

FOR BIDDING PURPOSES ONLY

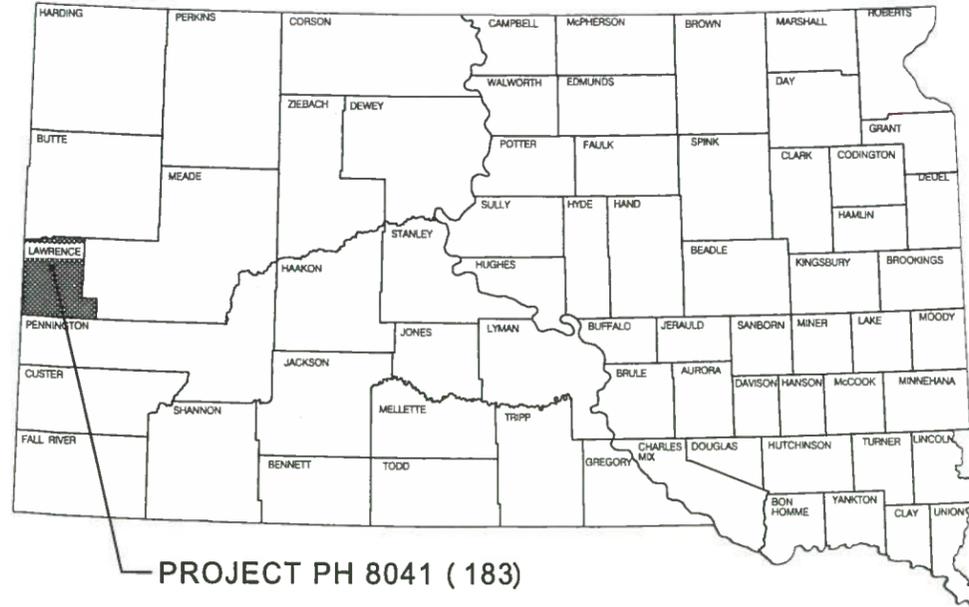
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	1	32
PCN 01DG	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Title Sheet.dgn

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
PROJECT PH 8041(183)
LAWRENCE COUNTY
MAITLAND ROAD
ROAD REALIGNMENT
PCN 01DG

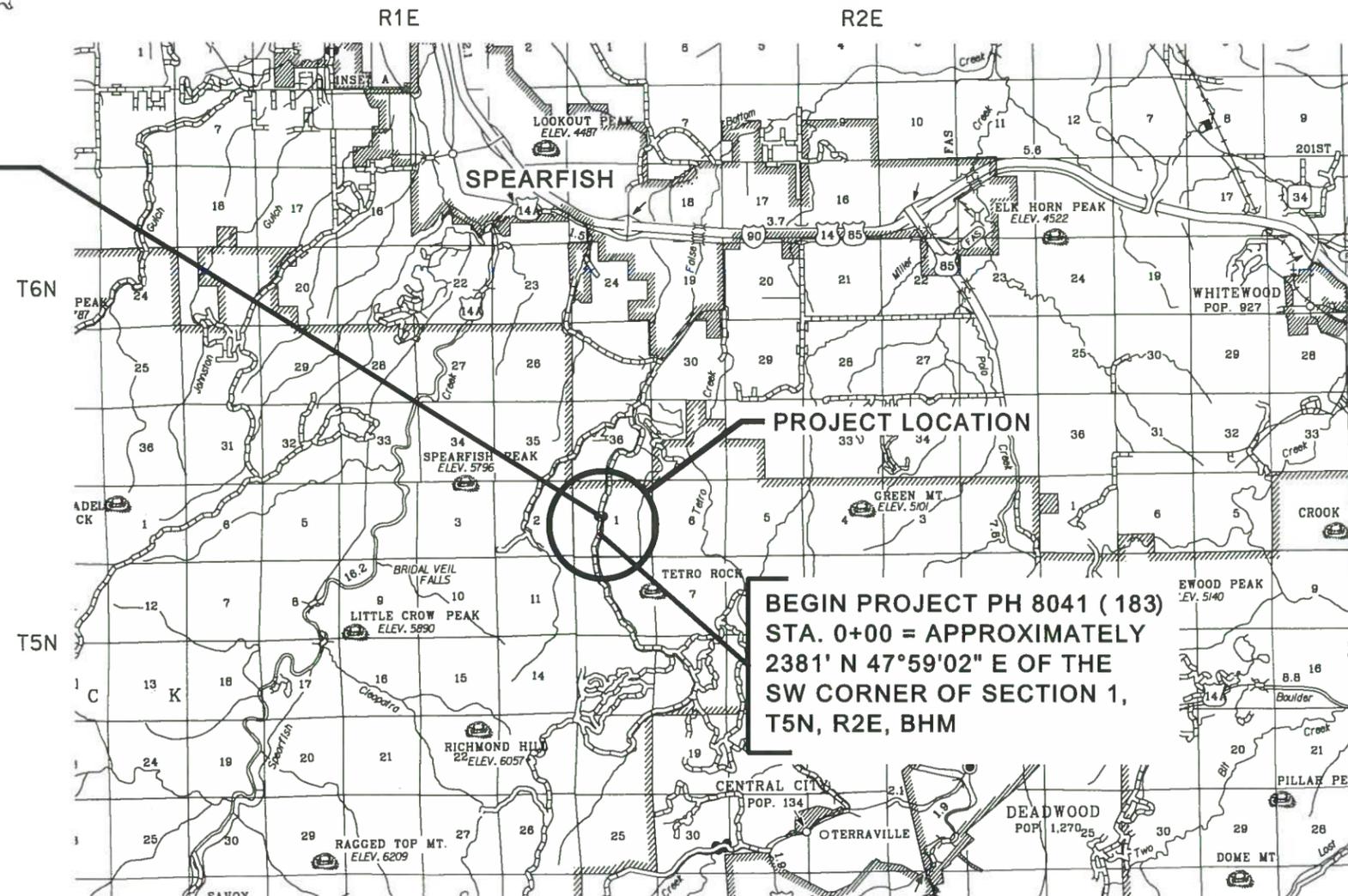
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PROJECT PH 8041 (183)

END PROJECT PH 8041 (183)
STA. 10+22 = APPROXIMATELY
3182' S 38°37'09" E OF THE
NW CORNER OF SECTION 1,
T5N, R2E, BHM



BEGIN PROJECT PH 8041 (183)
STA. 0+00 = APPROXIMATELY
2381' N 47°59'02" E OF THE
SW CORNER OF SECTION 1,
T5N, R2E, BHM

TRAFFIC DATA

ADT (2012): 287
ADT (2022): N/A
D: N/A%
DHV: N/A
V: N/A%
T ADT: N/A%

STORM WATER PERMIT DATA

DISTURBED AREA: 2.09 AC
PROJECT AREA: 4.12 AC
MAJOR STREAM: FALSE BOTTOM

LAT. 44° 25' 20"
LONG. -103° 49' 23"

SCALES

LAYOUT, 0.5 INCHES = 1 MILE

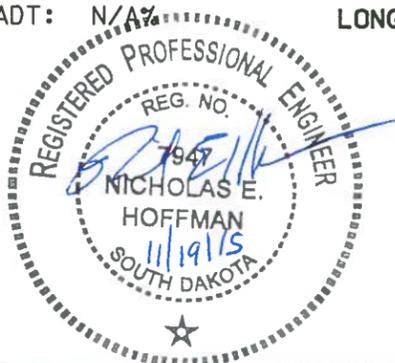
PLAN, 1" = 80'

PROFILE, { HORIZONTAL: 1 INCH = 80 FT.
 { VERTICAL: 1 INCH = 40 FT.

CROSS SECTION { HORIZONTAL: 1 INCH = 20 FT.
 { VERTICAL: 1 INCH = 10 FT.

PROJECT LENGTH: 800 FT 0.152 MILES

3



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ESTIMATE OF QUANTITIES AND GENERAL NOTES FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	2	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015		L12-00-123	
Revised Date: 28-December-2015		Notes.dgn	
Initials: JP/CDK			

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0500	Remove Pipe Culvert	180	Ft
110E1693	Remove Erosion Control Wattles	1224	Ft
110E1700	Remove Silt Fence	129	Ft
120E0010	Unclassified Excavation	3704	CuYd
120E0600	Contractor Furnished Borrow Excavation	2451	CuYd
230E0010	Placing Topsoil	761	CuYd
240E0010	Obliterate Old Road	6	Sta
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	36	Ton
260E3010	Gravel Surfacing	227	Ton
260E3030	Gravel Surfacing, Salvaged	320	Ton
270E0110	Salvage and Stockpile Granular Material	320	Ton
420E0200	Structure Excavation, Box Culvert	143	CuYd
421E0200	Box Culvert Undercut	75	CuYd
450E4769	24" CMP 16 Gauge, Furnish	70	Ft
450E4770	24" CMP, Install	70	Ft
450E5215	24" CMP Flared End, Furnish	2	Each
450E5216	24" CMP Flared End, Install	2	Each
560E0188	12'x8' Precast Concrete Box Culvert, Furnish	84	Ft
560E0189	12'x8' Precast Concrete Box Culvert, Install	84	Ft
560E1188	12'x8' Precast Concrete Box Culvert End Section, Furnish	2	Each
560E1189	12'x8' Precast Concrete Box Culvert End Section, Install	2	Each
600E0200	Type II Field Laboratory	1	Each
634E0010	Flagging	400	Hour
634E0110	Traffic Control Signs	294	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0260	Type 3 Barricade, 6' Single Sided	6	Each
700E0210	Class B Riprap	25	Ton
730E0251	Special Permanent Seed Mixture 1	32	Lb
732E0100	Mulching	1.6	Ton
734E0154	12" Diameter Erosion Control Wattle	1224	Ft
734E0604	High Flow Silt Fence	129	Ft
734E0610	Mucking Silt Fence	9	CuYd
734E0620	Repair Silt Fence	32	Ft
831E0110	Type B Drainage Fabric	55	SqYd
831E0210	Non-woven Separator Fabric	266	SqYd

SPECIFICATIONS

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

CLEARING

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

UTILITIES

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

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 12 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 76 MGal. No separate payment will be made for the Water for Embankment and all costs associated shall be incidental to the contract unit price per cubic yard of "Unclassified Excavation".

The estimated cubic yards of excavation and/or embankment required to construct 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 5-foot wide bottom with 2.5:1 backslopes. However, the Engineer may direct the Contractor to adjust the ditch width for proper alignment with the drainage structure.

A copy of the soils profile is available for review at the Rapid City Region and Rapid City Area offices.

TYPE II FIELD LABORATORY

Substitution of a cellular telephone for the hard-wired touch-tone telephone is not allowed, as state personnel need the ability to download information over direct phone lines. The phone is intended for state personnel usage only. Contractor personnel are prohibited from using this phone unless pre-approved by the Project Engineer. The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Project Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order (CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for "Type II Field Laboratory".

CLEARING AND DISPOSAL OF TIMBER

U.S. Forest Service Land

Trees shall be limbed and cut to manageable lengths and decked on site at a location designated by the Forest Service. All logs larger than 6" in diameter shall be saved and incorporated in the decks. Slash and waste generated from clearing may be disposed of off site, chipped and used for mulch on site, or be slashed and broken down to heights of less than 12 inches and utilized on site for mulch/erosion control on disturbed areas outside of watercourse areas.

Stumps from right-of-way clearing shall be the Contractor's responsibility to haul and dispose of them off site and outside of the National Forest or chip and use as mulch on site.

CONSTRUCTION SEQUENCE

The following sequence for construction is a suggestion to complete the project and keep the existing roadway open to traffic at all times:

- Clearing and Grubbing
- Construct new road fill outside of the existing road with cuts and fills from this area and the Contractor furnished borrow.
- Install the new box culvert and complete all work on the east side of the roadway.
- Gravel the new roadway and move traffic onto the new road section.
- Remove the old structure and cut channel through the old road.
- Obliterate old road and shape area between the toe of the slope and the new road.
- Complete the topsoil, seeding, mulching and fertilizing.
- Complete clean-up of the site.

This list is not a list of all items to be completed during construction but the major items necessary for completion of the project. The contractor may submit an alternative sequence to the Engineer for review prior to the start of construction.

It is figured that the new roadway and installation of the culvert can be completed with the grading east of the existing road and the Contractor furnished borrow and approximately 610 cy of material from the west side of the existing road between 7+50 and 9+50.



ESTIMATE OF QUANTITIES AND GENERAL NOTES FOR BIDDING PURPOSES ONLY

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S.D.	PH 8041 (183)	3	32
PCN 010G	STRUCTURE NO: 41-113-124		
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Revised Date: 28-December-2015		Notes.dgn	
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OBLITERATING OLD ROAD

The Contractor shall obliterate the existing roadway at the locations listed in the Table of Obliterating Old Road.

The surfacing material of the existing roadway shall be salvaged. Refer to the Salvage and Stockpile Granular Surfacing Material note for quantities and payment information.

The Contractor shall obliterate the existing roadway in accordance with Section 240 of the Specifications when the existing roadway is not being removed in accordance with the template section.

The earthwork necessary for obliterating the existing road shall be accomplished to such an extent that placing topsoil and seeding can be done in a satisfactory manner. Quantities of topsoil, fertilizing, mulching, and seeding for the obliterated sections of the old road are included in the various bid items in the Estimate of Quantities.

TABLE OF OBLITERATING OLD ROAD

Station	to	Station	L/R	Length (Sta)
2+00		7+50	12/12	5.50
Total:				5.50

SALVAGE AND STOCKPILE GRANULAR MATERIAL

Granular surfacing shall be salvaged from the work limits. The salvaged material shall be stockpiled at a site furnished by the Contractor and satisfactory to the Engineer.

The quantity of salvaged granular surfacing may vary from the plans. The Contractor will be required to use all the salvaged material on this project.

No adjustment in the contract unit price per ton for salvaged material will be made because of a variation in salvaged material quantities. Salvaging and stockpiling the existing surfacing, for use on this project, will be paid for at the contract unit price per ton for Salvage and Stockpile Granular Material.

The salvaged material shall be reused on this project as Gravel Surfacing, Salvaged.

SHRINKAGE FACTOR: Embankment +25%

TABLE OF UNCLASSIFIED EXCAVATION

Excavation	2,631 CY
Topsoil	761 CY
Exc. for RCBC Installation	143 CY
Salvaged Granular Base Material	169 CY
Total	3,704 CY

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:

Station	to	Station	Topsoil (CuYd)
1+50		9+50	761
Total:			761

PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

When plan quantities are used for payment, the Unclassified Excavation quantity shall be used for final payment. If final cross sections are taken in the field, add all of the items in the Table of Unclassified Excavation using the following procedures:

The Topsoil quantity in the Table of Unclassified Excavation is an estimate. When finaling a project, the plans quantity for Topsoil shall be used. 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.

As shown in the Table of Unclassified Excavation, the estimated quantity of 55 cubic yards of Salvaged Surfacing Material from fill sections and 114 cubic yards of Salvaged Surfacing Material from obliterated old roads shall be added to the Excavation quantity to determine the Unclassified Excavation quantity. When finaling a project, the quantities of Salvaged Surfacing Material from fill sections and obliterated old roads will not be adjusted according to field measurements. The quantity of Salvaged Surfacing Material from cut sections will not be added to the Excavation quantity as it is already in the cuts on the final cross sections.

GRAVEL SURFACING, SALVAGED

Gravel Surfacing, Salvaged estimate at 320 tons shall be obtained from the material produced and stockpiled on this project and may be used without further quality testing.

At the time of compaction the material shall have approximately 4% moisture uniformly blended throughout the depth of material. The percent moisture may be adjusted by the Engineer. Water for compaction will not be measured for payment and all cost shall be absorbed into the price per ton for Gravel Surfacing, Salvaged.

All other requirements for Gravel Surfacing shall apply.

GRAVEL SURFACING

Gravel Surfacing shall be furnished by the Contractor.

At the time of compaction the material shall have approximately 4% moisture uniformly blended throughout the depth of material. The percent moisture may be adjusted by the Engineer. Water for compaction will not be measured for payment and all costs shall be absorbed into the price per ton for Gravel Surfacing.

All other requirements for Gravel Surfacing shall apply.

SALVAGED ITEMS

All salvaged items noted on the plans shall be salvaged for future highway use and hauled to the County Shop at 11481 Bobtail Gulch Road, Central City, as directed by the Engineer. Care shall be taken not to damage the structural properties of the items during dismantling and transporting. All broken concrete and materials not salvaged shall be disposed of in accordance with the Specifications. All costs for salvaging and transporting the items shall be incidental to the contract lump sum price for "Incidental Work". Before preparing his/her bid, the Contractor shall make a visual inspection of the project to verify the extent of the work and material involved.

INCIDENTAL WORK

The Contractor shall remove and salvage all existing road signs within the limits of the project. The Incidental Work bid item is in the plans for salvaging materials.

The Contractor shall remove the existing culverts from the project and properly dispose of them. This work shall be incidental to the contract lump sum price for Incidental Work.

TABLE OF CONSTRUCTION STAKING

(See Special Provision for Contractor Staking)



ESTIMATE OF QUANTITIES AND GENERAL NOTES

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STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	4	32
PCN 0100	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015		L12-00-123	
Revision Date: 18-December-2015		Notes.dgn	
Initiator: JP/CDK			

EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT INSTALLATION

Included in the quantity of "Unclassified Excavation" are 143 cubic yards of excavation for installation of reinforced concrete box culverts.

All work necessary to excavate a trench for installation of reinforced concrete box culverts including labor, equipment, and incidentals shall be incidental to the contract unit price per cubic yard for "Unclassified Excavation". Payment for excavation of reinforced concrete box culverts shall be based only on plans quantity and measurement of these excavation quantities during construction shall not be performed.

The excavation quantities for installation of reinforced concrete box culverts are not included with the earthwork balance quantities on the plans profile sheets. The quantities computed for excavation of the reinforced concrete box culverts are based on the limits shown in the drawing below.

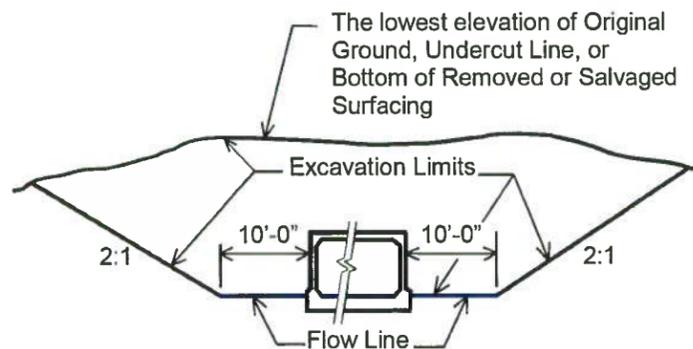


TABLE OF EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT INSTALLATION

Station	Quantity (CuYd)
4+08.89	143
Total:	143

CORRUGATED METAL PIPE

Corrugated metal pipes shall have 2 3/8-inch X 1/2-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes shall have 3-inch X 1-inch or 5-inch X 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

FERTILIZING

Application of fertilizer will not be required on this project.

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of the roadways and temporary easements under cultivation.

Special Permanent Seed Mixture 1 shall consist of the following:

Grass Species	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	6
Slender Wheatgrass	5
Prairie Junegrass	1
Annual Ryegrass	2
Canada Wildrye	6
	20

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.

The mycorrhizal inoculum shall be as shown below or an approved equal:

Product	Manufacturer
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

HIGH FLOW SILT FENCE

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

<http://apps.sd.gov/Applications/HC54ApprovedProducts/main.asp>

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

TABLE OF HIGH FLOW SILT FENCE

Station	L/R	Location	Quantity (Ft)
3.50 to 4+00	L	Culvert inlet	68
6+50 to 6+80	L	Culvert inlet	35
		Additional Quantity:	26
		Total:	129

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.

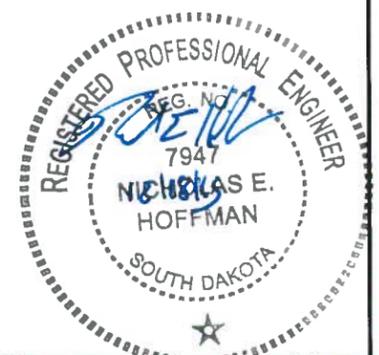
The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

The erosion control wattles provided shall be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

<http://apps.sd.gov/Applications/HC54ApprovedProducts/main.asp>

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
1+50 to 9+50	R	12	Along edge of const.	765
6+00 to 9+50	L	12	Along slope and ditch	359
			Additional Quantity:	100
			Total:	1,224



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REMOVE EROSION CONTROL WATTLE

Erosion control wattles shall be removed when vegetation is established to 75% to match the existing vegetative cover.

TABLE OF SUPERELEVATION

Station	to	Station		
0+00		0+49.78	-	Normal Crown Section
0+49.78		1+33.17	-	Super elevation Transition
1+33.17		1+35.44	-	751' Radius Curve Left .0516' Super elevation Rate Point of Rotation at Centerline
1+35.44		2+18.83	-	Super elevation Transition
2+18.83		4+44.42	-	Normal Crown Section
4+44.42		4+67.08	-	Super elevation Transition
4+67.08		5+24.26	-	750' Radius Curve Right 0.516' Super elevation Rate Point of Rotation at Centerline
5+24.26		6+09.91	-	Super elevation Transition
6+09.91		7+19.33	-	Normal Crown Section
7+19.33		8+04.58	-	Super elevation Transition
8+04.58		9+00.00	-	400' Radius Curve Left .0512' Super elevation Rate Point of Rotation at Centerline
9+00.00		9+50.00	-	Transition from .0512' Super Elevation Rate to match to Existing roadway



ENVIRONMENTAL COMMITMENTS

FOR BIDDING PURPOSES ONLY

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PCN 010G	STRUCTURE NO: 41-113-124		
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L12-00-123 Notes.dgn			

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 B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

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 D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

False Bottom Creek is classified as a cold water, marginal fishery with a total suspended solids standard of 90 milligrams/liter.

Action Taken/Required:

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

COMMITMENT D2: SURFACE WATER DISCHARGE

False Bottom Creek is classified as a cold water, marginal fishery with a Surface Water Discharge standard of 90 milligrams/liter total suspended solids.

Action Taken/Required:

If construction dewatering is required, the Contractor shall obtain a Temporary Discharge Permit from the DENR and provide a copy to the Project Engineer. Contact the DENR Surface Water Program at 605-773-3351 to apply for a permit.

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.

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 Environment 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

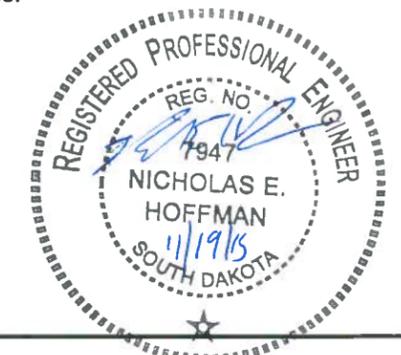
The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

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



ENVIRONMENTAL COMMITMENTS

FOR BIDDING PURPOSES ONLY

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S.D.	PH 8041(183)	7	32
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Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			
L12-00-123 Notes.dgn			

COMMITMENT H: WASTE DISPOSAL SITE Action Taken/Required: (Continued)

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 State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

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 proposed 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 historic or 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.

COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures have to be taken to ensure that the waterways of the U.S. are not impacted.

Action Taken/Required:

No excavation shall be made below the ordinary high water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting; and the natural streambed shall not be disturbed unless specified by the plans and under the observation of the Project Engineer. Refer to the Table of U.S. Waterways to Protect for ordinary high water elevations.

All dredged or excavated materials shall be placed at a site above the ordinary high water elevation in a confined area (not classified as a wetland) that is a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high water elevation will be allowed provided that all material placed below the ordinary high water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms shall be removed with minimal disturbance to the streambed. Proper construction practices shall be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, grading, etc. shall be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractors construction operations shall be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High Water Elevation
4+08	False Bottom Creek	3480.00

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the US Army Corps of Engineers for the permanent actions associated with this project.

Action Taken/Required:

The Contractor shall comply with all requirements contained in the Section 404 permit.

The Contractor shall also be responsible for obtaining a Section 404 permit for any dredge, excavation, or fill activities associated with staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands or waters of the United States.

COMMITMENT R: FIRE PREVENTION IN THE BLACK HILLS AREA

This project is located within the confines of the Black Hills Forest Fire Protection Boundary.

Action Taken/Required:

The Contractor shall adhere to the "Special Provision for Fire Plan".

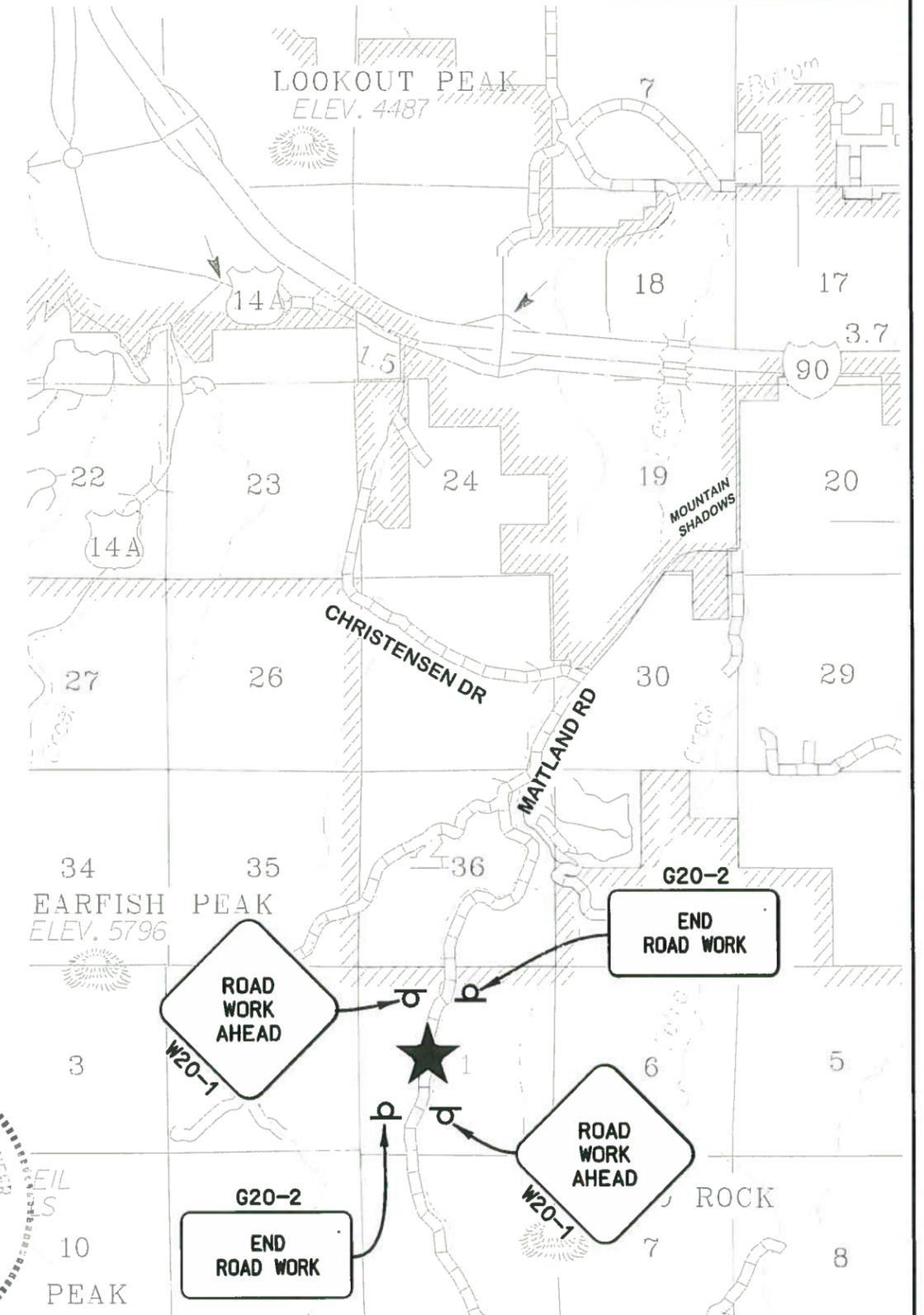


TRAFFIC CONTROL – GENERAL NOTES

1. 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.
2. Unless otherwise stated in these plans, no work will be allowed during hours of darkness. Hours of darkness are defined as ½ hour after sunset until ½ hour before sunrise.
3. 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.
4. All non-applicable existing signing and temporary traffic control devices shall be covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 48 hours. The cost of removing or covering non-applicable signs and temporary traffic control devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
5. Construction signing mounted on portable supports shall not be used for a duration of more than 3 days, unless approved by the Engineer. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location, ground mounted, breakaway supports.
6. All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.
7. The Contractor shall be required to have a person available 24 hour/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.
8. Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. The amber light shall be mounted on the uppermost part of the Contractor's vehicle. Lights must have peak intensity within the range of 40 to 400 candelas and must flash at 75 ± 15 flashes per minute. Vehicle flasher/hazard lights are not acceptable. 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.
9. All construction operations shall be conducted in the general direction of traffic movement.
10. 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.
11. Temporary Vertical Road 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.
12. Drums are required in all lane closure tapers.

FOR BIDDING PURPOSES ONLY

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Revised Date: 18-December-2015		Traffic Control.dgn	
Initials: JP/CDK			



ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W1-3	REVERSE TURN (L or R)	4	48" x 48"	16	64
W1-6	LARGE ARROW (one direction)	6	48" x 24"	8	48
W3-4	BE PREPARED TO STOP	2	48" x 48"	16	32
W8-1	BUMP	2	48" x 48"	16	32
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6	12
W20-1	ROAD WORK AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-3	ROAD MACHINERY AHEAD	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			294

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 6' Single Sided	6 Each



FIXED LOCATION SIGNING TRAFFIC CONTROL PLAN

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	10	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015		L12-00-123	
Revised Date: 18-December-2015		SWPPP.DGN	
Initials: JP/CDK			

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** 4.12 acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** 2.09 acres **(4.2 1.b.)**
- **Existing Vegetative Cover (75%)** Native grass, brush and trees
- **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** False Bottom 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.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install utilities, storm sewers, curb and gutter.**
- **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 Area
- 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 $\frac{1}{3}$ 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 $\frac{1}{2}$ 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 site superintendent 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:

FOR BIDDING PURPOSES ONLY

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Revised Date:		SWPPP.DGN	
Initials: JP/CDK			

❖ **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, degreasing 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 areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas 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 clean up 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 clean up 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.

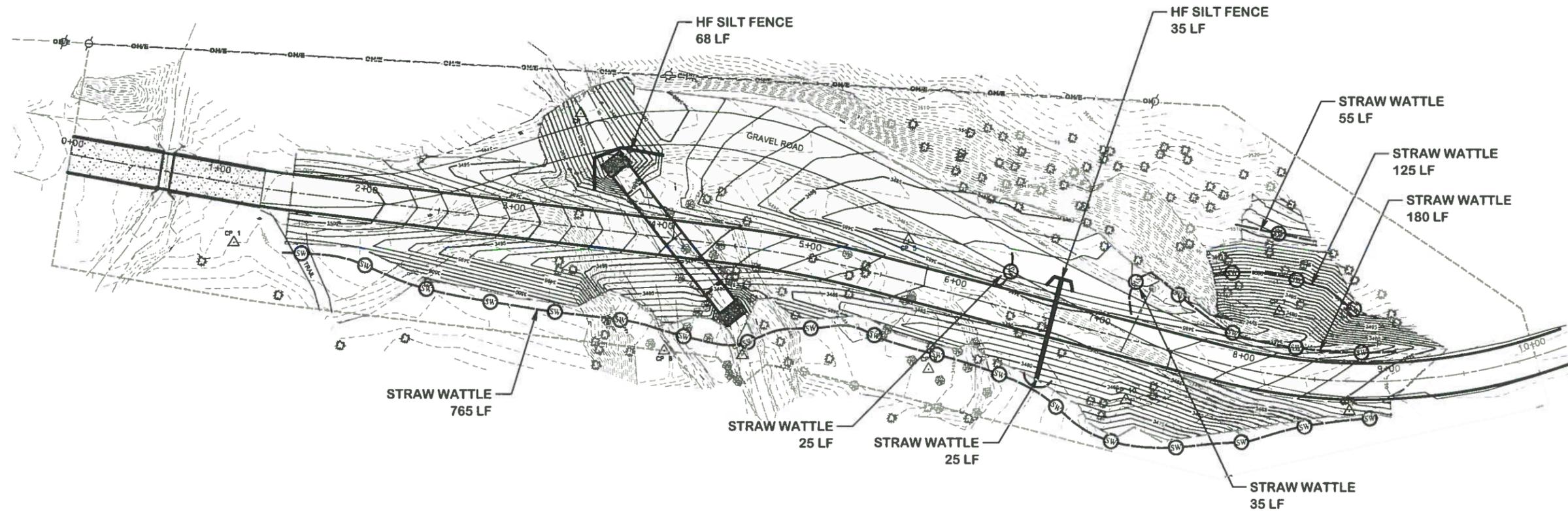
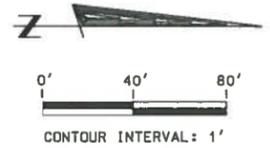
FOR BIDDING PURPOSES ONLY

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s.d.	PH 8041(183)	13	32
PCN 010G		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CDK			L12-00-123 Erosion Control.dgn



SECTION 1, T5N, R2E, B.H.M.

LAND OWNER:
US FOREST SERVICE



LAND OWNER:
US FOREST SERVICE

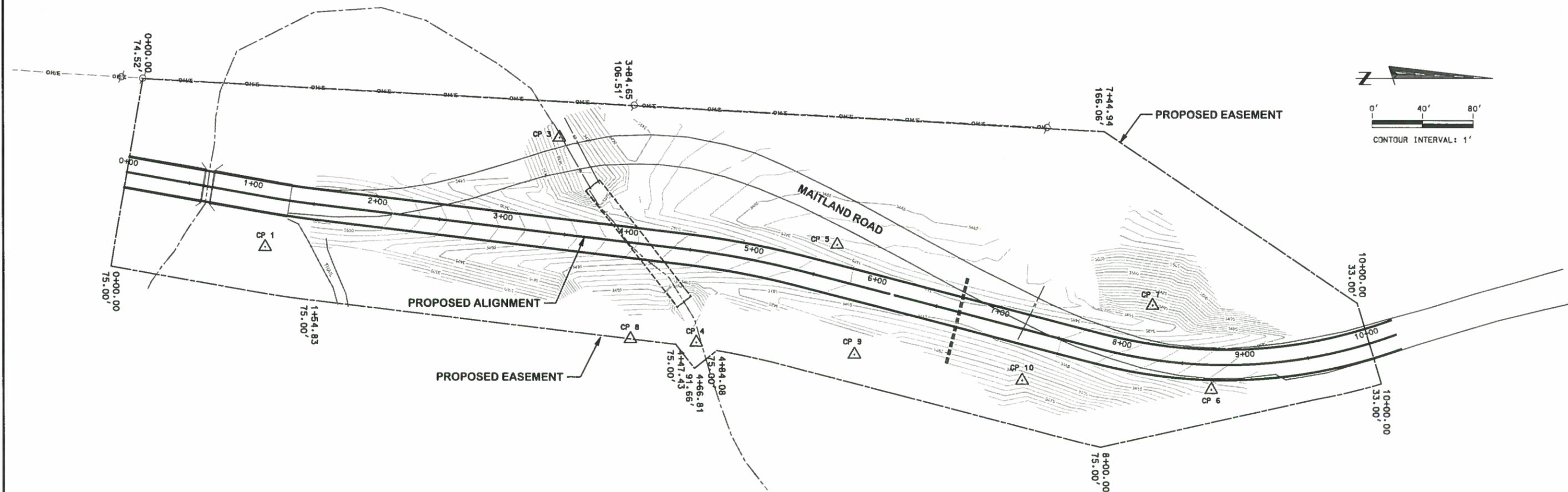
SECTION 1, T5N, R2E, B.H.M.

EROSION CONTROL PLAN



FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
s.d.	PH 8041(183)	14	32
PCN 010C		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Control Plan.dgn

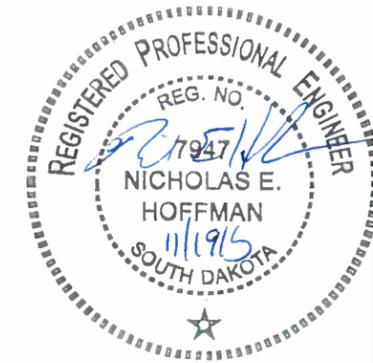


CENTERLINE HORIZONTAL ALIGNMENT DATA

Type	Station		Northing	Easting
POB	0+00.00		499890.9197	499941.6740
		TL=113.78		N 9°51'32" E
PC	1+13.78		500003.0169	499961.1554
PI	1+34.31	R=750.00	500023.2462	499964.6710
				Delta=3°08'11"
PT	1+54.83		500043.6376	499967.0746
		TL=290.58		N 6°43'21" E
PC	4+45.41		500332.2223	500001.0909
PI	4+95.74	R=750.00	500382.2032	500006.9823
				Delta=7°40'40"
PT	5+45.92		500430.9488	500019.4985
		TL=237.16		N 14°24'02" E
PC	7+83.08		500660.6598	500078.4802
PI	9+06.24	R=400.00	500779.9503	500109.1099
				Delta=34°13'38"
PT	10+22.03		500895.8097	500067.3368

CONTROL DATA

HORIZONTAL AND VERTICAL CONTROL POINTS							
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION	
1	1+17.28	38.80' RT	Control Point	500000.0000	500000.0000	3500.00	
2	-	-	Control Point	501199.4505	499990.0647	3490.21	
3	3+37.37	75.29' LT	Control Point	500233.7300	499913.6700	3492.14	
4	4+65.18	71.35' RT	Control Point	500341.8185	500074.6983	3476.78	
5	5+62.55	27.18' LT	Control Point	500453.8177	499997.3045	3481.84	
6	8+73.57	19.62' RT	Control Point	500749.6046	500110.5346	3488.42	
7	8+19.31	41.91' LT	Control Point	500702.8172	500044.5214	3500.45	
8	4+11.00	75.01' RT	Control Point	500289.2616	500071.5535	3482.29	
9	5-96.82	52.97' RT	Control Point	500467.0833	500083.4603	3485.50	
10	7+30.27	39.41' RT	Control Point	500599.7048	500103.5180	3474.77	
99	-	-	Control Point	499365.3255	499715.3301	3529.60	

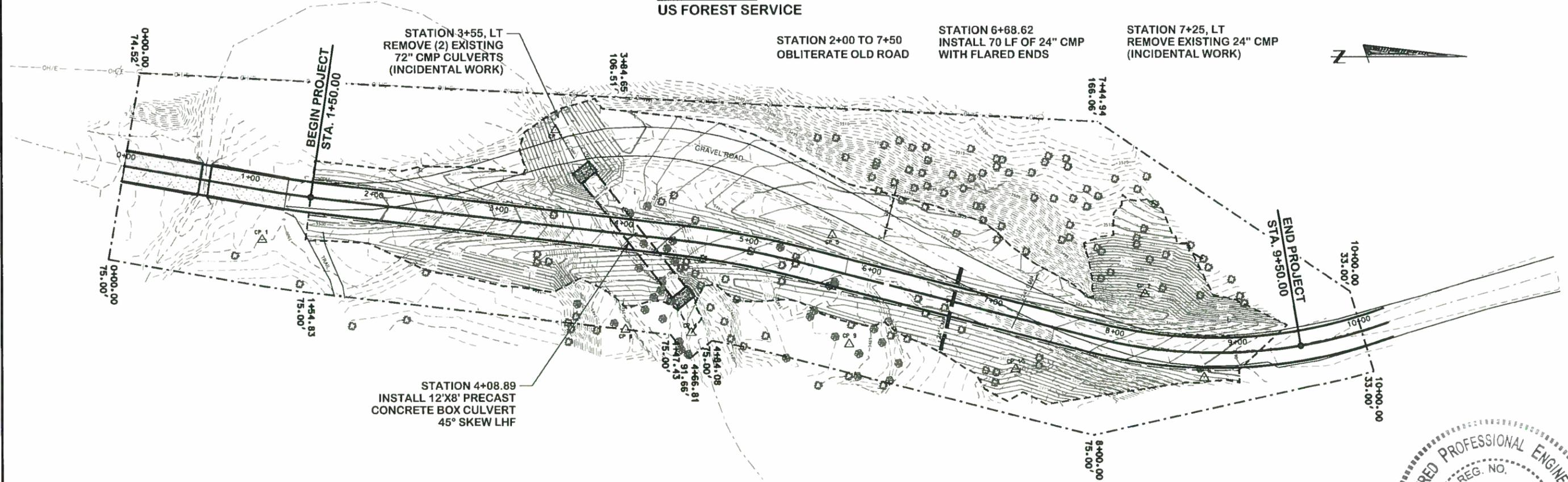


FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	15	32
PCN 0106		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revised Date: 18-December-2015			
Initials: JP/CDK			L12-00-123 Plan & Profile.dgn

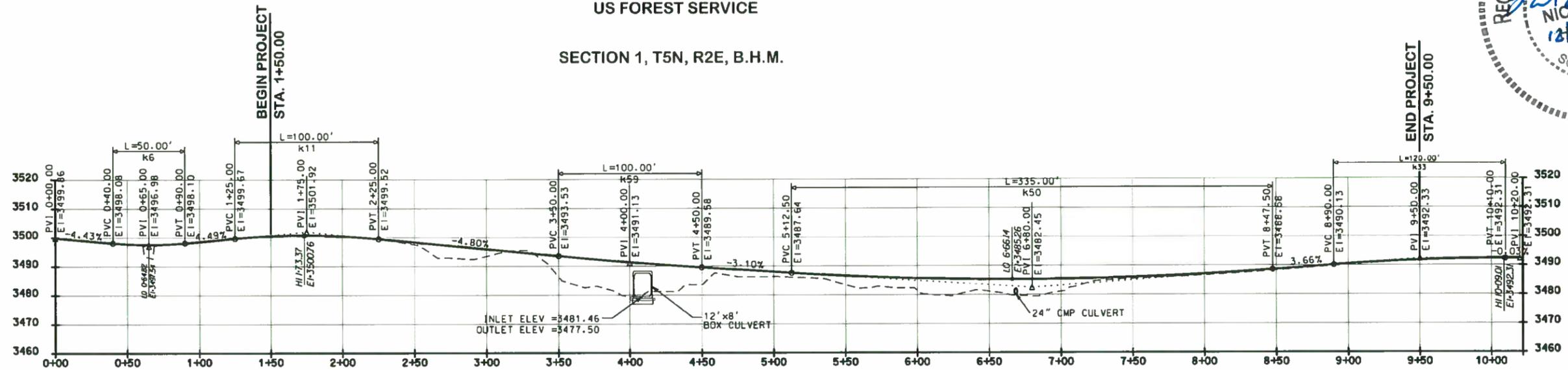
SECTION 1, T5N, R2E, B.H.M.

LAND OWNER:
US FOREST SERVICE



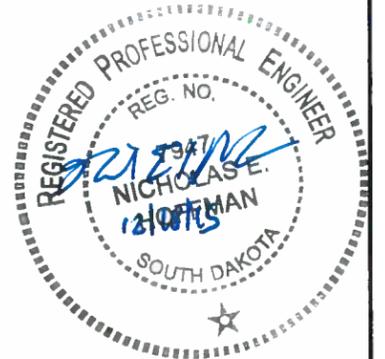
LAND OWNER:
US FOREST SERVICE

SECTION 1, T5N, R2E, B.H.M.



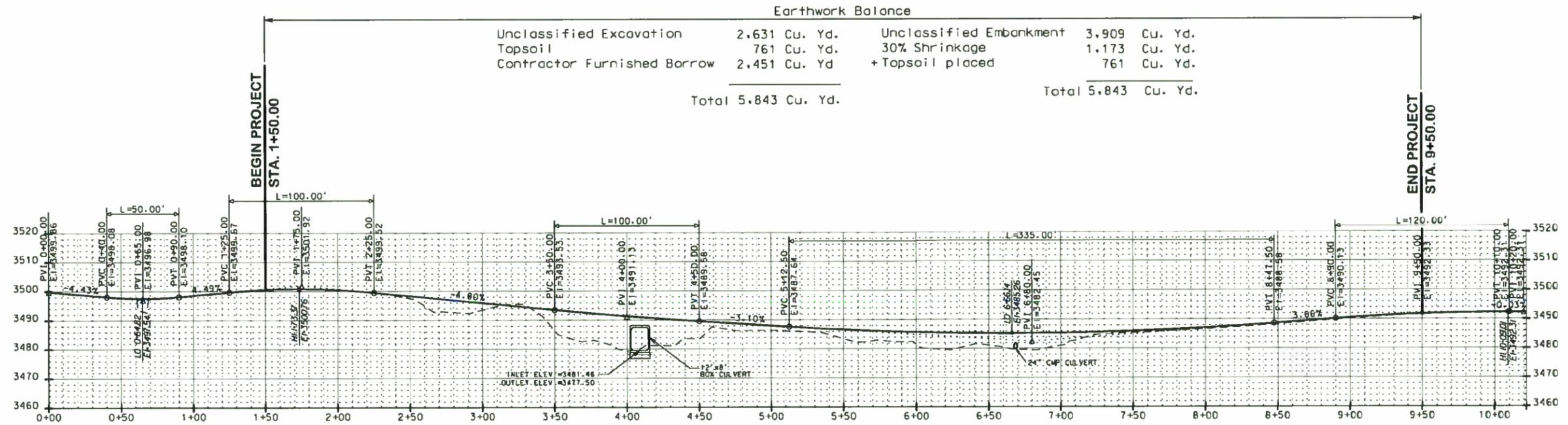
ROAD PROFILE

SCALE: 1"=80' HOR
1"=40' VER



FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	16	32
PCN 0106		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revised Date: 18-December-2015			
Initials: JP/COK Mainline Profile.dgn			



MAINLINE PROFILE

SCALE: 1"=80' HOR
1"=40' VER



STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
s.d.	PH 8041(183)	17	32
PCN 0106		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CDK			L12-00-123 Details.dgn

Alternate Type Connector Sections may be used with approval of the Engineer.

Dia. D (In.)	Ga.	DIMENSIONS (In.)					Approx. Slope	Body
		A	B	H	L	W		
12	16	6	6	6	21	24	2 1/2:1	1 Pc.
15	16	7	8	6	26	30	2 1/2:1	1 Pc.
18	16	8	10	6	31	36	2 1/2:1	1 Pc.
21	16	9	12	6	36	42	2 1/2:1	1 Pc.
24	16	10	13	6	41	48	2 1/2:1	1 Pc.
30	14	12	16	8	46	60	2 1/2:1	1 Pc.
36	14	14	19	9	51	72	2 1/2:1	2 Pc.
42	12	16	22	11	60	84	2 1/2:1	2 Pc.
48	12	18	27	12	69	90	2 1/4:1	2 Pc.
54	12	18	30	12	78	102	2:1	3 Pc.
60	12	18	33	12	84	114	1 3/4:1	3 Pc.
66	12	18	36	12	87	120	1 1/2:1	3 Pc.
72	12	18	39	12	87	126	1 1/3:1	3 Pc.
78	12	18	42	12	87	132	1 1/4:1	3 Pc.
84	12	18	45	12	87	138	1 1/6:1	3 Pc.

STANDARD CONNECTIONS

NOTE: Tubing is slipped over the sheet and rivets or lugs prior to forming operations of the apron.

TUBING ATTACHMENT DETAILS SECTION A-A

TYPICAL CROSS-SECTION

SECTION A-A (alternate)

GENERAL NOTES:

All 3 pc. bodies shall have 12 Ga. sides and 10 Ga. center panels. Width of center panels shall be greater than 20% of the pipe periphery. Multiple panel bodies to have lap seams tightly joined by 3/8" Dia. galvanized rivets or bolts.

For 60" through 84" sizes, reinforced edges shall be supplemented with galvanized stiffener angles. The angles will be 2" x 2" x 1/4" for 60" through 72" diameters and 2 1/2" x 2 1/2" x 1/4" for 78" and 84" diameters. The angles shall be attached by 3/8" diameter galvanized nuts and bolts.

Rivets and Bolts shall be 3/8" Dia. Min. for 10 Ga. and 12 Ga. sheet, and 5/16" Dia. Min. for 14 Ga. and 16 Ga. sheets. Tighten nuts with torque wrench to 25 lbs. torque.

March 31, 2000

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
s.d.	PH 8041(183)	18	32
PCN 010G		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CK			
			L12-00-123 Detail.s.dn

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000

Signs shown are for one direction of travel only.
 Flashing warning lights and/or flags may be used to call attention to the initial warning signs.
 Delineators or channelizing devices shall be used to mark edge of roadway along the Traffic Diversion.
 Pavement markings that are no longer applicable shall be removed or obliterated as soon as possible.

WORK SPACE

Type 3 Barricade

Channelizing Device

The length of A may be adjusted to fit field conditions.

** Speed to be determined on site by Highway Authority.

Interim Surface Ends Here

Interim Surface Starts Here

September 22, 2014

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
ROAD CLOSED WITH TRAFFIC DIVERTED

PLATE NUMBER
634.28

Sheet 1 of 1

Published Date: 4th Qtr. 2015

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000

WORK SPACE

Flagger

END ROAD WORK G20-2 (Optional)

Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

Buffer space dependent on work site limitations.

A changeable message sign may be used in addition to the initial warning sign.

Flagger station to be lighted at night.

On unfinished grades, until gravel is in place, reflectorized devices (cones, tubular markers, drums, or vertical panels back-to-back) defining the outside edge of the road shall be placed at 264 feet maximum spacing on tangent and at 132 feet maximum spacing on curves (greater than 3 degrees) during night time hours and during daytime hours at inactive locations where grading work is being performed. During daytime hours at active locations, a well defined path of adequate width shall be provided by motor grader, normally in conjunction with flagging operations either with or without pilot car. Minimum width for one-way operations is 12 feet for two-way operations is 24 feet.

Work areas which are duplicated less than one mile apart, may be classified as one work area for purposes of sign installation unless otherwise directed by the Highway Authority. PAVEMENT ENDS signs (W8-3) to be used as appropriate to warn of existing surfacing being removed.

September 6, 2015

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
LONG TERM ROAD WORK

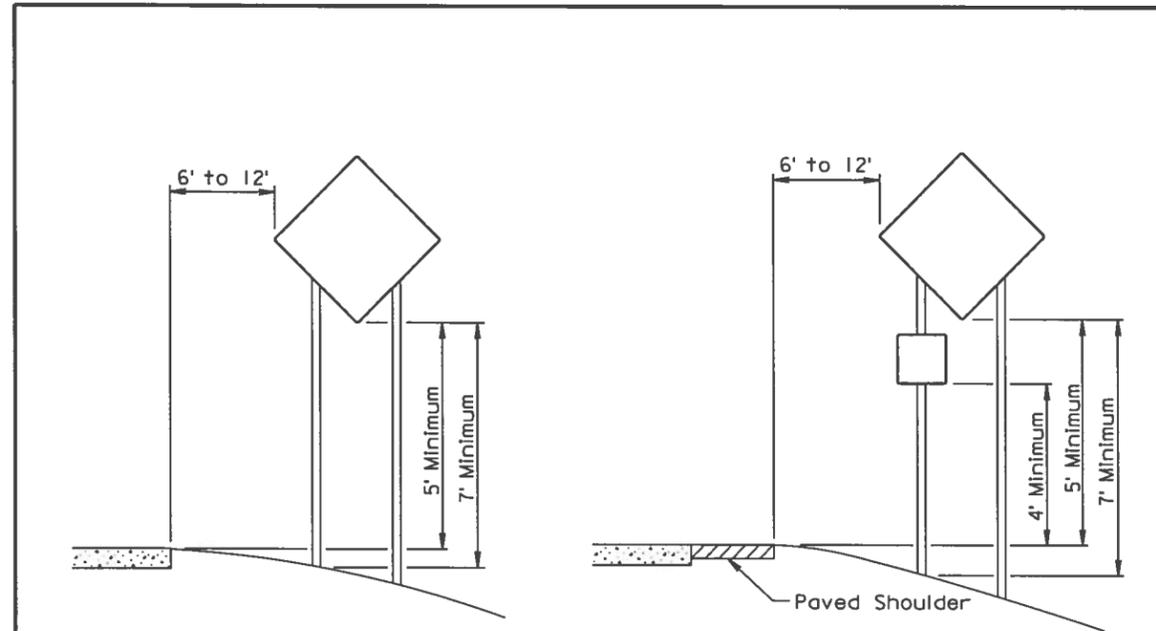
PLATE NUMBER
634.31

Sheet 1 of 1

Published Date: 4th Qtr. 2015

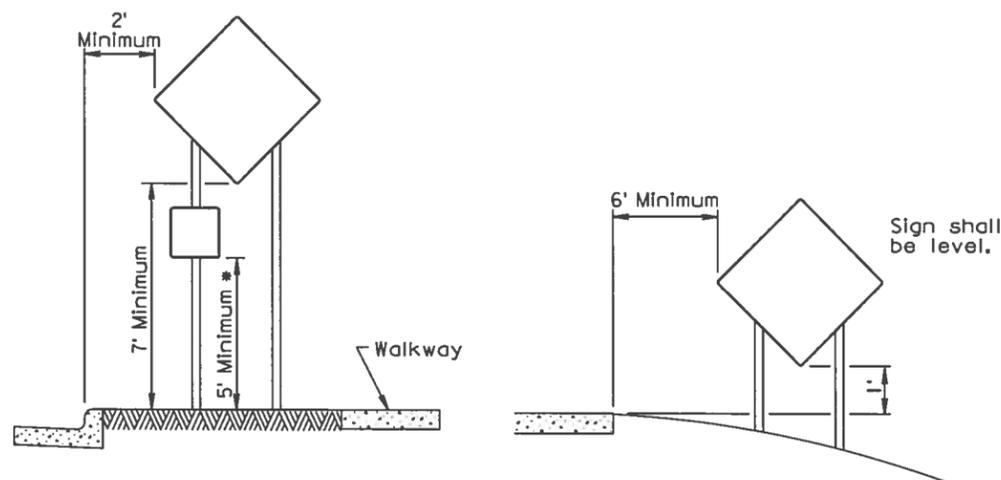
FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
s.d.	PH 8041(183)	19	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			
			L12-00-123 Details.dgn



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

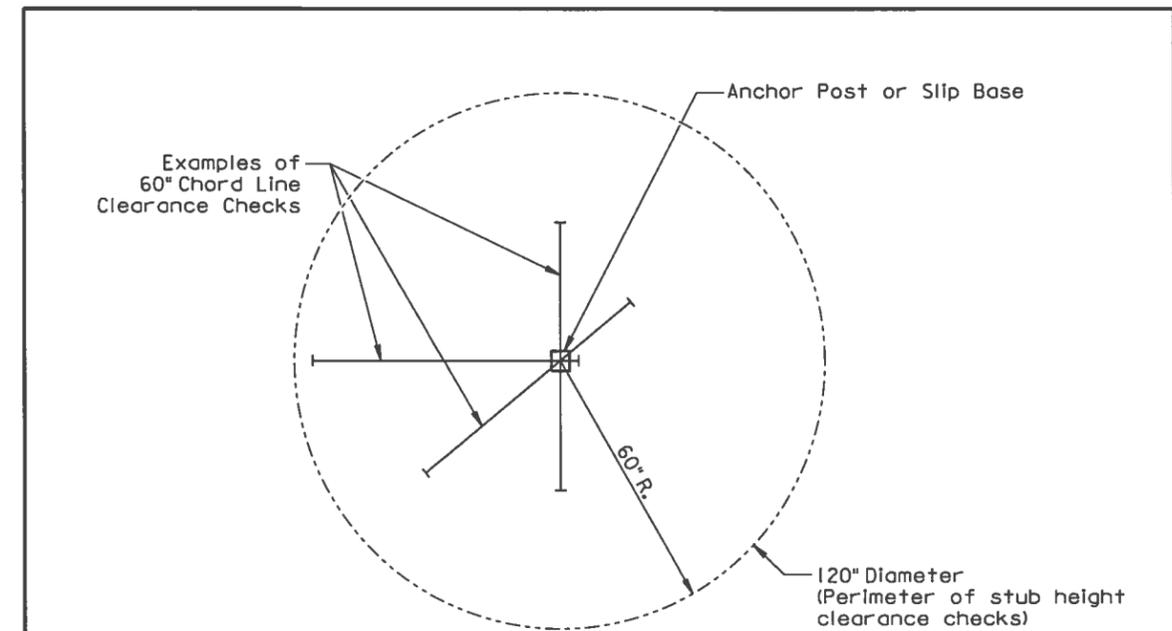
RURAL DISTRICT 3 DAY MAXIMUM

* 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.

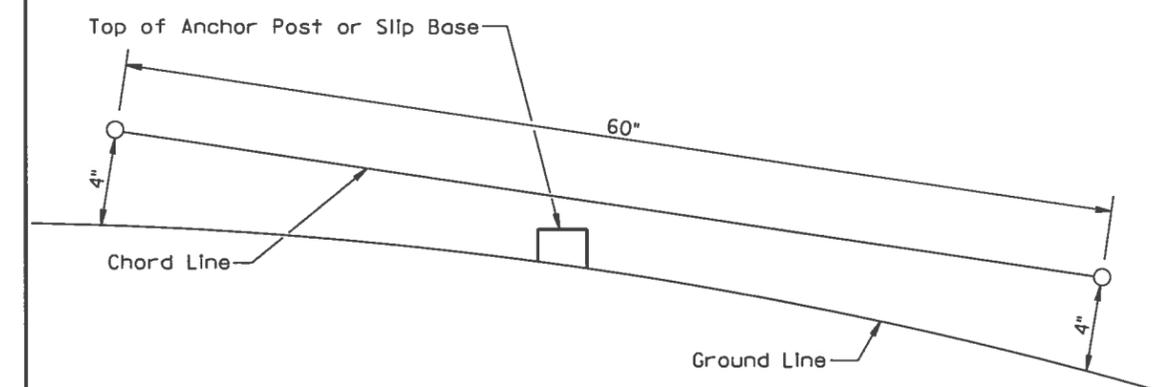
(Not applicable to regulatory signs)

September 22, 2014

Published Date: 4th Qtr. 2015	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

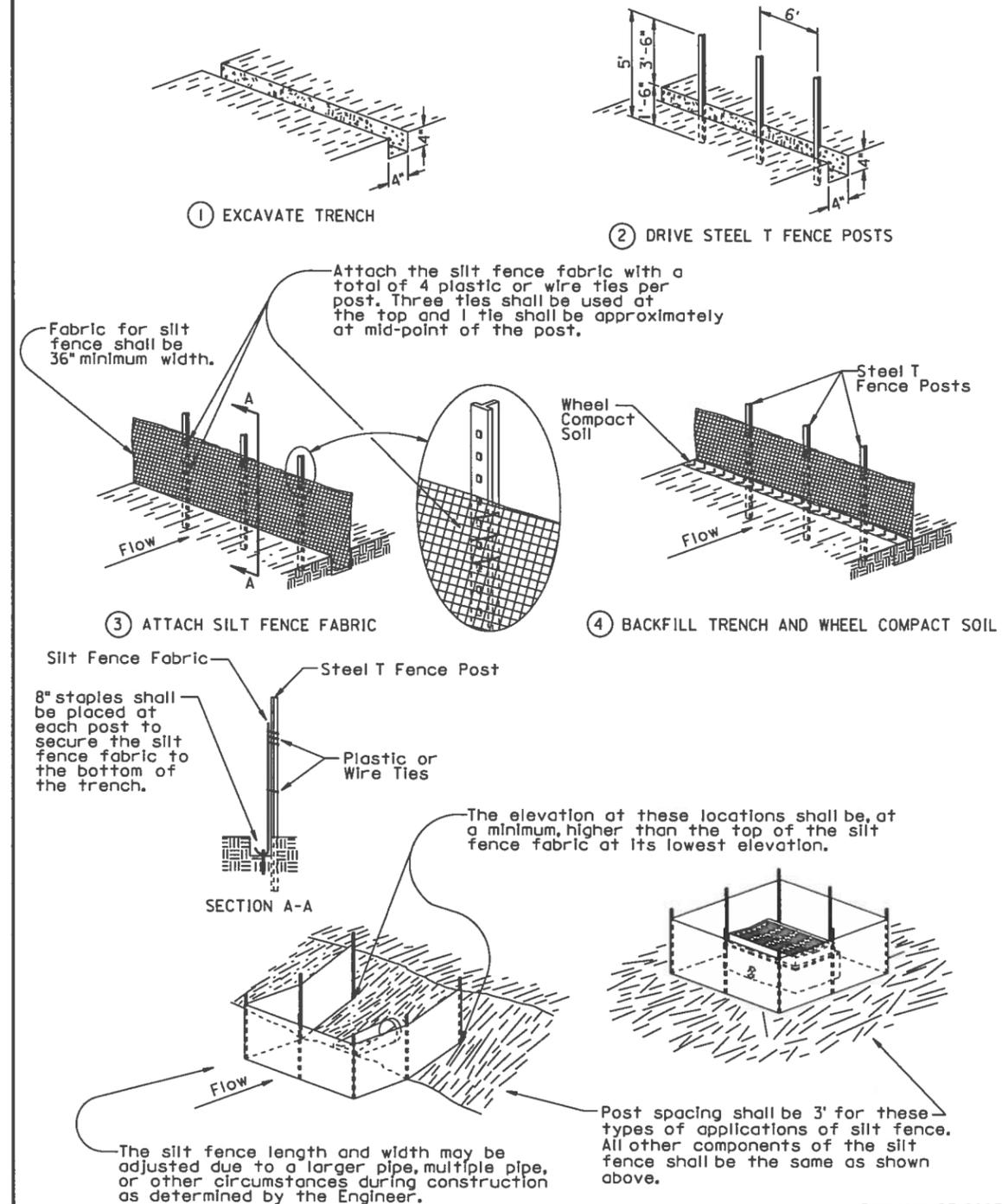
July 1, 2005

Published Date: 4th Qtr. 2015	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	20	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Detail s.dgn

MANUAL HIGH FLOW SILT FENCE INSTALLATION



December 23, 2003

Published Date: 4th Qtr. 2015

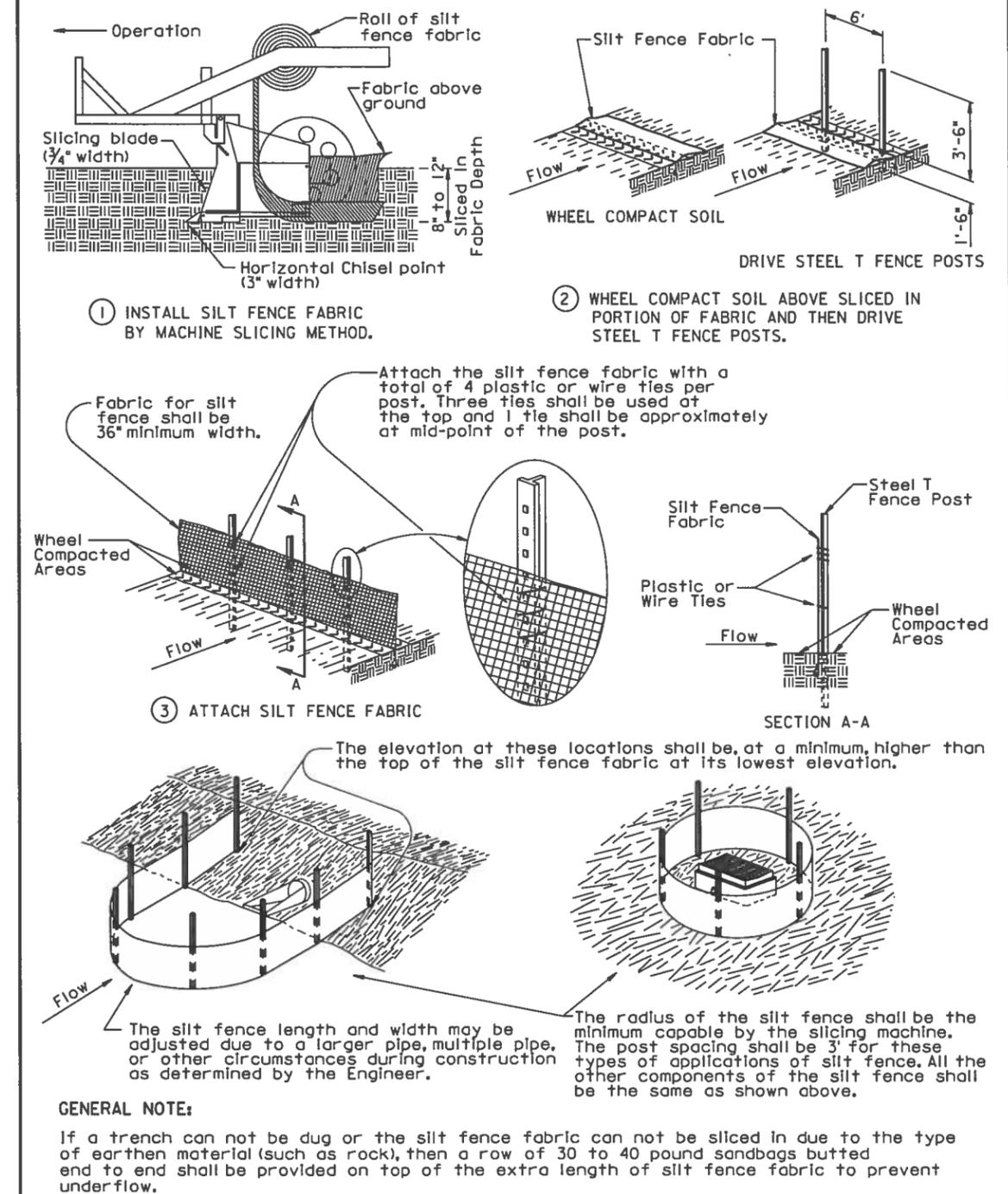
S
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HIGH FLOW SILT FENCE

PLATE NUMBER
734.05

Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



December 23, 2003

Published Date: 4th Qtr. 2015

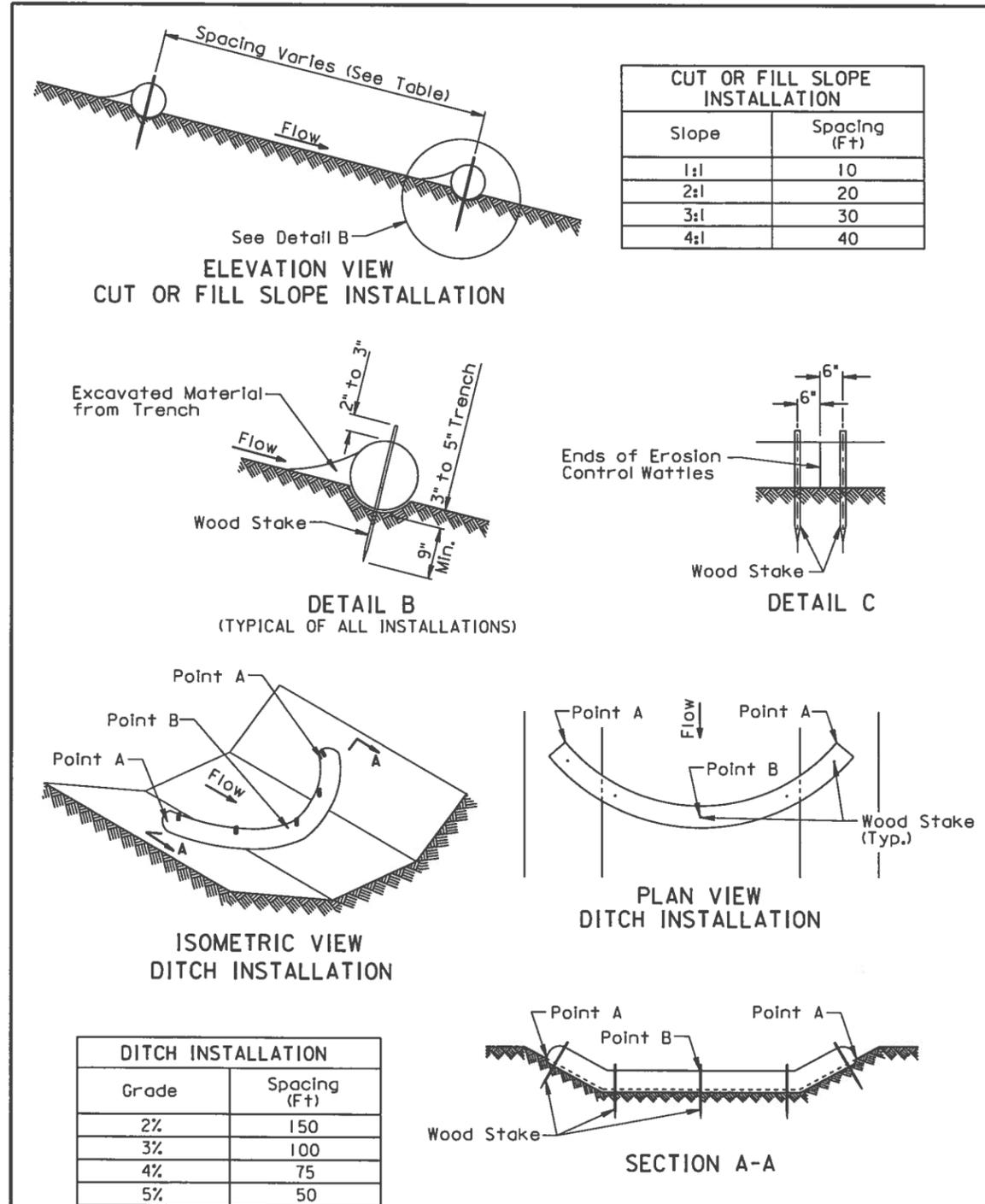
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HIGH FLOW SILT FENCE

PLATE NUMBER
734.05

Sheet 2 of 2

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	21	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Detail.dgn



December 23, 2004

Published Date: 4th Qtr. 2015	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

December 23, 2004

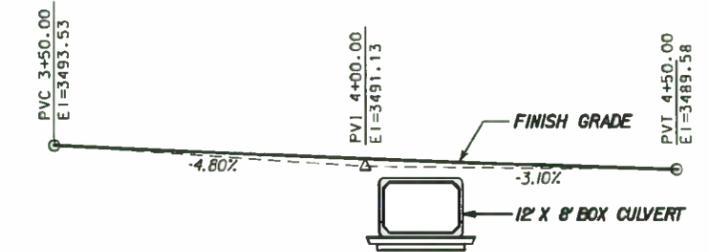
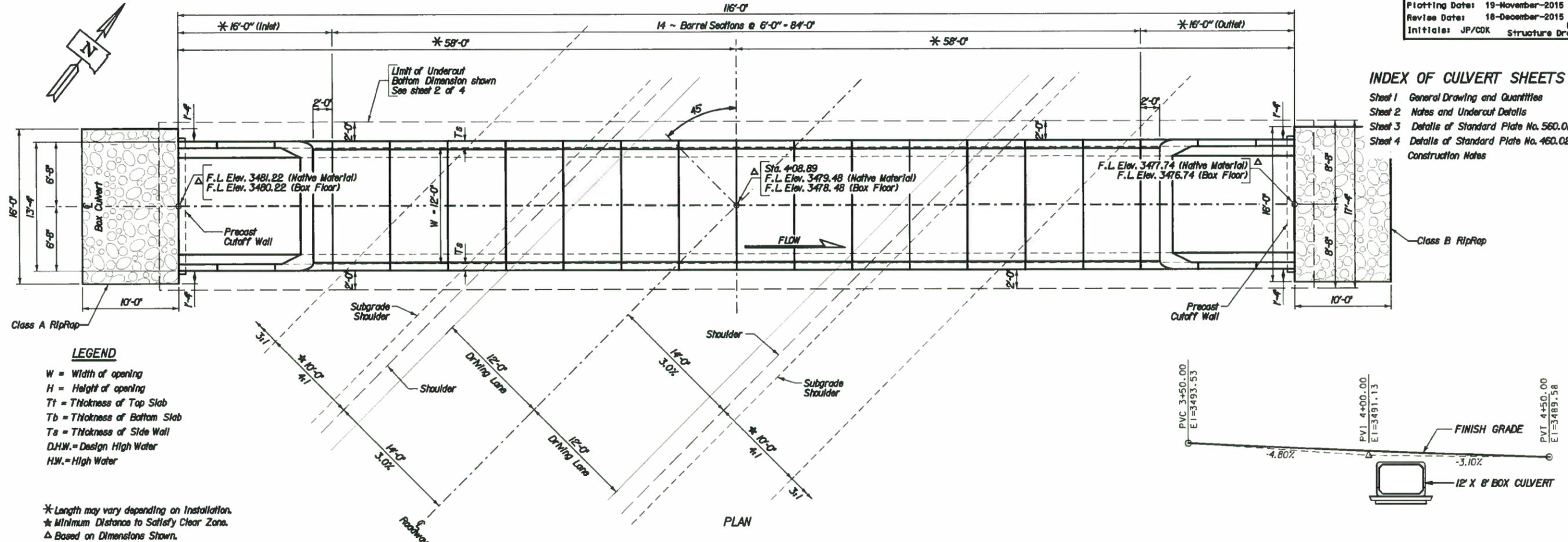
Published Date: 4th Qtr. 2015	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

FOR BIDDING PURPOSES ONLY

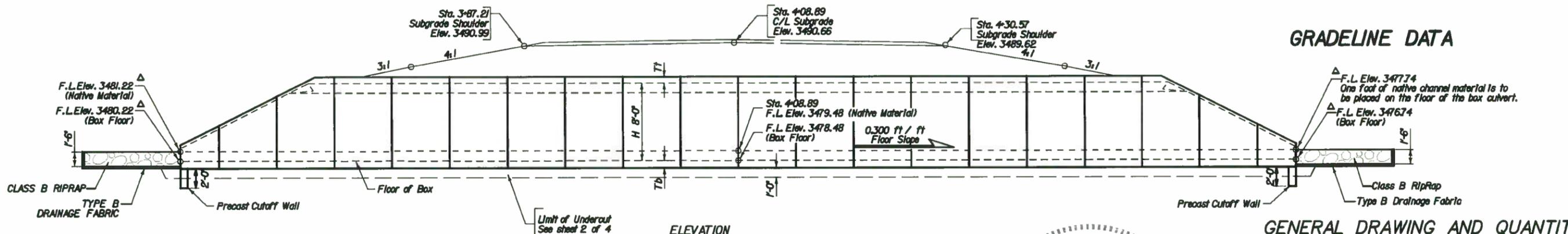
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	22	32
PCN 01DG		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revised Date: 18-December-2015			
Initials: JP/CDK Structure Drawings.dgn			

INDEX OF CULVERT SHEETS

- Sheet 1 General Drawing and Quantities
- Sheet 2 Notes and Undercut Details
- Sheet 3 Details of Standard Plate No. 560.01 & 560.10
- Sheet 4 Details of Standard Plate No. 460.02 and Construction Notes



GRADELINE DATA



GENERAL DRAWING AND QUANTITIES

FOR
12'X8' BOX CULVERT (PRECAST)

24' ROADWAY 45° SKEW
OVER FALSE BOTTOM CREEK SEC. 1-T5N-R2E
STA. 4+08.89
STR. NO. 41-113-124 PH 8041(183)
PCN 01DG HL93

LAWRENCE COUNTY
S.D. DEPT. OF TRANSPORTATION
MARCH, 2015 ① OF ④

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Structure Excavation, Box Culvert	Cu'd	90
Box Culvert Undercut	Cu'd	75
12' x 8' Precast Concrete Box Culvert, Furnish	Ft	84
12' x 8' Precast Concrete Box Culvert, Install	Ft	84
12' x 8' Precast Concrete Box Culvert End Sec, Furnish	Each	2
12' x 8' Precast Concrete Box Culvert End Sec, Install	Each	2
Class B Riprap	Ton	25
Non-woven Separator Fabric	Sq'd	55



PLANS BY: INTERSTATE ENGINEERING

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
JP	CDK	NEH	

BRIDGE ENGINEER

SPECIFICATIONS

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

GENERAL NOTES

Design shall be in accordance with Section 560 of the Specifications with the following criteria:

- Box culvert and box culvert end section design shall conform to the AASHTO LRFD Bridge Design Specifications, 2012 Edition with 2013 interims.
- Design Live Load: HL-93. No construction loading in excess of legal load is anticipated. If construction loading in excess of legal load is anticipated by the Contractor, the Contractor shall submit a proposal including a design analysis for the anticipated construction loading, through the proper channels, to the Office of Bridge Design for approval. Upon approval, the construction load shall not be applied until the depth of fill over the box culvert as required by analysis has been placed. At a minimum, 4 ft. of fill shall be placed over the box culvert prior to applying the construction load. All costs associated with accommodating any construction loads shall be borne by the Contractor.
- The box culvert shall be load rated in accordance with the AASHTO Manual for Bridge Evaluation, 2011 Edition with latest Interim Revisions using the LRFR method. The rating shall include evaluation at the Design Load rating for the HL-93 truck at both Inventory and Operating levels and at the Legal Load rating for the three SD legal trucks (Type 3, 3S2 and 3-2) as well as the notional rating load and four specialized hauling vehicles noted in the AASHTO Manual for Bridge Evaluation. All sections of the box culvert shall rate at HL-93 or better (Inventory Level). The three SD Legal Loads, the notional rating load and the four specialized hauling vehicles shall rate greater than 1.0 at legal load rating level. Submit Load Rating calculations with the Design and Check Design calculations or shop plans, as appropriate.
- The design of the barrel sections shall be based on a minimum fill height of 2 feet and include all subsequent fill heights up to and including the maximum fill height of 6 ft. over the box culvert.
- Minimum inside corner fillet shall be 6 in.
- Minimum precast barrel section length shall be 4 ft.
- Lift holes shall be plugged with an approved nonshrinkable grout.
- The Fabricator shall imprint on the structure the date of construction as specified and detailed on Standard Plate No. 460.02.
- Alternate end section details will be allowed, subject to the approval of the Bridge Construction Engineer. No additional payment will be made for any change in the barrel/end section configuration.
- Installation of the precast sections shall be in accordance with the final approved shop plans.
- Compaction of earth embankment and box culvert backfill material shall be governed by the Specified Density method.

DESIGN MIX OF CONCRETE

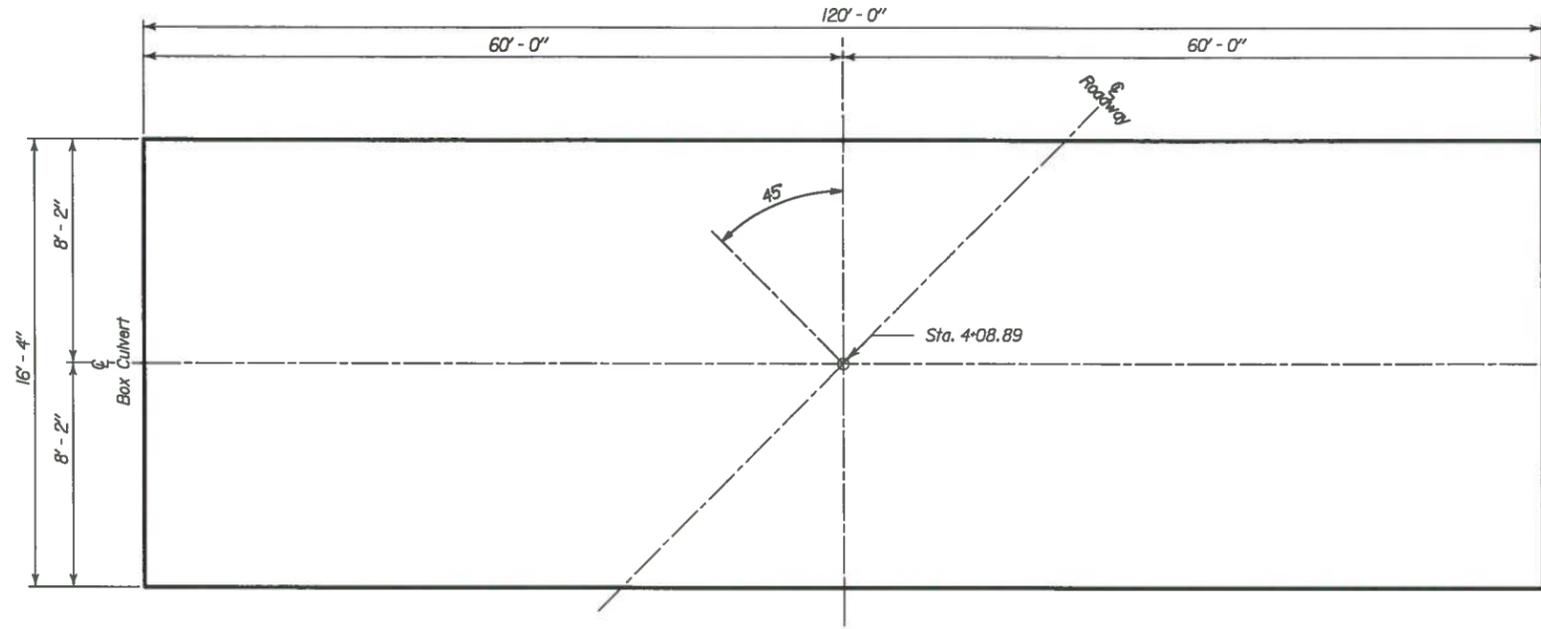
- Mix shall be as per fabricator's design, however minimum compressive strength shall not be less than 4500 p.s.i. at 28 days.
- Type II cement is required.

SHOP PLANS

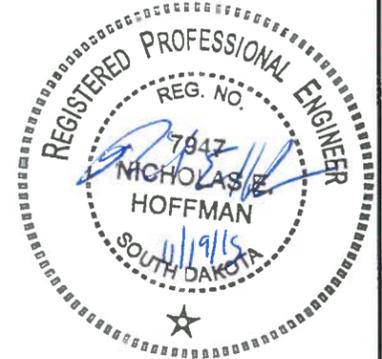
The fabricator shall submit shop plans in accordance with the specifications or in Adobe PDF format to Interstate Engineering, Inc., 123 E. Jackson Blvd, Suite 1, Spearfish, SD 57783 (nick.hoffman@interstateeng.com). After review, corrections (if necessary), and approval by Interstate Engineering, Inc., the Office of Bridge Design will review the submittals, authorize fabrication, arrange for fabrication inspection, and distribute the shop drawings.

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	23	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revision Date:			
Initials: JP/CDK			Structure Drawings.dgn

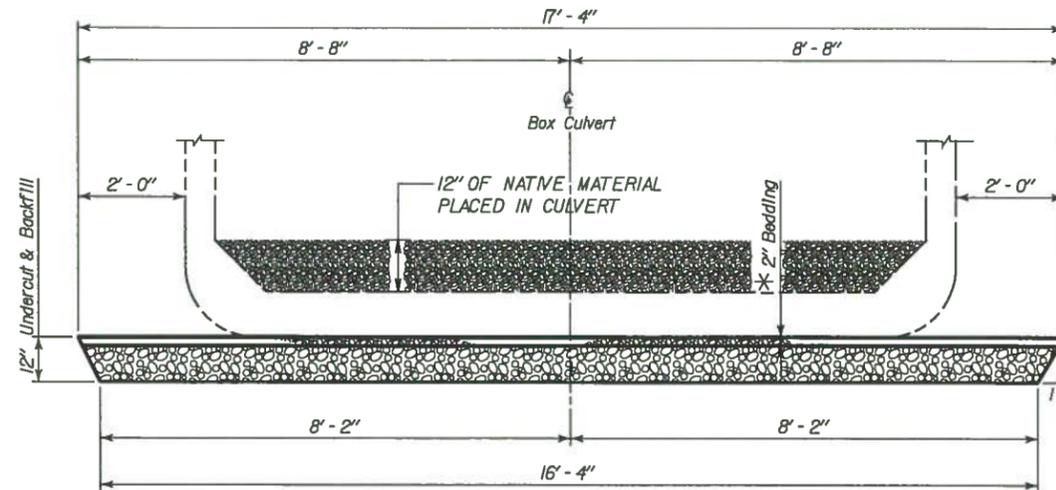


UNDERCUT LAYOUT
(bottom dimensions)



ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Box Culvert Undercut	Cu. Yd.	75

For payment, quantity is based on plan showing undercut dimensions and will not be measured unless the engineer orders a change.



TYPICAL SECTION
(For limits of undercut)

DESIGN MIX OF CONCRETE

- Mix shall be as per fabricator's design, however minimum compressive strength shall not be less than 4500 p.s.i. at 28 days.
- Type II cement is required.

NOTES AND UNDERCUT DETAILS

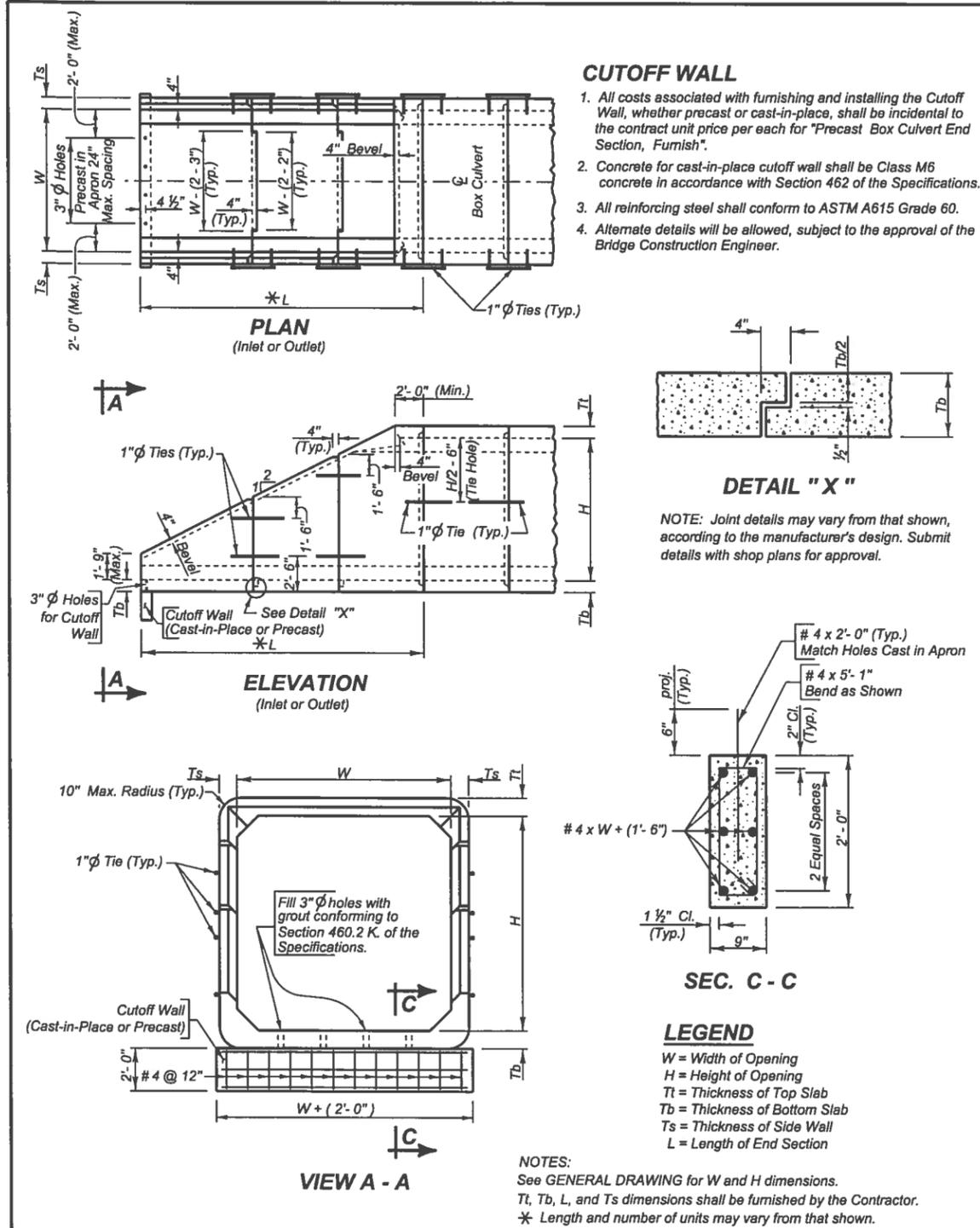
FOR
12'X8' BOX CULVERT (PRECAST)
24' ROADWAY 45° SKEW
OVER FALSE BOTTOM CREEK SEC. 1-T5N-R2E
STA. 4+08.89
STR. NO. 41-113-124 PH 8041(183)
PCN 010G HL93

LAWRENCE COUNTY
S.D. DEPT. OF TRANSPORTATION
MARCH, 2015 (2) OF (4)

PLANS BY: INTERSTATE ENGINEERING

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
JP	CDK	NEH	BRIDGE ENGINEER

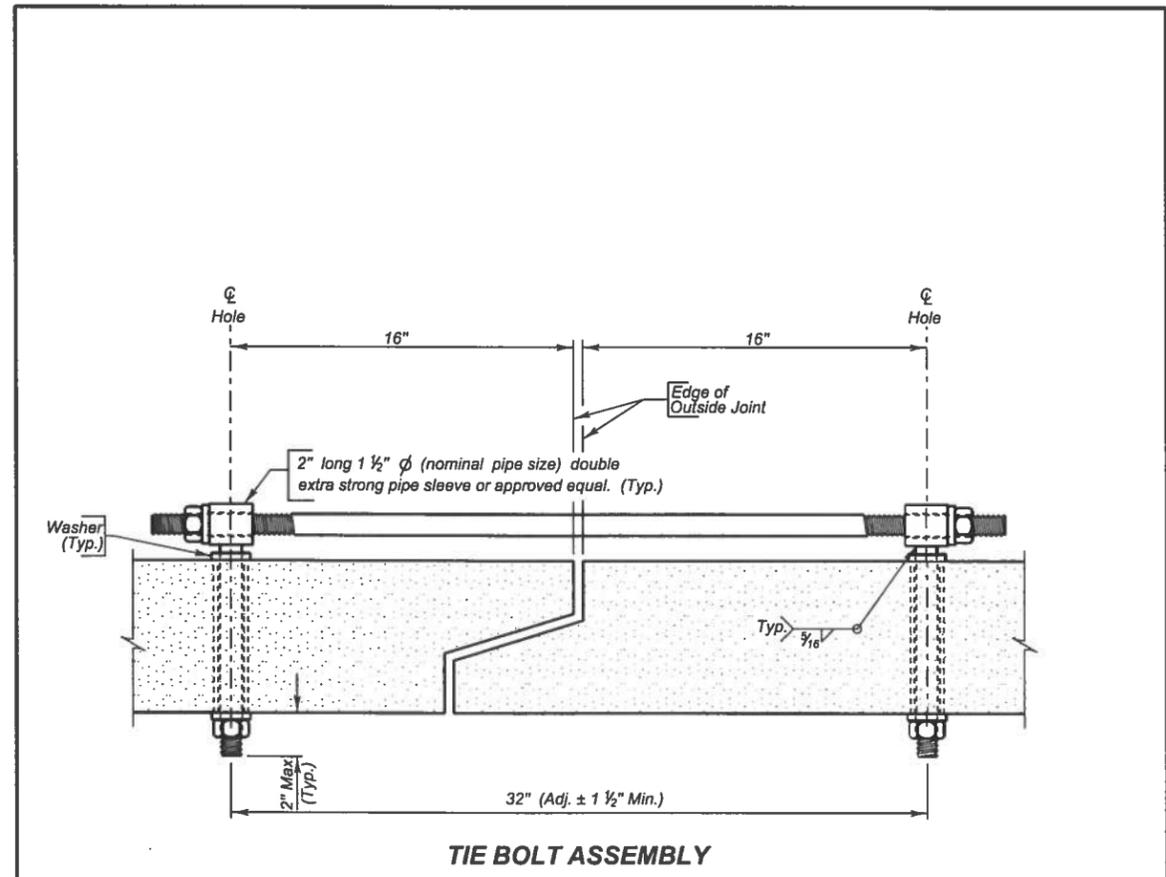
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	24	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Structure Drawings.dgn



June 26, 2015

S D D O T	PRECAST SINGLE BOX CULVERT SLOPED END SECTION DETAILS WITH 2'-0" CUTOFF WALL	PLATE NUMBER 560.10
		Sheet 1 of 1

Published Date: 4th Qtr. 2015



GENERAL NOTES:

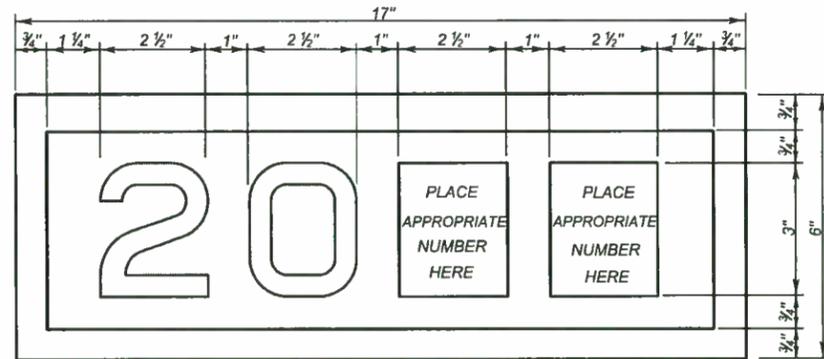
- All holes for tie bolts shall be cast-in-place, 16 inches from outside edge of joint. Cast in inserts or sleeves, if used, shall be made of a corrosion resistant material.
- Ties shall be 1 inch ϕ and conform to the requirements of ASTM A36. Nuts shall be heavy hex in conformance with ASTM A563. Washers shall conform to ASTM F436, Type 1. The welded pipe sleeve shall conform to ASTM A53, Grade B.
- Welding and weld inspection shall be in conformance with AWS/ANSI D1.1 - (Current Year) Structural Welding Code - Steel.
- Tie Bolt Assembly shall be galvanized in accordance with ASTM A153.
- Tie Bolt Assembly details may vary from that shown, but alternate tie bolt assemblies are subject to testing to demonstrate equal strength. Submit details, through proper channels, to the Office of Bridge Design for approval.
- All costs for furnishing and installing the precast box culvert tie bolt assembly shall be incidental to the contract unit price per Foot for "Precast Concrete Box Culvert, Furnish".

December 23, 2012

S D D O T	PRECAST BOX CULVERT TIE BOLT ASSEMBLY DETAILS	PLATE NUMBER 560.01
		Sheet 1 of 1

Published Date: 4th Qtr. 2015

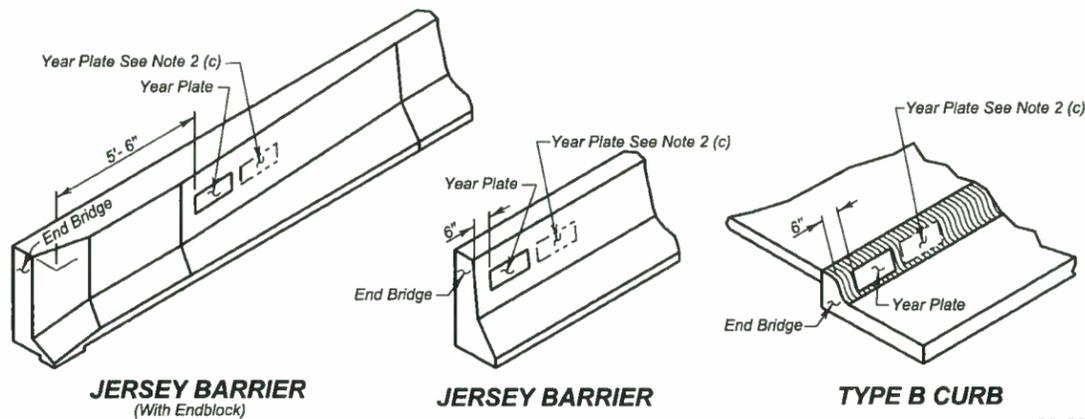
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	25	32
PCN 0106	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015		Revision Date: 18-December-2015	
Initials: JP/CDK		L12-00-123 Structure Drawings.dgn	



YEAR PLATE DETAILS

GENERAL NOTES:

- Year plates of the general dimensions shown shall be constructed on all box culverts and bridges. The year plates shall be constructed in reverse and attached to the forms in such a manner that the finished imprint in the concrete does not exceed one-half (1/2) inch in depth.
- Year plates shall be located on structure (s) as follows:
 - On cast-in-place box culverts the year plates shall be four and one-half (4 1/2) inches below the top of the upstream parapet wall and centered laterally on the upstream face. On precast box culverts the year plate shall be centered laterally on the upstream face of the top slab. Where an extended interior wall interferes with this location, the year plate shall be centered in an adjacent barrel.
 - On bridges with six (6) inch curbs or "Jersey" shaped barriers with no endblocks, the year plate shall be centered vertically on the curb face approximately six (6) inches from the end of the bridge, or as designated by the Engineer. On bridges with "Jersey" shaped barrier endblocks, the year plate shall be centered on the upper sloped portion of the barrier approximately 5'-6" from the end of the bridge, or as designated by the Engineer. There shall be one year plate at each end of the bridge on opposite sides.
 - When the plans specify that both the original date of construction and the date of reconstruction are to be shown, one date shall be placed as listed above and the other located adjacent to it. Both year plates shall be shown at each end of the bridge on opposite sides.
- There will be no separate measurement or payment made for year plates on box culverts and bridges. All costs for this work shall be incidental to other contract items.



June 26, 2012

Published Date: 4th Qtr. 2015	S D D O T	YEAR PLATE DETAILS	PLATE NUMBER 460.02
			Sheet 1 Of 1

Construction Notes:

The subsurface condition at this site consists of heavy gravel and cobbles up to boulder size. The gravels and cobbles up to boulder size consist of materials originating from the nearby upstream canyon walls and are primarily composed of limestone by rhyolite, sandstone and granite may be encountered also. The material is most likely rock ball debris from the canyon wall but some may have been transported by high flows from farther upstream, either way very little weathering of the material has occurred. Boulders of 3 feet or more may be encountered at the site.

Compaction of earth embankment and box culvert backfill materials shall be governed by the Specified Density Method.

The separator fabric placed at the base of the box culvert undercut will conform to the specification for Geotextiles and Impermeable Plastic Membrane, Non-woven Separator Fabric (Section 831 of the Specifications). The separator fabric will be on the Approved Products List for this material or will be certified by the supplier to meet this specification prior to installation.

Separator fabric placed at the base of the box culvert undercut will be paid for at the contract unit price per sq. yd. for Non-woven Separator Fabric. Payment quantities will be based on area covered plus 15%. Overlaps are accounted for by the additional 15%. Payment will be full compensation for furnishing and installing the separator fabric only. Granular backfill material will be paid for as part of the Box Culvert Undercut bid item.

The non-woven separator fabric will be placed as taut as possible with minimal wrinkles. Placement will be done so that subsequent granular cover does not shove, wrinkle, or distort the in place separator fabric. The overlaps will be singled in a manner that assures that granular material will not be forced under the separator fabric during backfilling operations. The separator fabric may be held in place with small piles of granular materials or staples.

The bottom of the trench shall be prepared by smoothing the surface to minimize any ruts, ridges, and depressions. Any rocks or other protrusions that might damage the separator fabric will be removed. The surface of the excavation will be jagged and irregular due to the cobbles and boulders that will need to be removed prior to the placement of the separator fabric. These depressions and holes shall be filled in with base course to provide a uniform elevation to place the separator fabric on. The separator fabric will be unrolled perpendicular to centerline of the roadway and overlapped a minimum of 2 feet.

Granular material will be dumped at least 20 feet behind the leading edge of the backfill and pushed onto place with a loader or dozer from the covered areas to the uncovered areas. No traffic will be allowed on the uncovered separator fabric. The granular material will be placed in horizontal layers not to exceed 6 inches loose depth or as directed by the Engineer. The granular material will be compacted by the Specified Density Method.

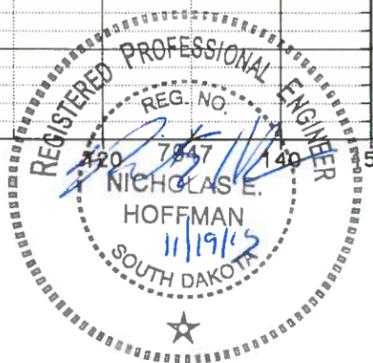
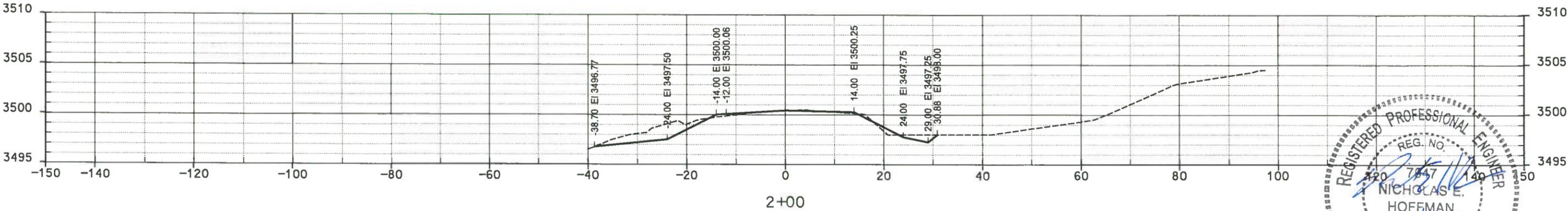
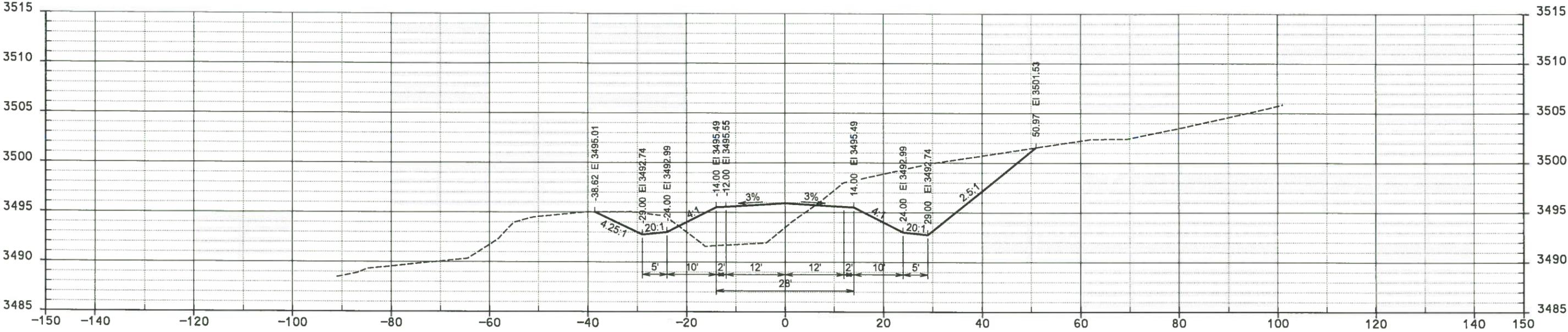
Estimated quantity for the non-woven separator fabric is 266 sq. yds. Estimated additional base course quantity required to level the bottom of the box culvert undercut prior to placing the geotextile is 36 tons. Quantity for the separator fabric is based on the anticipated box culvert undercut footprint plus an additional 15% to account for overlaps. Quantity for the additional base course is based on an average depth of 3 inches of granular material over the anticipated box culvert undercut footprint.



FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	26	32
PCN 0106		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CDK			L12-00-123 Cross Sections.dgn

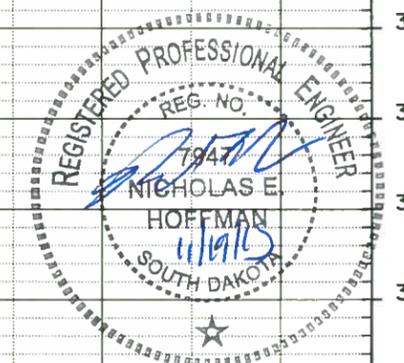
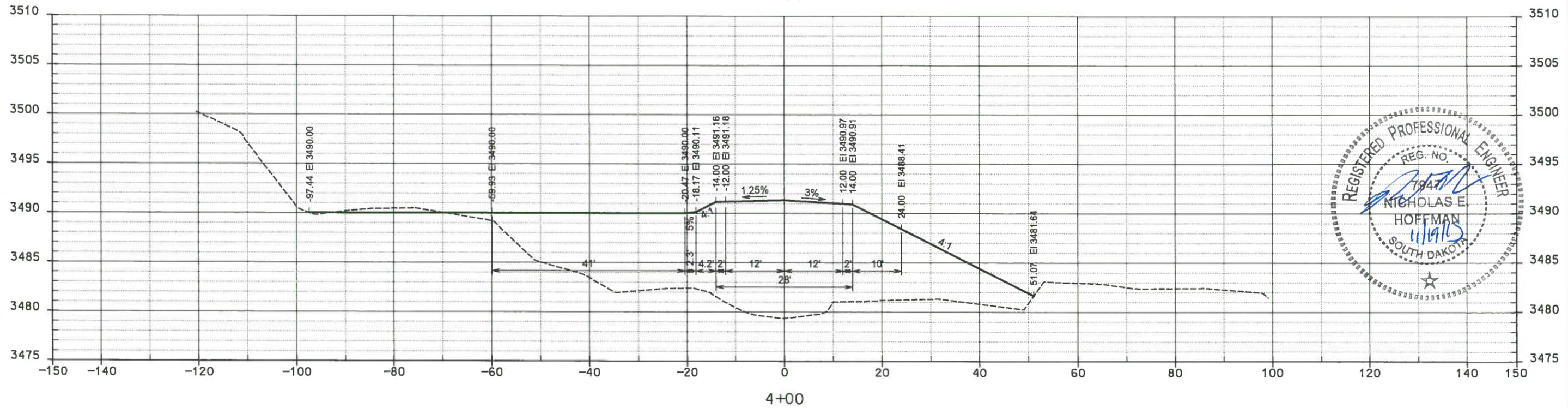
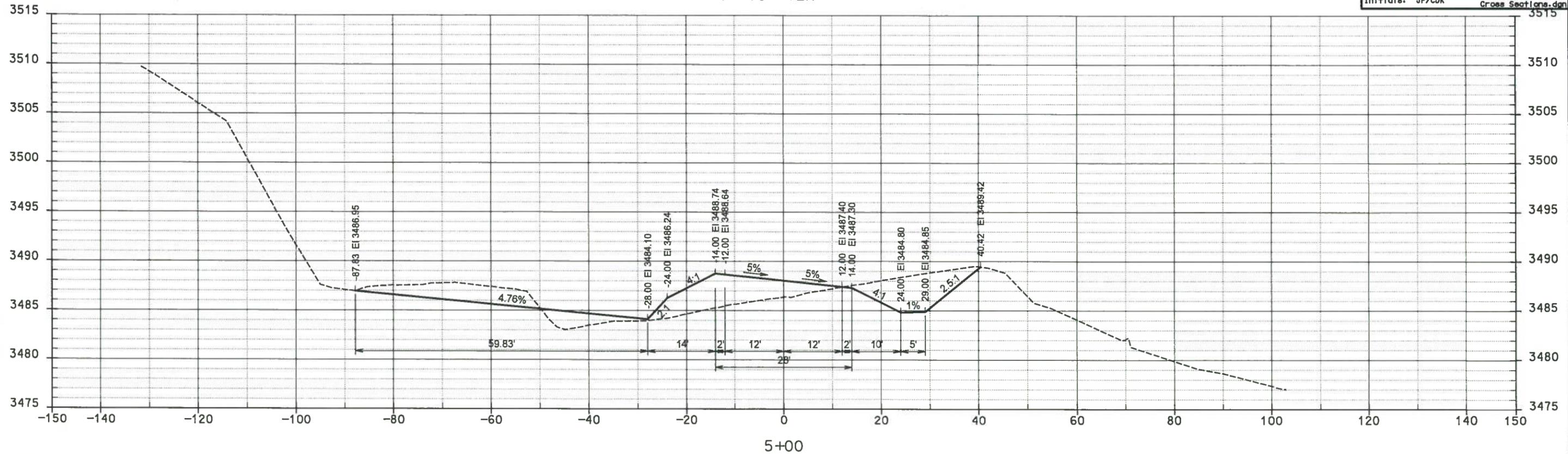
SCALE: 1"=20' HOR
1"=10' VER



FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	27	32
PCN 0106	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CDK			
L12-00-123 Cross Sections.dgn			

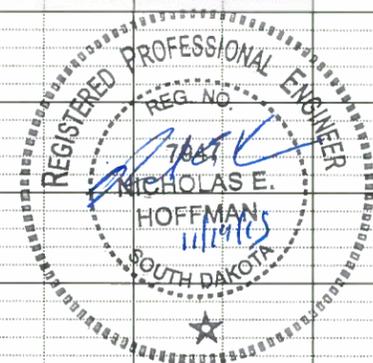
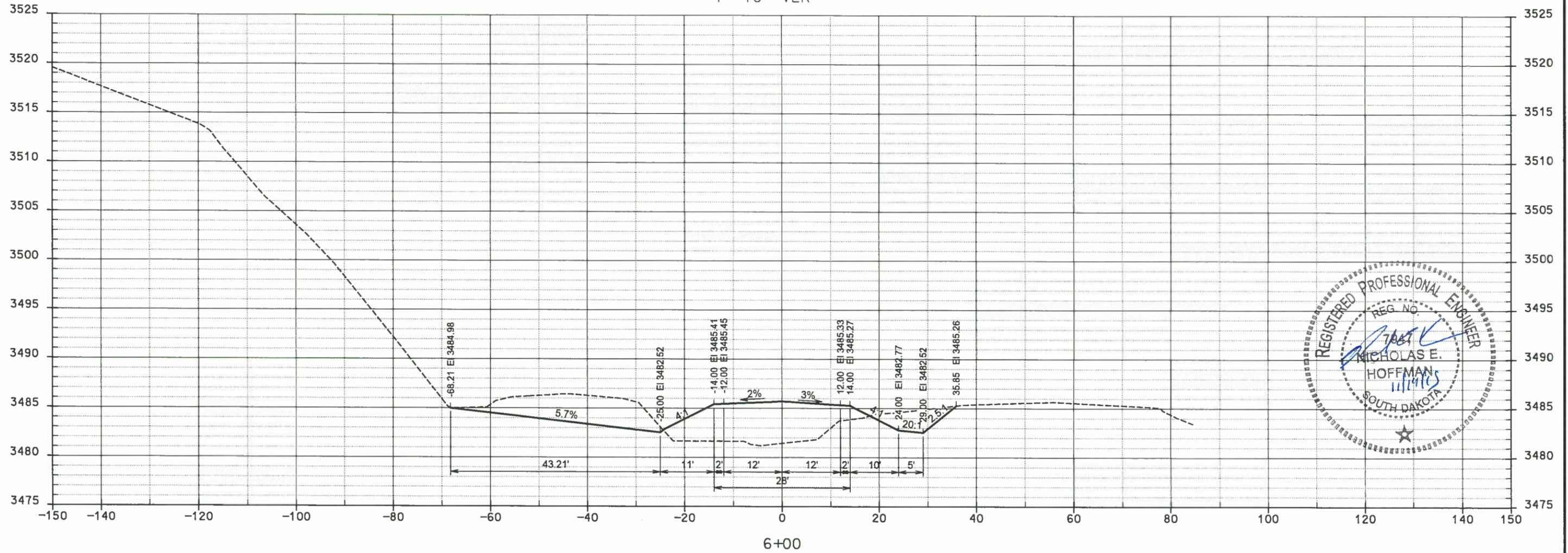
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1"=10' VER



FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	28	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Cross Sections.dgn

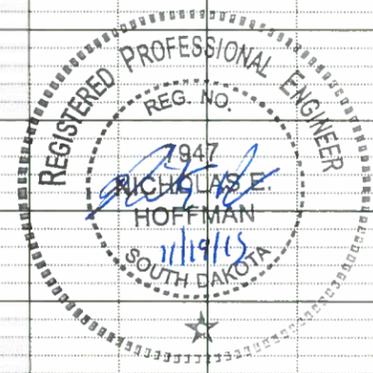
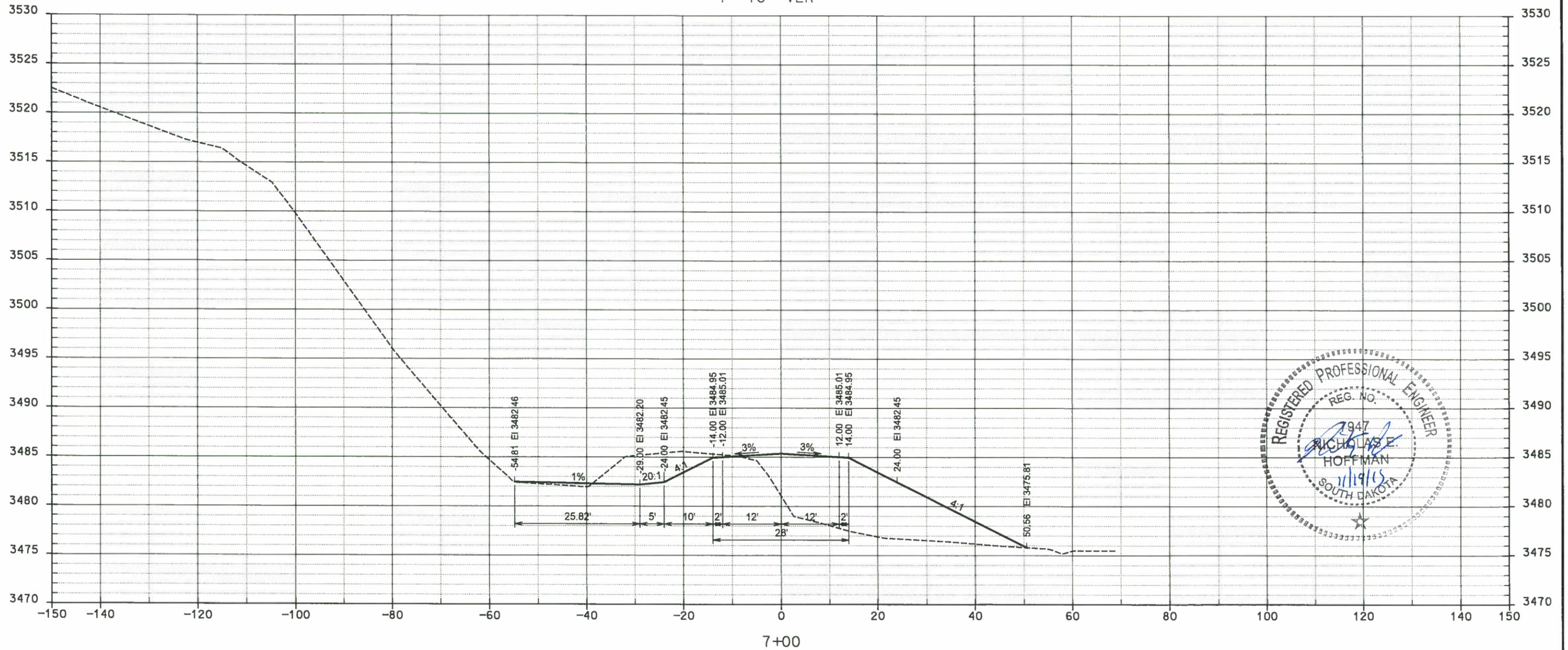
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FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	29	32
PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CDK			L12-00-123 Cross Sections.dgn

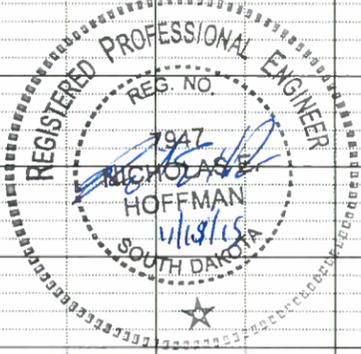
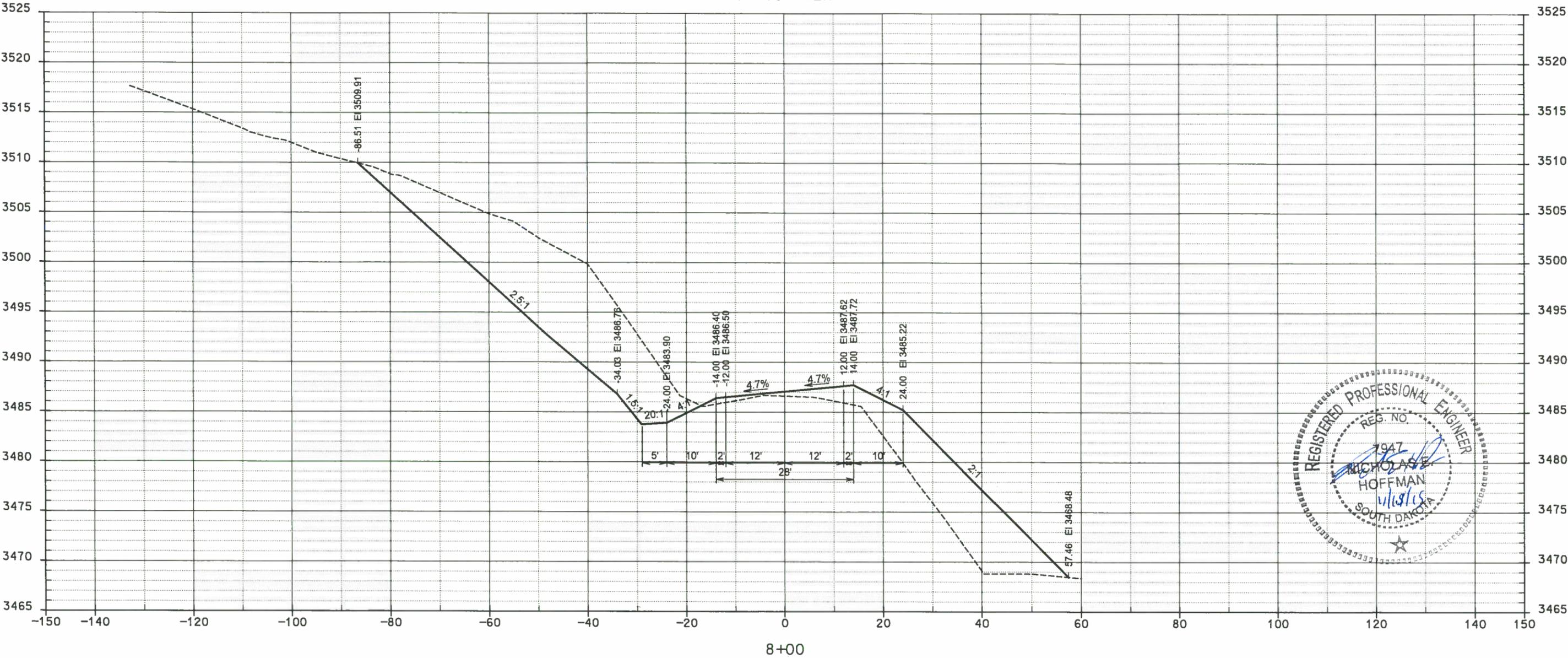
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FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
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PCN 010G	STRUCTURE NO: 41-113-124		
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			L12-00-123 Cross Sections.dgn

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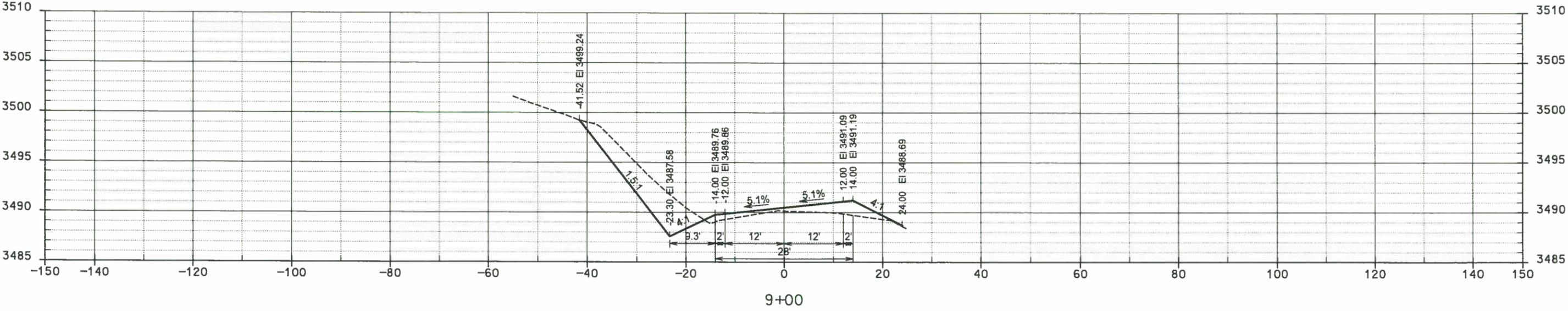


FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
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Plotting Date: 19-November-2015			
Revise Date:			
Initials: JP/CDK			
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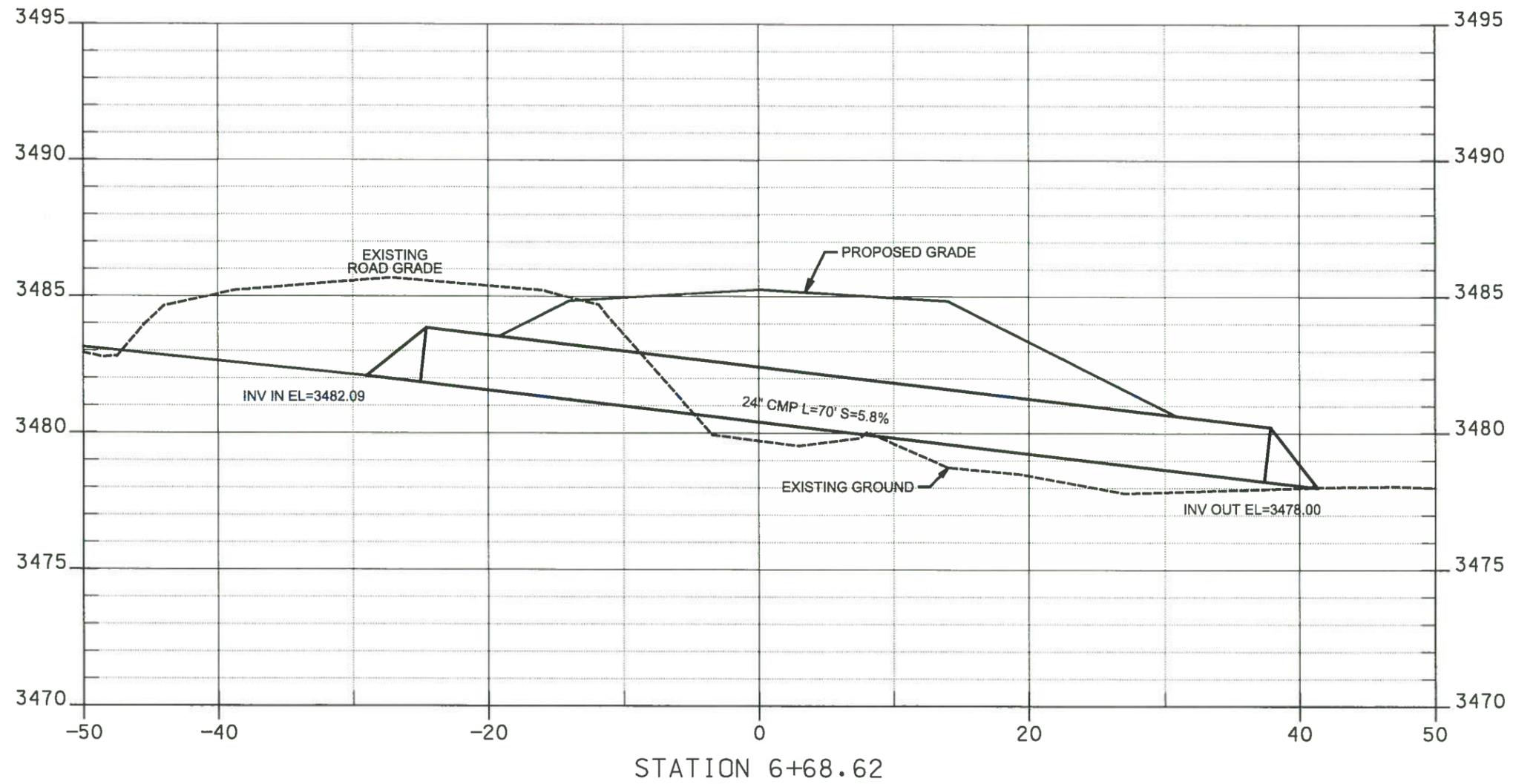


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FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	PH 8041(183)	32	32
PCN 010G		STRUCTURE NO: 41-113-124	
Plotting Date: 19-November-2015			
Revised Date:			
Initials: JP/CDK			
L12-00-123 Pipe Section.dgn			



PIPE SECTION

