge to SDDOT Formal

By

CDK

Charge to SDDOT Formal

Description

Charge to SDDOT Formal

Rev. No.

2

02-10-17

CLG

SDDOT Redlines

Date

02-10-17

CLG

SDDOT Redlines

By

CLG

SDDOT Redlines

Description

SDDOT Redlines

Rev. No.

3

03-15-17

CLG

SDDOT Redlines Round 2

Date

03-15-17

CLG

SDDOT Redlines Round 2

By

CLG

SDDOT Redlines Round 2

Description

SDDOT Redlines Round 2

Rev. No.

4

03-28-17

CLG

SDDOT Comments

Date

03-28-17

CLG

SDDOT Comments

By

CLG

SDDOT Comments

Description

SDDOT Comments

Rev. No.

5

05-08-17

CLG

SDDOT Comments

Date

05-08-17

CLG

SDDOT Comments

By

CLG

SDDOT Comments

Description

SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

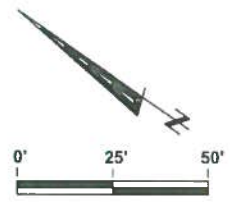
DEMOLITION PLAN
US85 SOUTHBOUND RIGHT TURN LANE FOR HSC EAST ENTRANCE
Drawn By: CDK/CLG
Surveyed By: CLG/CMT
Project No: L15-00-157
Checked By: NEH
Date: 02/01/2017

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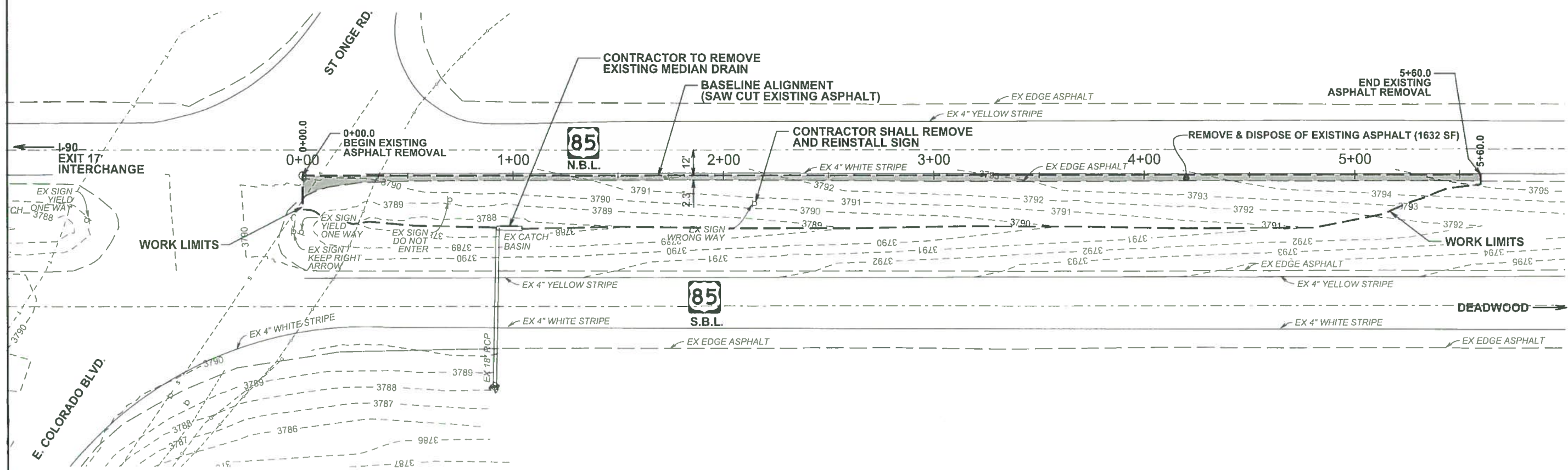
12

Sheet Number



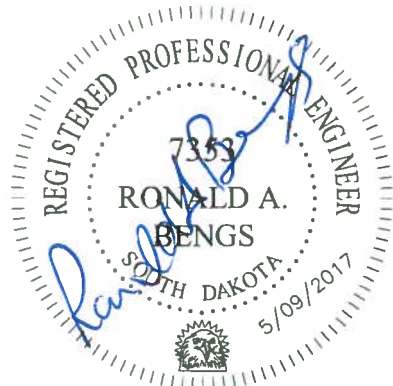
CONTRACTOR SHALL REMOVE EXISTING
DELINEATORS WITHIN CLEARING LIMITS

ASPHALT REMOVAL



Survey Information			
Horizontal Datum		GPS Observed North	
Vertical Datum		NGVD 1929	
Scale Factor		1.000176326	
Control Point List			
Point	Northing	Easting	Elevation
CP 131	7997.863	5919.77	3788.518
CP 132	8732.424	5655.338	3806.824
CP 158	12108.882	7663.412	3726.364
CP 501	7932.415	6017.817	3788.92

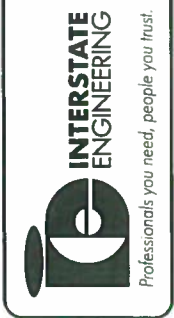
HORIZONTAL BASELINE ALIGNMENT DATA				
Type	Station		Northing	Easting
POB	-0+00.00	TL=559.97	7928.6513	6378.6866
POE	5+59.97	S 34°50'51" E	7469.0980	6698.6489

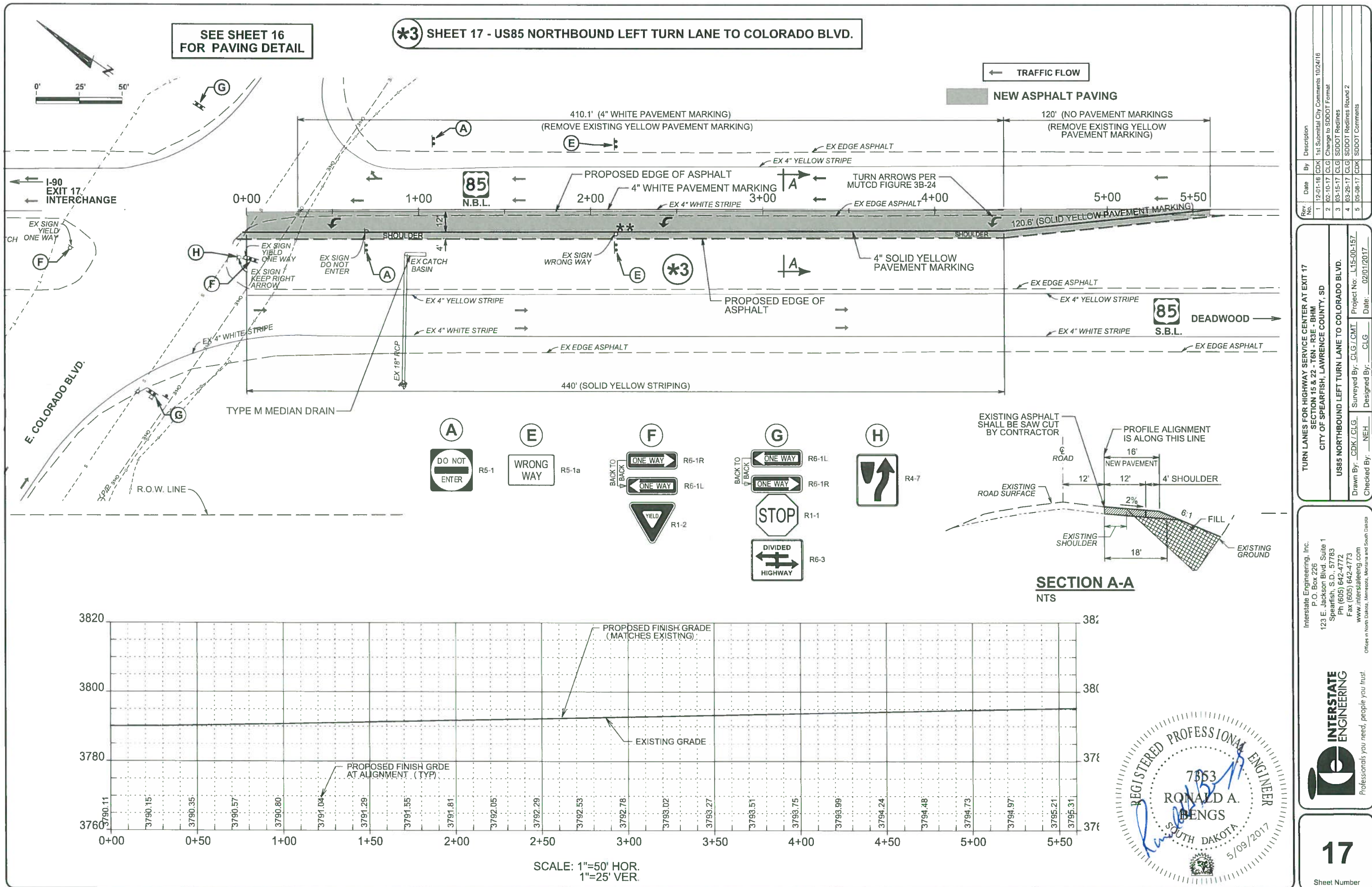


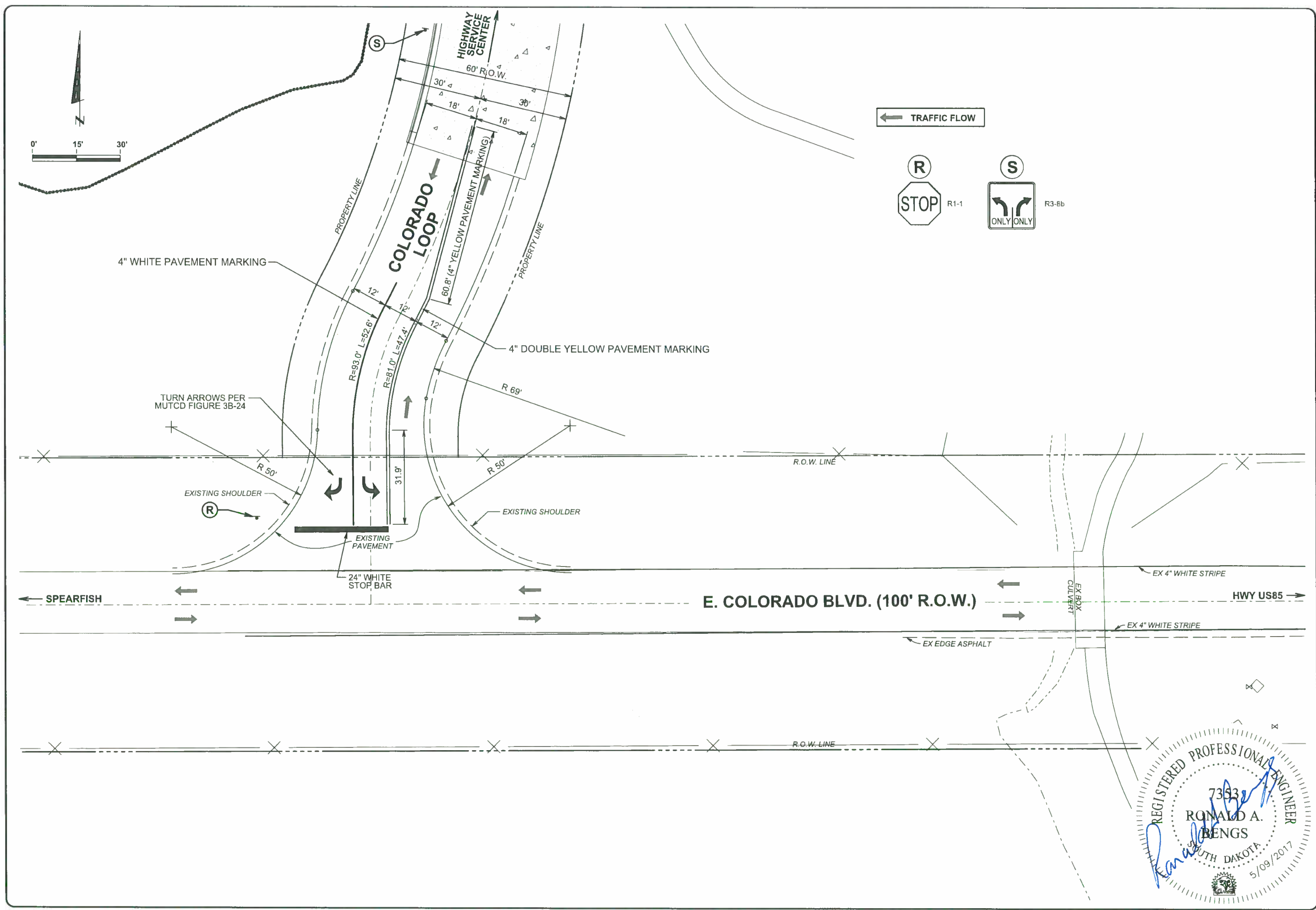
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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - B1M CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
DEMOLITION PLAN US85 NORTHBOUND LEFT TURN LANE TO COLORADO BLVD.	
Drawn By: CDK/CLG	Project No.: L15-00-157
Checked By: NEH	Date: 02/01/2017

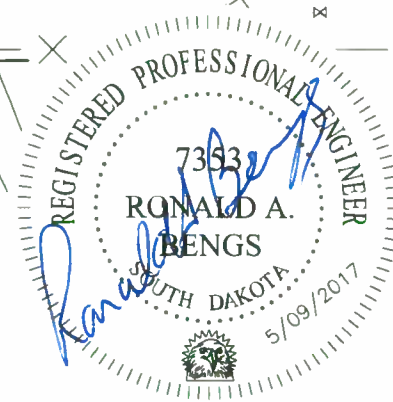
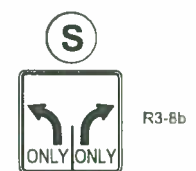
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← TRAFFIC FLOW

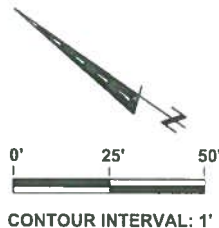


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SOUTH ENTRANCE OF HSC AT COLORADO BLVD	
Drawn By: CDK / CLG	Surveyed By: CLG / CMT
Checked By: NEH	Designed By: CLG
Project No: L15-00-157	
Date: 02/01/2017	

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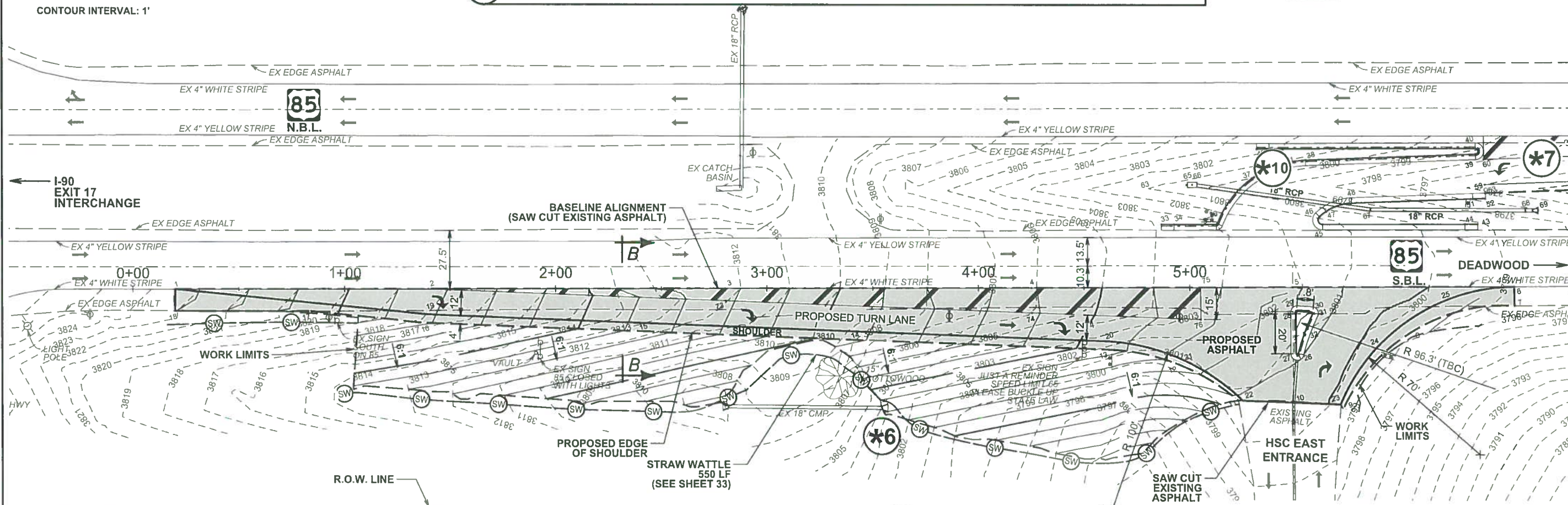




- *6 SHEET 19 - GRADING PLAN US85 SOUTHBOUND RIGHT TURN LANE FOR HSC EAST ENTRANCE
- *7 SHEET 20 - GRADING PLAN US85 NORTHBOUND LEFT TURN LANE TO HSC EAST ENTRANCE
- *10 SHEET 20 - GRADING PLAN FOR MEDIAN AREA

SEE SHEET 20
FOR SECTION B-B

NEW ASPHALT PAVING



GRADING POINT LIST DATA				
Pt #	North	East	Elevation	Description
1	9022.70	5528.76	3823.51	Striping
2	8924.49	5597.18	3818.40	Striping
3	8809.12	5677.56	3812.31	Striping
4	8690.27	5760.36	3806.10	Striping
5	8588.78	5831.16	3802.06	Asphalt
6	8503.01	5891.04	3798.97	Striping
7	8497.76	5883.75	3798.70	Edge Asphalt
8	8530.57	5846.46	3799.26	Edge Asphalt
9	8537.01	5798.94	3799.80	Edge Asphalt
10	8557.67	5786.59	3800.47	Asphalt
11	8579.73	5772.40	3800.80	Edge Asphalt
12	8613.89	5769.99	3802.69	Edge Asphalt
13	8643.62	5757.24	3804.46	Edge Asphalt
14	8747.20	5691.23	3809.34	Edge Asphalt
15	8831.55	5637.47	3813.71	Edge Asphalt
16	8915.74	5583.81	3818.10	Edge Asphalt
17	8963.95	5556.96	3820.54	Edge Asphalt
18	9016.84	5520.36	3823.04	Edge Asphalt
19	8917.79	5587.25	3818.17	Striping
20	8647.93	5759.24	3804.62	Striping
21	8613.59	5773.01	3802.67	Striping
22	8578.02	5773.60	3800.80	Striping
23	8538.96	5798.53	3799.84	Striping
24	8540.21	5829.52	3799.58	Striping
25	8526.58	5866.46	3799.25	Striping
26	8568.90	5806.64	3801.49	TBC PC 4\"R
27	8569.48	5806.34	3801.67	TBC PT 4\"R
28	8580.69	5822.51	3802.24	TBC PC 4\"R
29	8580.58	5822.99	3802.29	TBC PT 4\"R
30	8574.62	5826.51	3801.97	TBC PC 4\"R
31	8574.12	5826.27	3801.77	TBC PT 4\"R
32	8572.03	5816.32	3801.66	TBC MID PT 96.34\"R
73	8805.79	5672.86	3812.19	Striping
74	8683.69	5750.68	3806.17	Striping
75	8624.65	5806.08	3803.62	Striping
76	8616.07	5793.77	3803.32	Striping



TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

GRADING AND EROSION CONTROL PLAN
US85 SOUTHBOUND RIGHT TURN LANE FOR HSC EAST ENTRANCE

Drawn By: CDK/CLG
Surveyed By: CLG/CMT
Checked By: NEH
Project No: L15-00-157
Date: 02/01/2017

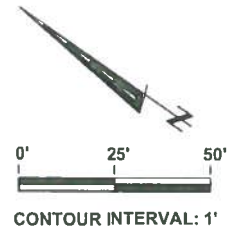
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19

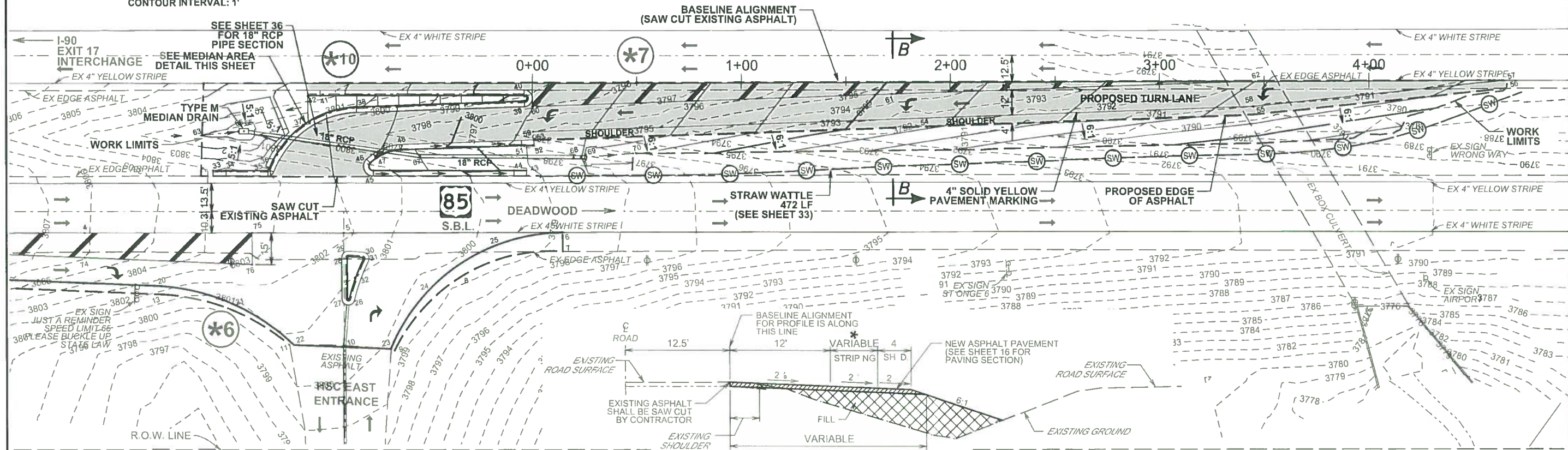
Sheet Number



SEE SHEET 16
FOR PAVING SECTION

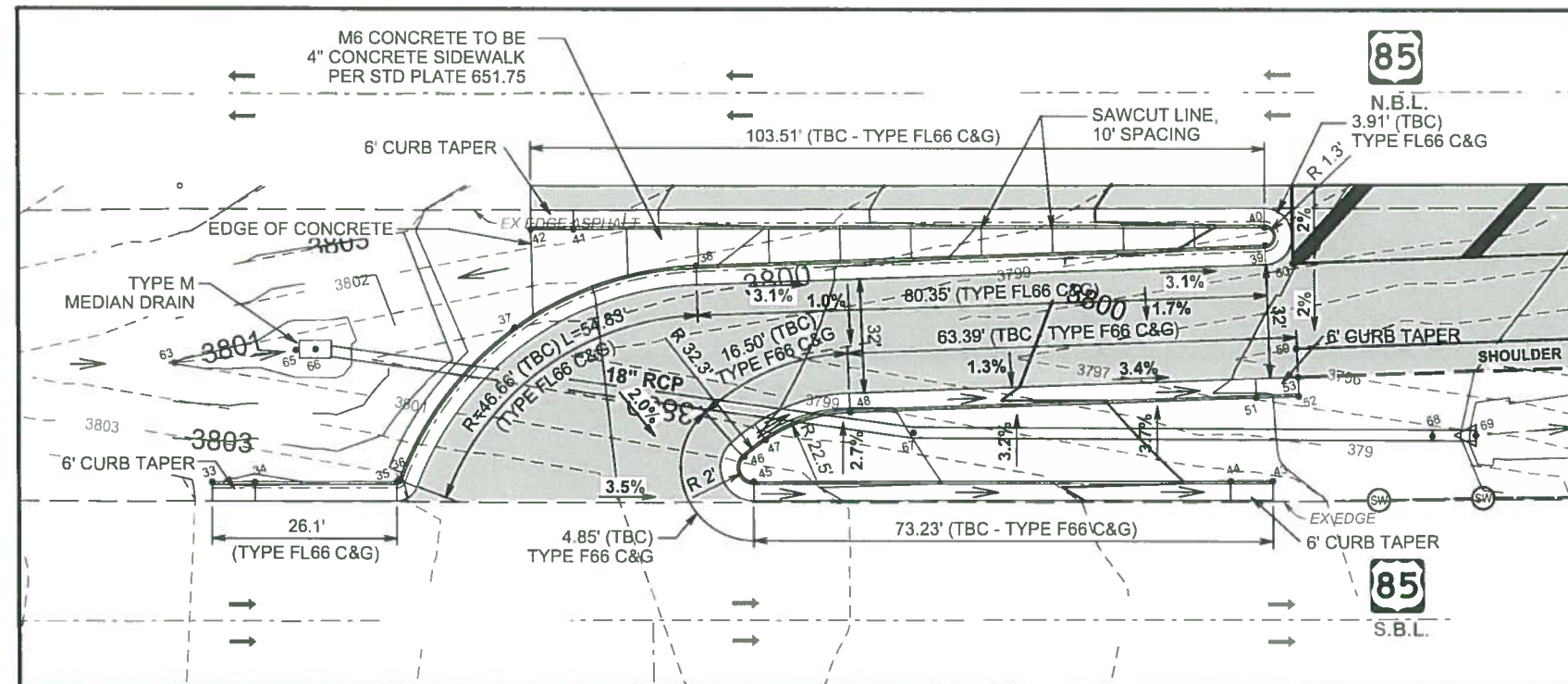
NEW ASPHALT PAVING

- *6 SHEET 19 - GRADING PLAN US85 SOUTHBOUND RIGHT TURN LANE FOR HSC EAST ENTRANCE
- *7 SHEET 20 - GRADING PLAN US85 NORTHBOUND LEFT TURN LANE TO HSC EAST ENTRANCE
- *10 SHEET 20 - GRADING PLAN FOR MEDIAN AREA



SECTION B-B
NTS

GRADING POINT LIST DATA				
Pt #	Northing	Easting	Elevation	Description
33	8656.72	5820.01	3803.92	TBC_Beg 6' Taper
34	8651.79	5823.44	3804.22	TBC_End 6' Taper
35	8635.33	5834.89	3803.04	TBC_PC 4\"R
36	8635.20	5835.25	3803.03	TBC_PT 4\"R
37	8633.92	5862.24	3802.31	TBC_Mid Pt 46.67\"R
38	8617.89	5884.00	3802.10	TBC_PT 46.67\"R
39	8553.54	5932.12	3799.63	TBC_PC 1.26\"R
40	8555.01	5934.15	3799.78	TBC_PT 1.26\"R
41	8634.96	5878.34	3802.91	TBC_Beg 6' Taper
42	8639.88	5874.90	3802.62	TBC_End 6' Taper
43	8533.92	5905.48	3799.13	TBC_Beg 6' Taper
44	8538.85	5902.05	3799.80	TBC_End 6' Taper
45	8594.03	5863.65	3801.77	TBC_PC 2\"R
46	8597.11	5865.78	3801.56	TBC_PT 2\"R
47	8595.96	5869.41	3801.48	TBC_PC 32.33\"R
48	8588.41	5879.40	3801.22	TBC_PT 22.5\"R
51	8542.45	5913.77	3799.29	TBC_Beg 6' Taper
52	8537.65	5917.36	3798.55	TBC_End 6' Taper
53	8539.25	5919.50	3798.69	Edge Asphalt
54	8391.87	6029.70	3794.26	Edge Asphalt
55	8263.20	6125.90	3791.69	Edge Asphalt
56	8171.14	6204.97	3790.76	Edge Asphalt
57	8174.82	6207.08	3790.85	Striping
58	8265.71	6129.03	3791.78	Striping
59	8541.71	5922.65	3798.77	Striping @ Gutter
60	8548.90	5932.26	3799.02	Striping
61	8411.06	6035.32	3794.84	Striping
62	8273.22	6138.39	3792.03	Striping
63	8670.47	5830.81	3800.97	F/L Drainage
65	8657.52	5841.97	3800.55	F/L Drainage @ Drain
66	8655.33	5843.64	3800.55	Center of Drain
67	8579.44	5882.14	3800.98	18\"RCP 7.5\" bend
68	8518.96	5923.50	3798.24	Safety End Sec
69	8514.02	5927.06	3796.34	F/L Drainage
70	8496.59	5941.42	3796.12	F/L Drainage



MEDIAN AREA DETAIL
NTS

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM

CITY OF SPEARFISH, LAWRENCE COUNTY, SD

GRADING AND EROSION CONTROL PLAN
US85 NORTHBOUND LEFT TURN LANE FOR HSC EAST ENTRANCE

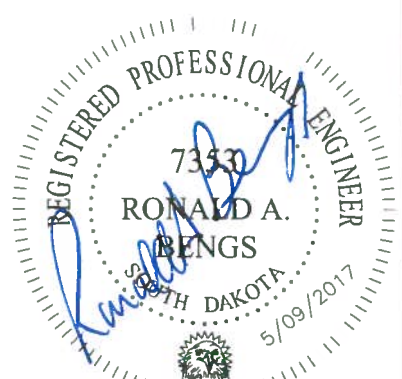
Drawn By: CDK/CLG Surveyed By: CLG/CMT Project No.: L15-00-157-CLG

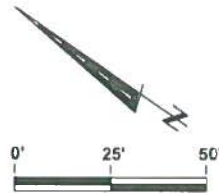
Checked By: NEH Designed By: CLG Date: 02/01/2017

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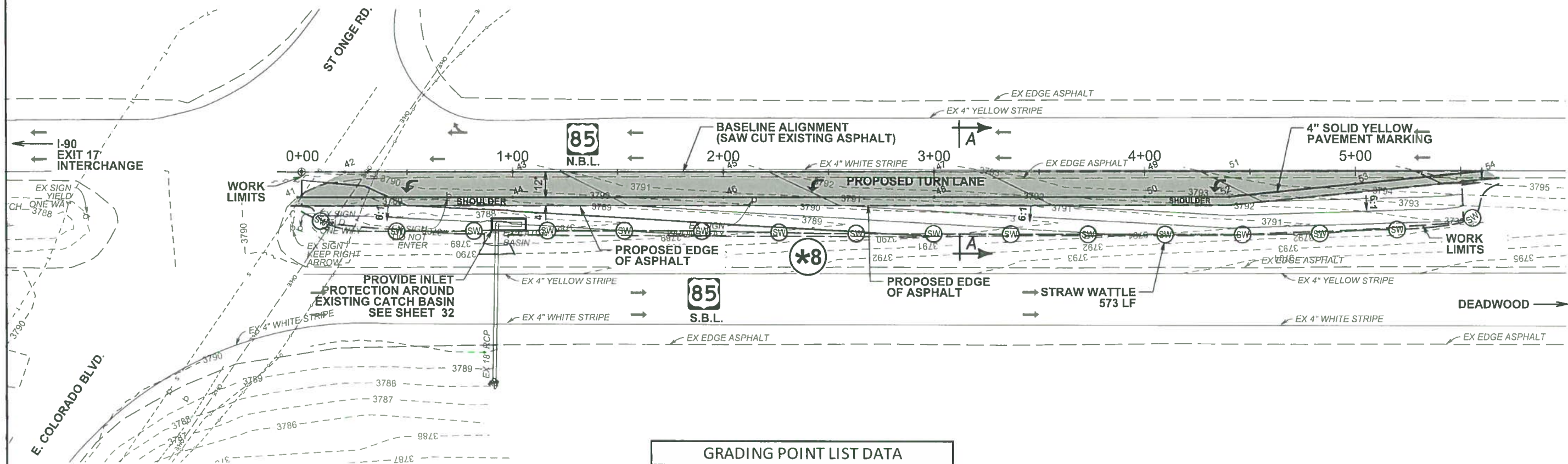


SEE SHEET 17
FOR SECTION A-A

SEE SHEET 16
FOR PAVING DETAIL

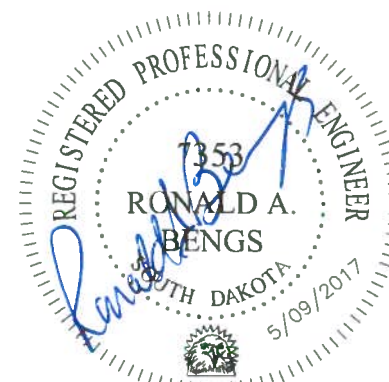
***8** SHEET 21 - US85 NORTHBOUND LEFT TURN LANE TO COLORADO BLVD.

NEW ASPHALT PAVING



GRADING POINT LIST DATA

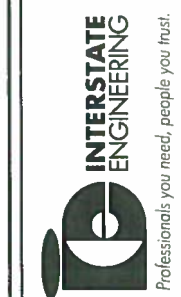
Pt #	Northing	Easting	Elevation	Description
41	7923.4537	6367.6834	Match Ex.	Edge Asphalt
42	7904.1312	6395.7587	3790.08	Edge Asphalt
43	7846.5837	6435.8259	3790.77	Edge Asphalt
44	7839.7270	6425.9778	3790.53	Edge Asphalt
45	7764.5160	6492.9652	3791.79	Edge Asphalt
46	7757.6593	6483.1171	3791.55	Edge Asphalt
47	7682.4484	6550.1045	3792.76	Edge Asphalt
48	7675.5916	6540.2564	3792.52	Edge Asphalt
49	7600.3807	6607.2438	3793.74	Edge Asphalt
50	7593.5240	6597.3957	3793.50	Edge Asphalt
51	7567.5792	6630.0817	3794.13	Edge Asphalt
52	7560.7225	6620.2336	3793.89	Edge Asphalt
53	7514.9103	6659.4412	3794.60	Edge Asphalt
54	7469.0980	6698.6489	3795.31	Edge Asphalt



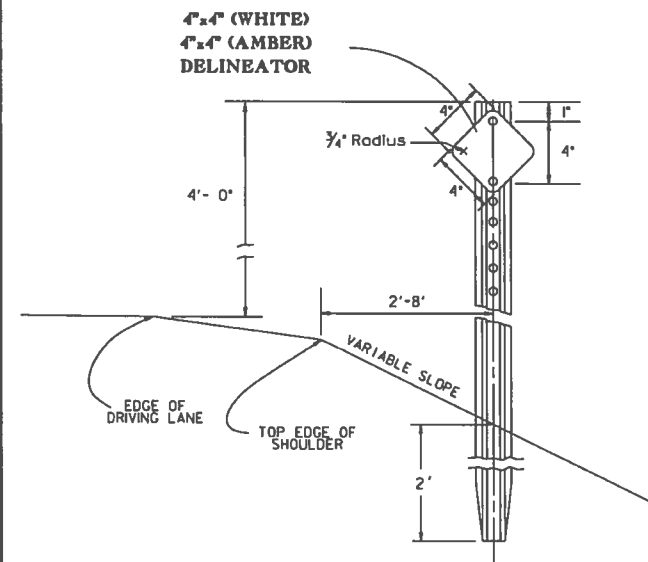
Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T&N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD
GRADING AND EROSION CONTROL PLAN
US85 NORTHBOUND LEFT TURN LANE TO E. COLORADO BLVD.
Drawn By: CDK / CLG
Checked By: NEH
Surveyed By: CLG / CMT
Project No: L15-00-157
Date: 02/01/2017

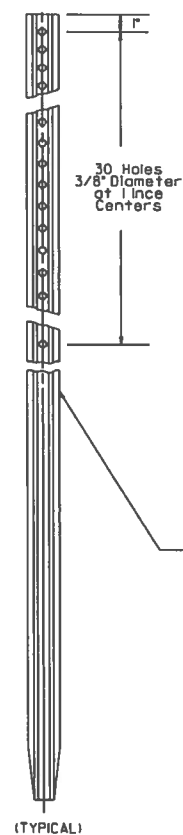
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with Diamond Grade reflective sheeting



Mounting Holes in all Delineators to
be $\frac{1}{4}$ " diameter



(TYPICAL)



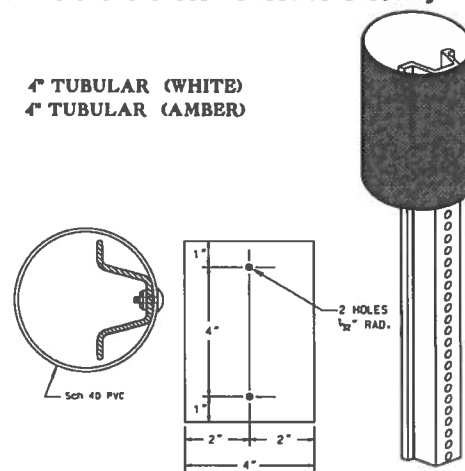
SINGLE



BACK-TO-BACK

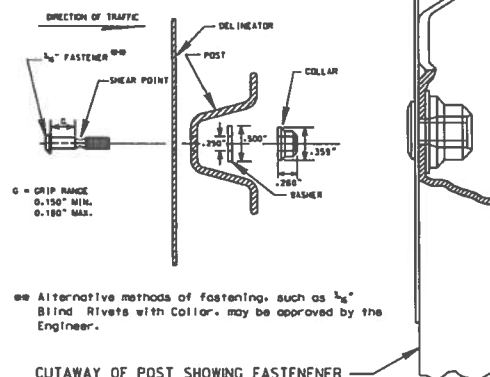
4" TUBULAR DELINEATORS

with Diamond Grade reflective sheeting



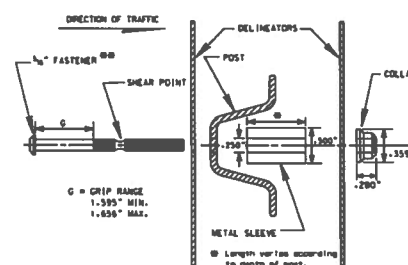
Details shown represents delineator on its own post. When mounted on a sign assembly, the signpost shall run through the delineator and top of delineator shall be mounted at 4' elevation above edge of driving lane.

DETAIL FOR SINGLE MOUNTING DELINEATORS ON POST



see Alternative methods of fastening, such as 1/2" Blind Rivets with Collar, may be approved by the Engineer.

DETAIL FOR MOUNTING 4'x4' DELINEATORS BACK TO BACK ON POST

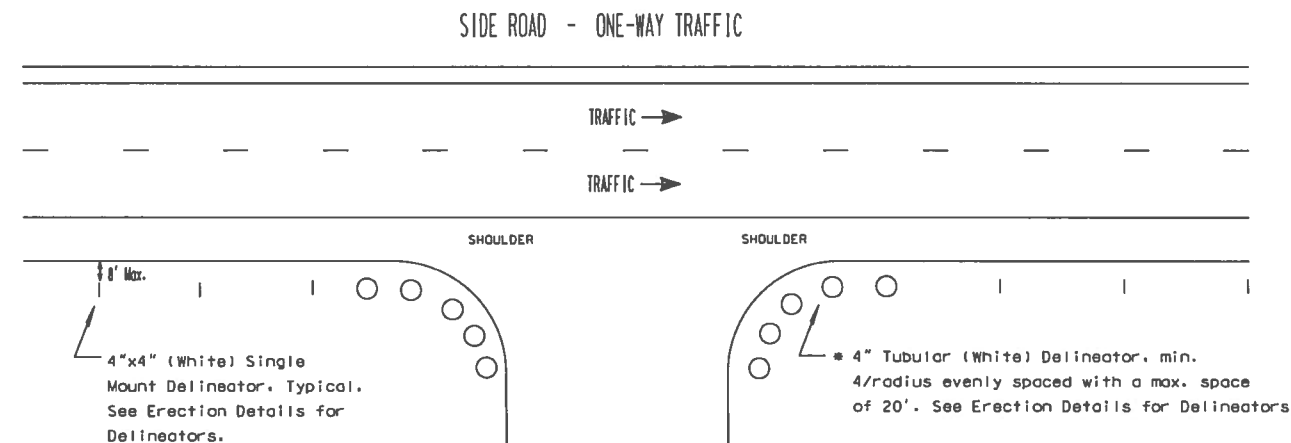


ee Alternative methods of fastening, such as $\frac{1}{4}" - \frac{1}{2}"$ Twin Rivets, may be approved by the Engineer.

August 16, 2013

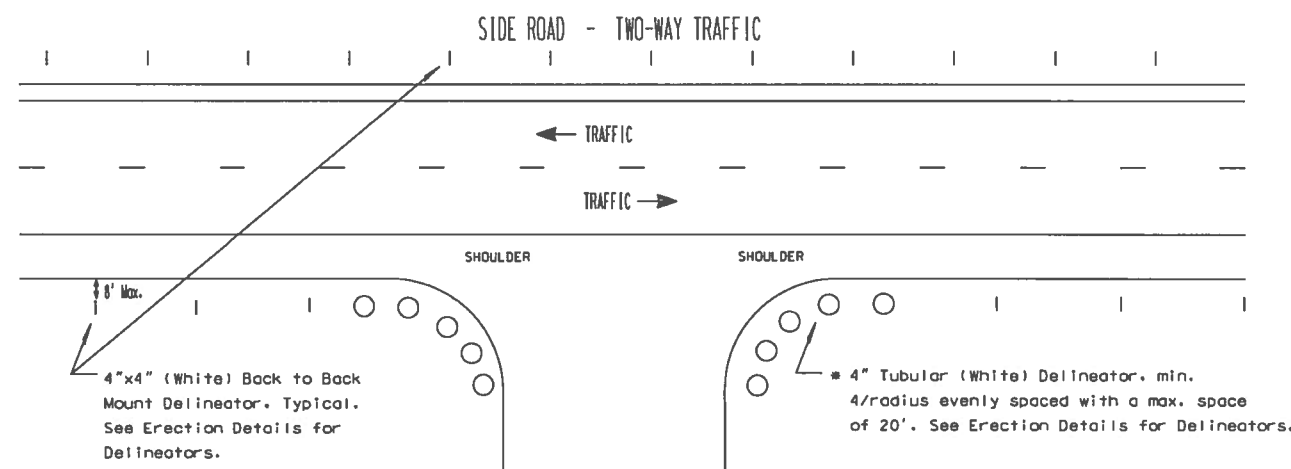
SPECIAL DETAIL
L30

Sheet 1 of 2



4"x4" (White) Single Mount Delineator, Typical. See Erection Details for Delineators.

- * 4" Tubular (White) Delineator, min.
4/radius evenly spaced with a max. space
of 20'. See Erection Details for Delineators.



* 4" Tubular (White) Delineator installed as shown only on intersections with radius or a combination radius greater than 75' and also has stop/yield control. At all other intersections with stop/yield control, one 4" tubular delineator shall be installed on each stop/yield sign assembly and large arrow (Tee-intersections).

• August 16, 2013

SPECIAL DETAIL
L30

Sheet 2 of 2

Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

DETAILS

Drawn By: CDK/CLG Surveyed By: CLG / CMT Project No: L15-00-157
 Checked By: NEH Designed By: CLG Date: 02/01/2017

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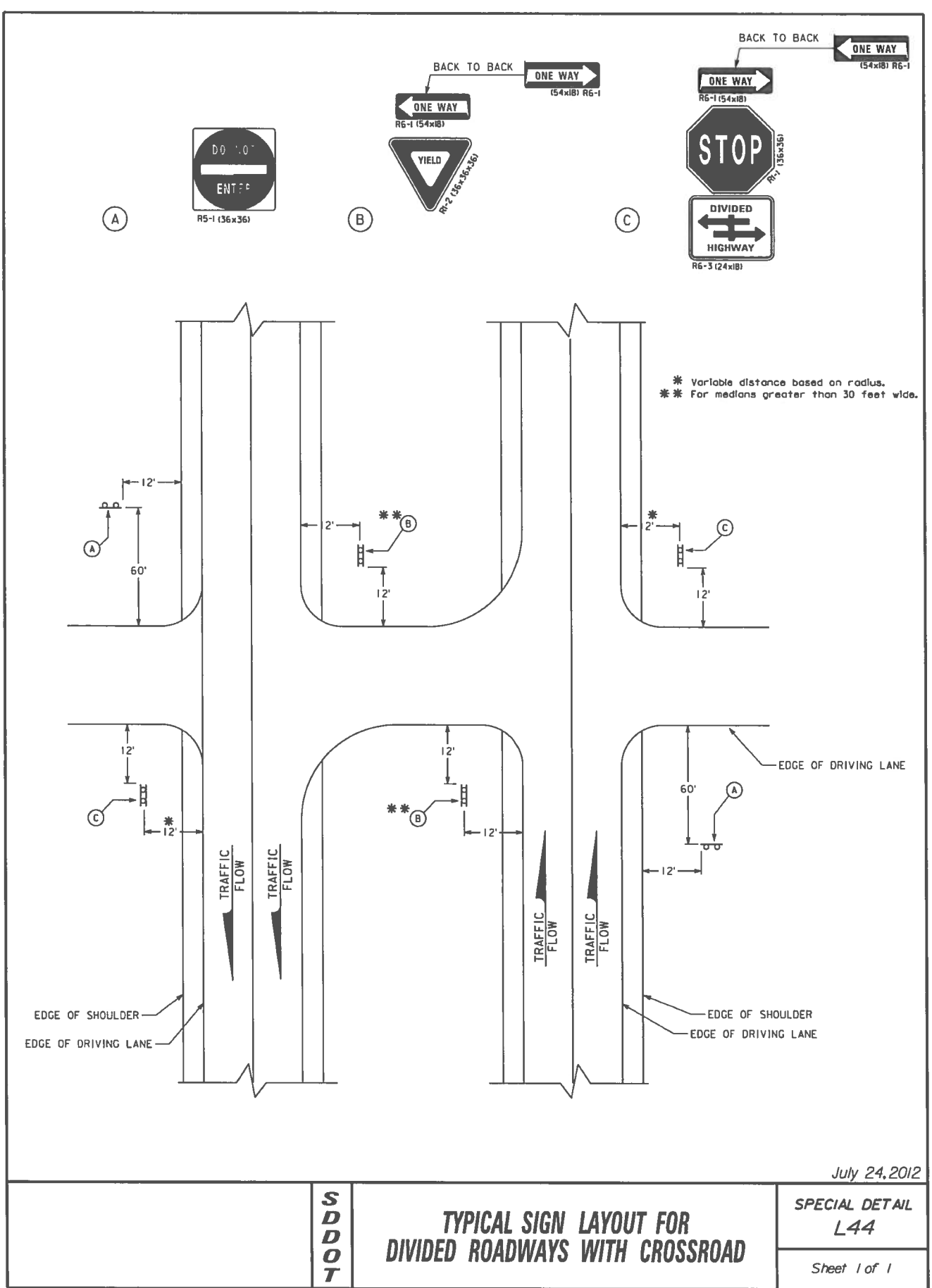
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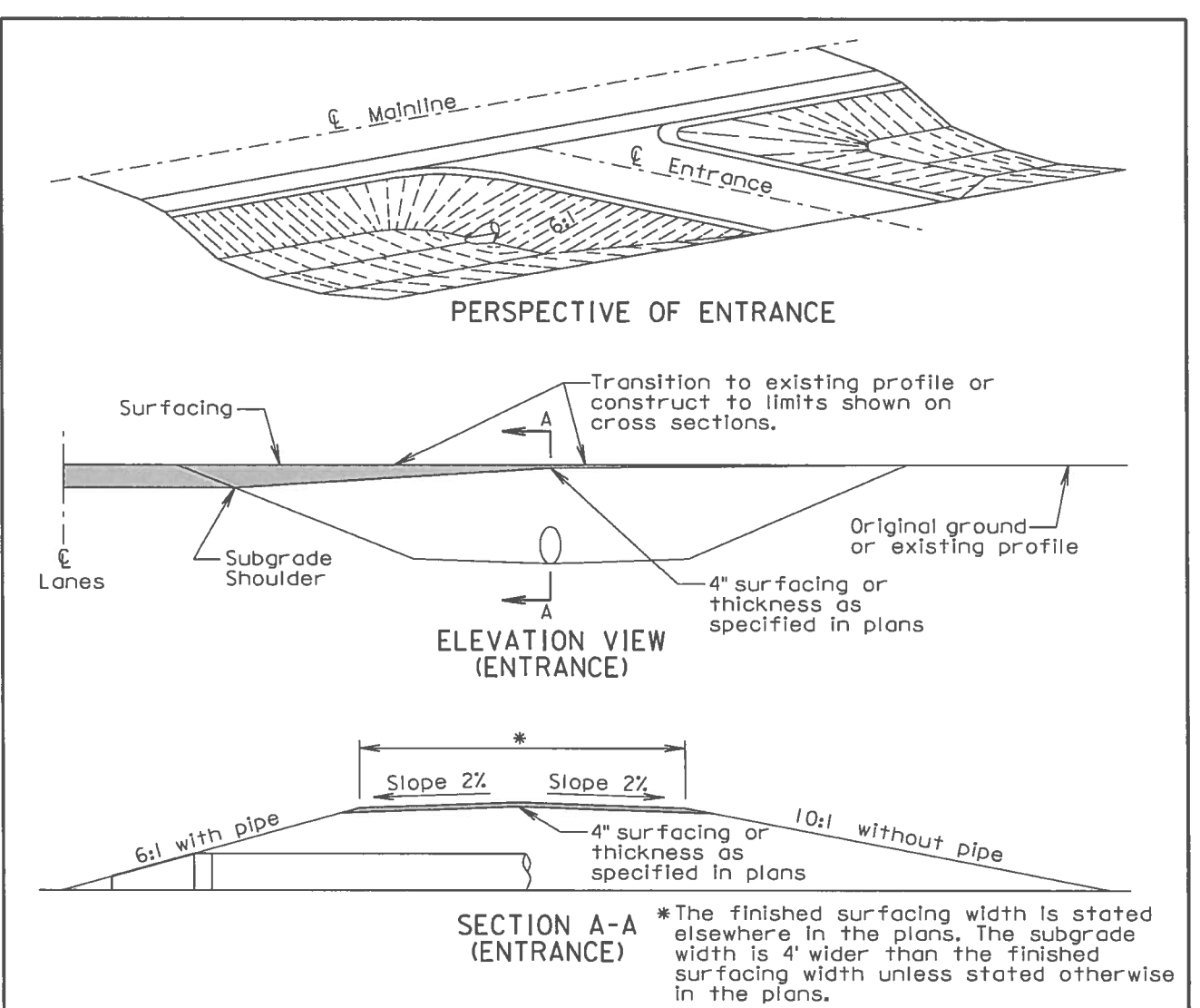
22

Sheet Number



July 24, 2012

S D D O T	TYPICAL SIGN LAYOUT FOR DIVIDED ROADWAYS WITH CROSSROAD	SPECIAL DETAIL L44
		Sheet 1 of 1



GENERAL NOTES:

The ditch section shown above in the perspective and elevation view is only for illustrative purposes.

A 6:1 inslope shall be constructed for an entrance when a pipe is required. A 10:1 inslope shall be constructed when a pipe is not required.

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

The transition area between the mainline inslope and the approach inslope for entrances shall be rounded to eliminate an abrupt transition.

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

September 6, 2013

S D D O T	INTERSECTING ROADS AND ENTRANCES	PLATE NUMBER 120.01
		Sheet 1 of 2

Published Date: 1st Qtr. 2017

Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 1024/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

DETAILS

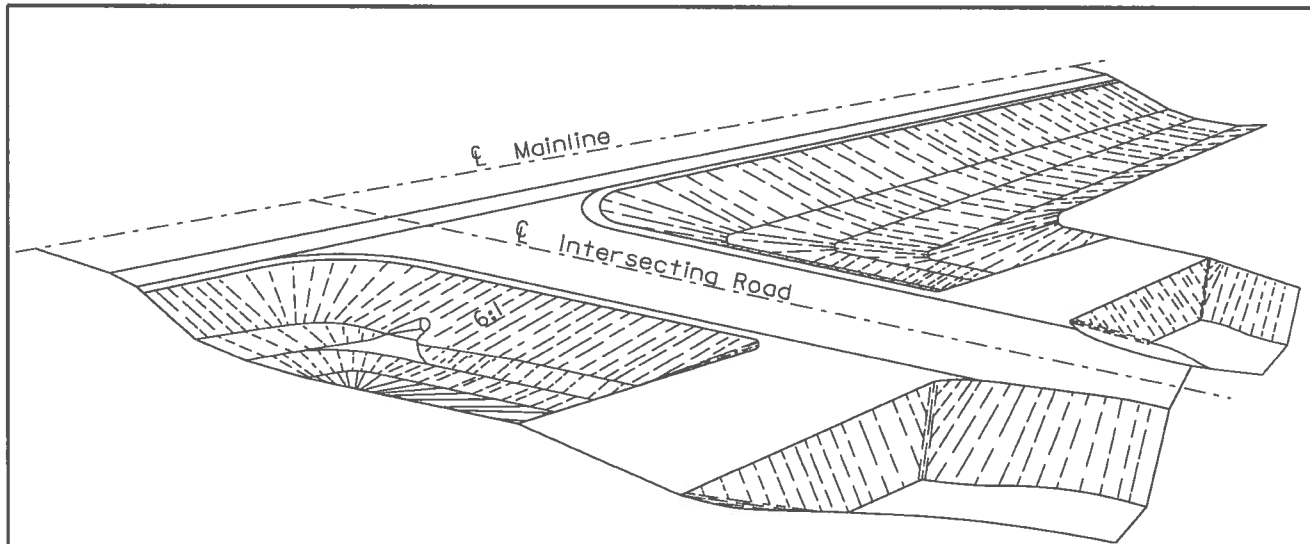
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Surveyed By: CLG / GNT
Designed By: CLG

Project No: L15-00-157
Date: 02/01/2017

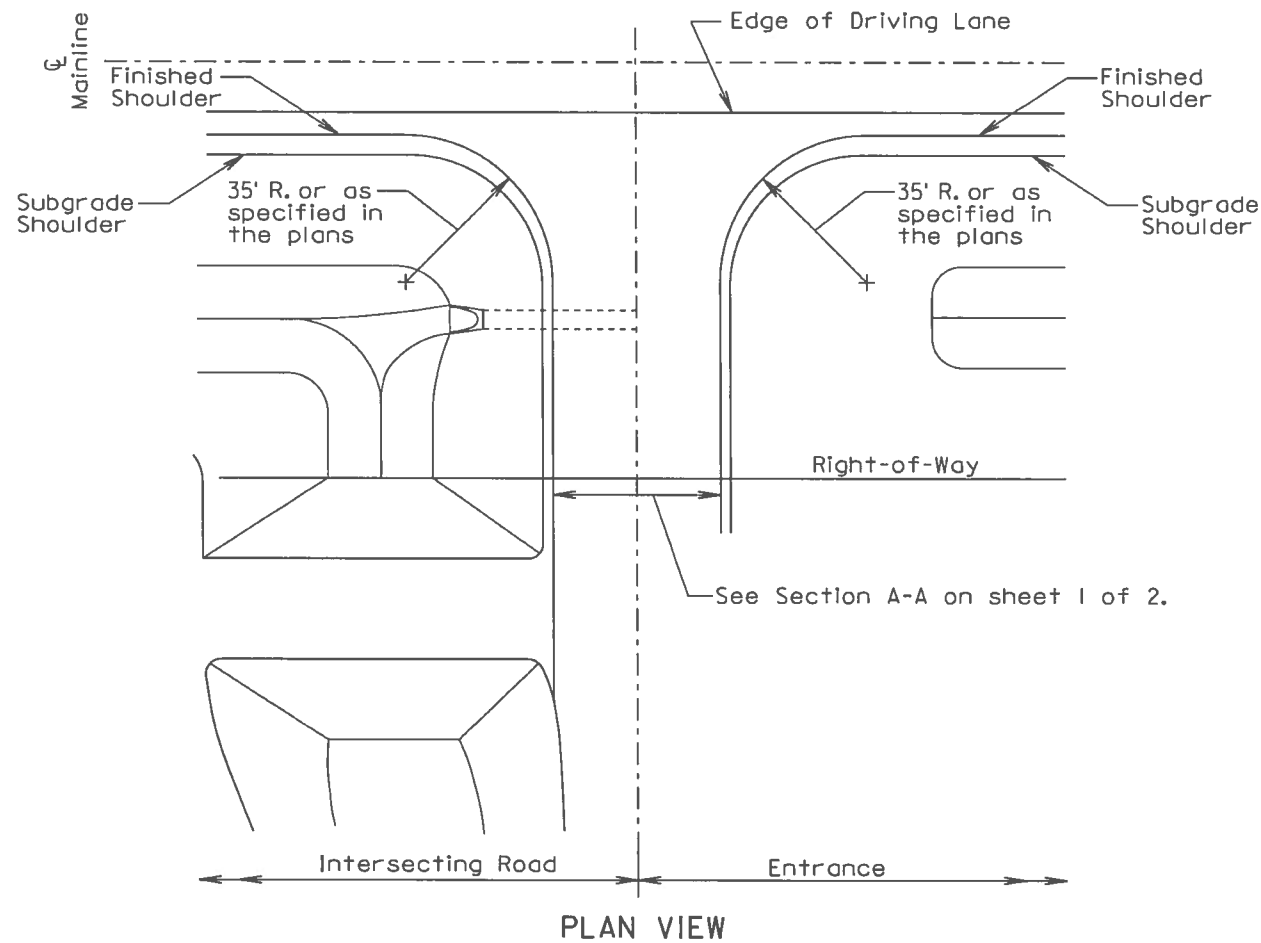
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23
Sheet Number



PERSPECTIVE OF INTERSECTING ROAD



PLAN VIEW

September 6, 2013

Published Date: 1st Qtr. 2017

S
D
D
O
T

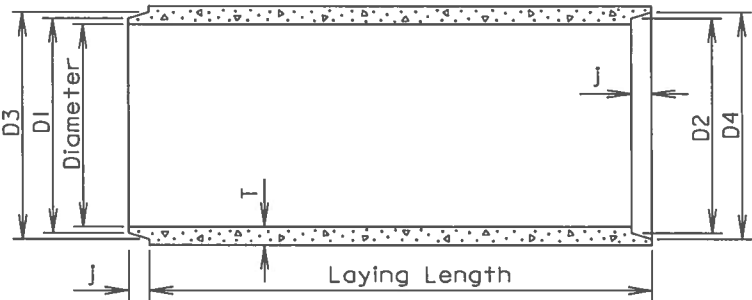
INTERSECTING ROADS AND ENTRANCES

PLATE NUMBER
120.01

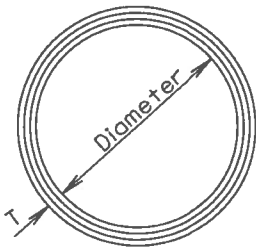
Sheet 2 of 2

TOLERANCES IN DIMENSIONS

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



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

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

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

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

June 26, 2015

Published Date: 1st Qtr. 2017

S
D
D
O
T

REINFORCED CONCRETE PIPE

PLATE NUMBER
450.01

Sheet 1 of 1

Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

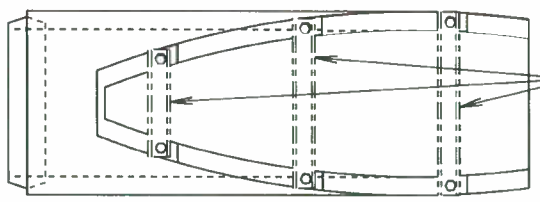
TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	Project No: L15-00-157 Surveyed By: CLG / CMT Checked By: NEH	Date: 02/01/2017
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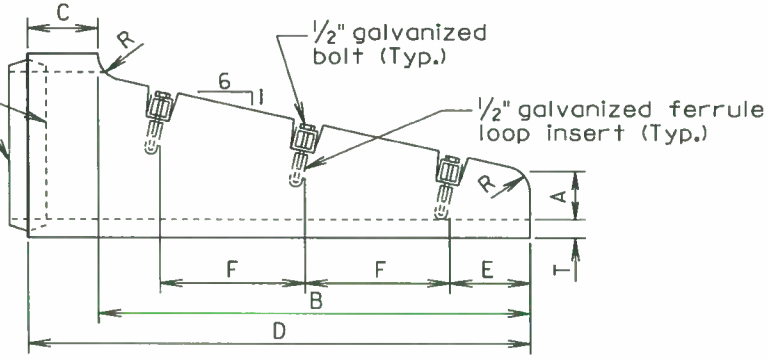
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If bars are specified in the plans then provide HSS 2.5X2.5X.1875 Structural Steel Tubing in conformance with ASTM A500, Grade B or 3" Diameter Schedule 40 Pipe in conformance with ASTM A53, Grade B.

TOP VIEW



1/2" galvanized bolt (Typ.)

1/2" galvanized ferrule loop insert (Typ.)

Tongue (Inlet) or Groove (Outlet)

6

1

F

B

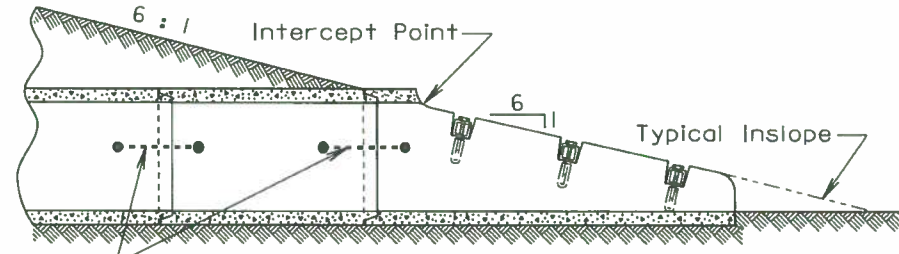
E

D

A

T

SIDE VIEW



6 : 1

Intercept Point

Typical Inslope

Tie Bolt (Typ.)
See Standard Plate 450.18

ELEVATION VIEW

Dia. (in.)	T (in.)	R (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	No. Sections	No. Bars
FOR CIRCULAR PIPE										
15	2 1/4	3	6	48	9	57	6	18	1	3
18	2 1/2	3	6	69	9	78	9	24	1	3
*24	3	3	6	111	9	120	6	24	1 or 2	5
FOR ARCH PIPE										
**18	2 1/2	1	6	39	33	72	6	24	1	2

*The use of 2 sections must be an approved design.
**Equivalent Diameter of Circular R. C. P.

GENERAL NOTES:

The length of concrete pipe shown on the plans is between safety ends.

Safety ends without bars are acceptable with or without the bar notches.

Bars shall be galvanized after fabrication in accordance with ASTM A123.

August 31, 2013


Published Date: 1st Qtr. 2017

SDOT

R. C. P. SAFETY ENDS
WITH OR WITHOUT BARS

PLATE NUMBER
450.12

Sheet 1 of 1



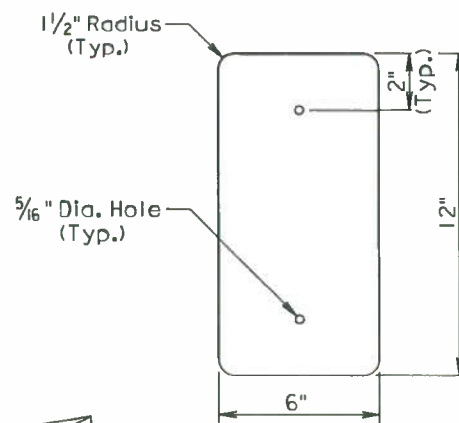
Adjacent Traffic Direction

Back to Back

Single

UNDIVIDED HIGHWAYS AND DIVIDED HIGHWAYS MEDIANS

DIVIDED HIGHWAYS EXCEPT MEDIANS



1 1/2" Radius (Typ.)

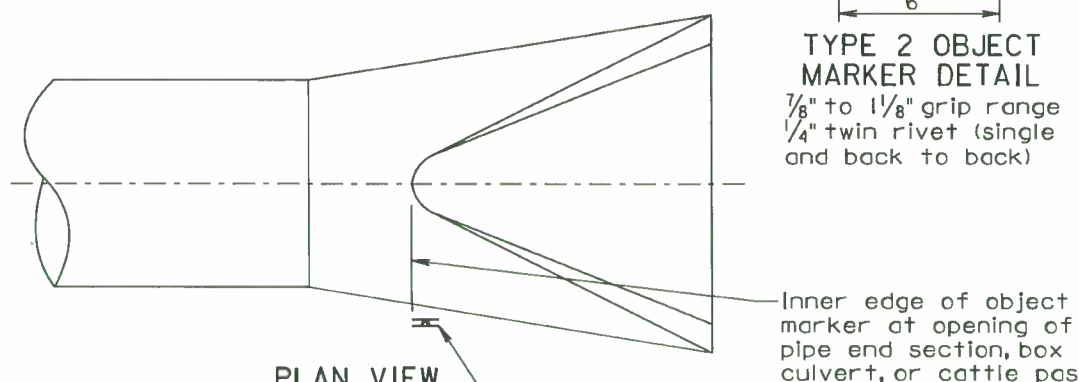
5/16" Dia. Hole (Typ.)

2" (Typ.)

12"

6"

TYPE 2 OBJECT MARKER DETAILS AND POST ORIENTATION

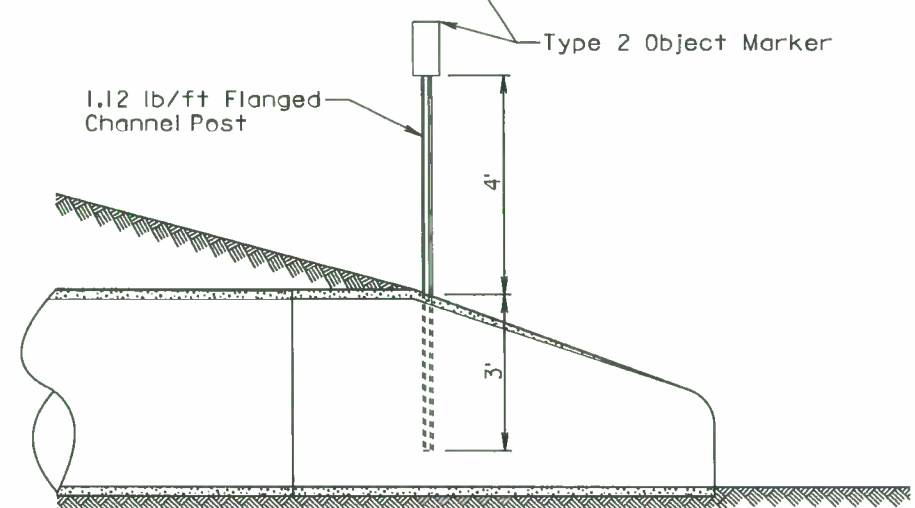


7/8" to 1 1/8" grip range

1/4" twin rivet (single and back to back)

Inner edge of object marker at opening of pipe end section, box culvert, or cattle pass

PLAN VIEW



1.12 lb/ft Flanged Channel Post

4'

3'

ELEVATION

GENERAL NOTES:

The type 2 object markers and the 1.12 lb/ft flanged channel posts shall be in conformance with Specifications Section 982.2 J.

Payment for the type 2 object markers shall be in conformance with Specification Section 632.5 B.

Published Date: 1st Qtr. 2017

SDOT

TYPE 2 OBJECT MARKER INSTALLATION AT
PIPE CULVERTS, BOX CULVERTS, AND
CATTLE PASSES

PLATE NUMBER
632.10

Sheet 1 of 1

Rev. No.

1

2

3

4

5

Date

12-01-16

02-10-17

03-15-17

03-29-17

05-08-17

By

CDK

CLG

CLG

CLG

CDK

Description

1st Submittal City Comments 10/24/16

Change to SDDOT Format

SDDOT Redlines

SDDOT Redlines Round 2

SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

DETAILS (Continued)

Drawn By: CDK / CLG

Checked By: NEH

Project No: L15-00-157

Date: 02/01/2017

Surveyed By: CLG / CMT

Designed By: CLG

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Sheet Number

5/9/2017 9:20:58 AM Q:\2015\15-00-xxx\L15-00-157\CADD\DESIGN\Turnlanes\SHEETS\Details.dgn

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 - 30	25	180
35 - 40	25	320
45	25	600
50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

**Speed appropriate for location.

***Use speed limit designated for the condition when workers are present in the work space. Signs shall be covered or removed when workers are not present.

Flagger (As Necessary)

Reflectorized Drum

Channelizing Device

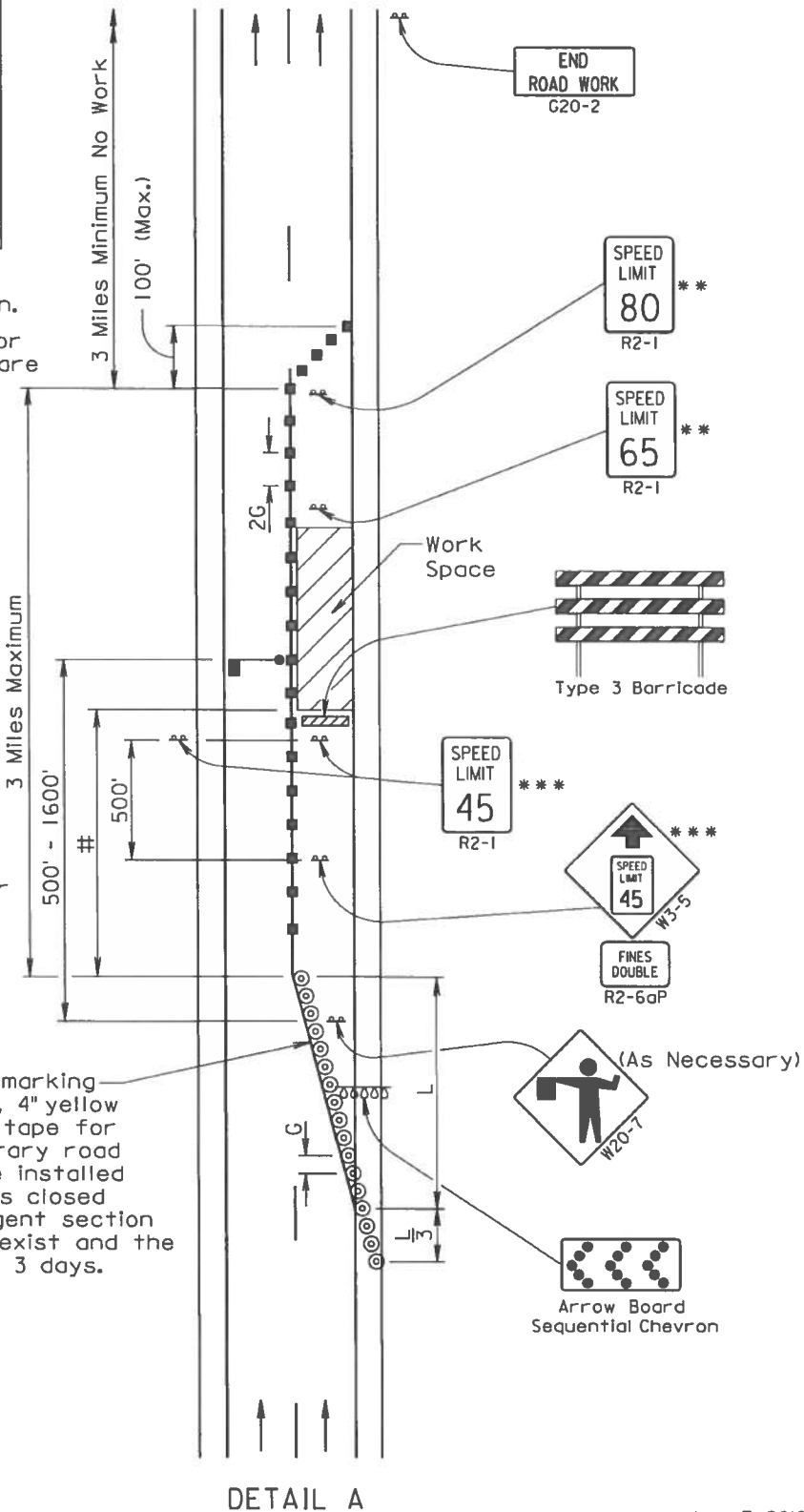
The Work Space shall be a minimum of 500' from the end of the taper.

The FLAGGER sign shall be used whenever there is a Flagger present.

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary road markers at 5' spacing shall be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



June 3, 2016

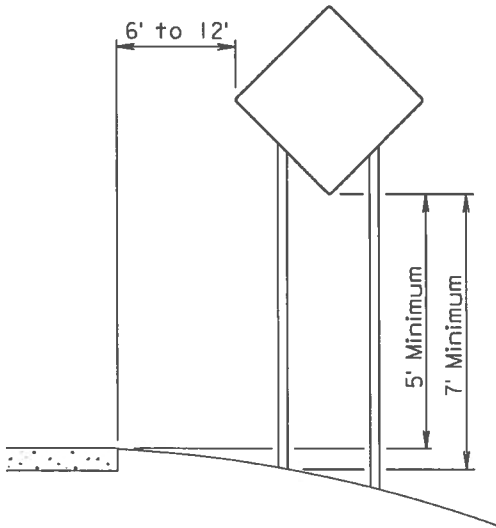
Published Date: 1st Qtr. 2017

SDOT

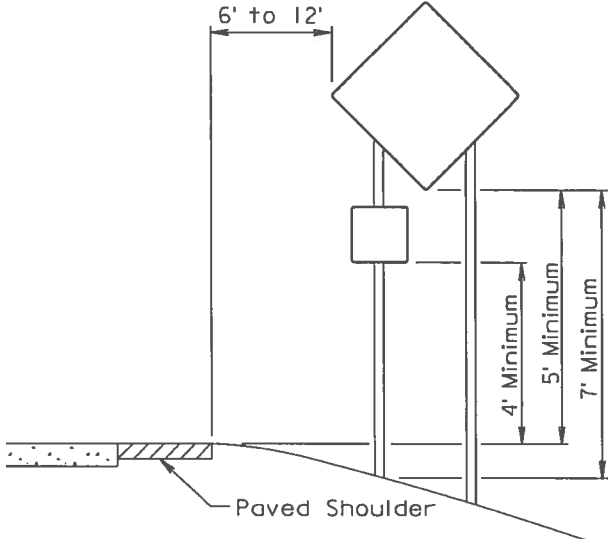
WORK ZONE SPEED REDUCTION
FOR INTERSTATE AND HIGH
SPEED MULTI-LANE HIGHWAYS

PLATE NUMBER
634.63

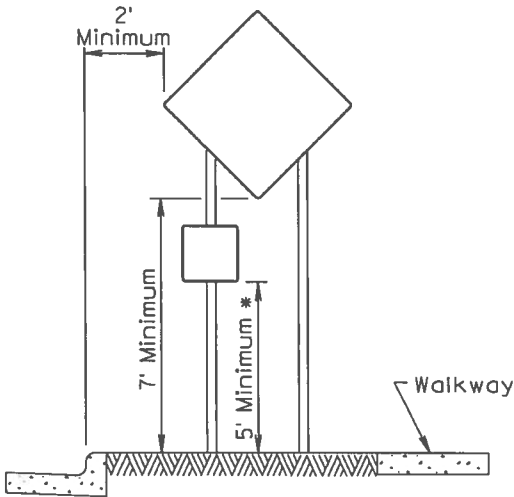
Sheet 2 of 2



RURAL DISTRICT

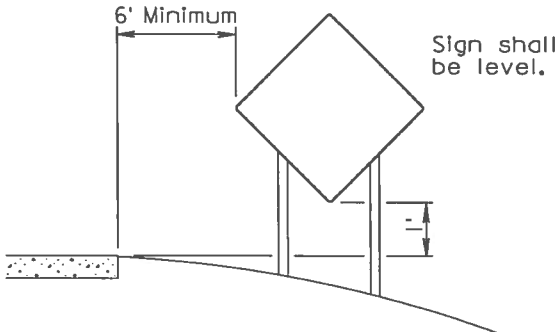


RURAL DISTRICT WITH
SUPPLEMENTAL PLATE



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. 2017

SDOT

CRASHWORTHY SIGN SUPPORTS
(Typical Construction Signing)

PLATE NUMBER
634.85

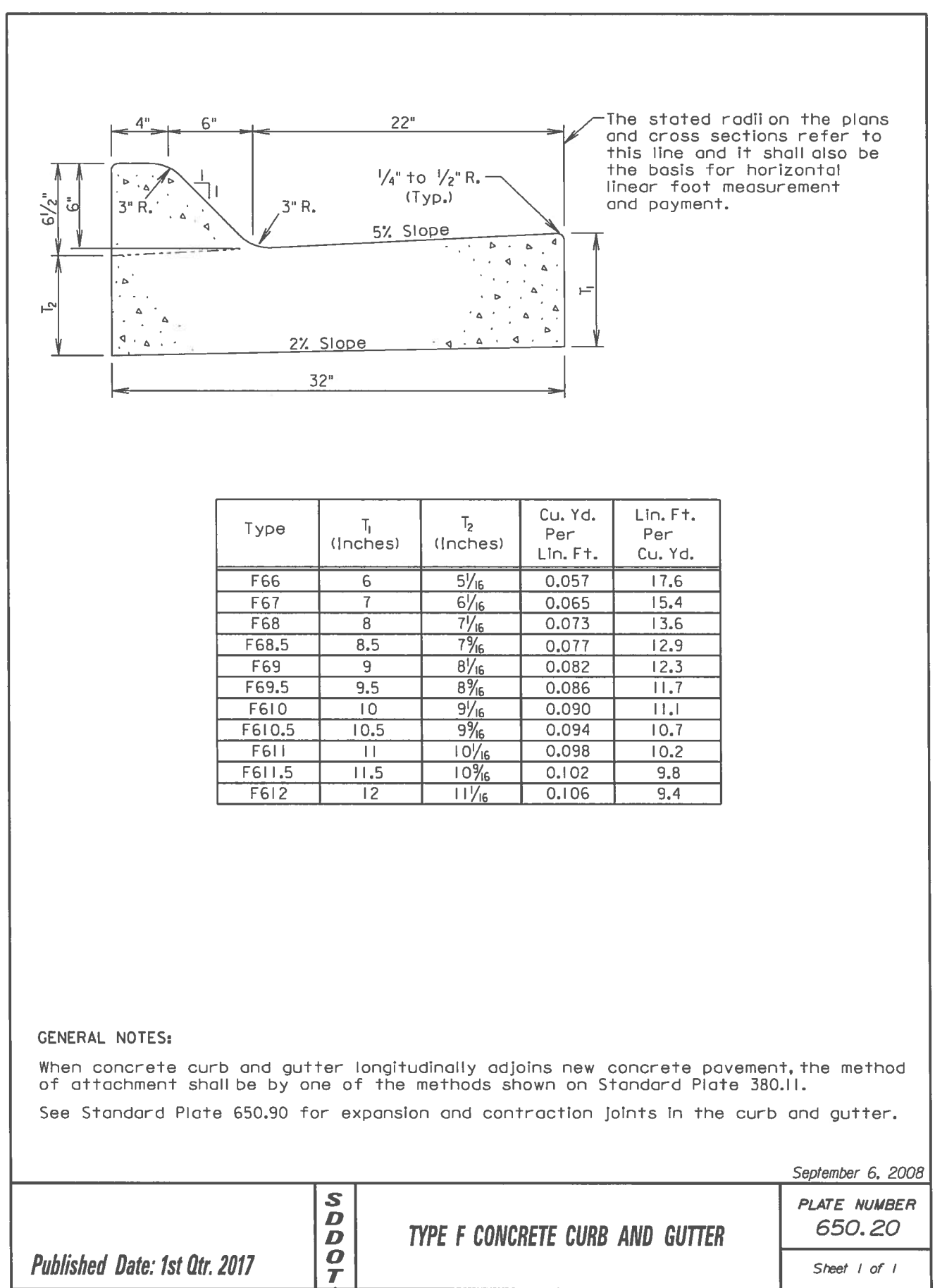
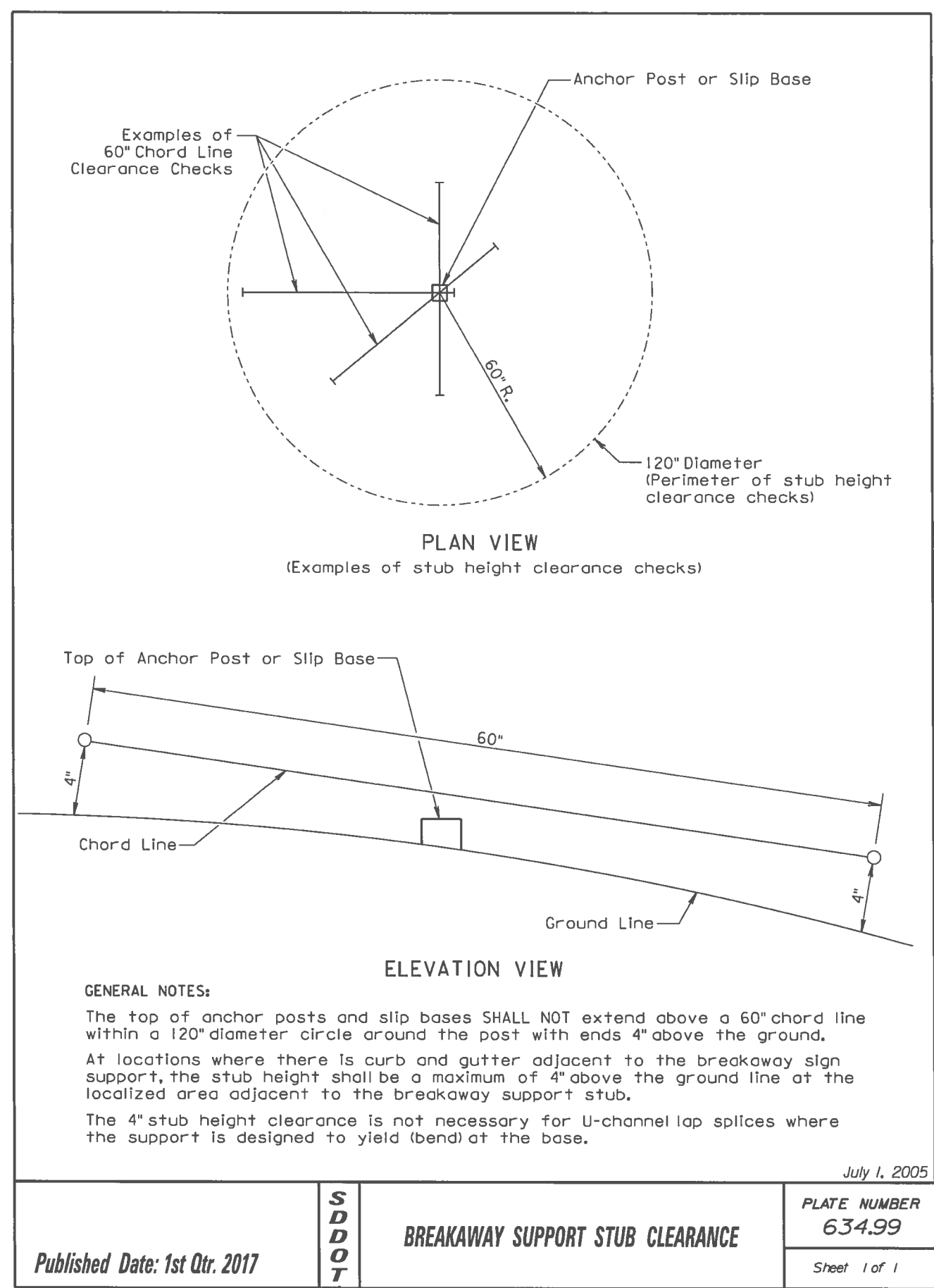
Sheet 1 of 1

Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD		Project No: L15-00-157
Drawn By: CDK/CLG	Surveyed By: CLG/CMT	Designed By: CLG
Checked By: NEH		Date: 02/01/2017

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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

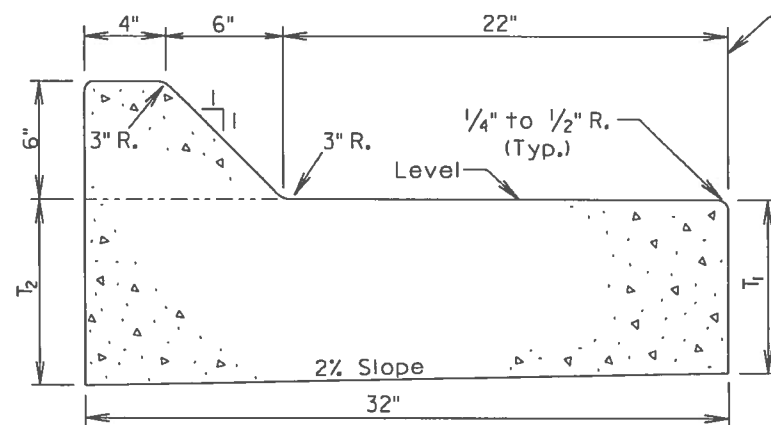
DETAILS (Continued)
Drawn By: CDK / CLG
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Surveyed By: CLG / CMT
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Date: 02/01/2017

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The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.

Type	T ₁ (Inches)	T ₂ (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
FL66	6	6 ⁵ / ₈	0.062	16.1
FL67	7	7 ⁵ / ₈	0.071	14.1
FL68	8	8 ⁵ / ₈	0.079	12.7
FL68.5	8.5	9 ¹ / ₈	0.084	11.9
FL69	9	9 ⁵ / ₈	0.087	11.5
FL69.5	9.5	10 ¹ / ₈	0.091	11.0
FL610	10	10 ⁵ / ₈	0.095	10.9
FL610.5	10.5	11 ¹ / ₈	0.100	10.0
FL611	11	11 ⁵ / ₈	0.104	9.6
FL611.5	11.5	12 ¹ / ₈	0.108	9.3
FL612	12	12 ⁵ / ₈	0.112	8.9

GENERAL NOTES:

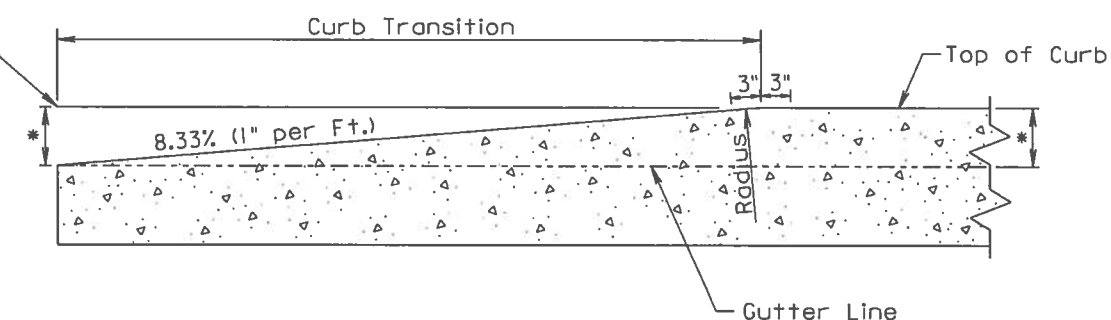
When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

See Standard Plate 650.90 for expansion and contraction joints in the curb and gutter.

September 6, 2006

Published Date: 1st Qtr. 2017	S D D O T	TYPE FL CONCRETE CURB AND GUTTER	PLATE NUMBER 650.25
			Sheet 1 of 1

End and theoretical elevation of top of curb and gutter shown on plans and cross sections.



* Height of Curb

LONGITUDINAL SECTION OF CONCRETE CURB TAPER

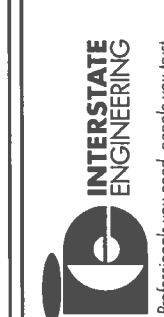
September 14, 2005

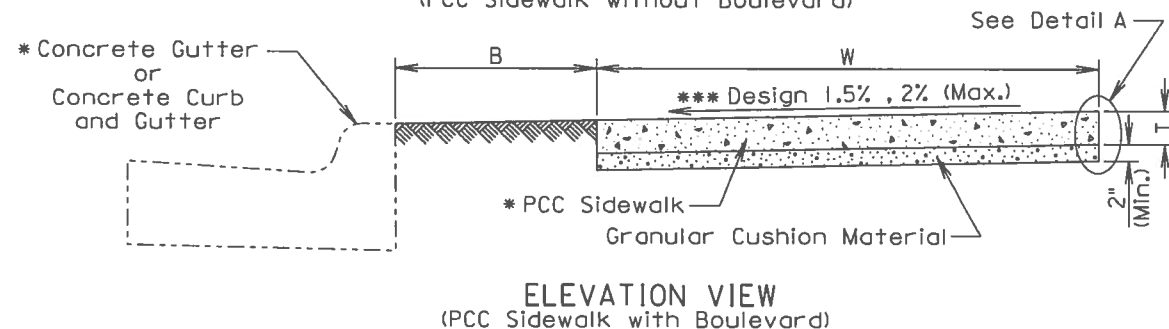
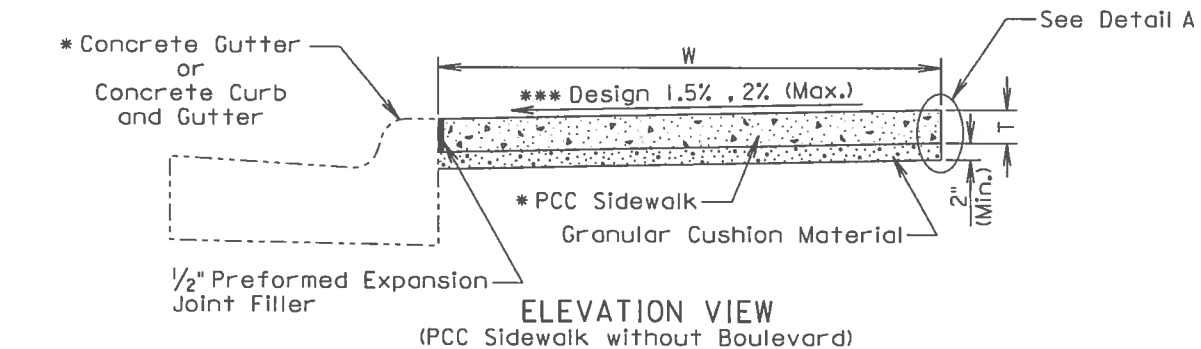
Published Date: 1st Qtr. 2017	S D D O T	CONCRETE CURB TAPER	PLATE NUMBER 650.35
			Sheet 1 of 1

Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
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5	05-08-17	CDK	SDDOT Comments

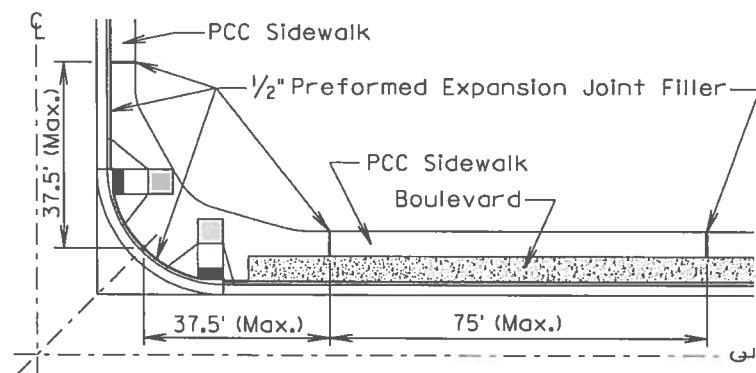
TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
Drawn By: CDK/CLG	Surveyed By: CLG/CMT
Checked By: NEH	Designed By: CLG
Project No: L15-00-157 Date: 02/01/2017	

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- B Width of boulevard as specified in the plans.
T Thickness of PCC sidewalk as specified in the plans.
W Width of PCC sidewalk as specified in the plans.
* Type as specified in the plans.



GENERAL NOTES:

The PCC sidewalk shall be constructed in accordance with Section 65I of the Specifications.

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

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

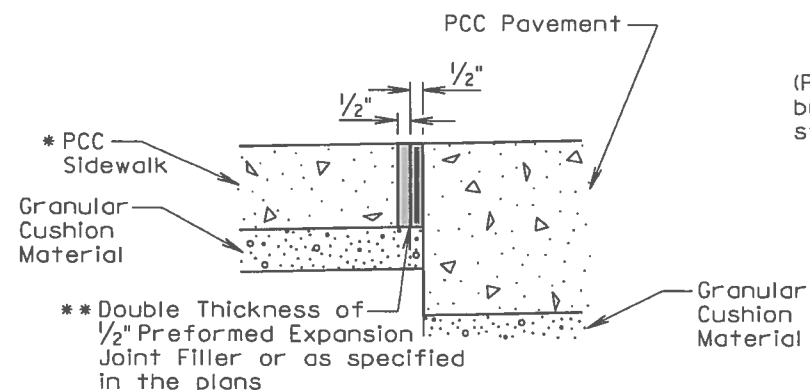
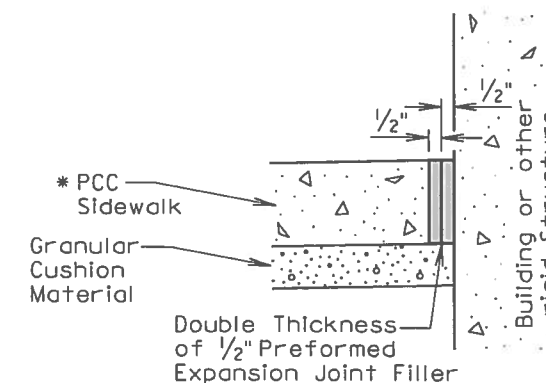
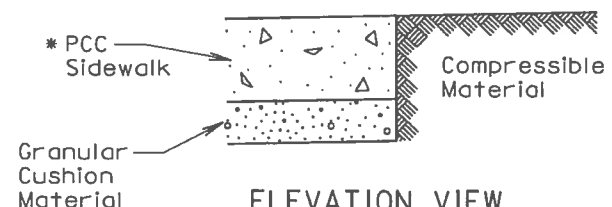
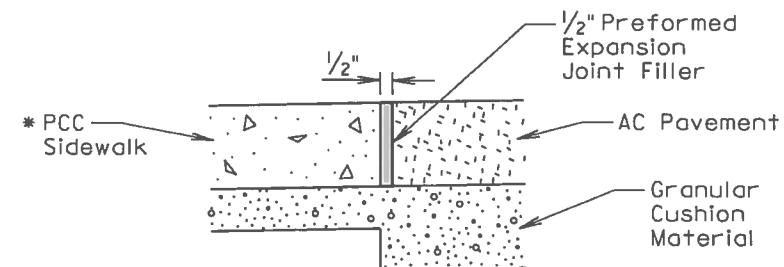
PCC sidewalk placed adjacent to intersection of roadways shall have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See PLAN VIEW.

An expansion joint in PCC sidewalk shall consist of a 1/2 inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

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

September 6, 2015

Published Date: 2nd Qtr. 2017	S D D O T	PCC SIDEWALK	PLATE NUMBER 65I.75
			Sheet 1 of 2



Detail A
(Use Appropriate Detail(s))

September 6, 2015

Published Date: 2nd Qtr. 2017	S D D O T	PCC SIDEWALK	PLATE NUMBER 65I.75
			Sheet 2 of 2

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

DETAILS (Continued)

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Project No: L15-00-157
Date: 02/01/2017

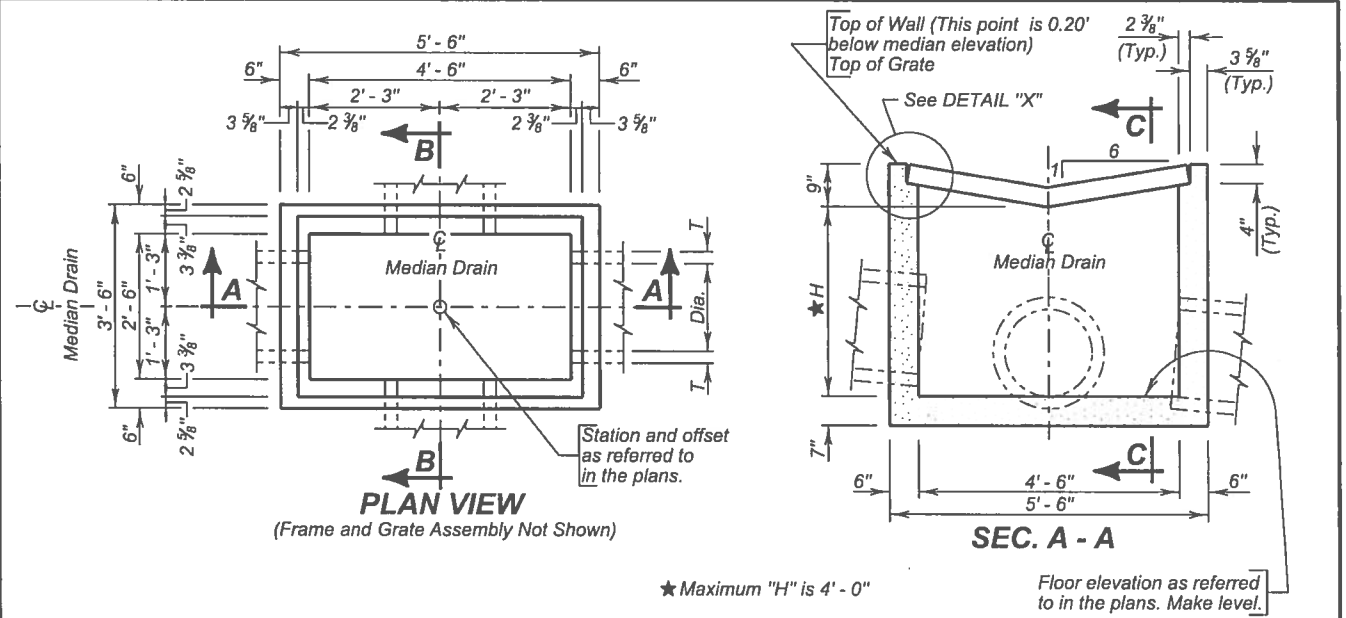
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ESTIMATED QUANTITIES			
ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
* Class M6 Concrete	Cu. Yd.	0.59	0.30H
Reinforcing Steel	Lb.	72.01	33.87H
Type M Frame and Grate Assembly	Each	1	

SPECIFICATIONS

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

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

GENERAL NOTES:

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

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

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

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

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

Structural steel for angles and plates shall conform to ASTM A36.

Structural steel for rectangular HSS shall conform to ASTM A500 grade B.

For informational purpose, the approximate weight of the frame is 104 pounds and the approximate weight of the grate is 254 pounds.

Maximum R.C.P. diameter shall not exceed 30 inches (18 inches R. C. arch) on the 3-foot 6-inch wide side and shall not exceed 42 inches (36 inches for R. C. arch) on the 5-foot 6-inch wide side of the median drain.

The dimension of H is in feet. Maximum H is 4 feet.

SDDOT

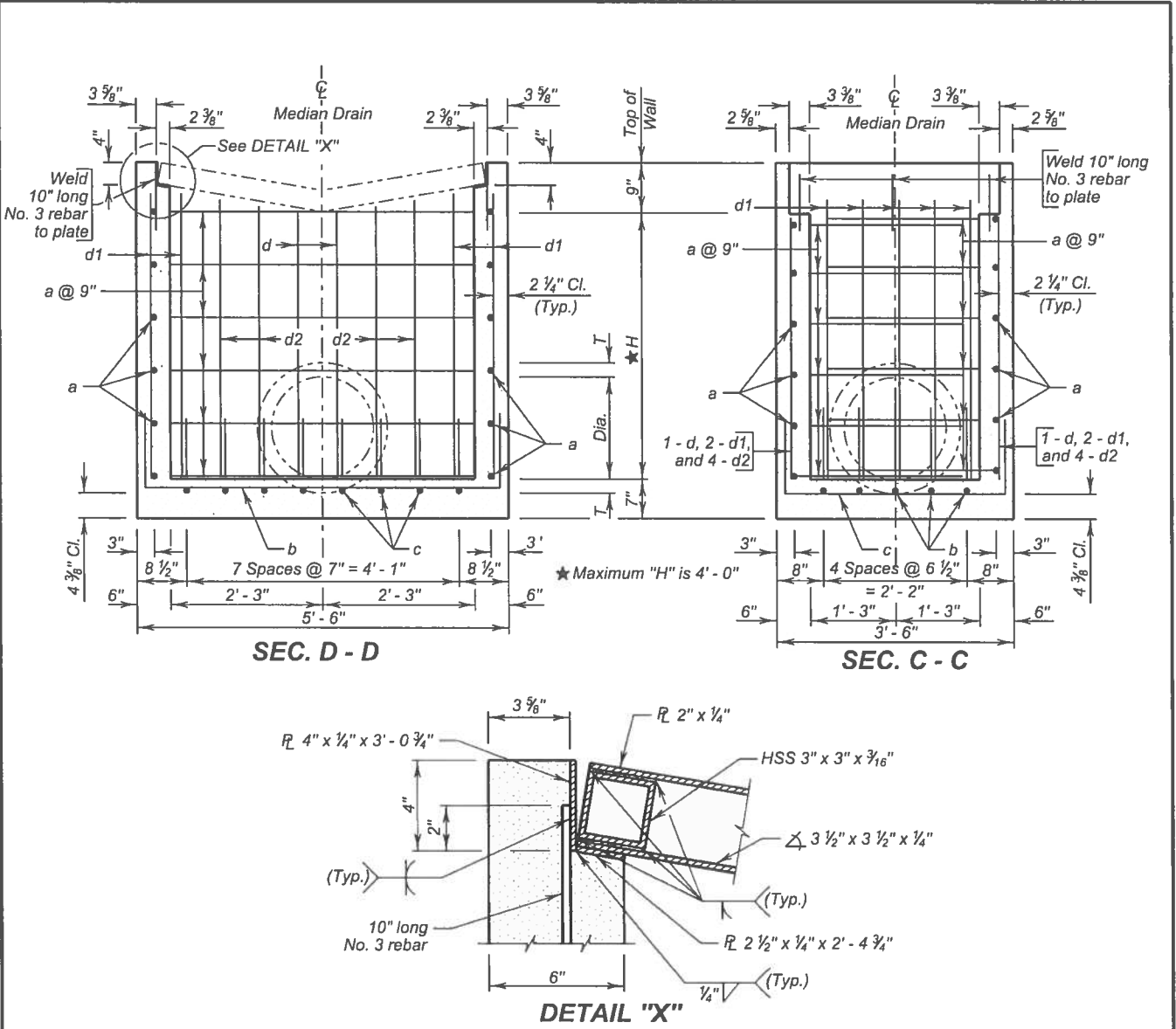
Published Date: 1st Qtr. 2017

TYPE M MEDIAN DRAIN

March 21, 2016

PLATE NUMBER
670.65

Sheet 1 of 3



REINFORCING SCHEDULE					
Mk.	No.	Size	Length	Type	Bending Details
a	2.67H	4	10' - 0"	17	
b	5	5	7' - 6"	17	
c	8	4	5' - 9"	17	
d	2	4	H - 1 1/2"	Str.	
d1	14	4	H + 3"	Str.	
d2	8	4	H	Str.	
NOTE: All dimensions are out to out of bars.					

SDDOT

Published Date: 1st Qtr. 2017

TYPE M MEDIAN DRAIN

March 21, 2016

PLATE NUMBER
670.65

Sheet 2 of 3

Rev. No. 1 12-01-16 CDK 1st Submittal City Comments 10/24/16

2 02-10-17 CLG Change to SDDOT Format

3 03-15-17 CLG SDDOT Redlines

4 03-28-17 CLG SDDOT Redlines Round 2

5 05-08-17 CDK SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17

SECTION 15 & 22 - T6N - R3E - B1M

CITY OF SPEARFISH, LAWRENCE COUNTY, SD

DETAILS (Continued)

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Designed By: CLG

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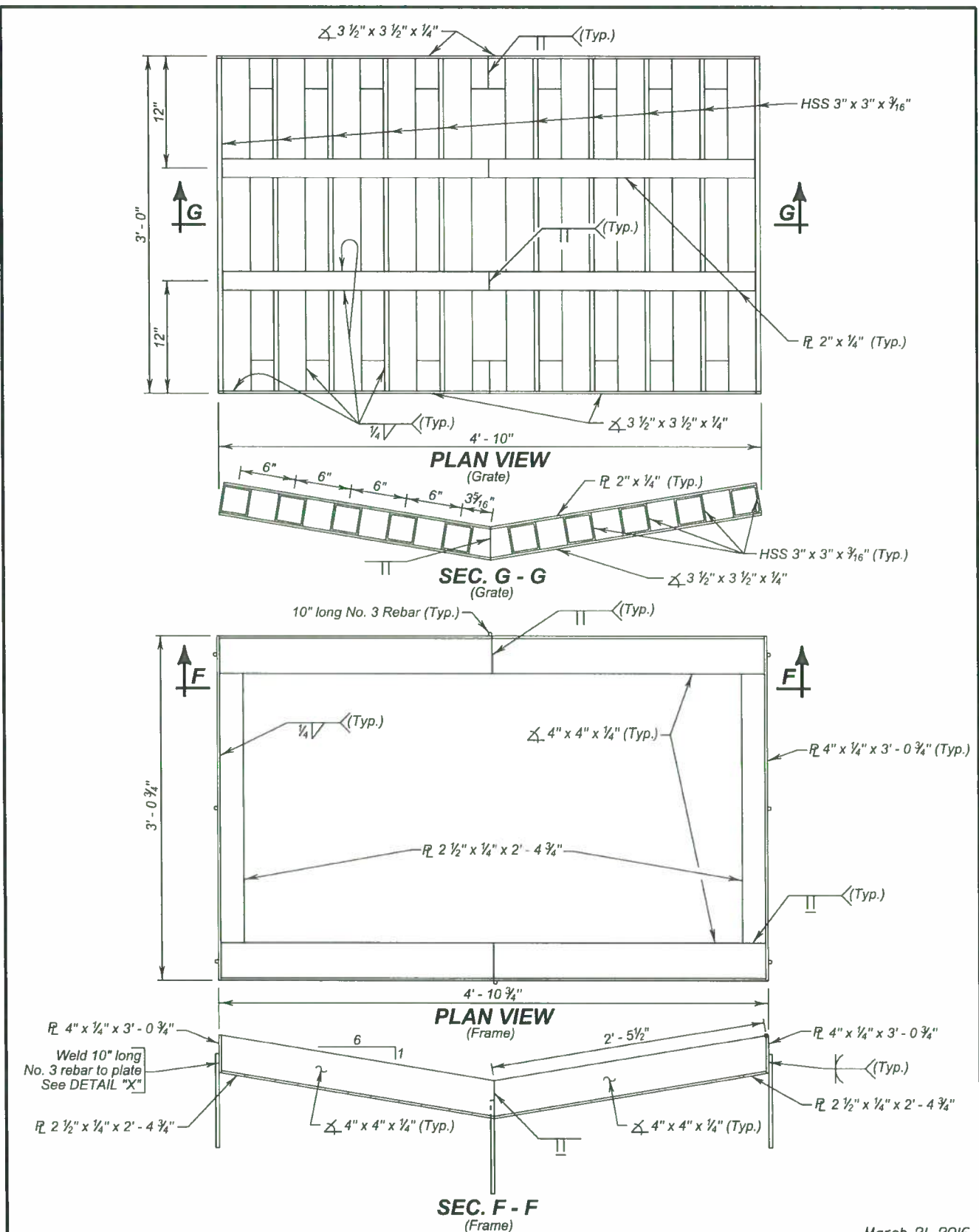
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March 21, 2016

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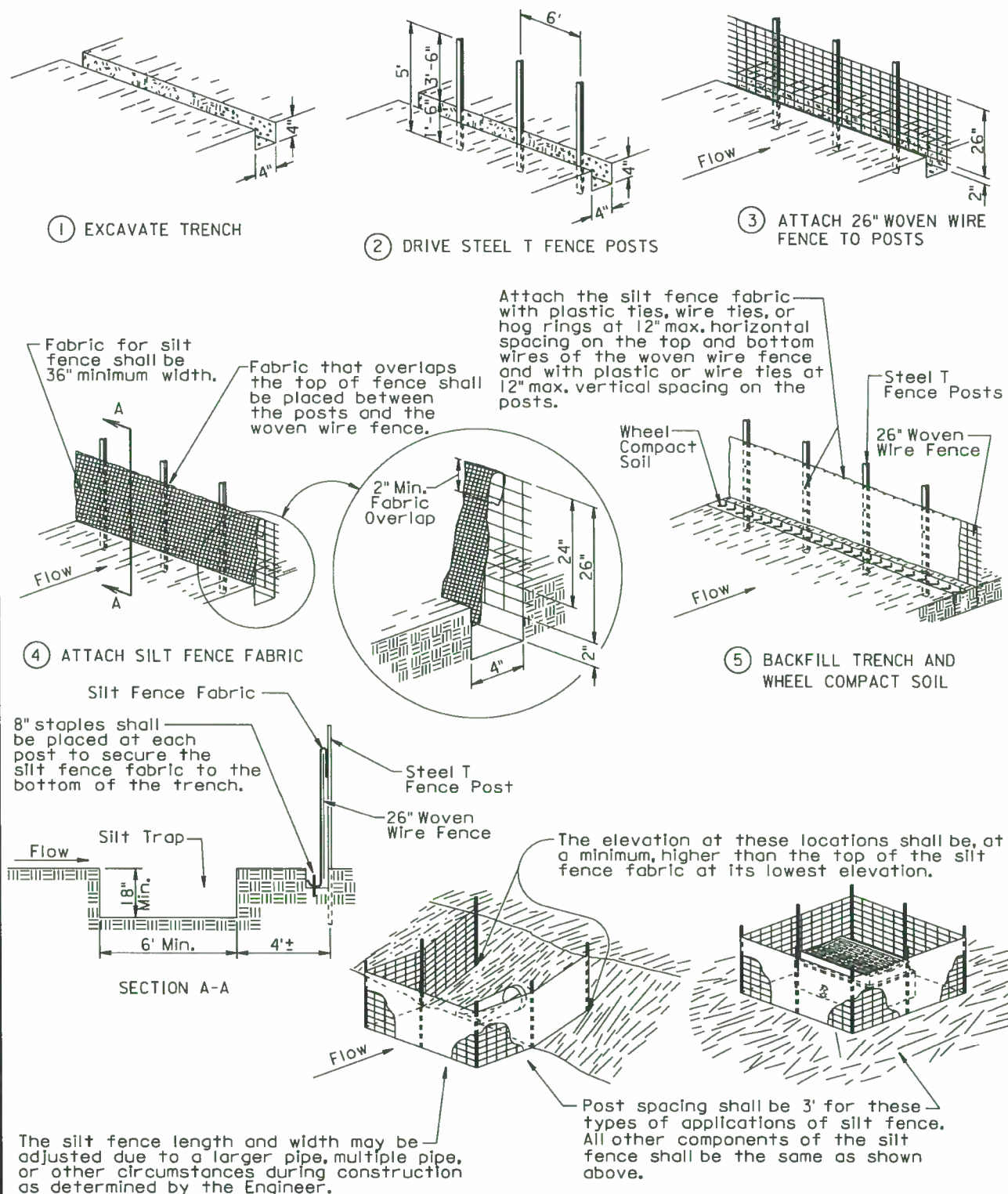
SDOT

TYPE M MEDIAN DRAIN

PLATE NUMBER
670.65

Sheet 3 of 3

MANUAL LOW FLOW SILT FENCE INSTALLATION



December 23, 2003

Published Date: 1st Qtr. 2017

SDOT

LOW FLOW SILT FENCE
AND SILT TRAP

PLATE NUMBER
734.04

Sheet 1 of 2

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
 SECTION 15 & 22 - T6N - R3E - B1M
 CITY OF SPEARFISH, LAWRENCE COUNTY, SD

DETAILS (Continued)

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 Designed By: CLG
 Project No: L-15-00-157
 Date: 02/01/2017

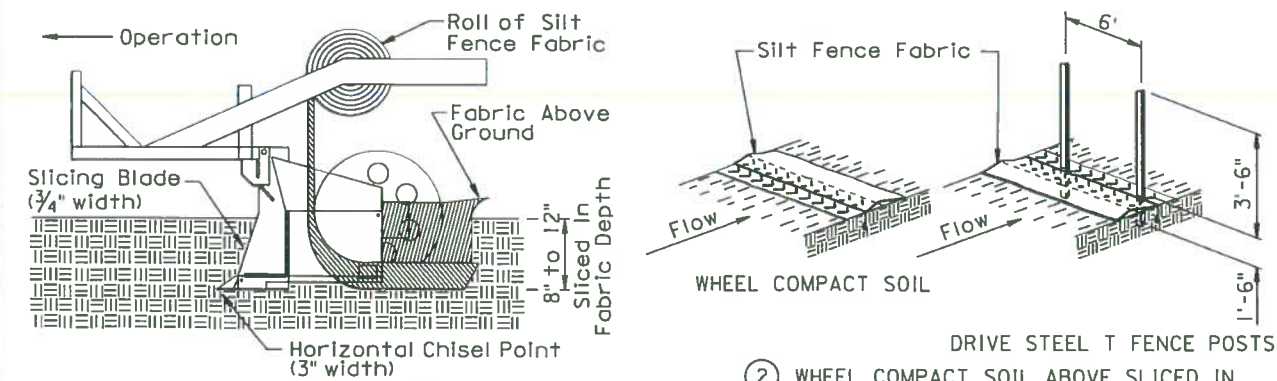
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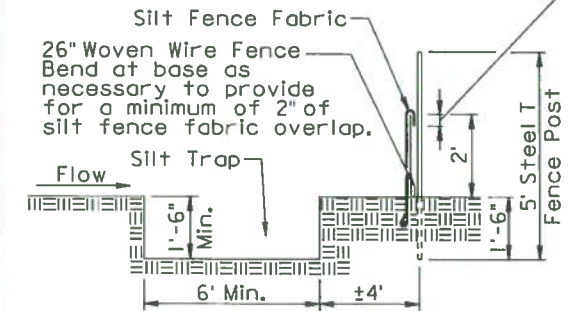
Sheet Number

MACHINE SLICED LOW FLOW SILT FENCE INSTALLATION



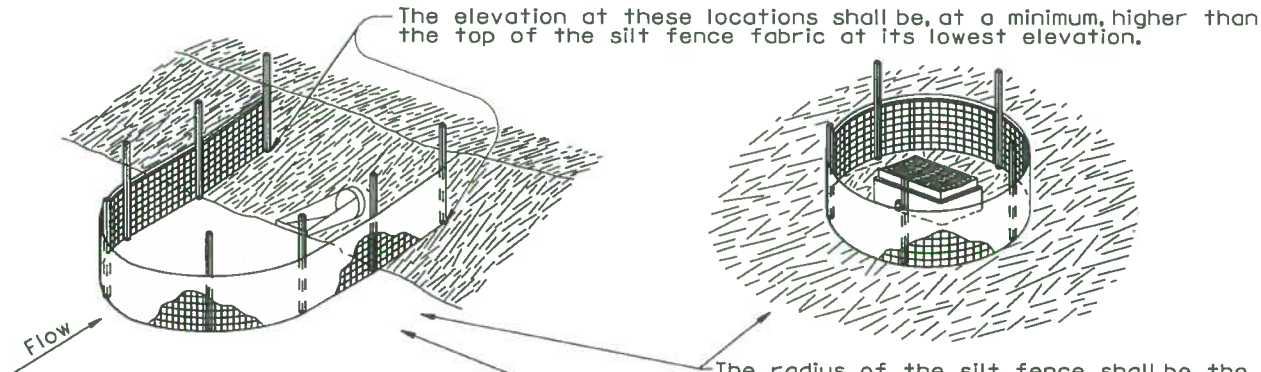
① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

Silt fence fabric shall be overlapped a minimum of 2" at top of woven wire fence.



③ ATTACH 26" WOVEN WIRE FENCE TO POSTS AND ATTACH SILT FENCE FABRIC.

The elevation at these locations shall be, at a minimum, higher than the top of the silt fence fabric at its lowest elevation.



The silt fence length and width may be adjusted due to a larger pipe, multiple pipe, or other circumstances during construction as determined by the Engineer.

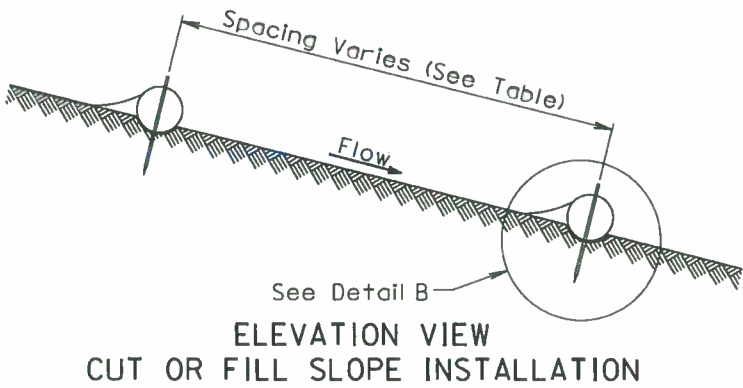
GENERAL NOTES:

A silt trap shall be provided when specified by a plan note. All costs for constructing the silt trap shall be incidental to the contract unit price per cubic yard for "Silt Trap".

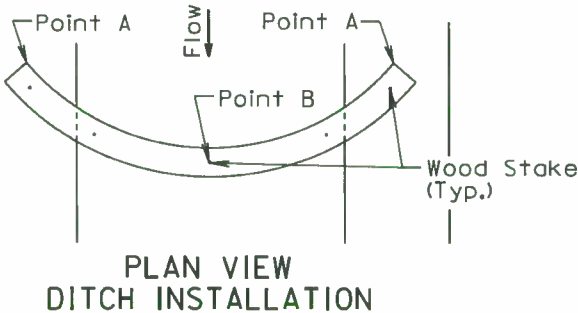
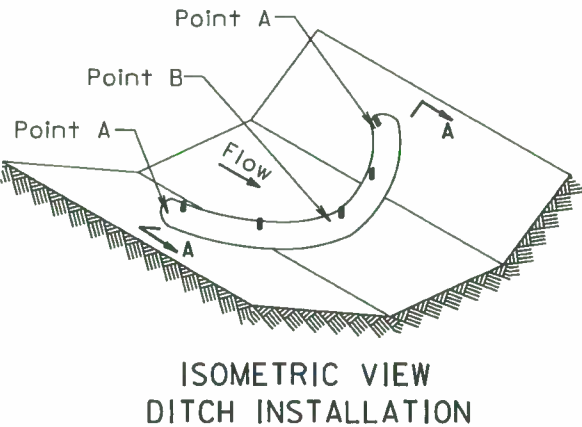
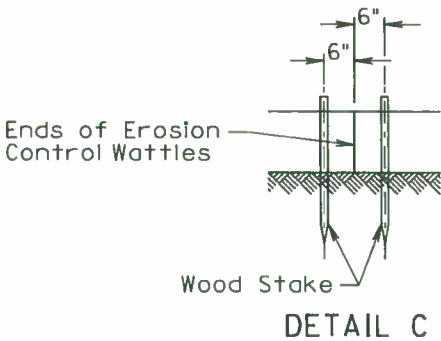
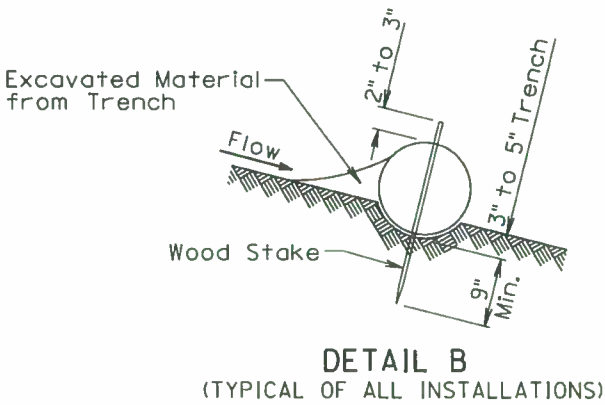
If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end shall be provided on top of the extra length of silt fence fabric to prevent underflow.

December 23, 2003

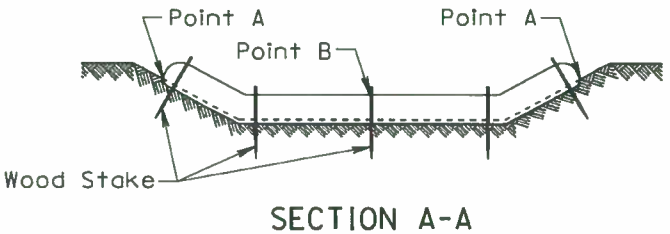
Published Date: 1st Qtr. 2017	S D D O T	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 2 of 2



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



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



December 23, 2004

Published Date: 1st Qtr. 2017	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - TEN - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

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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".

December 23, 2004

Published Date: 1st Qtr. 2017

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EROSION CONTROL WATTLE

PLATE NUMBER
734.06

Sheet 2 of 2

Rev. No.	Date	By	Description
1	12-01-16	CDK	1st Submittal City Comments 10/24/16
2	02-10-17	CLG	Change to SDDOT Format
3	03-15-17	CLG	SDDOT Redlines
4	03-29-17	CLG	SDDOT Redlines Round 2
5	05-08-17	CDK	SDDOT Comments

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
DETAILS (Continued)	
Drawn By: CDK / CLG	Surveyed By: CLG / CMT
Checked By: NEH	Designed By: CLG
Project No: L15-00-157	
Date: 02/01/2017	

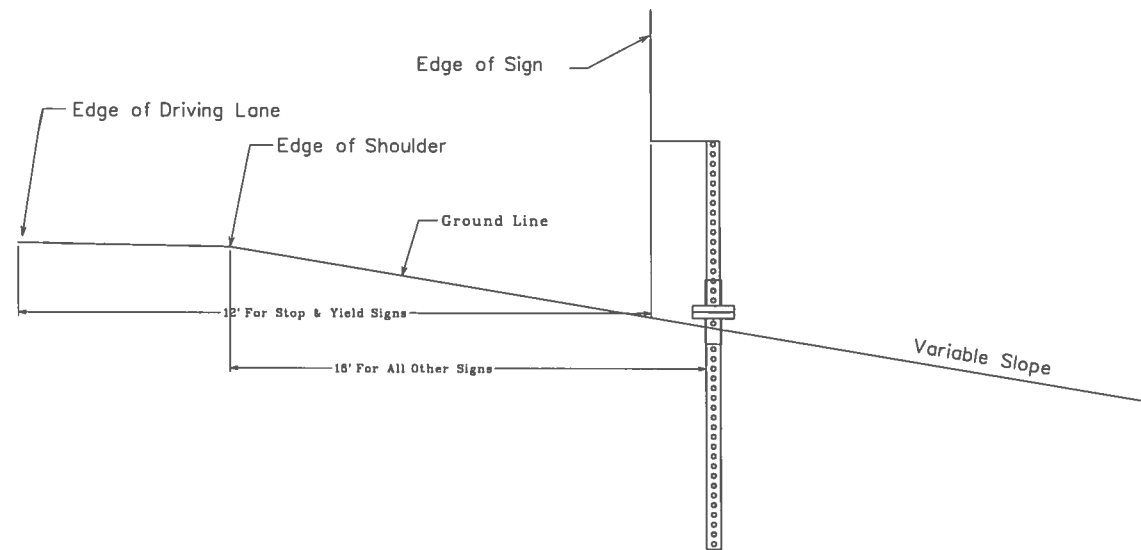


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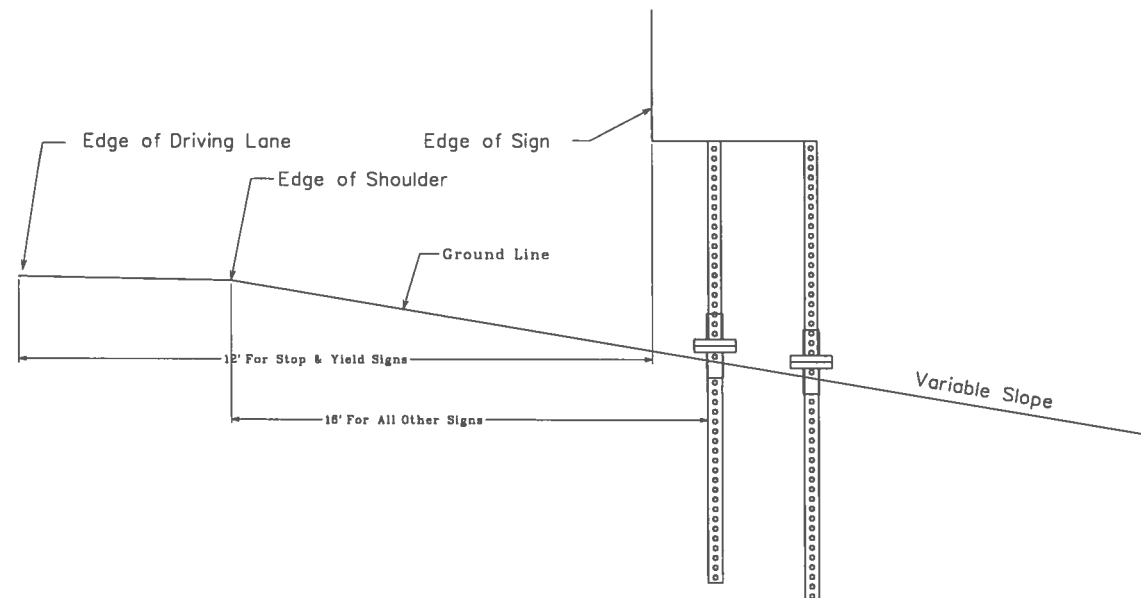
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34

Sheet Number

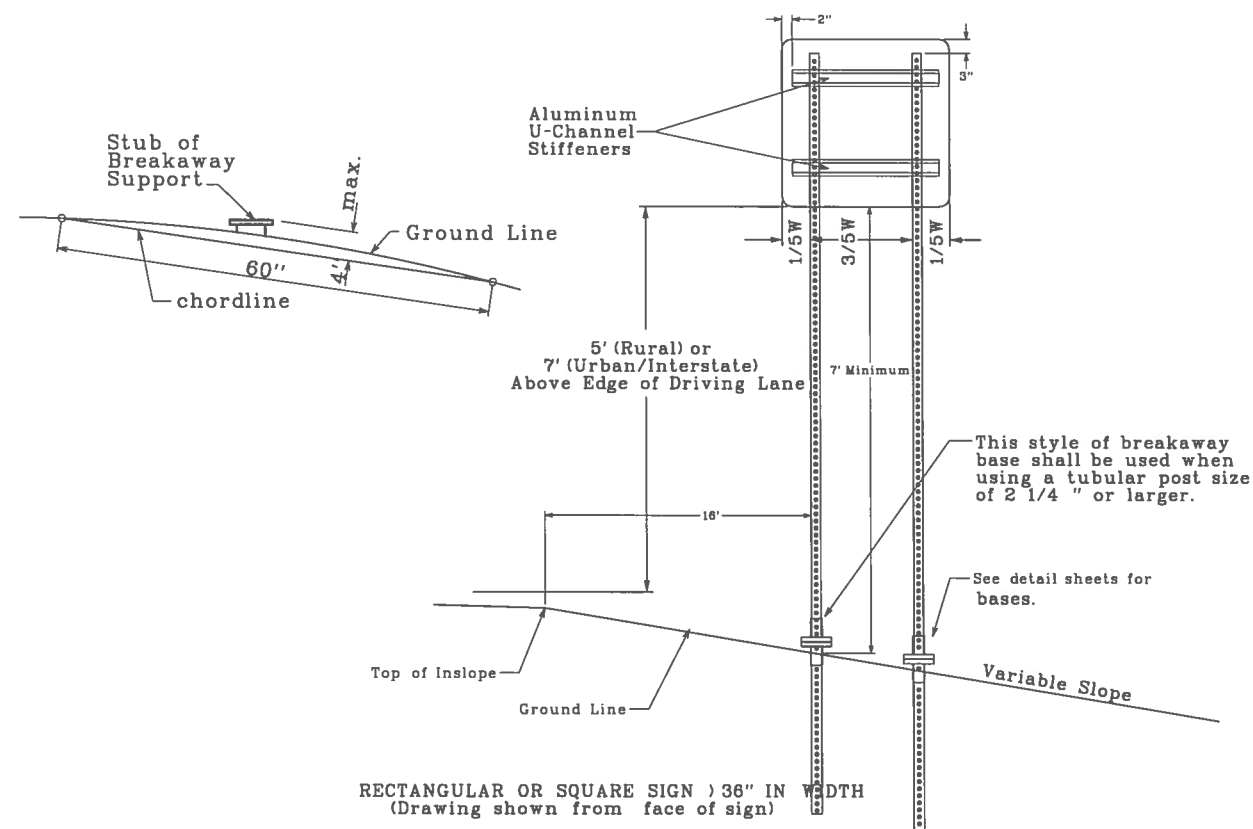
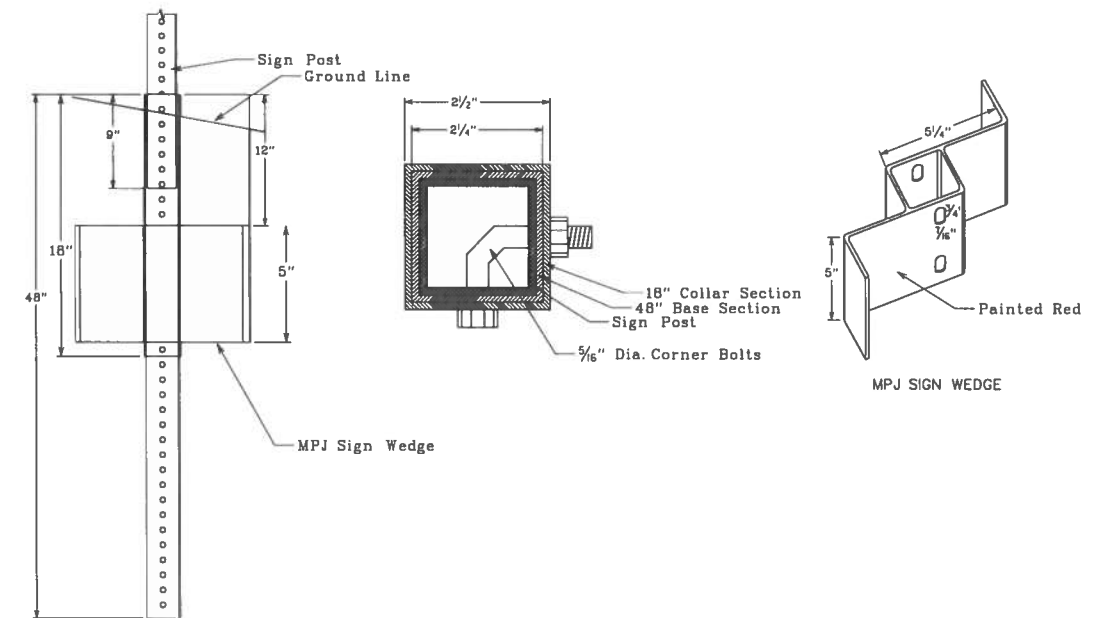


RURAL LOCATION WITH 1 POST
(Drawing shown from face of sign)



RURAL LOCATION WITH 2 POSTS
(Drawing shown from face of sign)

SIGN BASE DETAILS FOR A 2" SIGN POST



RECTANGULAR OR SQUARE SIGN > 36" IN WIDTH
(Drawing shown from face of sign)

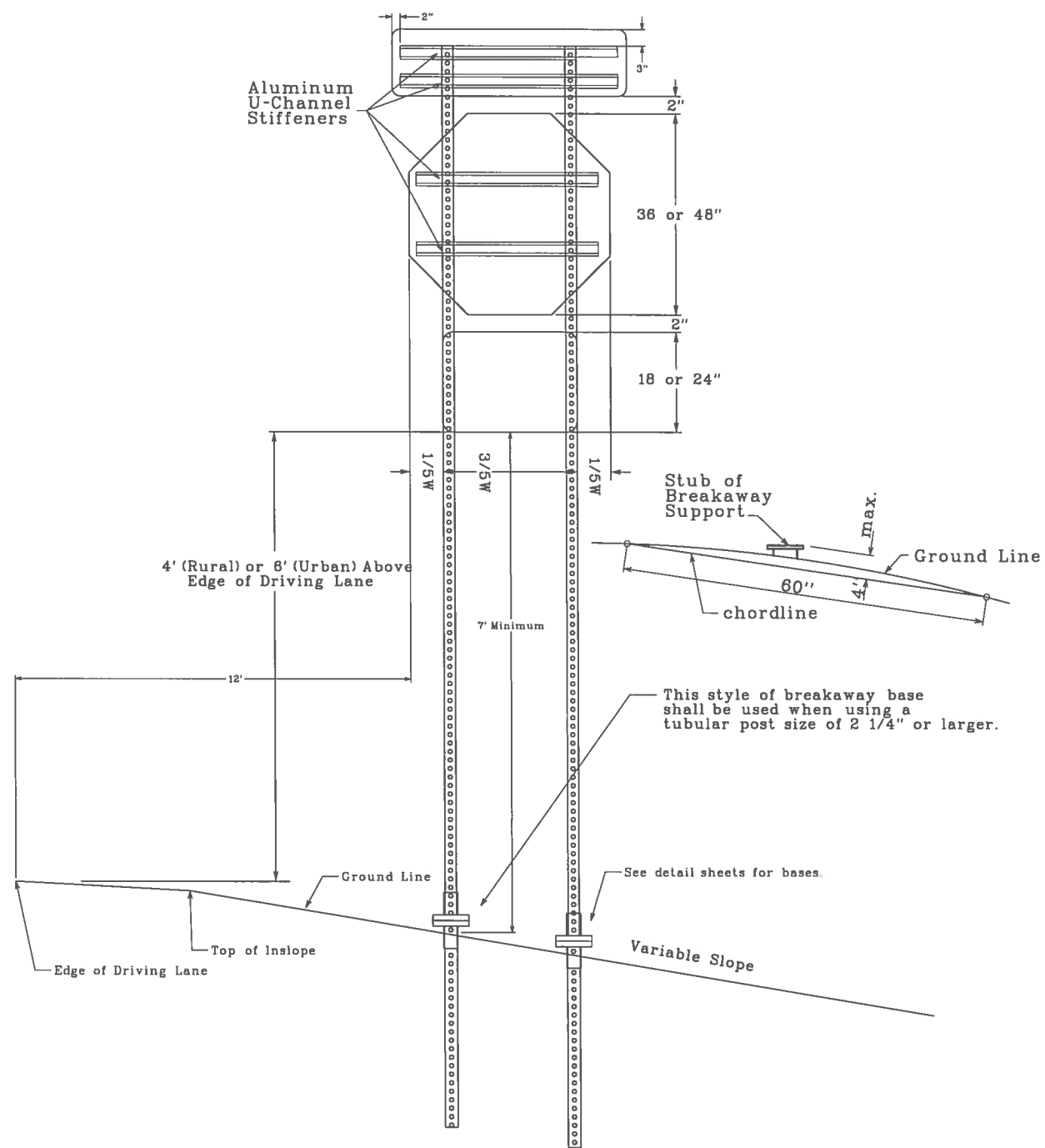
TYPICAL ERECTION DETAILS FOR SQUARE OR RECTANGULAR SIGNS

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Drawn By: CDK / CLG		Checked By: NEH
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Date: 02/01/2017		

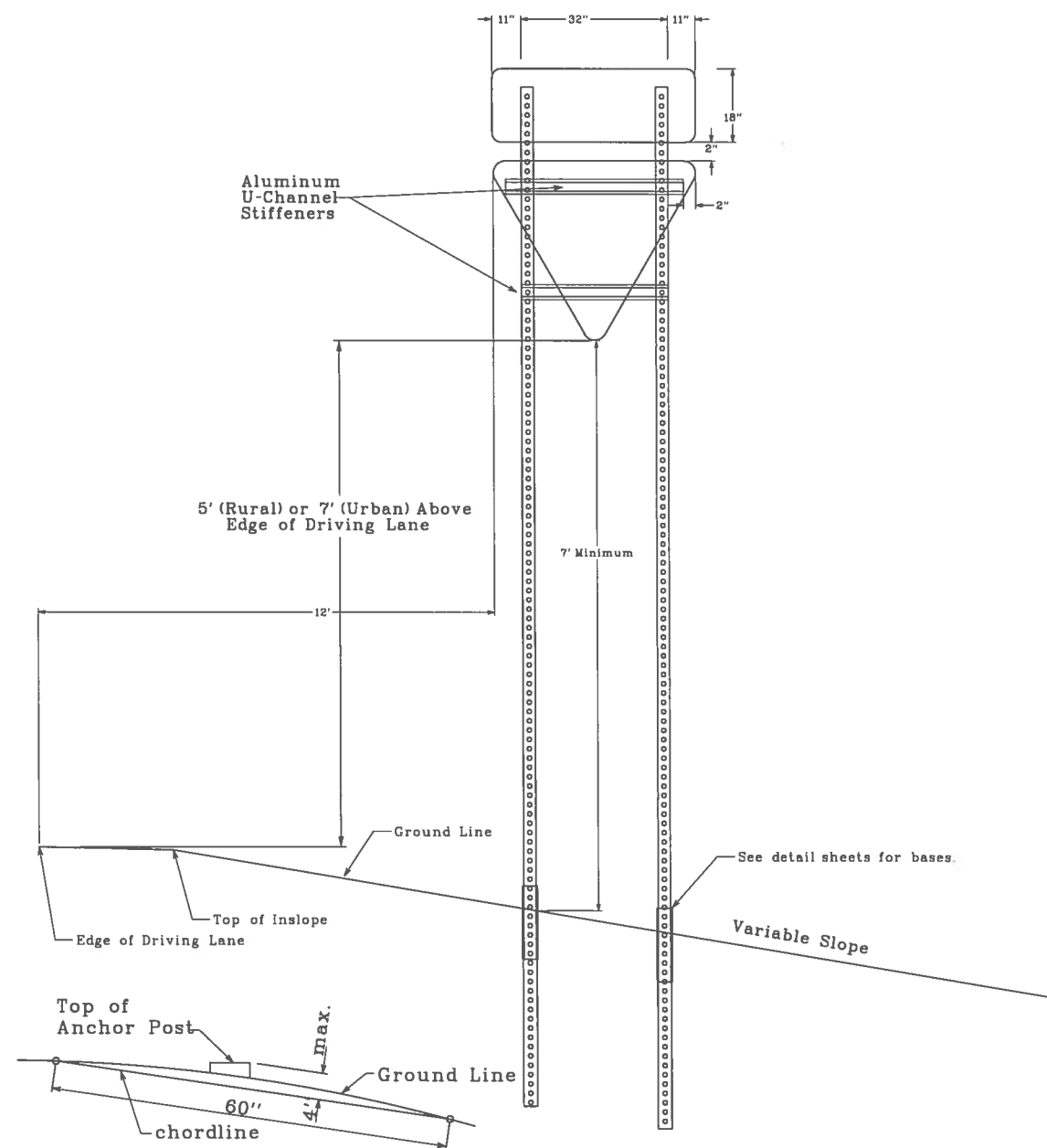
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STOP SIGN WITH DIVIDED HIGHWAY SIGN AND ONE WAY SIGNS
(Drawing shown from face of sign)

TYPICAL ERECTION DETAILS FOR STOP SIGNS
ON DIVIDED HIGHWAYS



YIELD SIGN WITH ONE WAY SIGNS
(Drawing shown from face of sign)

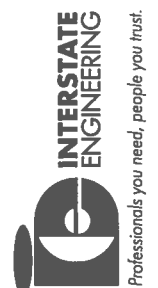
TYPICAL ERECTION DETAILS FOR YIELD SIGNS
ON DIVIDED HIGHWAYS

TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T&N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

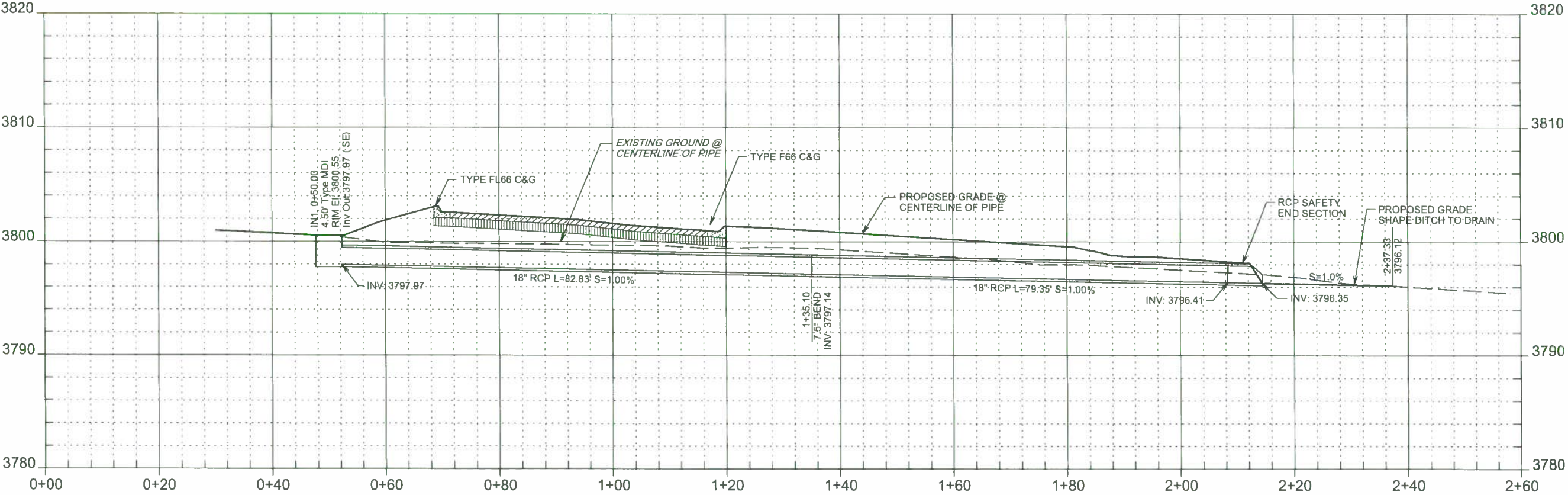
DETAILS (Continued)

Drawn By: CDK/CLG
Checked By: NEH
Surveyed By: CLG/CMT
Designed By: CLG
Project No: L15-00-157
Date: 02/01/2017

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CULVERT ALIGNMENT DATA					
Type	Station			Northing	Easting
POB	0+30.15			8670.47	5830.81
		TL=19.8474	S 40°16'12" E		
PI	0+50.00			8655.33	5843.64
		TL=85.1024	S 26°54'10" E		
PI	1+35.10			8579.44	5882.14
	TYPE M MEDIAN DRAIN	TL=79.3488	S 34°28'28" E		
PI	2+14.45			8514.02	5927.06
		TL=22.5843	S 39°28'43" E		
PI	2+37.04			8496.59	5941.42
		TL=21.0086	S 35°05'58" E		
POE	2+58.04			8479.40	5953.50



PIPE SECTION AT MEDIAN

SCALE: 1"=20' HOR
1"=10' VER

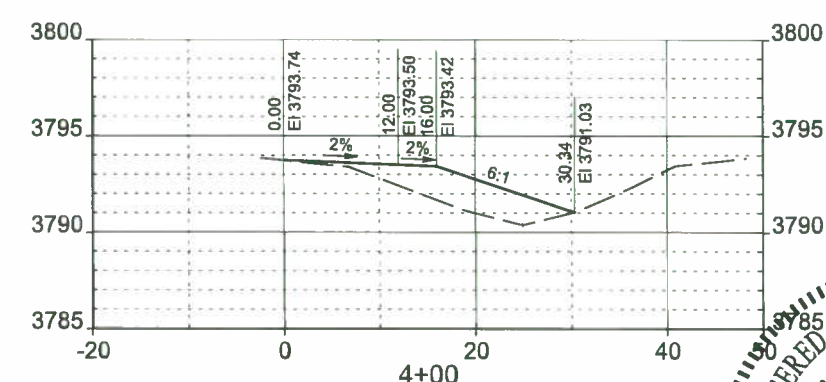
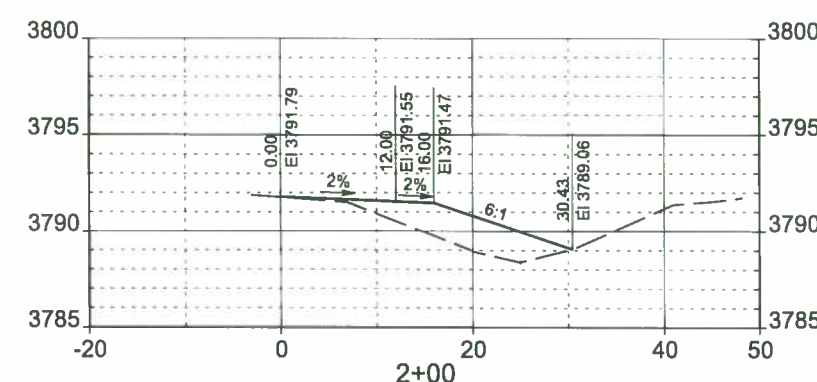
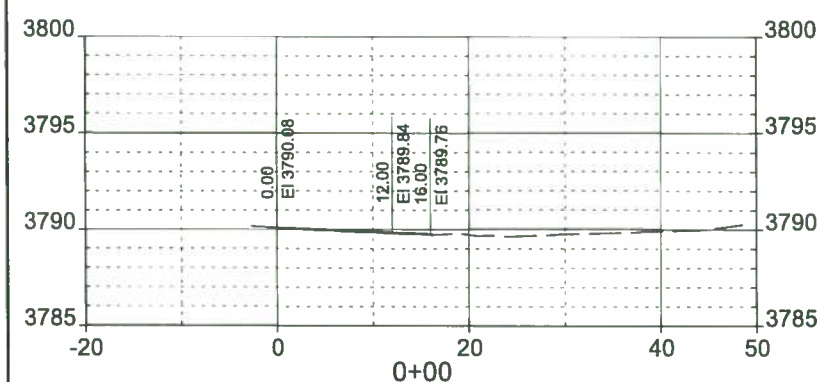
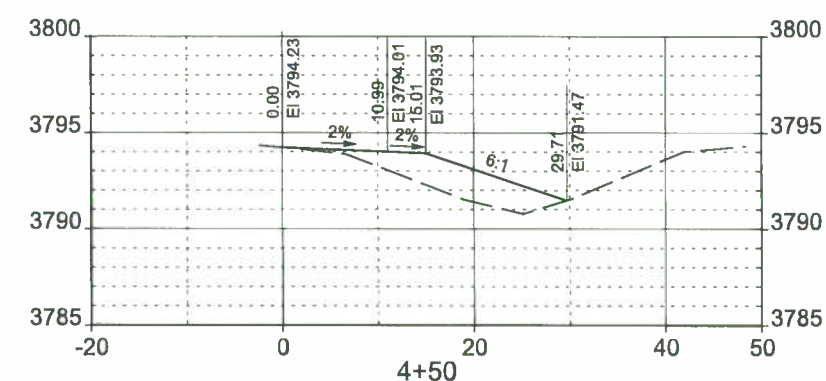
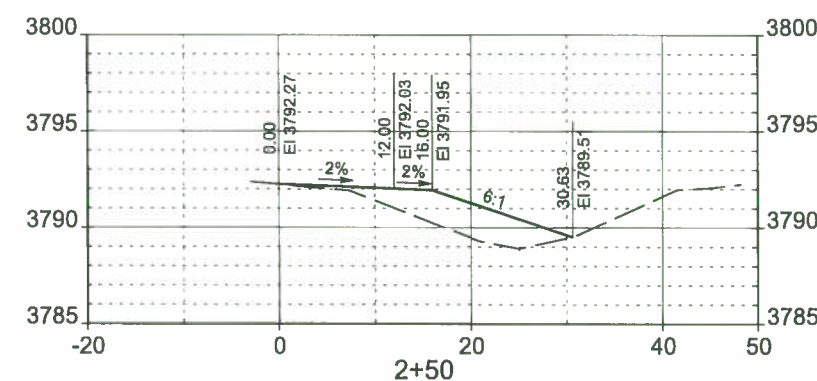
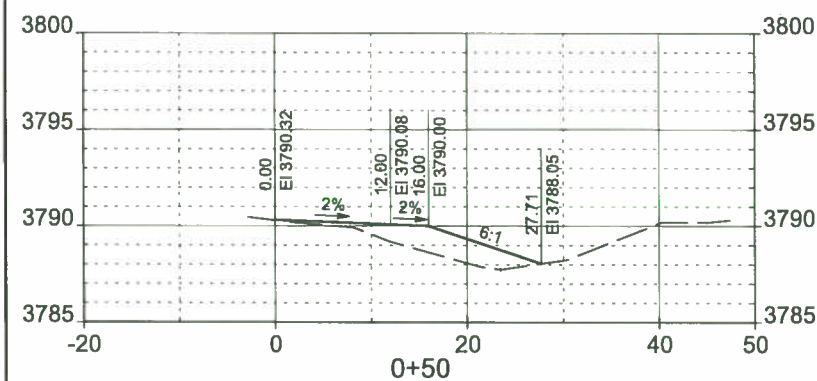
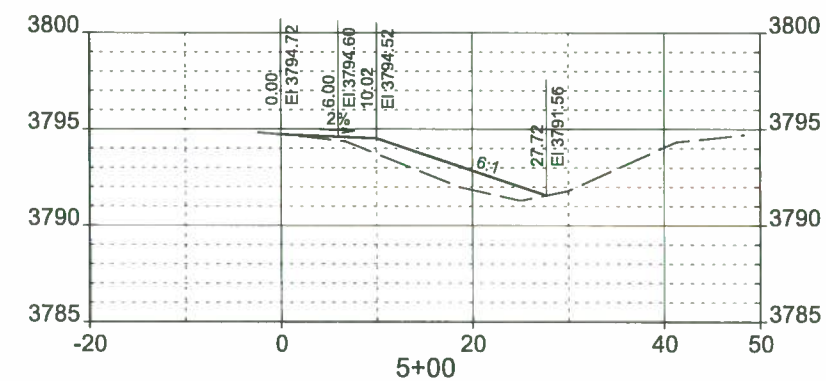
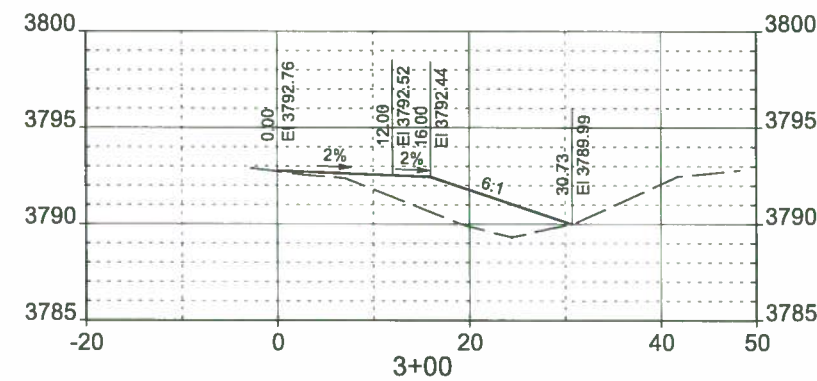
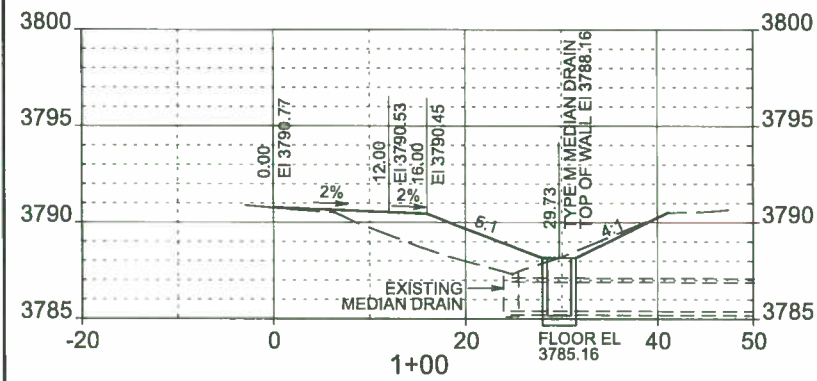
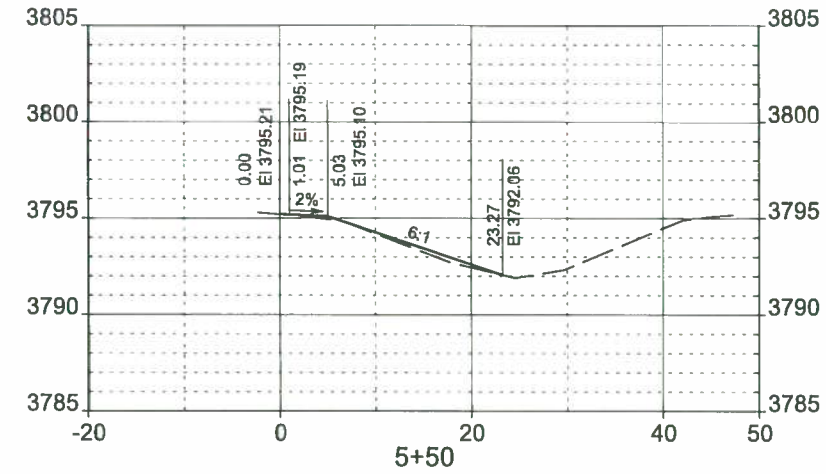
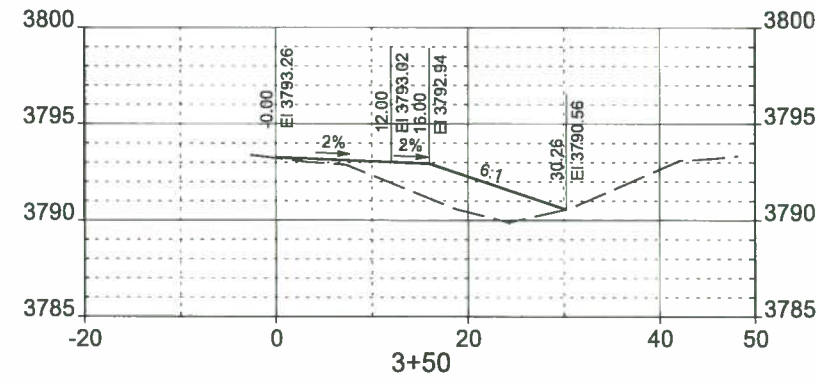
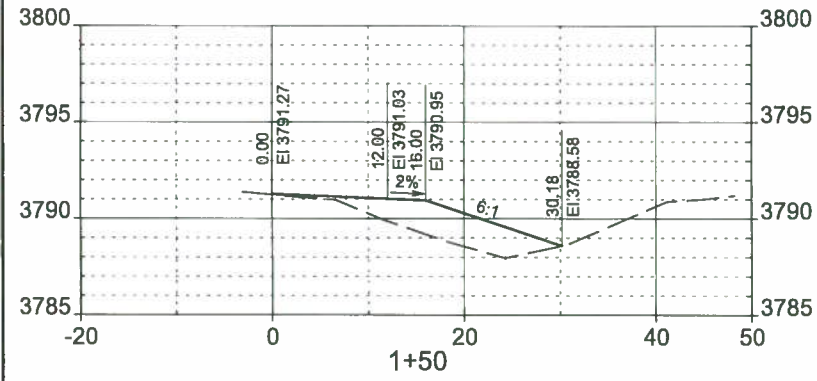


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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17 SECTION 15 & 22 - T6N - R3E - BHM CITY OF SPEARFISH, LAWRENCE COUNTY, SD	
PIPE SECTION @ MEDIAN	
Drawn By: CDK, CLG	Surveyed By: CLG / CMT
Checked By: NEH	Designed By: CLG
Project No: L15-00-157	
Date: 02/01/2017	

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SCALE: 1"=20' HOR
1"=10' VER

CROSS SECTIONS US 85 NB LEFT TURN LANE TO COLORADO BLVD.

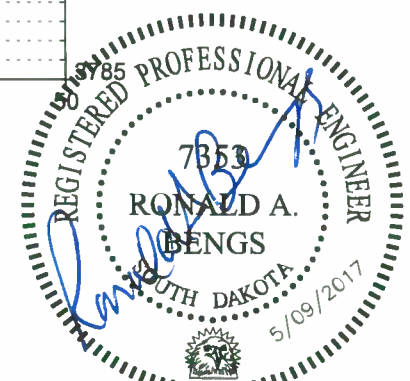
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SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

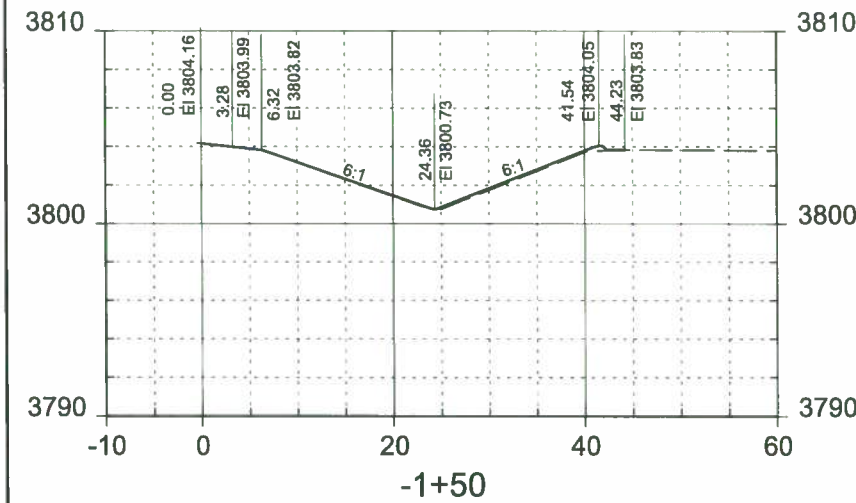
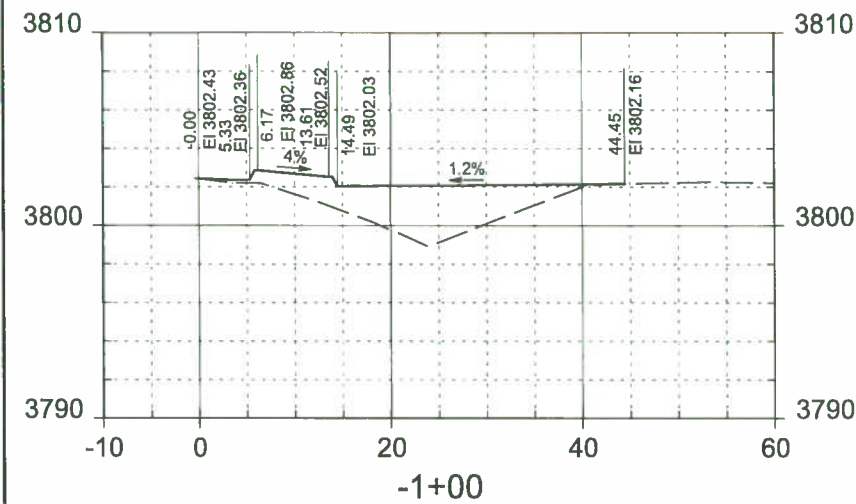
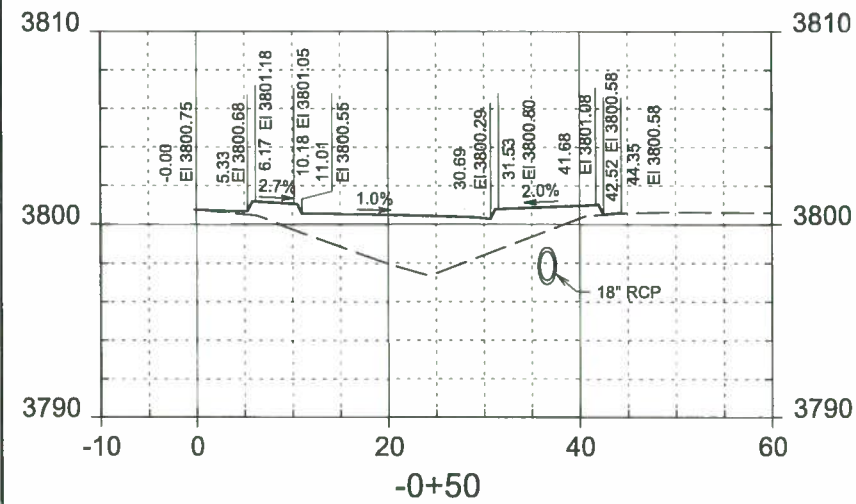
CROSS SECTIONS
US 85 NB LEFT TURN LANE TO COLORADO BLVD.

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Surveyed By: CLG/CMT
Designed By: CLG
Project No: L15-00-157
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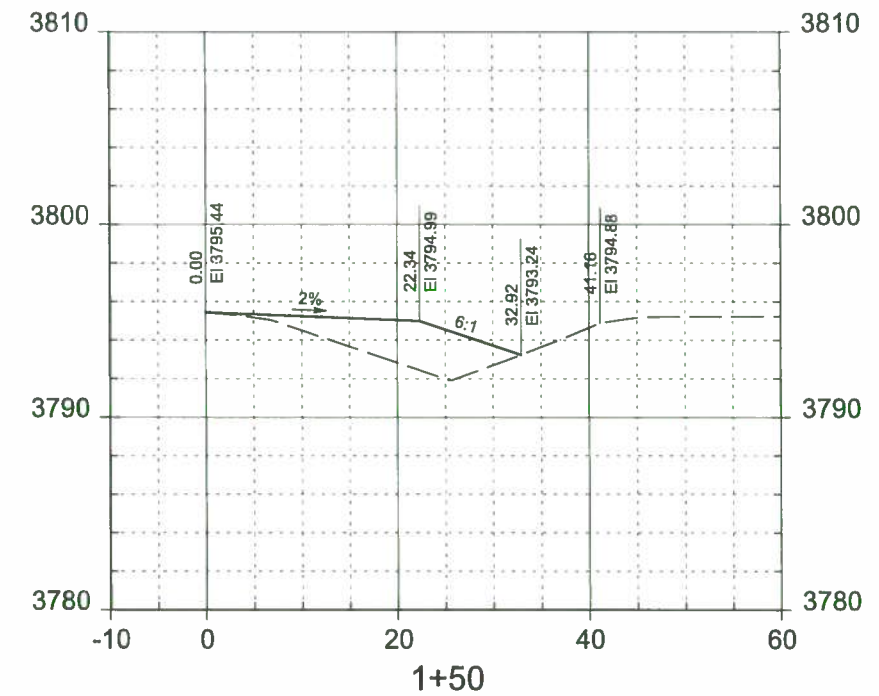
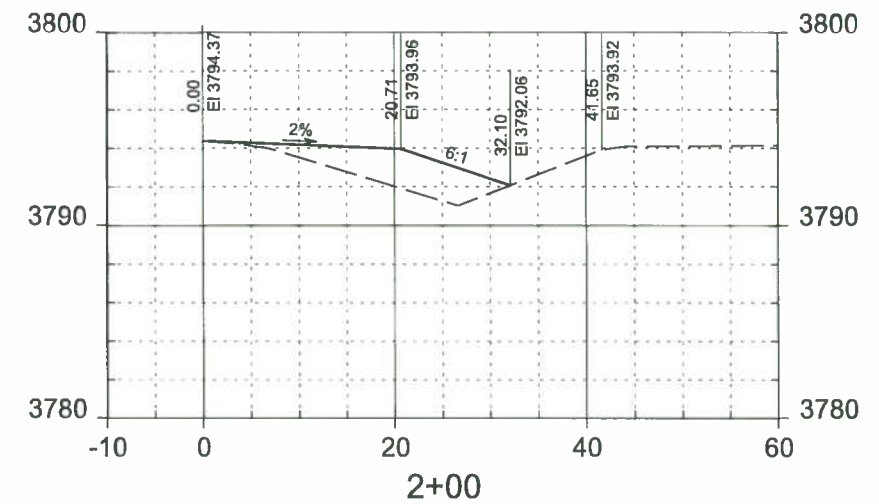
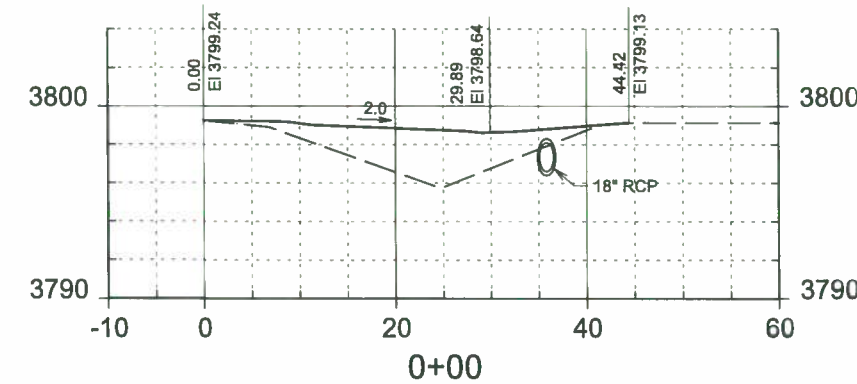
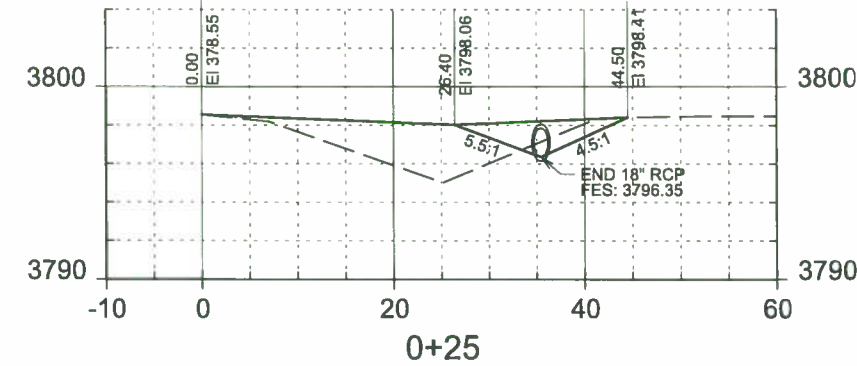
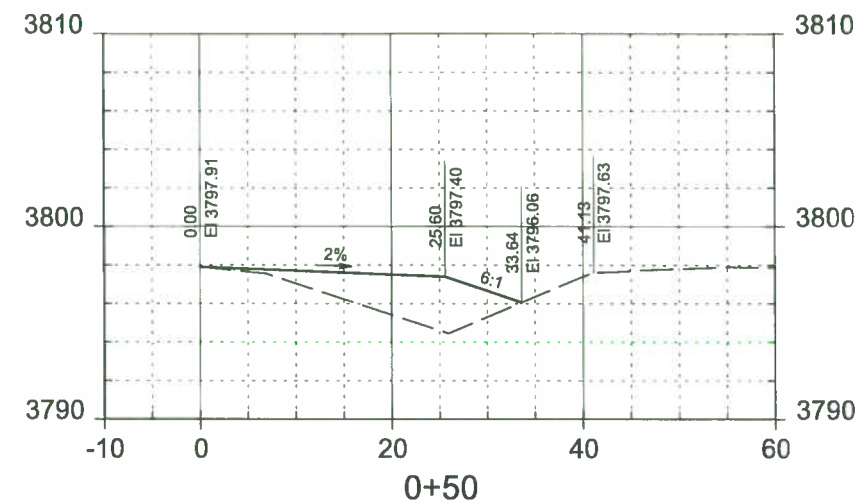
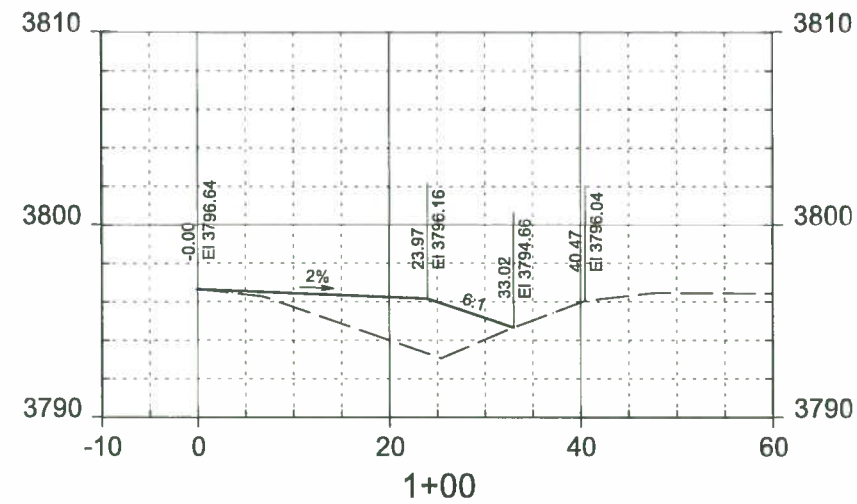
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SCALE: 1"=20' HOR
1"=10' VER

CROSS SECTIONS US 85 NB LEFT TURN LANE TO HSC



TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T&N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

**CROSS SECTIONS
US 85 NB LEFT TURN LANE TO HSC**

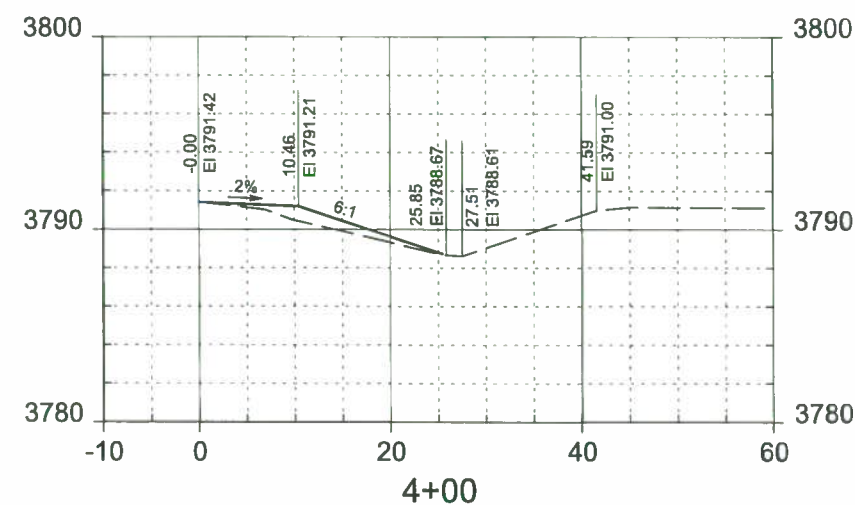
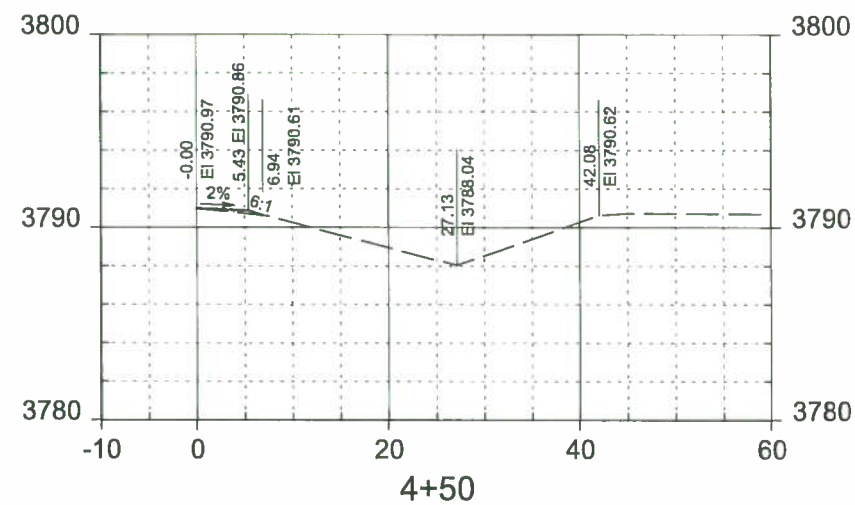
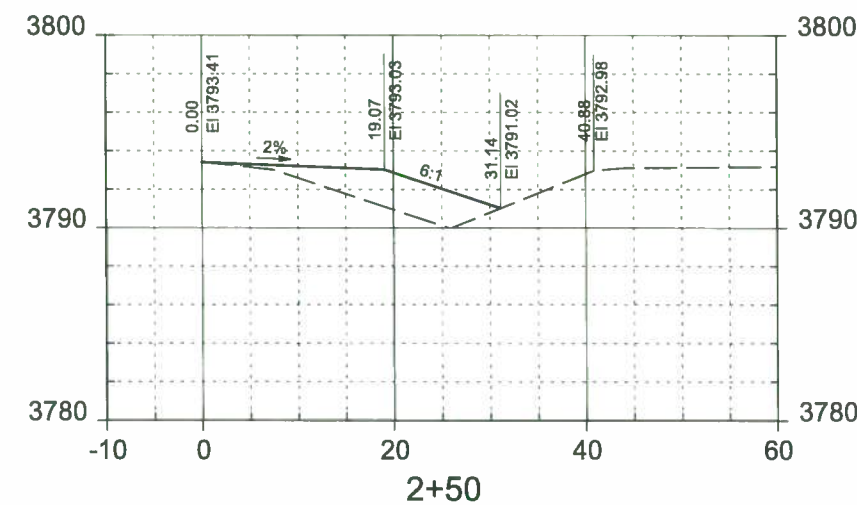
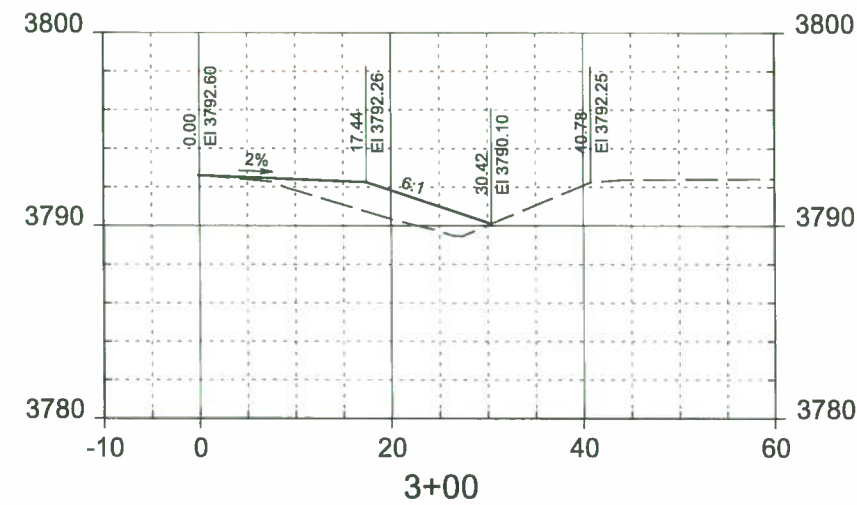
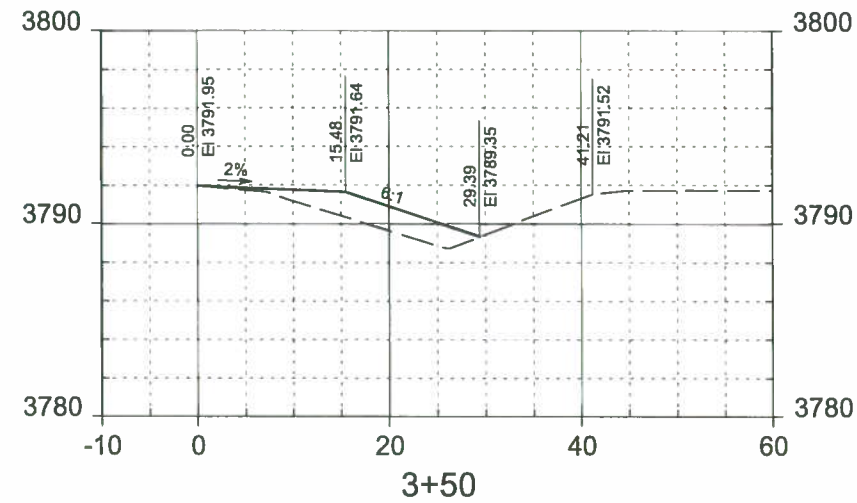
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Project No: L15-00-157
Date: 02/01/2017

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CROSS SECTIONS
US 85 NB LEFT TURN LANE TO HSC



TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T6N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

CROSS SECTIONS
US 85 NB LEFT TURN LANE TO HSC

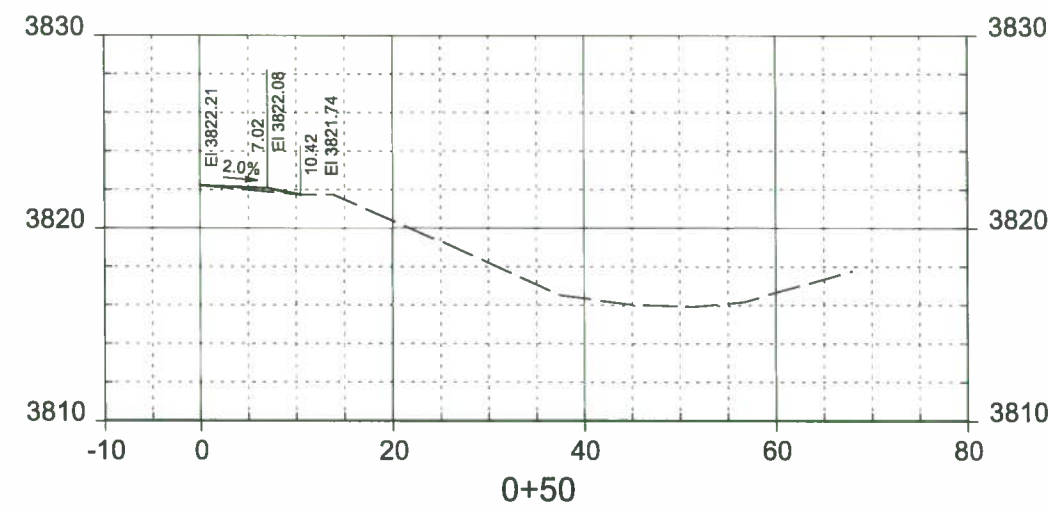
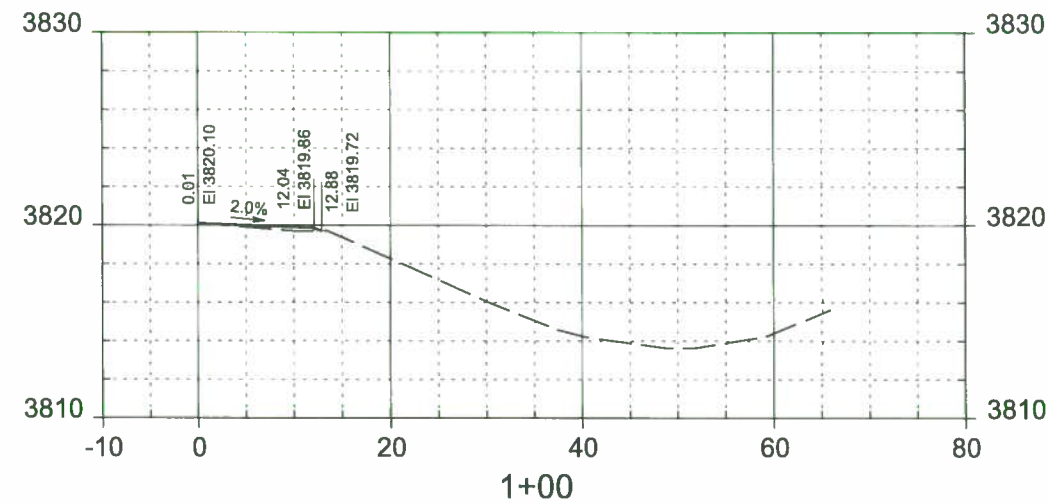
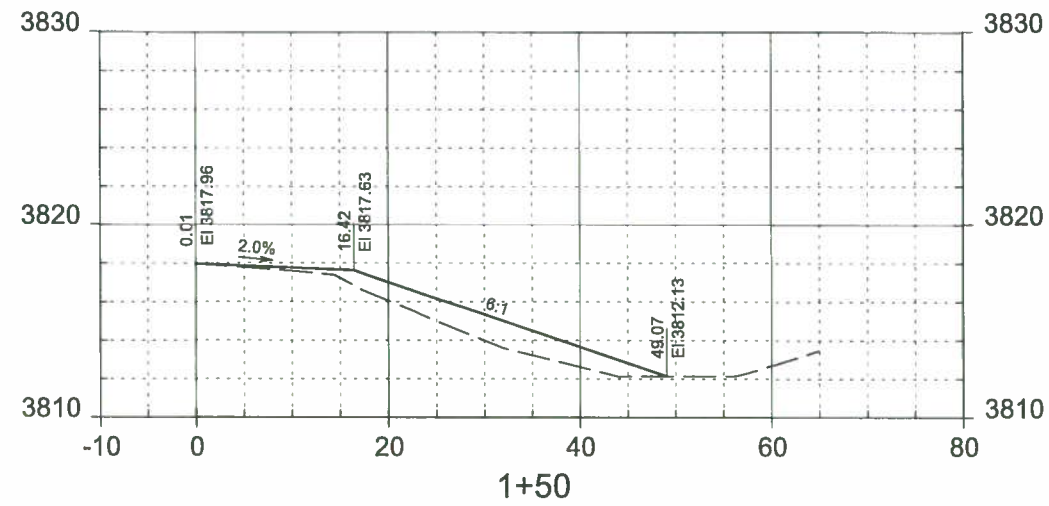
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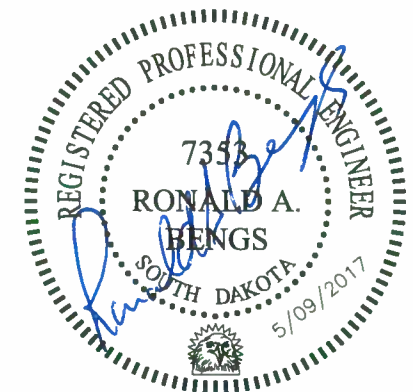
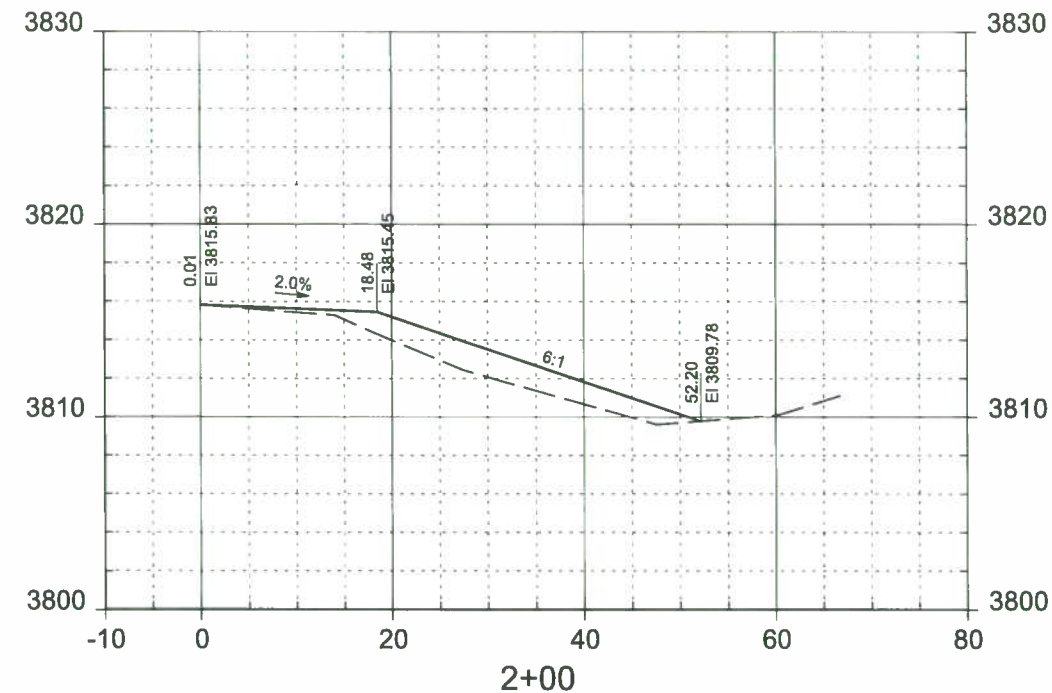
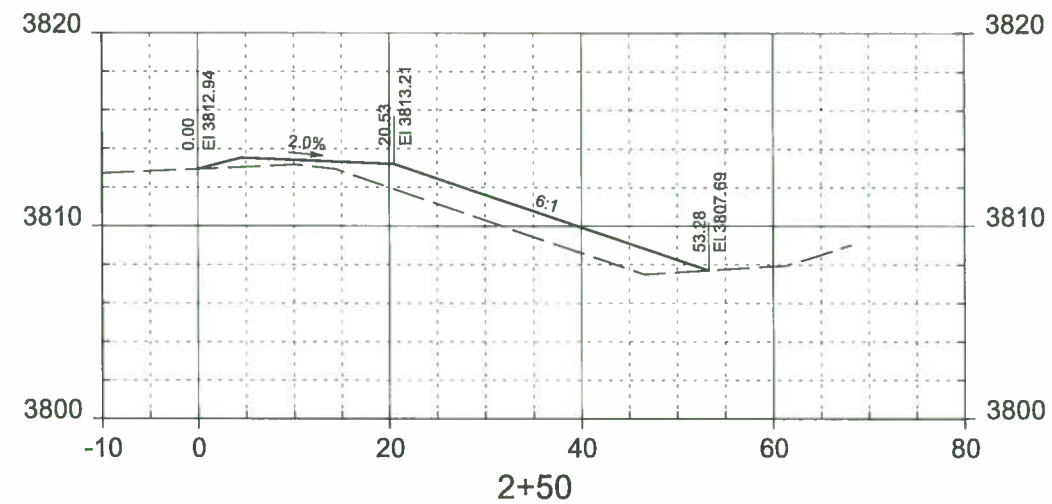
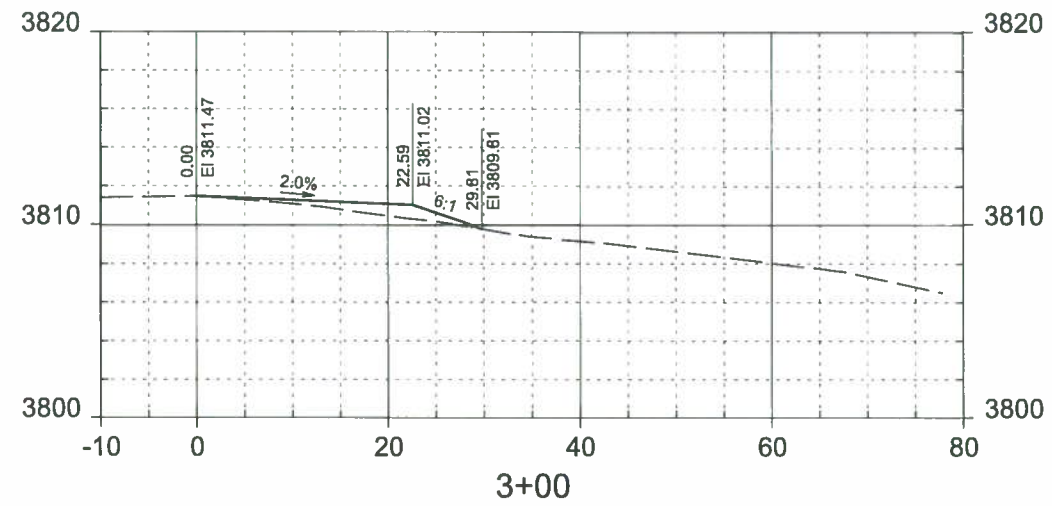
41

Sheet Number



SCALE: 1"=20' HOR
1"=10' VER

CROSS SECTIONS US 85 SB RIGHT TURN LANE TO HSC



TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - TEN - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD

CROSS SECTIONS
US 85 SB RIGHT TURN LANE TO HSC

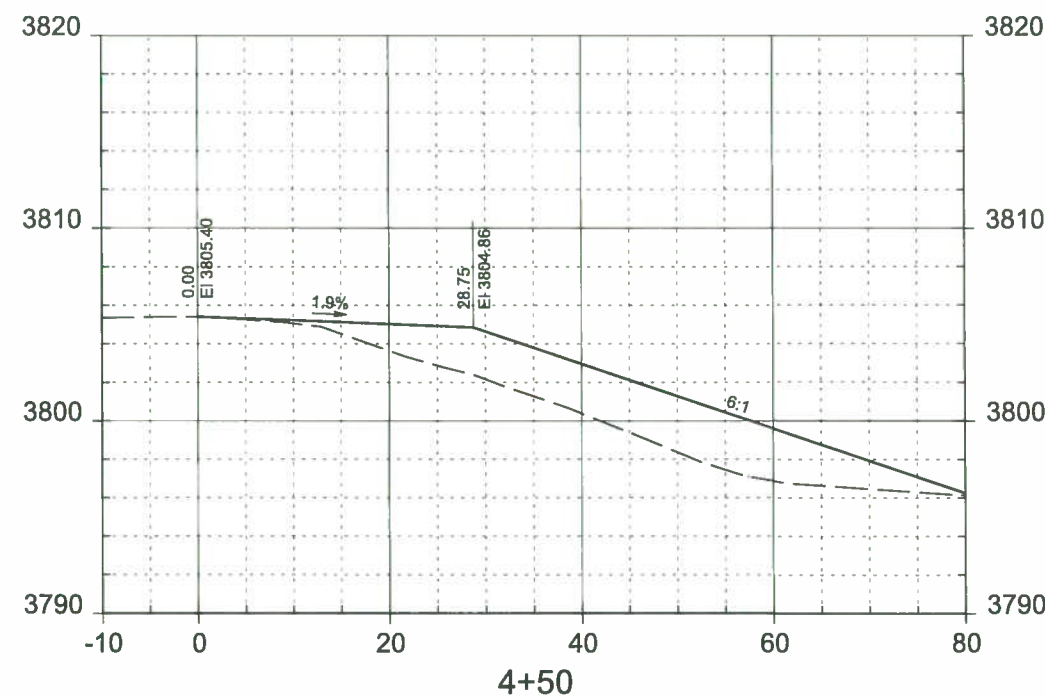
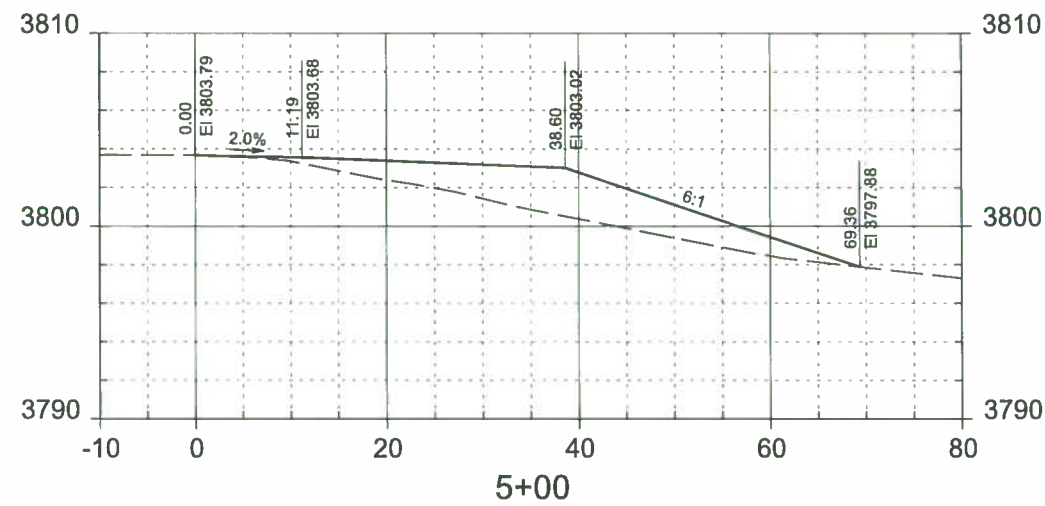
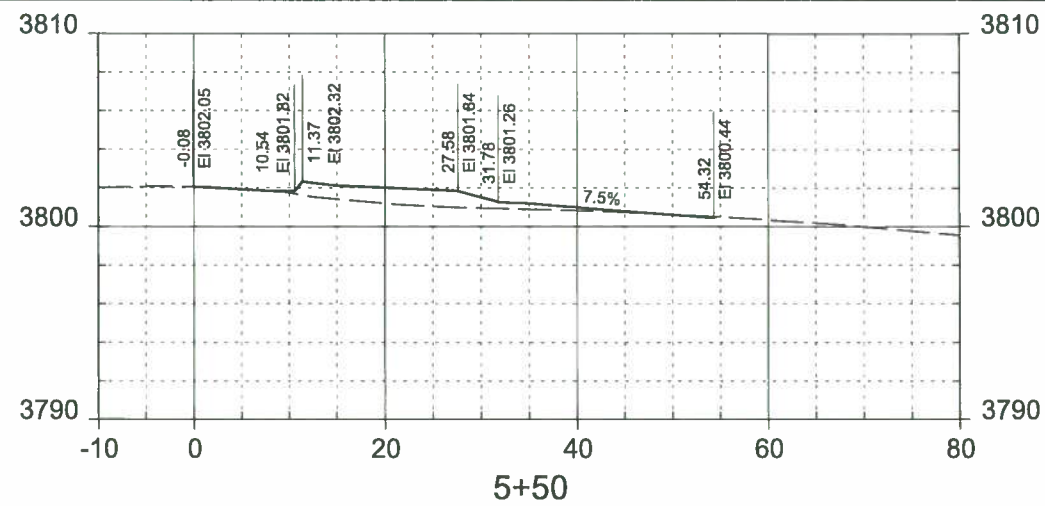
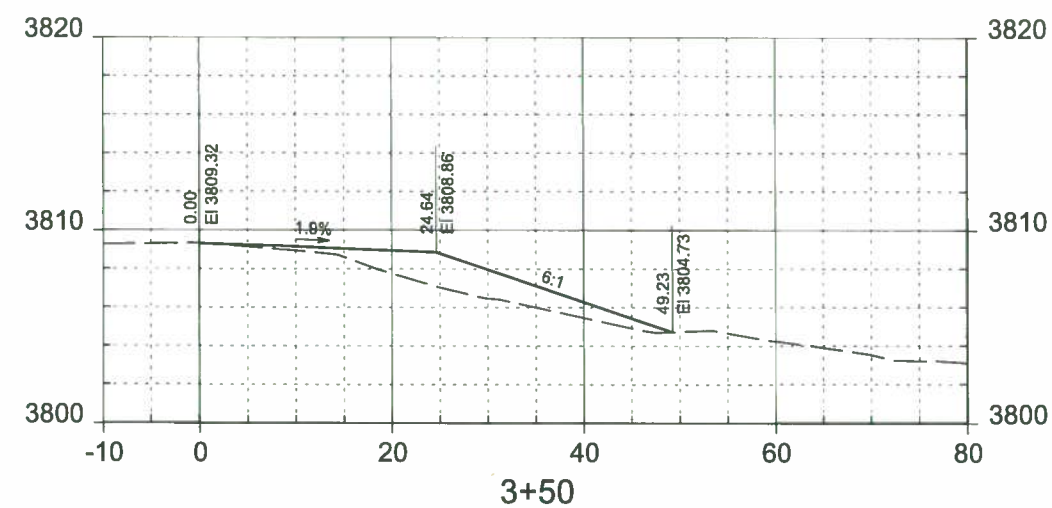
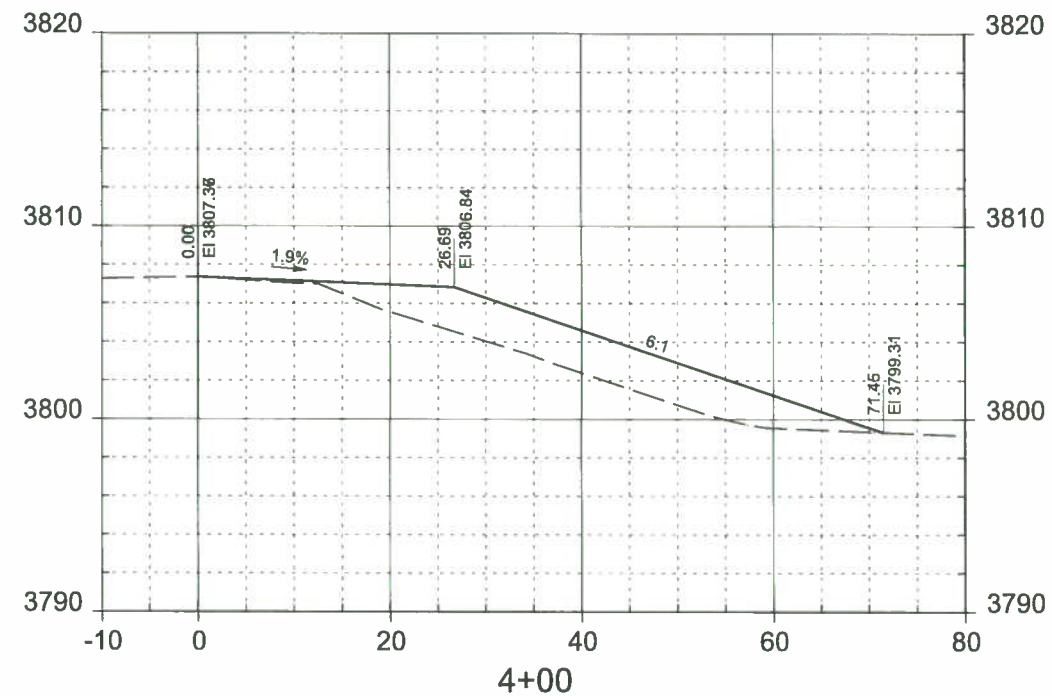
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Checked By: NEH Designed By: CLG Date: 02/01/2017

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42

Sheet Number



SCALE: 1"=20' HOR
1"=10' VER

CROSS SECTIONS US 85 SB RIGHT TURN LANE TO HSC



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1	12-01-16	CDK	1st Submittal City Comments 10/24/16
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TURN LANES FOR HIGHWAY SERVICE CENTER AT EXIT 17
SECTION 15 & 22 - T&N - R3E - BHM
CITY OF SPEARFISH, LAWRENCE COUNTY, SD
CROSS SECTIONS
US 85 SB RIGHT TURN LANE TO HSC
Drawn By: CDK/CLG Surveyed By: CLG/CMT Project No: L15-00-15Z
Checked By: NEH Designed By: CLG Date: 02/01/2017

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