Department of Transportation

Office of Project Development

700 E Broadway Avenue
Pierre, South Dakota 57501-2586 605/773-3268
FAX: 605/773-6608

January 30, 2014

ADDENDUM NO. 1

RE: Item #5, February 5, 2014 Letting - P 016A(06)39, PH 1016(28)26, PCN 00LD, H032, Custer, Pennington County - Cold Milling Asphalt Concrete, Asphalt Concrete Resurfacing, Epoxy Chip Seals, Remove Structure, Berm Repair and Drainage Improvements

TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

SPECIAL PROVISIONS: Please remove the Special Provisions checklist and replace with attached Special Provisions checklist revised 1/29/14.

Please remove the "Special Provision for Contract Time", dated 1/8/14 and replace with the "Special Provision for Contract Time", dated 1/29/14.

BID ITEM FILE: **Bid Items were added:**
Bid Item 260E1010 "Base Course"
Bid Item 734E5005 "Dewatering"

Quantities for Bid Items were changed:
Bid Item 260E1050 "Base Course, Salvage Asphalt Mix" changed from 2,199.4 to 1,854.4 ton
Bid Item 320E1200 "Asphalt Concrete Composite" changed from 66.0 to 199.9 ton
Bid Item 330E0010 "MC-70 Asphalt for Prime" changed from 1.7 to 0.4 ton.
Bid Item 330E0100 "SS-1h or CSS-1h Asphalt for Tack" changed from 55.7 to 55.2 ton
Bid Item 330E0210 "SS-1h or CSS-1h Asphalt for Flush Seal" changed from 40.4 to 40.3 ton
Bid Item 330E2000 "Sand for Flush Seal" changed from 761.1 to 761.0 ton
Bid Item 450E5326 "48" CMP Sloped End, Furnish" changed from 7 to 6 Each
Bid Item 450E5327 "48" CMP Sloped End, Install" changed from 7 to 6 Each

PCN 00LD Alternate A Quantities for Bid Items were changed:
Bid Item 320E0005 "PG 58-34 Asphalt Binder" changed from 1,185.3 to 1,180.2 ton
Bid Item 320E1202 "Class Q2R Hot Mixed Asphalt Concrete" changed from 24,190.5 to 24,079.8 ton
Bid Item 320E4000 "Hydrated Lime" changed from 236.5 to 235.5 ton

PCN 00LD Alternate B Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder” changed from 1,043.4 to 1,038.9 ton
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete” changed from 24,812.8 to 24,699.2 ton
Bid Item 320E4000 “Hydrated Lime” changed from 252.3 to 251.3 ton

PCN H032 Alternate A Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder” changed from 2.2 to 1.2 ton
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete” changed from 45.4 to 24.8 ton
Bid Item 320E4000 “Hydrated Lime” changed from 0.7 to 0.4 ton

PCN H032 Alternate B Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder” changed from 2.0 to 1.2 ton
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete” changed from 46.2 to 25.6 ton
Bid Item 320E4000 “Hydrated Lime” changed from 0.6 to 0.4 ton

PLANS: Please destroy sheets 2, 3, 7, 8, 9, 10, 12, 13, 21, 24, 30, 31, 64, and 65 and replace with the enclosed sheets, dated 1/23/14, 1/28/14 and 1/30/14.

Sheet 2: **PCN 00LD Bid Item was added:**
Bid Item 260E1010 “Base Course”

PCN 00LD Quantities for Bid Items were changed:
Bid Item 260E1050 “Base Course, Salvage Asphalt Mix”
Bid Item 320E1200 “Asphalt Concrete Composite”
Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”
Bid Item 330E0210 “SS-1h or CSS-1h Asphalt for Flush Seal”
Bid Item 330E2000 “Sand for Flush Seal”

PCN 00LD Bid Item was removed:
Bid Item 330E0010 “MC-70 Asphalt for Prime”

PCN 00LD Alternate A Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder”
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete”
Bid Item 320E4000 “Hydrated Lime”

PCN 00LD Alternate B Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder”
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete”
Bid Item 320E4000 “Hydrated Lime”

PCN H032 Bid Items were added:
Bid Item 260E1010 “Base Course”
Bid Item 320E1200 “Asphalt Concrete Composite”

PCN H032 Quantities for Bid Items were changed:
Bid Item 260E1050 “Base Course, Salvage Asphalt Mix”
Bid Item 330E0010 “MC-70 Asphalt for Prime”
Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”

Sheet 3: **PCN H032 Quantities for Bid Items were changed:**
Bid Item 450E5326 “48” CMP Sloped End, Furnish”
Bid Item 450E5327 “48” CMP Sloped End, Install”

PCN H032 Bid Items were added:
Bid Item 734E5005 “Dewatering”

PCN H032 Alternate A Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder”
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete”
Bid Item 320E4000 “Hydrated Lime”

PCN H032 Alternate B Quantities for Bid Items were changed:
Bid Item 320E0005 “PG 58-34 Asphalt Binder”
Bid Item 320E1202 “Class Q2R Hot Mixed Asphalt Concrete”
Bid Item 320E4000 “Hydrated Lime”

Sheet 7: NARROW DITCH PAVING note was revised.

Sheet 8: WATER FOR COMPACTION note was revised.

Sheet 9: SURFACING FOR BRIDGE END BACKFILL AREA and COLD MILLING ASPHALT CONCRETE notes were revised.

Sheet 10: TABLE OF MATERIAL QUANTITIES was revised.

Sheet 12: TABLE OF ADDITIONAL QUANTITIES was revised.

Sheet 13: SUMMARY OF ASPHALT CONCRETE COMPACTION was revised.

Sheet 21: PROJECT ON-SITE DETOURS note was revised.

Sheet 24: DEWATERING note was added.

Sheet 30 & 31: TABLE OF PIPE & EXCAVATION QUANTITIES was revised to remove the 48” CMP Sloped End from MRM 53.287 and totals adjusted accordingly.

Sheet 64: TYPICAL SURFACING SECTION was revised.

Sheet 65: TYPICAL SECTION at top of sheet was revised.

Sincerely,

Brace Prouty, P.E.
Engineering Supervisor

BP/cj

CC: Todd Seaman, Rapid City Region Engineer
Rich Zacher, Custer Area Engineer

REV. 1/29/14

SPECIAL PROVISIONS

PROJECT NUMBER(S): P 016A(06)39, PH 1016(28)26 PCN: 00LD, H032

TYPE OF WORK: COLD MILLING ASPHALT CONCRETE, ASPHALT CONCRETE RESURFACING (24,000 TON), EPOXY CHIP SEALS, REMOVE STRUCTURE, BERM REPAIR AND DRAINAGE IMPROVEMENTS

COUNTIES: CUSTER, PENNINGTON

The following clauses have been prepared subsequent to the Standard Specifications for Roads and Bridges and refer only to the above described improvement, for which the following Proposal is made. In case of any discrepancy or conflict between said specifications and these Special Provisions, the latter are to govern.

The Contractor's attention is directed to the need for securing from the Department of Environment & Natural Resources, Foss Building, Pierre, South Dakota, permission to remove water from public sources (lakes, rivers, streams, etc.). The Contractor should make his request as early as possible after receiving his contract, and insofar as possible at least 30 days prior to the date that the water is to be used.

Penny Kutz is the official in charge of the Rapid City Career Center for Custer, Pennington Counties.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Special Provision for Contract Time, dated 1/29/14.

Special Provision for Alternate Bidding, dated 1/10/14.

Special Provision for On-The-Job Training Program, dated 7/10/12.

Special Provision Regarding Section 404 of the Clean water Act, dated 11/27/13.

Fact Sheet #23.

Special Provision for Fire Plan, dated 10/15/91.

Special Provision for Self-Consolidating Concrete, dated 1/8/14.

Special Provision for Gyratory Controlled Quality Control/Quality Assurance Specifications for Hot Mixed Asphalt Concrete Pavement, dated 9/27/13.

Special Provision for Two Coat Epoxy Deck Chip Seal, dated 10/21/12.

Special Provision for Bridge End Backfill, dated 6/17/10.

Agreement to Sell Materials, (Custer State Park).

Special Provision for Contractor Administered Preconstruction Meeting, dated 4/18/13.
Special Provision for Electronic Bidding Requirements, dated 12/18/13.
Special Provision for Fuel Cost Adjustment, dated 7/13/06.
Special Provision for Differing Site Conditions, dated 12/19/13.
Special Provision for Suspension of Work, dated 2/13/04.
Standard Title VI Assurance, dated 7/14/08.
Special Provision For Disadvantaged Business Enterprise, dated 12/19/12.
Special Provision For EEO Affirmative Action Requirements on Federal and Federal-aid Construction Contracts, dated 9/1/97.
Special Provision For Required Contract Provisions Federal-aid Construction Contracts, Form FHWA 1273 (Rev. May/1/12), dated 4/30/13.
Required Contract Provisions Federal-aid Construction Contracts, Form FHWA 1273 (Rev. 5/1/12).
Special Provision Regarding Minimum Wage on Federal-Aid Projects, dated 4/30/13.
Wage and Hour Division US Department of Labor Washington DC.
- US Dept. of Labor Decision Number SD100010, dated 8/30/13.
Supplemental Specification for Errata, dated 3/3/10.
Supplemental Specification to Standard Specifications for Roads and Bridges, dated 3/3/10.
Special Provision for Price Schedule for Miscellaneous Items, dated 9/26/13.

Special Provision Regarding Storm Water Discharge, dated 5/3/13.
General Permit for Storm Water Discharges Associated with Construction Activities, dated 2/1/10. http://denr.sd.gov/des/sw/IPermits/ConstructionGeneralPermit2010.pdf

*** * * ***

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
CONTRACT TIME

PROJECT P 016A(06)39 & PH 1016(28)26; PCN 00LD & H032
CUSTER & PENNINGTON COUNTIES

JANUARY 29, 2014

The Contractor will complete all work on the project by the December 19, 2014 overall completion date.

US 16A Seasonal Traffic Restrictions

The Contractor will open all lanes to unimpeded traffic and the Department will not allow work on US 16A from June 27, 2014 to August 11, 2014 (inclusive).

If the Contractor begins the asphalt overlay work on the US 16A portion of the project prior to June 27, 2014, the Contractor will complete all permanent pavement marking on all disturbed portions of the US 16A portion of the project prior to June 27, 2014

The Contractor will not expose traffic to differential elevations in traveling lanes due to milling or paving operations. The Department will not allow milled surfaces, grooved surfaces, uneven lanes, unmarked lanes, or shoulder drop offs during this timeframe. The Contractor will pave all transitions for a smooth ride as approved by the Engineer.

The Department will assess liquidated damages to the Contractor in the amount of $1000.00 per calendar day for the Contractor's failure to comply with the Sturgis Motorcycle Rally restrictions. The Department will not grant time extensions for the US 16A seasonal traffic restrictions for any reason.

Traffic Detour Restrictions

The Department will allow the Contractor to place detoured traffic on the designated traffic detours as needed during working hours only or with permission of the Engineer. When the Contractor places detoured traffic on the detours at night, within the requirements and timeframes below, the Contractor will have staff on site, at all times, to control the flow of traffic through the detours. During night operations, the Contractor will supply proper lighting to ensure the safety of all staff on the project and detours.

The Department will allow the Contractor to place traffic on the designated detours from MRM 54.1 to 52.7 simultaneously only while the Contractor completes the paving work required at the MRM 53.6 portion of the roadway. The Contractor will use these detours separately under all other circumstances.

The Department will allow the Contractor to place detoured traffic on the designated detour for the removal of structure 52-312-448 for a maximum of 6 working days. During this working day period, the Department will allow the Contractor to place detoured traffic on the detour both days and nights. The Department will begin to charge working days when the Contractor diverts traffic to the detour for the completion of the required work. The Department will continue to charge working days until the Contractor completes the required work and traffic is restored to the roadway on either base course at the final base course elevation or new asphalt surfacing. The Department will charge working days in accordance with Section 8.6 A.

The Department will allow the Contractor to place detoured traffic on the designated detour for the paving notch, gutter extensions, underdrain, and asphalt replacement work required at structure 52-310-446 for a maximum of 10 working days. During this 10 working day period, the Department will allow the Contractor to place detoured traffic on the detour both days and nights. The Department will begin to charge working days when the Contractor diverts traffic to the detour for the completion of the required work. The Department will continue to charge working days until the Contractor completes the required work and traffic is restored to the roadway on new asphalt surfacing. The Department will charge working days in accordance with Section 8.6 A. The Department will allow the Contractor to place detoured traffic on the designated detour at a separate time for the completion of the epoxy chip seal work in accordance with the details of this provision regarding the epoxy chip seal work below.

The Department will allow the Contractor to place detoured traffic on the detours at night for each bridge deck that requires an epoxy chip seal. The Department will allow the Contractor to place detoured traffic on the designated detours for 2 nights for each bridge deck requiring the application of an epoxy chip seal. The Department will allow the Contractor to place detoured traffic on the designated detours from MRM 54.71 to MRM 53.6 simultaneously for the 2 night period.

The Department will allow the Contractor to place detoured traffic on the designated detour from MRM 53.6 to MRM 52.7 for a maximum of 30 working days during daylight hours only for the installation of pipe and paving operations within that section.

The Department will assess liquidated damages to the Contractor amounting to $500.00 per calendar day for the Contractor’s failure to comply with the detour traffic restrictions.

Guardrail Time Restrictions

The Contractor will follow Section 630.3 F. for all guardrail completion requirements. The Department will assess liquidated damages to the Contractor amounting to $500.00 per calendar day for the Contractor's failure to comply with the guardrail time restrictions.

The Contractor will complete all work by the overall completion date or the overall completion date as amended by formally approved time extension. If the Contractor does not complete the work by the overall completion date or the overall completion date as amended by formally approved time extension, the Department will assess liquidated damages in accordance with Section 8.7. The Department will assess liquidated damages for each working day the work (project) is late until the Contractor completes all contract work.

In the event the Contractor does not complete all contract work on time, the Department will charge working days in accordance with Section 8.6 B.

* * * * *

ESTIMATE OF QUANTITIES PROJECT P 016A(06)39, PCN 00LD

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3320	Checker	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0070	Remove Rubberized Asphalt Chip Seal	874.7	SqYd
110E0500	Remove Pipe Culvert	20	Ft
110E1010	Remove Asphalt Concrete Pavement	45.0	SqYd
110E1690	Remove Sediment	3.0	CuYd
110E5010	Salvage Delineator	192	Each
110E5020	Salvage Traffic Sign	11	Each
120E0010	Unclassified Excavation	238	CuYd
120E0100	Unclassified Excavation, Digouts	819	CuYd
120E0300	Borrow Unclassified Excavation	755	CuYd
120E3100	Bridge End Embankment	30	CuYd
120E6100	Water for Embankment	15.1	MGal
120E6200	Water for Granular Material	41.5	MGal
230E0020	Placing Contractor Furnished Topsoil	39	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
250E0030	Incidental Work, Structure	Lump Sum	LS
260E1010	Base Course	293.6	Ton
260E1050	Base Course, Salvaged Asphalt Mix	1,780.0	Ton
* 270E0020	Salvage and Stockpile Asphalt Mix Material	1,500.0	Ton
320E1200	Asphalt Concrete Composite	179.3	Ton
320E1900	Asphalt Concrete Cold Mix	5.0	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	54.8	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	40.3	Ton
330E2000	Sand for Flush Seal	761.0	Ton
332E0010	Cold Milling Asphalt Concrete	200,301	SqYd
411E0100	Bridge Painting	Lump Sum	LS
430E0300	Granular Bridge End Backfill	9.3	CuYd
430E0500	Bridge End Backfill Excavation	44.3	CuYd
450E0142	24" RCP Class 2, Furnish	48	Ft
450E0150	24" RCP, Install	48	Ft
450E2200	24" RCP Sloped End, Furnish	1	Each
450E2201	24" RCP Sloped End, Install	1	Each
450E4759	18" CMP 16 Gauge, Furnish	20	Ft
450E4760	18" CMP, Install	20	Ft
450E4769	24" CMP 16 Gauge, Furnish	16	Ft
450E4770	24" CMP, Install	16	Ft
450E5306	18" CMP Sloped End, Furnish	1	Each
450E5307	18" CMP Sloped End, Install	1	Each
460E0060	Class A45 Concrete, Self Consolidating	4.0	CuYd
460E0070	Class A45 Concrete, Bridge Repair	1.8	CuYd
460E0170	Concrete Patching Material	98.2	CuFt
460E0202	Concrete Protective Coating	5,607	SqFt
460E0380	Install Dowel in Concrete	22	Each
480E0200	Epoxy Coated Reinforcing Steel	202	Lb
491E0015	Two Coat Epoxy Bridge Deck Chip Seal	1,518.3	SqYd
491E0110	Abrasive Blasting of Bridge Deck	1,518.3	SqYd
491E0120	Bridge Deck Grinding	1,518.3	SqYd
491E0130	Concrete Removal, Class A	20.0	SqYd
491E0140	Concrete Removal, Class B	20.0	SqYd
600E0300	Type III Field Laboratory	1	Each
632E1320	2.0"x2.0" Perforated Tube Post	3,098.0	Ft
632E2510	Type 2 Object Marker Back to Back	179	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	144.2	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	14.5	SqFt
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	476	Each
633E1300	Pavement Marking Paint, White	1,122.0	Gal

ESTIMATE OF QUANTITIES PROJECT P 016A(06)39, PCN 00LD (CONTINUED)

Bid Item Number	Item	Quantity	Unit
633E1305	Pavement Marking Paint, Yellow	549.3	Gal
634E0010	Flagging	5,600	Hour
634E0020	Pilot Car	1,400	Hour
634E0100	Traffic Control	3,884	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	34.0	Mile
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each
671E0050	5' x 5' Junction Box	1	Each
671E4548	48" Manhole Cone Section	3.0	Ft
671E6007	Type A7 Manhole Frame and Lid	1	Each
680E0040	4" Underdrain Pipe	37	Ft
680E2010	Precast Concrete Headwall for Drain	1	Each
680E2500	Porous Backfill	6.2	Ton
730E1200	Hydroseeding	23,718	SqYd
731E0100	Fertilizing	7,351	Lb
732E0200	Fiber Mulching	5.1	Ton
734E0154	12" Diameter Erosion Control Wattle	280	Ft
900E0010	Refurbish Single Mailbox	7	Each
900E7020	Bridge Cleaning	Lump Sum	LS

* - Denotes Non-Participating

Alternate A

Bid Item Number	Item	Quantity	Unit
320E0005	PG 58-34 Asphalt Binder	1,180.2	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	24,079.8	Ton
320E4000	Hydrated Lime	235.5	Ton

Alternate B

Bid Item Number	Item	Quantity	Unit
320E0005	PG 58-34 Asphalt Binder	1,038.9	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	24,699.2	Ton
320E4000	Hydrated Lime	251.3	Ton

ESTIMATE OF QUANTITIES PROJECT PH 1016(28)26, PCN H032

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0500	Remove Pipe Culvert	110	Ft
110E0730	Remove Beam Guardrail	2,247.5	Ft
110E0770	Remove W Beam Guardrail Breakaway Cable Terminal	39	Each
110E1010	Remove Asphalt Concrete Pavement	86.0	SqYd
110E6220	Remove Double W Beam Guardrail for Reset	100.0	Ft
110E6230	Remove W Beam Guardrail for Reset	4,325.0	Ft
110E6300	Remove Rubrail for Reset	75.0	Ft
110E7510	Remove Pipe End Section for Reset	14	Each
120E0300	Borrow Unclassified Excavation	1,958	CuYd
120E6100	Water for Embankment	39.2	MGal
120E6200	Water for Granular Material	2.5	MGal
230E0020	Placing Contractor Furnished Topsoil	106	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	51.7	Ton
260E1050	Base Course, Salvaged Asphalt Mix	74.4	Ton
260E5000	Shot Rock	30.0	Ton
320E1200	Asphalt Concrete Composite	20.6	Ton
330E0010	MC-70 Asphalt for Prime	0.4	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	0.4	Ton
421E0100	Pipe Culvert Undercut	41	CuYd
450E0112	15" RCP Class 2, Furnish	30	Ft
450E0120	15" RCP, Install	30	Ft
450E0162	30" RCP Class 2, Furnish	10	Ft
450E0170	30" RCP, Install	10	Ft
450E0182	36" RCP Class 2, Furnish	40	Ft
450E0190	36" RCP, Install	40	Ft
450E0222	60" RCP Class 2, Furnish	58	Ft
450E0230	60" RCP, Install	58	Ft
450E2204	30" RCP Sloped End, Furnish	2	Each
450E2205	30" RCP Sloped End, Install	2	Each
450E2208	36" RCP Sloped End, Furnish	2	Each
450E2209	36" RCP Sloped End, Install	2	Each
450E2224	60" RCP Sloped End, Furnish	2	Each
450E2225	60" RCP Sloped End, Install	2	Each
450E2300	15" RCP Safety End, Furnish	7	Each
450E2303	15" RCP Safety End, Install	7	Each
450E3052	48" RCP Arch Class 2, Furnish	12	Ft
450E3060	48" RCP Arch, Install	12	Ft
450E4749	15" CMP 16 Gauge, Furnish	12	Ft
450E4750	15" CMP, Install	12	Ft
450E4759	18" CMP 16 Gauge, Furnish	22	Ft
450E4760	18" CMP, Install	22	Ft
450E4769	24" CMP 16 Gauge, Furnish	100	Ft
450E4770	24" CMP, Install	100	Ft
450E4779	30" CMP 16 Gauge, Furnish	6	Ft
450E4780	30" CMP, Install	6	Ft
450E4789	36" CMP 16 Gauge, Furnish	36	Ft
450E4790	36" CMP, Install	36	Ft
450E4809	48" CMP 16 Gauge, Furnish	16	Ft
450E4810	48" CMP, Install	16	Ft
450E5302	15" CMP Sloped End, Furnish	5	Each
450E5303	15" CMP Sloped End, Install	5	Each
450E5306	18" CMP Sloped End, Furnish	17	Each
450E5307	18" CMP Sloped End, Install	17	Each
450E5310	24" CMP Sloped End, Furnish	17	Each
450E5311	24" CMP Sloped End, Install	17	Each
450E5314	30" CMP Sloped End, Furnish	4	Each
450E5315	30" CMP Sloped End, Install	4	Each
450E5318	36" CMP Sloped End, Furnish	10	Each
450E5319	36" CMP Sloped End, Install	10	Each

ESTIMATE OF QUANTITIES PROJECT PH 1016(28)26, PCN H032 (CONTINUED)

Bid Item Number	Item	Quantity	Unit
450E5326	48" CMP Sloped End, Furnish	6	Each
450E5327	48" CMP Sloped End, Install	6	Each
450E5330	54" CMP Sloped End, Furnish	2	Each
450E5331	54" CMP Sloped End, Install	2	Each
450E5334	60" CMP Sloped End, Furnish	2	Each
450E5335	60" CMP Sloped End, Install	2	Each
450E8229	48" Smooth Tapered Sleeve, Furnish	2	Each
450E8230	48" Smooth Tapered Sleeve, Install	2	Each
* 450E8900	Cleanout Pipe Culvert	11	Each
450E9001	Reset Pipe End Section	14	Each
462E0100	Class M6 Concrete	8.3	CuYd
480E0100	Reinforcing Steel	1,061	Lb
630E1150	Straight Double Class B W Beam Guardrail with Wood Posts	75.0	Ft
630E1200	Straight Class A W Beam Rail	1,337.5	Ft
630E1210	Straight Class B W Beam Rail	225.0	Ft
630E1250	Straight Double Class A W Beam Rail	50.0	Ft
630E2015	W Beam Guardrail Flared End Terminal	42	Each
630E2110	Beam Guardrail Post and Block	758	Each
630E2300	Rubrail	175.0	Ft
630E5160	Reset W Beam Rail	4,325.0	Ft
630E5170	Reset Double W Beam Rail	100.0	Ft
630E5220	Reset Rubrail	75.0	Ft
632E2220	Guardrail Delineator	197	Each
632E2510	Type 2 Object Marker Back to Back	133	Each
633E1400	Pavement Marking Paint, 4" White	100	Ft
633E1405	Pavement Marking Paint, 4" Yellow	100	Ft
634E0010	Flagging	1,000	Hour
634E0100	Traffic Control	1,238	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
670E4122	Type L Frame and Grate Assembly	8	Each
720E1015	Bank and Channel Protection Gabion	2.0	CuYd
730E1200	Hydroseeding	4,340	SqYd
731E0100	Fertilizing	1,345	Lb
732E0200	Fiber Mulching	0.9	Ton
734E0154	12" Diameter Erosion Control Wattle	2,040	Ft
734E5005	Dewatering	Lump Sum	LS

* - Denotes Non-Participating

Alternate A

Bid Item Number	Item	Quantity	Unit
320E0005	PG 58-34 Asphalt Binder	1.2	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	24.8	Ton
320E4000	Hydrated Lime	0.4	Ton

Alternate B

Bid Item Number	Item	Quantity	Unit
320E0005	PG 58-34 Asphalt Binder	1.2	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	25.6	Ton
320E4000	Hydrated Lime	0.4	Ton

SPECIFICATIONS

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

NOTE REGARDING WORK ON NATIONAL FOREST PROPERTY

Equipment working on the Black Hills National Forest needs to be cleaned of weeds and weed-carrying dirt/debris prior to work on the Forest to mitigate spread of noxious weeds.

UTILITIES

The Contractor shall be responsible for locating and protecting any utility that would conflict with any work. Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the contractor shall contact the project engineer to determine modifications that will be necessary to avoid utility impacts.

Any damage done to a utility will be the Contractor's responsibility to repair.

Utilities within the limits of the proposed construction shall be adjusted by the owner unless otherwise indicated in these plans.

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.

U.S. Forest Service Land and State Land

The Contractor shall dispose of the brush and non-merchantable timber by chipping. All chipped material shall be used to cover disturbed areas on the project (3" maximum depth).

REMOVE AND REPLACE TOPSOIL

Prior to beginning resurfacing operations, topsoil shall be bladed into a windrow just outside the width needed for surfacing equipment. The windrow shall be placed no greater than 6" from the limits of surfacing equipment used to place materials in accordance with the typical sections.

The Contractor shall minimize the damage to existing vegetation and assure that topsoil is not lost down the slope.

Following completion of resurfacing operations, topsoil shall be bladed back up against the surfacing as indicated on the typical sections. Topsoil lost down the slope shall be replaced by the Contractor at the Contractor's expense. The exact limit shall be determined by the Engineer during construction.

Prior to beginning grading and borrow pit operations, all available topsoil shall be salvaged within the work limits. The Contractor shall minimize the damage to existing vegetation. Following completion of grading operations, topsoil shall be replaced over all disturbed areas. The exact limit shall be determined by the Engineer during construction.

Topsoil shall be salvaged and stockpiled prior to constructing the culvert extension/resets. Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil shall be spread evenly over the disturbed areas.

All costs associated with removing and replacing the topsoil on the project shall be incidental to the contract lump sum price for Remove and Replace Topsoil.

PLACING CONTRACTOR FURNISHED TOPSOIL

It is anticipated that a larger volume of topsoil will be needed for the new grade than can be salvaged from the existing grade. The Contractor will be required to furnish and place 4 inches of topsoil on roadway inslopes and areas as determined by the Engineer during construction.

All costs to furnish and place the topsoil shall be incidental to the contract unit price per cubic yard for Placing Contractor Furnished Topsoil.

Table of Placing Contractor Furnished Topsoil		
MRM	**Location**	**CuYd**
	PCN H032	
37.945	Buffalo Wallow Repair	68
50.661	Guardrail End Section	19
51.79	Guardrail End Section	19
	Total	106
	PCN 00LD	
54.16	Bridge Removal Site	39
	Total	39

NARROW DITCH PAVING

Narrow Ditch Paving shall be performed at the locations provided in the table of additional quantities.

The areas designated for narrow ditch paving shall be saw cut 10.5' (edge of milling) from centerline and the shoulder/inslope beyond this saw cut shall be excavated to accept new surfacing 3-foot wide by 8" total depth (see Table Of Additional Quantities). No separate payment will be made for saw cutting. This work will be paid at the contract unit price per CuYd for Unclassified Excavation.

Base Course shall be placed at a depth of 6" followed by 2" of Asphalt Concrete Composite.

STRUCTURE NO. 52-312-448 REMOVAL AREA, MRM 54.16

Borrow and pipe shall be placed where Structure Number 52-312-448 has been removed. The embankment shall be constructed according to the typical section and the provided cross sections.

Topsoil shall be removed and windrowed at the edge of construction limits from the area where embankment is to be built and then placed on the new embankment.

After the structure has been removed, pipes and the junction box shall be installed.

Fill material shall then be brought in from the designated borrow site to construct the embankment.

Only hand operated mechanical compaction equipment shall be allowed within 10' of the bridge columns.

Material shall be compacted evenly around the bridge columns.

After the sub-surface and surfacing materials are in place, Contractor Furnished Topsoil shall be placed on the remaining embankment.

It is estimated that an additional 39 CuYd of Contractor Furnished Topsoil will be required for the bridge removal area.

Erosion control measures shall then be placed.

Table of Bridge Removal - Hwy 16A

MRM	Side	24" RCP Class 2 Furnish	24" RCP Class 2 Install	24" RCP Sloped End Furnish	24" RCP Sloped End Install	24" CMP 16 Gauge Furnish	24" CMP 16 Gauge Install	5' x 5' Junction Box	Borrow, Unclassified Excavation
		Ft	Ft	Ft	Ft	Ft	Ft	Each	CuYd
54.16	L					12	12		
54.16	L							1	755
54.16	L					4	4		
54.16		48	48	1	1				
Total		48	48	1	1	16	16	1	755

DITCH CLEANOUT AND GRADING AT STR. NO. 52-310-446

The left-hand on-end ditch, as defined by the project MRM's, shall be cleared of fallen rock and other material adjacent to the in-place end terminal so that positive drainage is restored. The poly pipe at the bridge end shall be removed in preparation for the installation of an 18" CMP and ditch block. On the right side on-end as defined by project MRM's where guardrail will be reset, the area shall be graded according the typical section shown on the corresponding Guardrail Layout sheet. The slope shall match that of the adjacent Superelevation of the road and then break to a 4:1 slope behind the guardrail. Ditch cleanout and grading shall be paid for at the contract unit price per cubic yard for Unclassified Excavation. A quantity of 100 CuYd of Unclassified Excavation has been provided to perform this work.

CHECKING SPREAD RATES

The Contractor shall be responsible for checking the Asphalt Concrete Surfacing and Base Course spread rates and taking the weigh delivery tickets as the surfacing material arrives on the project and is placed onto the roadway.

The Contractor shall compute the required spread rates for each typical surfacing section and create a spread chart prior to the start of material delivery and placement. The Engineer will review and check the Contractor's calculations and spread charts.

The station-to-station spread shall be written on each ticket as the surfacing material is delivered to the roadway.

At the end of each day's shift, the Contractor shall verify the following:

- All tickets are present and accounted for,
- The quantity summary for each item is calculated,
- The amount of material wasted if any,
- Each day's ticket summary is marked with the corresponding 'computed by',
- The ticket summary is initialed and certified that the delivered and placed quantity is correct.

All daily tickets and the summary by item shall be given to the Engineer no later than the following morning.

If the checker is not properly and accurately performing the required duties, the Contractor shall correct the problem or replace the checker with an individual capable of performing the duties to the satisfaction of the Engineer. Failure to do so will result in suspension of the work.

The Department will perform depth checks. The Contractor shall be responsible for placement of material to the correct depth unless otherwise directed by the Engineer. If the placed material is not within a tolerance of ±¼" of the plan shown depth, the Contractor shall correct the problem at no additional cost to the Department. Excess material above the tolerance will not be paid for. Achieving the correct depth may require picking up and moving material or other action as required by the Engineer.

All costs for providing the Contractor furnished checker and performing all related duties shall be incidental to the contract lump sum price for the CHECKER. No allowances will be made to the contract lump sum price for CHECKER due to authorized quantity variations unless the quantities for the material being checked vary above or below the estimated quantities by more than 25%. Payment for the CHECKER shall then be increased or decreased by the same proportion as the placed material quantity bears to the estimated material quantity.

UNCLASSIFIED EXCAVATION

Unclassified Excavation quantities are provided for preparation of shoulder paving areas at the locations shown in the table. Adequate space shall be provided to accommodate 3 feet of paving width and 8 inches of total depth.

Unclassified Excavation quantities are provided for ditch cleanout, grading, and ditch block construction at MRM 54.71.

Unclassified Excavation material from these sites may be used as borrow subject to approval by the Engineer.

Excess Unclassified Excavation material on the project shall be handled as waste and disposed of by the Contractor.

Table of Unclassified Excavation

Location	Description	CuYd
MRM 39.323 - 39.395 R	Shoulder Paving Area	28
MRM 39.422 - 39.496 L	Shoulder Paving Area	29
MRM 39.567 - 39.632 R	Shoulder Paving Area	25
MRM 39.801 - 39.854 L	Shoulder Paving Area	21
MRM 39.903 - 39.945 L	Shoulder Paving Area	16
MRM 40.553 - 40.602 R	Shoulder Paving Area	19
MRM 54.71 Str. No. 52-310-446	Ditch Cleanout/Shaping	100
	Total	238

EXCAVATION OF UNSTABLE MATERIAL

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts per mile for necessary removal of unstable material.

Backfill of the Unclassified Excavation, Digouts shall be Base Course, Salvaged Asphalt Mix placed at a rate of 100 tons per mile. Backfill shall be paid for at the contract unit price per ton for Base Course, Salvaged Asphalt Mix.

Backfill shall be 10" Base Course Salvaged and 6" of Class Q2R Hot Mixed Asphalt Concrete

Digouts backfilled with granular backfill shall be constructed to allow water that may collect in the granular material to escape from the subgrade.

Granular material shall be daylighted at the inslope.

A copy of the surfacing/subgrade investigation for this project is available from the Custer Area and the Rapid City Region offices.

WATER FOR COMPACTION

The cost of water for compaction of the Base Course and the Base Course, Salvaged Asphalt Mix shall be incidental to the contract unit price per Mgal for Water for Granular Material. Four percent, plus or minus, moisture will be required at the time of compaction unless otherwise directed by the Engineer. Included in the Estimate of Quantities is 41.5 Mgal for PCN 00LD and 2.5 Mgal for PCN H032 for Water for Granular Material.

The cost of water for compaction of the Borrow, Unclassified Excavation shall be incidental to the contract unit price per Mgal for Water for Embankment. Four percent, plus or minus, moisture will be required at the time of compaction unless otherwise directed by the Engineer. Included in the Estimate of Quantities is 15.1 Mgal for PCN 00LD and 39.2 Mgal for PH PCN H032 for Water for Embankment.

SURFACING THICKNESS DIMENSIONS

Plan tonnage will be applied even though the thickness may vary from that shown in the plans. At those locations where material must be placed to achieve a required elevation, plans tonnages may be varied to achieve the required elevation.

RATES OF MATERIALS, SURFACING

The Estimate of Quantities is based on the following quantities of materials.

PCN 00LD - Section 1 - SD Highway 16A

Sta 0+00 to Sta 76+10
Sta 77+60 to Sta 105+46
Sta 125+35 to Sta 162+23
Sta 179+49 to Sta 870+58.2

Class Q2R Hot Mixed Asphalt Concrete		Alt A	Alt B	
Basic Quantity of Aggregate	=	1005	1040	Ton/mile
Salvaged Asphalt Concrete	=	251	260	Ton/mile
PG 58-34 Asphalt Binder	=	66	58	Ton/mile
Total Mix	=	1322	1358	Ton/mile
Hydrated Lime	=	13	14	Ton/mile
Total Mix With Hydrated Lime	=	1335	1372	Ton/mile

Laid 2.0 inches compacted depth; 21' bottom, 20' top.

PCN 00LD - Section 2 - SD Highway 16A

Sta 105+46 to Sta 125+35
Sta 162+23 to Sta 179+49

Class Q2R Hot Mixed Asphalt Concrete		Alt A	Alt B	
Basic Quantity of Aggregate	=	470	486	Ton/mile
Salvaged Asphalt Concrete	=	117	121	Ton/mile
PG 58-34 Asphalt Binder	=	31	27	Ton/mile
Total Mix	=	619	635	Ton/mile
Hydrated Lime	=	6	6	Ton/mile
Total Mix With Hydrated Lime	=	625	641	Ton/mile

Laid 2 inches compacted depth; 10' bottom, 9' top.

CLASS Q2R HOT MIXED ASPHALT CONCRETE

Mineral Aggregate for Class Q2R Hot Mixed Asphalt Concrete - Alternate A shall conform to the requirements of the Special Provision for Gyratory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement.

Mineral Aggregate for Class Q2R Hot Mixed Asphalt Concrete - Alternate B shall consist of a minimum of 80 percent crushed limestone ledgerock and shall conform to the requirements of the Special Provision for Gyratory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement except for the following:

Voids in Mineral Aggregate (VMA):

	Minimum VMA (%):
Class Q2R	13.0

All remaining requirements of the Special Provision for Class Q2 shall apply.

The asphalt concrete on the shoulders will not be compacted to a specified density. The shoulders shall be compacted using the same rolling pattern used on the adjacent mainline asphalt concrete or as directed by the Engineer.

ASPHALT CONCRETE COMPOSITE

Mineral aggregate for the Asphalt Concrete Composite shall conform to the requirements of the Standard Specifications for Class E, Type 1.

All other requirements in the Standard Specifications for Asphalt Concrete Composite shall apply.

The asphalt binder used in the mixture shall be PG 64-22, PG 64-28, PG 58-28 or PG 58-34 Asphalt Binder.

ADDITIONAL QUANTITIES

Included in the Estimate of Quantities are 100 tons of Class Q2R Hot Mixed Asphalt Concrete, 1.0 ton of Hydrated Lime, and, 4.5 tons of PG 58-34 Asphalt Binder per mile for Alt A and 100 tons of Class Q2R Hot Mixed Asphalt Concrete, 1.0 ton of Hydrated Lime, and 4.0 tons of PG 58-34 Asphalt Binder per mile for Alt B for spot leveling, strengthening, and repair of the existing surface.

Included in the estimate of quantities are 6 tons of SS-1h or CSS-1h Emulsified Asphalt for Tack for tight blading, repair and leveling areas throughout the project. (Rate = 0.05 gallons per square yard.)

SURFACING FOR BRIDGE END BACKFILL AREA

In the area not containing Granular Bridge End Backfill, backfill shall be 10" Base Course.

Asphalt Concrete Composite shall be placed at 8" of depth with individual lifts not to exceed 2” in depth.

INTERSECTING ROADS AND ENTRANCES

Intersecting roads and entrances shall be satisfactorily cleared of vegetation, shaped, and compacted prior to placement of mainline surfacing. The work will be considered incidental to the other contract items. Separate measurement and payment will not be made.

SAND FOR FLUSH SEAL

Sand for Flush Seal shall be furnished by the Contractor.

The Sand application shall be placed immediately behind the distributor.

The loose sand material left on the surface shall be lightly broomed off after a waiting period of twenty-four hours from the time of application or as otherwise ordered by the Engineer.

GUIDE SPECIFICATION FOR SAFETY EDGE CONSTRUCTION WITH HOT MIX ASPHALT PAVEMENTS

When specified in the plans an approved longitudinal paver wedge system shall be included to create a sloped safety edge along the outside edge of the asphalt concrete pavement. The wedge system shall be attached to the paver screed and shall compact the hot mixed asphalt pavement (HMA) to a density at least as dense as the compaction imparted to the rest of the HMA by the paving screed.

The system shall provide a sloped Safety Edge equal to 30° plus or minus 5° measured from the extended pavement surface cross slope. The safety edge must be constructed as an integral operation in the paving process and in accordance with the Safety Edge Typical Section sheet.

The use of a single plate strike-off method to construct the safety edge will not be allowed.

The Engineer may allow the Contractor to use handwork for short sections or to saw cut the sloped safety edge after paving operations are complete in areas such as driveways, intersections, and interchanges.

The Contractor shall submit the proposed system for approval by the Engineer at the Preconstruction Meeting. The Engineer may require proof that the system has been used on previous projects with acceptable results or may require a test section to be constructed prior to the beginning of work to demonstrate that it can create an acceptable safety wedge and compaction. Paving shall not begin until the system is approved in writing by the Engineer. The safety edge shall be constructed on each lift of HMA specified in the plans.

The safety edge device shall be attached to the paving machine as recommended by the supplier. The device shall use a spring loaded shoe that constrains the asphalt head, thus increasing the density of the extruded profile. The shoe shall be capable of applying variable pressure to ensure some compaction of the edge during the paving operation. Currently there is a least two manufactures producing equipment that can create a Safety Edge (see list below). The Engineer may permit an approved equal.

GUIDE SPECIFICATION FOR SAFETY EDGE CONSTRUCTION WITH HOT MIX ASPHALT PAVEMENTS (CONTINUED)

Transtech Systems, Inc.
1594 State Street
Schenectady, NY 12304
Phone: 1-800-724-6306 or 1-518-370-5558
www.transtechsys.com

Advant-Edge Paving Equipment LLC
1197 Hillside Avenue, Suite B47
Niskayuria, NY 12309
Phone: 1-518-280-6090
www.advantagepaving.com

Separate measurement and payment will not be made; all work associated with furnishing and constructing the safety edge shall be incidental to the Asphalt Concrete Placement Bid Item.

COLD MILLING ASPHALT CONCRETE

The Los Angeles Abrasion Loss value on the aggregate used for the in place asphalt concrete was 22 percent. These value was obtained from testing during construction of the in place asphalt concrete.

Cold milling asphalt is estimated to produce 10247.4 tons of salvaged asphalt concrete material. An estimated 4704.5 tons of salvaged asphalt concrete will be used on this project in the Class Q2R Hot Mixed Asphalt Concrete mixture. An additional 1854.4 tons of salvaged asphalt will be utilized as Base Course, Salvaged Asphalt Mix. A further 1500 tons of salvaged asphalt will be stockpiled at the site specified in these plans. The Contractor is responsible to assure enough asphalt concrete salvage is available for the Class Q2R Hot Mixed Asphalt Concrete. The remaining 2188.5 tons of the salvaged asphalt concrete material shall become the property of the Contractor.

SALVAGE AND STOCKPILE ASPHALT MIX MATERIAL

1500 tons of salvaged millings shall be hauled and stockpiled at the DOT Maintenance yard located at the US16A/US16 intersection.

The millings shall be stockpiled using a loader or other means that does not require equipment to travel on the stockpile.

All costs associated with loading, hauling, and stockpiling the salvaged millings shall be incidental to the contract unit price per ton for salvage and stockpile asphalt mix material.

Revised 1/23/2014 GDS

Table of Material Quantities

		Length		Alternate A			Alternate B											
Station	to Station	Ft	Miles	Class Q2R Hot Mixed Asphalt Concrete (Ton)	PG 58-34 Asphalt Binder (Ton)	Hydrated Lime (Ton)	Class Q2R Hot Mixed Asphalt Concrete (Ton)	PG 58-34 Asphalt Binder (Ton)	Hydrated Lime (Ton)	MC-70 Asphalt for Prime (Ton)	SS1-h CSS-1h Asphalt for Tack (Ton)	SS1-h or CSS-1h Asphalt for Flush Seal (Ton)	Sand for Flush Seal (Ton)	Unclassified Excavation Digouts (CuYd)	Base Course (Ton)	Base Course, Salvaged Asphalt Mix (Ton)	Asphalt Concrete Composite (Ton)	Cold Milling (SqYd)
Section 1																		
0+00.00	34+52.08	3452.08	0.65	867.8	42.9	8.5	891.8	37.7	9.1		1.80	1.60	30.5	33		65.0		8055
34+90.08	46+89.76	1199.68	0.23	307.1	15.2	3.0	315.6	13.3	3.2		0.60	0.60	10.8	12		23.0		2799
48+41.76	76+10.00	2768.24	0.52	694.2	34.3	6.8	713.4	30.2	7.3		1.40	1.30	24.4	26		52.0		6459
77+60.00	78+81.28	121.28	0.02	26.7	1.3	0.3	27.4	1.2	0.3		0.10	0.00	0.9	1		2.0		283
80+57.28	86+16.40	559.12	0.11	146.9	7.3	1.4	150.9	6.4	1.5		0.30	0.30	5.2	6		11.0		1305
87+74.40	97+47.52	973.12	0.18	240.3	11.9	2.3	247.0	10.4	2.5		0.50	0.40	8.4	9		18.0		2271
99+47.52	105+46.00	598.48	0.11	146.9	7.3	1.4	150.9	6.4	1.5		0.30	0.30	5.2	6		11.0		1396
125+35.00	133+57.16	822.16	0.16	213.6	10.6	2.1	219.5	9.3	2.2		0.40	0.40	7.5	8		16.0		1918
135+83.16	162+23.00	2639.84	0.50	667.5	33.0	6.5	686.0	29.0	7.0		1.40	1.20	23.5	25		50.0		6160
179+49.00	267+21.56	8772.56	1.66	2216.1	109.6	21.6	2277.5	96.3	23.2		4.60	4.10	77.9	83		166.0		20469
268+06.56	390+35.72	12229.16	2.32	3097.2	153.1	30.2	3183.0	134.6	32.5		6.40	5.80	108.8	116		232.0		28535
390+66.72	572+10.36	18143.64	3.44	4592.4	227.0	44.7	4719.7	199.5	48.2		9.40	8.60	161.3	172		344.0		42335
572+19.04	663+68.48	9149.44	1.73	2309.6	114.2	22.5	2373.6	100.3	24.2		4.70	4.30	81.1	87		173.0		21349
663+74.48	870+55.60	20681.12	3.92	5233.2	258.7	51.0	5378.2	227.4	54.9		10.80	9.80	183.8	196		392.0		48256
871+25.60	872+25.60	100.00	0.02	26.7	1.3	0.3	27.4	1.2	0.3		0.10	0.00	0.9	1		2.0		233
Section 2 (Eastbound)																		
105+46.00	125+35.00	1989.00	0.38	237.5	11.8	2.3	243.6	10.3	2.3		0.50	0.40	8.0	10		19.0		2210
162+23.00	179+49.00	1726.00	0.33	206.3	10.2	2.0	211.5	8.9	2.0		0.50	0.40	7.0	8		16.5		1918
Section 2 (Westbound)																		
105+46.00	125+35.00	1989.00	0.38	237.5	11.8	2.3	243.6	10.3	2.3		0.50	0.40	8.0	10		19.0		2210
162+23.00	179+49.00	1726.00	0.33	206.3	10.2	2.0	211.5	8.9	2.0		0.50	0.40	7.0	8		16.5		1918
Section 3 (Bridge Removal)																		
76+60.00	77+10.00	50.00	0.01												78		22.0	
Transitions																		
76+10.00	76+60.00	50.00	0.01	11.1	0.5	0.1	11.4	0.5	0.1		0.02	0.02	0.4	1		1.0		111
77+10.00	77+60.00	50.00	0.01	11.1	0.5	0.1	11.4	0.5	0.1		0.02	0.02	0.4	1		1.0		111
Additional Quantities				2383.8	107.5	24.1	2404.3	96.3	24.6		9.96				215.6	150.0	157.3	
00LD Total				24079.8	1180.2	235.5	24699.2	1038.9	251.3	0.0	54.8	40.3	761	819	293.6	1780.0	179.3	200301
H032																		
H032 Total				24.8	1.2	0.4	25.6	1.2	0.4	0.4	0.4				51.7	74.4	20.6	

Table of Additional Quantities (Continued)

		Alternate A			Alternate B							
		Class Q2R Hot Mixed Asphalt Concrete	PG-58-34 Asphalt Binder	Hydrated Lime	Class Q2R Hot Mixed Asphalt Concrete	PG-58-34 Asphalt Binder	Hydrated Lime	MC-70 Asphalt for Prime	SS1-h CSS-1h Asphalt for Tack	Base Course	Base Course, Salvaged Asphalt Mix	Asphalt Concrete Composite
00LD		(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)	(Ton)
Narrow	MRM 39.323 - 39.395 R									39.9		14.4
Ditch	MRM 39.422 - 39.496 L									41.1		14.9
Paving	MRM 39.567 - 39.632 R									36.1		13.1
3-Ft Width	MRM 39.801 - 39.854 L									29.4		10.6
	MRM 39.903 - 39.945 L									23.2		8.4
	MRM 40.553 - 40.602 R									27.2		9.9
Str, No. 52-310-446												
Berm Repair										18.7		20.0
Detours												66.0
Subtotal		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	215.6	0.0	157.3
Total		2383.8	107.5	24.1	2404.3	96.3	24.6	0.0	10.0	215.6	150.0	157.3
H032												
Guardrail	**Str. No .52-311-444**											
Installation St	**MRM 54.97**	24.8	1.2	0.4	25.6	1.2	0.4	0.4	0.4		74.4	
Pipe	**MRM**											
Replacement	40.32									19.7		8.1
Locations	44.6									19.7		8.1
	53.287 SBL									12.3		4.4
Total		24.8	1.2	0.4	25.6	1.2	0.4	0.4	0.4	51.7	74.4	20.6

Summary of Asphalt Concrete Compaction

Location			Alt. A Class Q2R Hot Mixed Asphalt Concrete with Specified Compaction	Alt. A Class Q2R Hot Mixed Asphalt Concrete without Specified Compaction	Alt. B Class Q2R Hot Mixed Asphalt Concrete with Specified Compaction	Alt. B Class Q2R Hot Mixed Asphalt Concrete without Specified Compaction
Sta	to	Sta	(ton)	(ton)	(ton)	(ton)
Section 1						
0+00.00		34+52.08	867.8		891.8	
34+90.08		46+89.76	307.1		315.6	
48+41.76		76+10.00	694.2		713.4	
77+60.00		78+81.28	26.7		27.4	
80+57.28		86+16.40	146.9		150.9	
87+74.40		97+47.52	240.3		247.0	
99+47.52		105+46.00	146.9		150.9	
125+35.00		133+57.16	213.6		219.5	
135+83.16		162+23.00	667.5		686.0	
179+49.00		267+21.56	2216.1		2277.5	
268+06.56		390+35.72	3097.2		3183.0	
390+66.72		572+10.36	4592.4		4719.7	
572+19.04		663+68.48	2309.6		2373.6	
663+74.48		870+55.60	5233.2		5378.2	
871+25.60		872+25.60	26.7		27.4	
Section 2 (Eastbound)						
105+46.00		125+35.00	237.5		243.6	
162+23.00		179+49.00	206.3		211.5	
Section 2 (Westbound)						
105+46.00		125+35.00	237.5		243.6	
162+23.00		179+49.00	206.3		211.5	
Transitions						
76+10.00		76+60.00	11.1		11.4	
77+10.00		77+60.00	11.1		11.4	
Additional Quantities				2383.8		2404.3
		Total	**21696**	**2383.8**	**22294.9**	**2404.3**

TEMPORARY PAVEMENT MARKING

The Contractor shall place temporary pavement marking. Temporary pavement marking paint shall be used on the milled surface. Temporary road markers shall be used on the finished asphalt surface. Temporary pavement markings for the centerline of the roadway throughout the full length of the project shall meet the requirements of Section 634 of the Standard Specifications. Due to the severe curvature of the road a cycle length of 20 feet shall be used. Covers on tabs shall be removed prior to opening roadway to normal traffic flow.

The Contractor shall use protective marker covers to be removed after the application of the flush seal.

The Contractor shall be responsible for maintaining a visible and reflective centerline throughout the project. Any marking covered or damaged shall be replaced prior to the end of the day. All costs associated with this work shall be incidental to the contract unit price per mile for “Temporary Pavement Marking”.

In addition, No Passing Zone areas shall be marked by signs as noted below.

The Contractor shall use DO NOT PASS and PASS WITH CARE signs to mark no passing zones.

Flagger symbol signs (W20-7a) and flaggers, or a shadow vehicle equipped with high-intensity rotating, flashing, oscillating or strobe lights shall be positioned on the roadway shoulder in advance of the workers for the installation of temporary road markers. The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a worker symbol sign (W21-1a) or a BE PREPARED TO STOP (W3-4) sign shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.

All costs for temporary pavement marking including furnishing, applying, uncovering, maintenance and removal of tabs shall be incidental to the contract unit price per mile for Temporary Pavement Marking

PROJECT ON-SITE DETOURS

There will be three on-site detours that can be utilized during construction to keep traffic away from the construction operations. It is anticipated that asphalt work will be necessary to repair the detours before they are open to traffic. Five tons of Asphalt Concrete Cold Mix and 66.0 tons of Asphalt Concrete Composite are included in the contract quantities to complete this work. All costs for materials, equipment, labor, and any other costs for completing the repairs shall incidental to the contract unit price per ton for Asphalt Concrete Composite and Asphalt Concrete Cold Mix.

The detours are not wide enough to allow two-way traffic. The Contractor will be required to flag traffic through the detours while they are in use. The use of a pilot car by the Contractor is acceptable.

Please refer to the special provision for contract time for additional project on-site detour requirements.

SIGN INVENTORY

PCN 00LD

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	36" x 18"	ROAD WORK NEXT ## MILES	2	24	48
G20-2	36" x 18"	END ROAD WORK	12	17	204
M4-10	48" x 18"	DETOUR ARROW (LEFT OR RIGHT)	12	22	264
R1-1	30" x 30"	STOP	6	21	126
R11-2	48" x 30"	ROAD CLOSED	6	27	162
R11-3	60" x 30"	ROAD CLOSED ## MILES AHEAD LOCAL TRAFFIC ONLY	6	30	180
W3-4	48" x 48"	BE PREPARED TO STOP	6	34	204
W8-1	48" x 48"	BUMP	2	34	68
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	12	34	408
W20-2	48" x 48"	DETOUR #### FT. OR AHEAD	6	34	204
W20-3	48" x 48"	ROAD CLOSED #### FT. OR AHEAD	12	34	408
W20-4	48" x 48"	ONE LANE ROAD #### FT. OR AHEAD	6	34	204
W20-7a	48" x 48"	FLAGGER	6	34	204
*****		TYPE III BARRICADE - 8 FT. SINGLE SIDED	30	40	1200
				TOTAL UNITS	**3884**

PCN H032

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-1	36" x 18"	ROAD WORK NEXT ## MILES	2	24	48
G20-2	36" x 18"	END ROAD WORK	14	17	238
W3-4	48" x 48"	BE PREPARED TO STOP	6	34	204
W8-1	48" x 48"	BUMP	2	34	68
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	14	34	476
W20-7a	48" x 48"	FLAGGER	6	34	204
				TOTAL UNITS	**1238**

PRESS RELEASE ANNOUNCEMENTS

The DOT will prepare a Press Release to be released 48 hours prior to any phase change or any other major change that affects traffic flow. The DOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor shall provide the Engineer with pertinent information 4 days prior to any major change that affects traffic flow.

TABLE OF BANK AND CHANNEL PROTECTION GABIONS – PCN H032

MRM	L/R	Size Gabion	Quantity (CuYd)
48.4 (Iron Creek)	R	F	2.0
	Total:		2.0

TABLE OF EROSION CONTROL WATTLE - PCN H032 (CONTINUED)

47.82	R	12	Pipe	18
52.02	L	12	Pipe	18
52.313 NBL	L/R	12	Pipe	36
52.223 SBL	L	12	Pipe	18
52.376 SBL	R	12	Pipe	18
53.192 NBL	L/R	12	Pipe	36
53.291 NBL	L/R	12	Pipe	36
53.370 NBL	R	12	Pipe	18
53.390 NBL	R	12	Pipe	18
53.173 SBL	R	12	Pipe	30
53.287 SBL	L/R	12	Pipe	60
53.377 SBL	L	12	Pipe	18
53.422 SBL	L	12	Pipe	36
53.506 SBL	L	12	Pipe	18
53.516	L/R	12	Pipe	36
54.399	R	12	Pipe	18
54.520	R	12	Pipe	18
54.645	R	12	Pipe	18
54.905	R	12	Pipe	18
55.275	R	12	Pipe	30
55.359	L	12	Pipe	18
			Total:	2040

TABLE OF EROSION CONTROL WATTLE PCN 00LD

MRM	L/R	Diameter (Inch)	Location	Quantity (Ft)
41.76	L	12	Ditch Bottom	60
54.16	R	12	Inslope/Ditch Bottom	120
54.71	L/R	12	Inslope/Ditch Bottom	100
			Total:	280

DEWATERING

This bid item is furnished to provide a dry work area for any pipe installation on the project. All costs associated with removing water for installation of pipe shall be incidental to the contract unit price per lump sum for Dewatering.

TABLE OF PIPE & EXCAVATION QUANTITIES PH 1016(28)26

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(06)39 & PH 1016(28)26	30	154

Revised 1/30/2014 GDS

MRM	Offset (L/R)	Reinforced Concrete Circular 15" Cl. 2 Ft	Circular 30" Cl. 2 Ft	Circular 36" Cl. 2 Ft	Circular 60" Cl. 2 Ft		Arch 48" Cl. 2 Ft		Circular Safety End 15" Each	Circular Sloped End 30" Each	Circular Sloped End 36" Each	Circular Sloped End 60" Each	Corrugated Metal Circular 15" 16 Ga Ft	Circular 18" 16 Ga Ft	Circular 24" 16 Ga Ft	Circular 30" 16 Ga Ft	Circular 36" 16 Ga Ft	Circular 48" 16 Ga 3x1 Ft	Smooth Tapered Sleeve 48" Each	Circular Sloped End 15" Each	Circular Sloped End 18" Each	Circular Sloped End 24" Each	Circular Sloped End 30" Each	Circular Sloped End 36" Each	Circular Sloped End 48" Each	Circular Sloped End 54" Each	Circular Sloped End 60" Each	Remove Pipe End Section for Reset Each		Reset Pipe End Section Each		Remove Pipe Ft		Cleanout Pipe Culvert Each			Type 2 Object Marker Each		Borrow, Unclassified Excavation CuYd	
42.92 R																		8	1						1													1		128	
43.2 L																								1																12	
43.2 R																	6							1														1		24	
43.72 L																								1														1		12	
43.72 R																	6							1														1		72	
44.61				58							2																					58						2		72	
44.77																																		1				2			
44.85 L																				1																		1		6	
44.85 R																				1																		1		12	
45.86 L																										1												1		24	
45.86 R																										1												1		48	
46.15 L																											1											1		12	
46.15 R																											1											1		24	
46.34 L																					1													1				1		6	
46.34 R																					1																	1		12	
47.34 R																						1																2		6	
47.82 L																					1													1				1		6	
47.82 R																					1																	1		12	
47.98 L																				1														1				2		6	
49.446 L																					1																	2		6	
49.805 L																					1																	2		6	
50.512 L																						1																2		6	
51.909 R																																						1			
52.020 L																						1												1				2		6	
52.313 L NBL																						1																1		6	
52.313 R NBL																						1																1		6	
52.378 L NBL																					1																	2		6	
52.223 R SBL																						1																2		12	
52.376 R SBL																					1																	2		12	
52.421 L																					1													1				2		6	
53.192 L NBL																								1														1		12	
53.192 R NBL																								1														1		12	
53.291 L NBL																						1																1		12	
53.291 R NBL																						1																1		12	
53.370 R NBL																						1																2		12	
53.390 R NBL																						1																2		12	
53.173 R SBL																							1															2		12	
53.287 SBL			40							2																						22						2		72	
53.377 L SBL																					1																	2		24	
53.422 L SBL																						1																2		24	
53.442 L SBL																							1															2		24	
53.506 L SBL																					1																	2		12	
53.516 L																																		1						12	
53.516 R																						1																1		24	
54.399 R								1																										1				2		12	
54.520 R								1																										1				2		12	
Subtotal:		0	0	40	58		0		2	0	2	2	0	0	0	0	12	8	1	3	11	12	2	6	1	2	2	0		0		80		9			66		866	

TABLE OF PIPE & EXCAVATION QUANTITIES PH 1016(28)26

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 016A(06)39 & PH 1016(28)26	31	154

Revised 1/30/2014 GDS

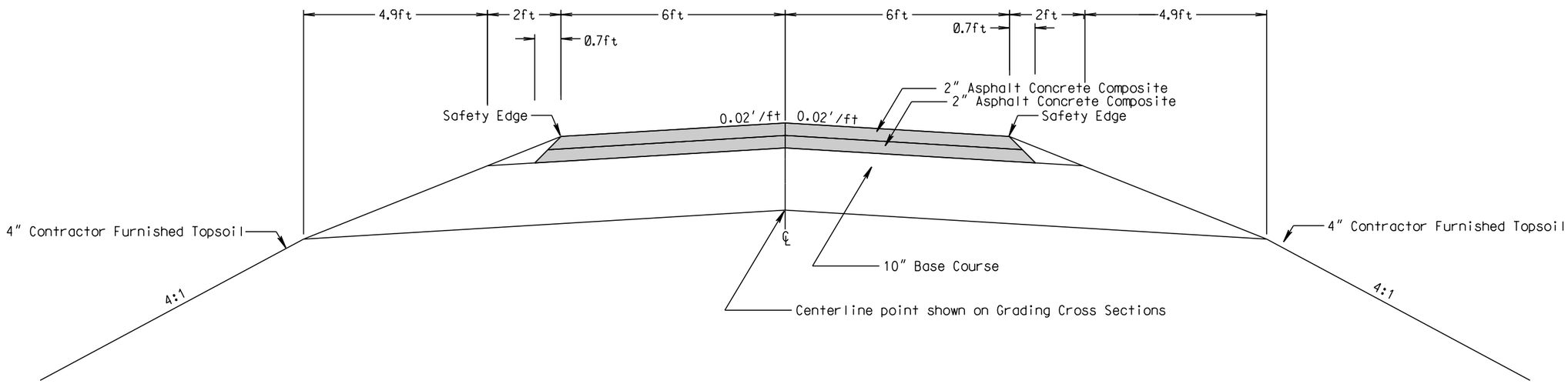
		Reinforced Concrete										Corrugated Metal																												
		Circular					Arch		Circular Safety End	Circular Sloped End			Circular						Smooth Tapered Sleeve	Circular Sloped End								Remove Pipe End Section for Reset		Reset Pipe End Section		Remove Pipe		Cleanout Pipe Culvert			Type 2 Object Marker		Borrow, Unclassified Excavation	
		15" Cl. 2	30" Cl. 2	36" Cl. 2	60" Cl. 2		48" Cl. 2		15"	30"	36"	60"	15" 16 Ga	18" 16 Ga	24" 16 Ga	30" 16 Ga	36" 16 Ga	48" 16 Ga 3x1	48"	15"	18"	24"	30"	36"	48"	54"	60"														
MRM	Offset (L/R)	Ft	Ft	Ft	Ft		Ft		Each	Each	Each	Each	Ft	Ft	Ft	Ft	Ft	Ft	Each	Each	Each	Each	Each	Each	Each	Each	Each	Each		Each		Ft		Each			Each		CuYd	
54.645 R									1																									1			1		12	
54.905 R																																					1		12	
55.275 R																								1													1		24	
55.359 L																																					1		12	
Subtotal:		0	0	0	0		0		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0		0		0		1			4		60	
Total:		30	10	40	58		12		7	2	2	2	12	22	100	6	36	16	2	5	17	17	4	10	6	2	2	14		14		110		11			133		1732	

TYPICAL SURFACING SECTION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P016A(06)39 & PH 1016(28)26	64	154

Plotting Date: 01/23/2014
Revised 1/23/2014 GDS

Section 3
Bridge Replacement Section
Sta. 76+60 to Sta. 77+10



Plot Scale - 1:3.125
Plotted From - trrc12608
File - ...\regionRC\prj\Cust00\LD\Typ2.dgn

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P 016A(06)39 & PH 1016(28)26	65	154

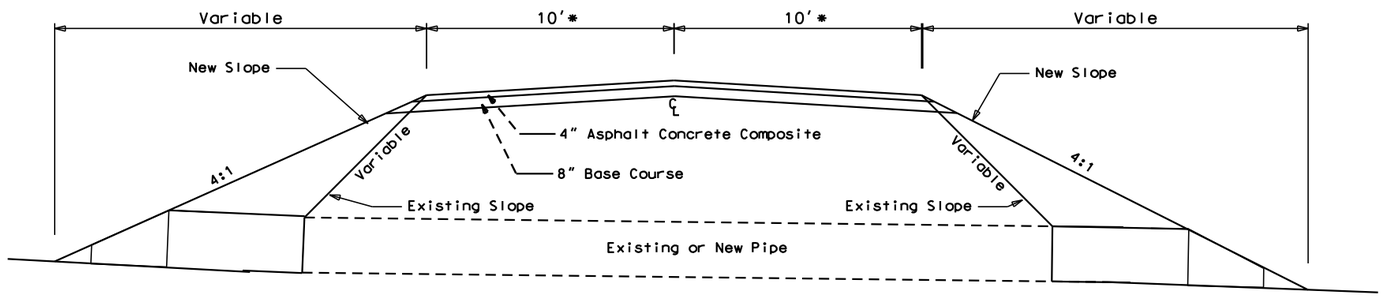
Plotting Date: 01/30/2014
Revised 1/30/2014 GDS

TYPICAL SECTIONS

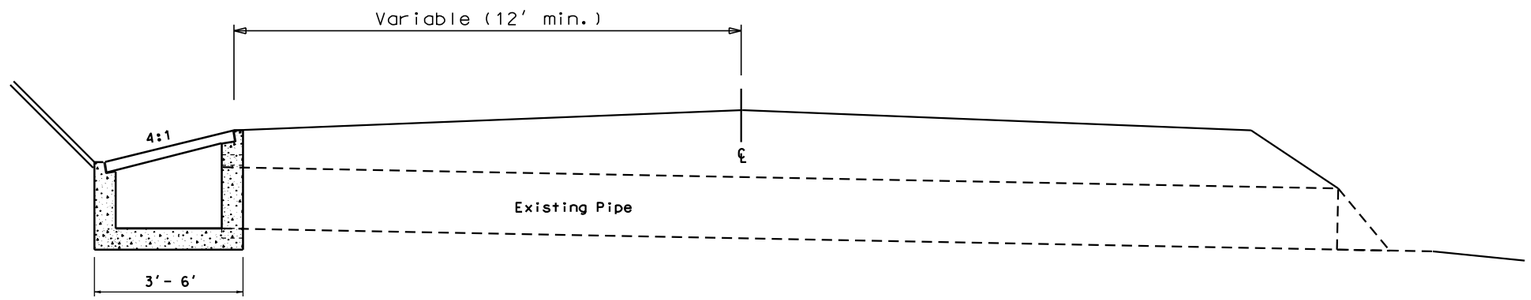
Pipe Extension or Replacement & Fill

* MRM 53.287 = 6'

Replace Pipe - MRM 40.32, MRM 44.6 & MRM 53.287 SBL

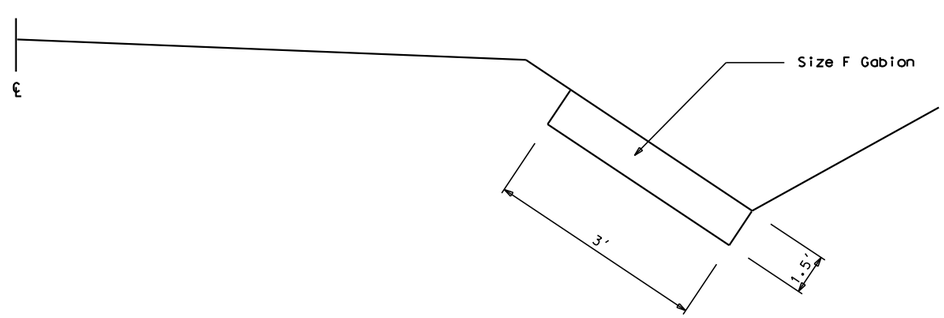


Drop Inlet



Gabion Placement MRM 48.4

(Length = 12')



PLOT SCALE - 1:200

PLOT NAME - 24

FILE - ...\CUSTH030\DESIGN\TYP.DGN

PLOTTED FROM - TRRC12608