



Department of Transportation

Office of Project Development

700 E Broadway Avenue

Pierre, South Dakota 57501-2586 605/773-3268

FAX: 605/773-2614

March 23, 2015

ADDENDUM NO. 1

RE: Item #3, March 25, 2015 Letting - NH 014B(04)418, IM 0295(39)132, NH-P 0014(184)418, PCN 035U, 04D3, 035T, Brookings County - Shoulder Widening, Cold Milling Asphalt Concrete, Grading, Asphalt Concrete Surfacing, & RCBC Extension

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: NO CHANGE

BID ITEM FILE: *Bidders must log in to retrieve the addendum bid item file that must be loaded into the SDEBS to incorporate the revisions listed here.*

Bid Items were added:

Bid Item 110E0100 "Remove Concrete Footing(s)"

Bid Item 900E2024 "Miscellaneous Work, Electrical"

Quantities for Bid Items were changed:

Bid Item 633E0040 "Cold Applied Plastic Pavement Marking, Arrow" changed from 108 to 110 Each

Bid Item 633E5025 "Grooving for Cold Applied Plastic Pavement Marking, Arrow" changed from 108 to 110 Each

Bid Item 635E5020 "2' Diameter Footing" changed from 228 to 238 Ft

Bid Items were removed:

Bid Item 110E7802 "Remove Fence for Reset"

Bid Item 620E4100 "Reset Fence"

Bid Item 632E3520 "Remove, Salvage, Relocate, and Reset Traffic Sign"

PLANS: Please destroy sheets A2, A4, B2, B20, B26, B 28, F7, S2, S3, M2, M3, M21, and M22 and replace with the enclosed sheets, dated 3/6/15, 3/19/15, 3/20/15, and 3/23/15.

Sheet A2: **Grading – Section B NH 014B(04)418 PCN 035U**

Bid Items were removed:

Bid Item 110E7802 "Remove Fence for Reset"

Bid Item 620E4100 "Reset Fence"

Sheet A4: Pavement Marking – Section M IM 0295(39)132 PCN 04D3

Bid Items were added:

Bid Item 633E0040 “Cold Applied Plastic Pavement Marking, Arrow”

Bid Item 633E5025 “Grooving for Cold Applied Plastic Pavement Marking, Arrow”

Permanent Signing – Section S NH-P 0014(184)418 PCN 035T

Bid Items were added:

Bid Item 110E0100 “Remove Concrete Footing(s)”

Bid Item 635E5020 “2’ Diameter Footing”

Bid Item 900E2024 “Miscellaneous Work, Electrical”

Bid Items were removed:

Bid Item 632E3520 “Remove, Salvage, Relocate, and Reset Traffic Sign”

Sheet A2: NH 014B(04)418 PCN 035U

Bid Items were removed:

Bid Item 110E7802 “Remove Fence for Reset”

Bid Item 620E4100 “Reset Fence”

Sheet B20: Notes for Remove and Reset Fence were removed.

Sheet B26: Begin Control of Access notes were added.

Sheet B28: End Control of Access notes were added.

Sheet F7: CLASS Q3R HOT MIXED ASPHALT CONCRETE note was revised.

Sheet M2: SECTION M ESTIMATE OF QUANTITIES 04D3

Bid Items were added:

Bid Item 633E0040 “Cold Applied Plastic Pavement Marking, Arrow”

Bid Item 633E5025 “Grooving for Cold Applied Plastic Pavement Marking, Arrow”

Sheet M3: Table of Quantities was revised.

Sheets M21 and M22: Right turn lane markings were added.

Sheet S2: Section S – Estimate of Quantities – NH-P 0014(184)418 PCN 035T

Bid Items were added:

Bid Item 110E0100 “Remove Concrete Footing(s)”

Bid Item 635E5020 “2’ Diameter Footing”

Bid Item 900E2024 “Miscellaneous Work, Electrical”

Bid Items were removed:

Bid Item 632E3520 “Remove, Salvage, Relocate, and Reset Traffic Sign”

Sheet S3: REMOVE CONCRETE FOOTING, CONCRETE FOOTING, TABLE OF FOOTING DATA, and MISCELLANEOUS WORK, ELECTRICAL notes were added.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Jeff Senst, Aberdeen Region Engineer
Ron Sherman, Watertown Area Engineer

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0014(184)418 NH 014B(04)418 IM 0295(39)132	A2	A6

Plotting Date: 03/20/2015

Grading – Section B

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	4.165	Mile
009E3245	Final Cross Section Survey	2.604	Mile
009E3250	Miscellaneous Staking	2.604	Mile
009E3280	Slope Staking	2.604	Mile
009E3290	Structure Staking	1	Each
009E3300	Three Man Survey Crew	40.0	Hour
110E0600	Remove Fence	182	Ft
110E7510	Remove Pipe End Section for Reset	2	Each
120E0010	Unclassified Excavation	81,608	CuYd
120E0300	Borrow Unclassified Excavation	31,432	CuYd
120E2000	Undercutting	52,656	CuYd
120E6100	Water for Embankment	746.7	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	22,810.0	Ton
380E3540	8" PCC Approach Pavement	51.1	SqYd
421E0100	Pipe Culvert Undercut	76	CuYd
450E0122	18" RCP Class 2, Furnish	64	Ft
450E0130	18" RCP, Install	64	Ft
450E0142	24" RCP Class 2, Furnish	40	Ft
450E0150	24" RCP, Install	40	Ft
450E2200	24" RCP Sloped End, Furnish	4	Each
450E2201	24" RCP Sloped End, Install	4	Each
450E2304	18" RCP Safety End, Furnish	6	Each
450E2307	18" RCP Safety End, Install	6	Each
450E2308	24" RCP Safety End, Furnish	2	Each
450E2311	24" RCP Safety End, Install	2	Each
450E3052	48" RCP Arch Class 2, Furnish	4	Ft
450E3060	48" RCP Arch, Install	4	Ft
450E3072	60" RCP Arch Class 2, Furnish	12	Ft
450E3074	60" RCP Arch Class 4, Furnish	130	Ft
450E3080	60" RCP Arch, Install	142	Ft
450E4520	48" RCP Arch Flared End, Furnish	1	Each
450E4521	48" RCP Arch Flared End, Install	1	Each
450E4528	60" RCP Arch Flared End, Furnish	8	Each
450E4529	60" RCP Arch Flared End, Install	8	Each
450E4759	18" CMP 16 Gauge, Furnish	426	Ft
450E4760	18" CMP, Install	426	Ft
450E5406	18" CMP Safety End, Furnish	13	Each
450E5407	18" CMP Safety End, Install	13	Each
450E9001	Reset Pipe End Section	2	Each
462E0200	Controlled Density Fill	17.3	CuYd
600E0300	Type III Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	120	Ft
620E1020	2 Post Panel	3	Each
650E0080	Type B68 Concrete Curb and Gutter	12	Ft
650E4680	Type P8 Concrete Gutter	40	Ft
720E1015	Bank and Channel Protection Gabion	52.0	CuYd
900E0010	Refurbish Single Mailbox	10	Each
900E0012	Refurbish Double Mailbox	6	Each

Grading – Section B (Continued)

IM 0295(39)132 PCN 04D3

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	0.405	Mile
009E3245	Final Cross Section Survey	0.255	Mile
009E3250	Miscellaneous Staking	0.255	Mile
009E3280	Slope Staking	0.255	Mile
009E3300	Three Man Survey Crew	5.0	Hour
110E1100	Remove Concrete Pavement	205.8	SqYd
120E0010	Unclassified Excavation	10,897	CuYd
120E0300	Borrow Unclassified Excavation	11,486	CuYd
120E2000	Undercutting	4,516	CuYd
120E6100	Water for Embankment	165.3	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	5,880.2	Ton
450E0202	48" RCP Class 2, Furnish	32	Ft
450E0210	48" RCP, Install	32	Ft
450E2036	48" RCP Flared End, Furnish	2	Each
450E2037	48" RCP Flared End, Install	2	Each

Erosion and Sediment Control – Section D

NH-P 0014(184)418 PCN 035T

Bid Item Number	Item	Quantity	Unit
110E1690	Remove Sediment	2.0	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
730E0251	Special Permanent Seed Mixture 1	127	Lb
731E0200	Fertilizing	3.70	Ton
732E0100	Mulching	9.8	Ton
734E0154	12" Diameter Erosion Control Wattle	200	Ft
734E0165	Remove and Reset Erosion Control Wattle	200	Ft
900E1320	Construction Entrance	1	Each

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
110E1690	Remove Sediment	4.0	CuYd
110E1700	Remove Silt Fence	530	Ft
230E0010	Placing Topsoil	10,420	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
730E0251	Special Permanent Seed Mixture 1	475	Lb
731E0200	Fertilizing	13.70	Ton
732E0100	Mulching	40.5	Ton
734E0154	12" Diameter Erosion Control Wattle	1,525	Ft
734E0165	Remove and Reset Erosion Control Wattle	380	Ft
734E0325	Surface Roughening	2.0	Acre
734E0602	Low Flow Silt Fence	1,125	Ft
734E0604	High Flow Silt Fence	994	Ft
734E0610	Mucking Silt Fence	147	CuYd
734E0620	Repair Silt Fence	530	Ft
734E5010	Sweeping	6	Hour
900E1320	Construction Entrance	1	Each

Traffic Control – Section C

NH-P 0014(184)418 PCN 035T

Bid Item Number	Item	Quantity	Unit
634E0010	Flagging	400	Hour
634E0020	Pilot Car	200	Hour
634E0100	Traffic Control	2,222	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Panel	1	Each
634E0630	Temporary Pavement Marking	17.2	Mile

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
634E0010	Flagging	450	Hour
634E0020	Pilot Car	225	Hour
634E0100	Traffic Control	2,070	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Panel	2	Each
634E0630	Temporary Pavement Marking	18.8	Mile

IM 0295(39)132 PCN 04D3

Bid Item Number	Item	Quantity	Unit
634E0010	Flagging	20	Hour
634E0100	Traffic Control	524	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Panel	2	Each
634E0640	Temporary Pavement Marking	1,800	Ft

IM 0295(39)132 PCN 04D3

Bid Item Number	Item	Quantity	Unit
110E1690	Remove Sediment	5.0	CuYd
110E1700	Remove Silt Fence	30	Ft
230E0010	Placing Topsoil	2,406	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
730E0251	Special Permanent Seed Mixture 1	117	Lb
731E0200	Fertilizing	3.40	Ton
732E0100	Mulching	9.0	Ton
734E0154	12" Diameter Erosion Control Wattle	200	Ft
734E0165	Remove and Reset Erosion Control Wattle	200	Ft
734E0604	High Flow Silt Fence	114	Ft
734E0610	Mucking Silt Fence	8	CuYd
734E0620	Repair Silt Fence	30	Ft
900E1320	Construction Entrance	1	Each

INDEX OF SHEETS

A1 and A3	Estimate of Quantities for Sections B,C,D,E,F,L, M, and S
A4 to A5	Environmental Commitments

Plot Scale - 1:200

Plotted From - TRSF12144

File - ...:\proj\035U\Notes\SectionA.dgn

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0014(184)418 NH 014B(04)418 IM 0295(39)132	A4	A6

Plotting Date: 03/23/2015

Signal and Lighting – Section L

NH-P 0014(184)418 PCN 035T

Bid Item Number	Item	Quantity	Unit
635E5800	Miscellaneous Signal Parts	Lump Sum	LS

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
110E1540	Remove Luminaire Pole Footing	2	Each
110E5100	Salvage Luminaire Pole	4	Each
110E5110	Salvage Signal Equipment	Lump Sum	LS
635E0045	Breakaway Base Luminaire Pole with Arm, 45' Mounting Height	10	Each
635E3340	Roadway Luminaire, 400 Watt with Photoelectric Cell	10	Each
635E4030	3 Section Vehicle Signal Head	16	Each
635E5020	2' Diameter Footing	80.0	Ft
635E5302	Type 2 Electrical Junction Box	4	Each
635E5400	Electrical Service Cabinet	3	Each
635E5430	Traffic Signal Controller	1	Each
635E7500	Remove and Reset Luminaire Pole	1	Each
635E8120	2" Rigid Conduit, Schedule 40	960	Ft
635E8220	2" Rigid Conduit, Schedule 80	740	Ft
635E9014	1/C #4 AWG Copper Wire	1,540	Ft
635E9016	1/C #6 AWG Copper Wire	3,750	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	600	Ft

IM 0295(39)132 PCN 04D3

Bid Item Number	Item	Quantity	Unit
635E0045	Breakaway Base Luminaire Pole with Arm, 45' Mounting Height	14	Each
635E0145	Breakaway Base Luminaire Pole with Twin Arms, 45' Mounting Height	4	Each
635E3340	Roadway Luminaire, 400 Watt with Photoelectric Cell	22	Each
635E5020	2' Diameter Footing	148.0	Ft
635E5302	Type 2 Electrical Junction Box	21	Each
635E5400	Electrical Service Cabinet	2	Each
635E8120	2" Rigid Conduit, Schedule 40	6,765	Ft
635E8220	2" Rigid Conduit, Schedule 80	1,085	Ft
635E9012	1/C #2 AWG Copper Wire	12,855	Ft
635E9013	1/C #3 AWG Copper Wire	11,485	Ft
635E9016	1/C #6 AWG Copper Wire	250	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	1,320	Ft

Pavement Marking – Section M

NH-P 0014(184)418 PCN 035T

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	165	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	113	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	5	Each
633E1300	Pavement Marking Paint, White	105.0	Gal
633E1305	Pavement Marking Paint, Yellow	75.0	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	165	Ft
633E5020	Grooving for Cold Applied Plastic Pavement Marking, Area	113	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	5	Each

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	1,478	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	13	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	103	Each
633E1300	Pavement Marking Paint, White	139.0	Gal
633E1305	Pavement Marking Paint, Yellow	145.0	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	1,478	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	103	Each

IM 0295(39)132 PCN 04D3

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	115	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	235	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	2	Each
633E1300	Pavement Marking Paint, White	9.0	Gal
633E1305	Pavement Marking Paint, Yellow	16.0	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	115	Ft
633E5020	Grooving for Cold Applied Plastic Pavement Marking, Area	235	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	2	Each

Permanent Signing – Section S

NH-P 0014(184)418 PCN 035T

Bid Item Number	Item	Quantity	Unit
110E0100	Remove Concrete Footing(s)	Lump Sum	LS
110E0130	Remove Traffic Sign	151	Each
110E7150	Remove Sign for Reset	22	Each
632E1320	2.0"x2.0" Perforated Tube Post	1,408.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	377.0	Ft
632E2020	4"x4" White Delineator with 1.12 Lb/Ft Post	30	Each
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	54	Each
632E2220	Guardrail Delineator	36	Each
632E2510	Type 2 Object Marker Back to Back	5	Each
632E2520	Type 2 Object Marker	4	Each
632E3003	Aluminum Overlay Sign, Nonremovable Copy High Intensity	144.0	SqFt
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	809.5	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	840.3	SqFt
632E3500	Reset Sign	22	Each
635E5020	2' Diameter Footing	10.0	Ft
900E2024	Miscellaneous Work, Electrical	Lump Sum	LS

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
110E0130	Remove Traffic Sign	76	Each
110E7150	Remove Sign for Reset	12	Each
632E1320	2.0"x2.0" Perforated Tube Post	782.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	156.0	Ft
632E2020	4"x4" White Delineator with 1.12 Lb/Ft Post	7	Each
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	91	Each
632E2220	Guardrail Delineator	60	Each
632E2510	Type 2 Object Marker Back to Back	8	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	568.7	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	275.1	SqFt
632E3500	Reset Sign	12	Each

SPECIFICATIONS

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

Plot Scale - 1:200

Plotted From - TRSF12144

File - ...:\p1\bro035U\NotesSectionA.dgn

SECTION B ESTIMATE OF QUANTITIES

NH 014B(04)418 PCN 035U

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	4.165	Mile
009E3245	Final Cross Section Survey	2.604	Mile
009E3250	Miscellaneous Staking	2.604	Mile
009E3280	Slope Staking	2.604	Mile
009E3290	Structure Staking	1	Each
009E3300	Three Man Survey Crew	40.0	Hour
110E0600	Remove Fence	182	Ft
110E7510	Remove Pipe End Section for Reset	2	Each
120E0010	Unclassified Excavation	81,608	CuYd
120E0300	Borrow Unclassified Excavation	31,432	CuYd
120E2000	Undercutting	52,656	CuYd
120E6100	Water for Embankment	746.7	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	22,810.0	Ton
380E3540	8" PCC Approach Pavement	51.1	SqYd
421E0100	Pipe Culvert Undercut	76	CuYd
450E0122	18" RCP Class 2, Furnish	64	Ft
450E0130	18" RCP, Install	64	Ft
450E0142	24" RCP Class 2, Furnish	40	Ft
450E0150	24" RCP, Install	40	Ft
450E2200	24" RCP Sloped End, Furnish	4	Each
450E2201	24" RCP Sloped End, Install	4	Each
450E2304	18" RCP Safety End, Furnish	6	Each
450E2307	18" RCP Safety End, Install	6	Each
450E2308	24" RCP Safety End, Furnish	2	Each
450E2311	24" RCP Safety End, Install	2	Each
450E3052	48" RCP Arch Class 2, Furnish	4	Ft
450E3060	48" RCP Arch, Install	4	Ft
450E3072	60" RCP Arch Class 2, Furnish	12	Ft
450E3074	60" RCP Arch Class 4, Furnish	130	Ft
450E3080	60" RCP Arch, Install	142	Ft
450E4520	48" RCP Arch Flared End, Furnish	1	Each
450E4521	48" RCP Arch Flared End, Install	1	Each
450E4528	60" RCP Arch Flared End, Furnish	8	Each
450E4529	60" RCP Arch Flared End, Install	8	Each
450E4759	18" CMP 16 Gauge, Furnish	426	Ft
450E4760	18" CMP, Install	426	Ft
450E5406	18" CMP Safety End, Furnish	13	Each
450E5407	18" CMP Safety End, Install	13	Each
450E9001	Reset Pipe End Section	2	Each
462E0200	Controlled Density Fill	17.3	CuYd
600E0300	Type III Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	120	Ft
620E1020	2 Post Panel	3	Each
650E0080	Type B68 Concrete Curb and Gutter	12	Ft
650E4680	Type P8 Concrete Gutter	40	Ft
720E1015	Bank and Channel Protection Gabion	52.0	CuYd
900E0010	Refurbish Single Mailbox	10	Each
900E0012	Refurbish Double Mailbox	6	Each

SECTION B ESTIMATE OF QUANTITIES (PCN 04D3)

IM 0295(39)132 PCN 04D3

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	0.405	Mile
009E3245	Final Cross Section Survey	0.255	Mile
009E3250	Miscellaneous Staking	0.255	Mile
009E3280	Slope Staking	0.255	Mile
009E3300	Three Man Survey Crew	5.0	Hour
110E1100	Remove Concrete Pavement	205.8	SqYd
120E0010	Unclassified Excavation	10,897	CuYd
120E0300	Borrow Unclassified Excavation	11,486	CuYd
120E2000	Undercutting	4,516	CuYd
120E6100	Water for Embankment	165.3	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	5,880.2	Ton
450E0202	48" RCP Class 2, Furnish	32	Ft
450E0210	48" RCP, Install	32	Ft
450E2036	48" RCP Flared End, Furnish	2	Each
450E2037	48" RCP Flared End, Install	2	Each

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste.

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 sections shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

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

Permanent fence shall be placed ahead of the grading operation unless otherwise directed by the Engineer.

A copy of the soils report is available for review at the Aberdeen Region and Watertown Area offices.

There are two pipes located just outside of the work limits for PCN 04D3 (182+98.0 and 186+30.0). These pipes are located at stations 183+08 to 183+09L, 183+06 to 183+07R, 186+21 to 186+21 R, and 186+21 to 186+22L. The contractor shall ensure that grading operations do not plug these pipes.

TYPE III FIELD LABORATORY

The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by job location and approved by the DOT. Prior to installing the wireless router the Contractor shall submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer.

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.

INSLOPE TRANSITIONS

Inslope transitions will be required at various locations. Refer to Standard Plate 120.05 for details.

TABLE OF INSLOPE TRANSITIONS (PCN 035U)

Station	L/R	Type
47+63	L	2
47+63	R	2
53+18	L	2
53+18	R	2

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.

The gauge of the corrugated metal ends shall match the thickest gauge of corrugated metal pipe it is connected to.

PIPE FOR APPROACHES & INTERSECTING ROADS

Class II reinforced concrete pipe and high density polyethylene pipe may be substituted for corrugated metal pipe at approaches and intersecting roads at no additional cost to the State.

Acceptance of high density polyethylene pipe will be by certification.

The end sections for the high density polyethylene pipe shall be metal, conform to the type of end section as shown in the plans, and be compatible with the high density polyethylene pipe.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0014(184)418 NH 014B(04)418 IM 0295(39)132	B2	B47

Plotting Date: 03/20/2015

Plot Scale - 1:200

Plotted From - TRSF12144

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65+09-71' L Retain 24"-62' RCP
69+88-75' R Retain 18"-88' CMP
73+53-75' R Retain 18"-98' CMP

78+92-80' R Retain 18"-87' CMP

81+55 Retain Bridge

90+60-88' L Retain 18"-58' CMP

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0014(184)418 NH 014B(04)418 IM 0295(39)132	B20	B47

Plotting Date: 03/20/2015 Revised 3-20-15 AR

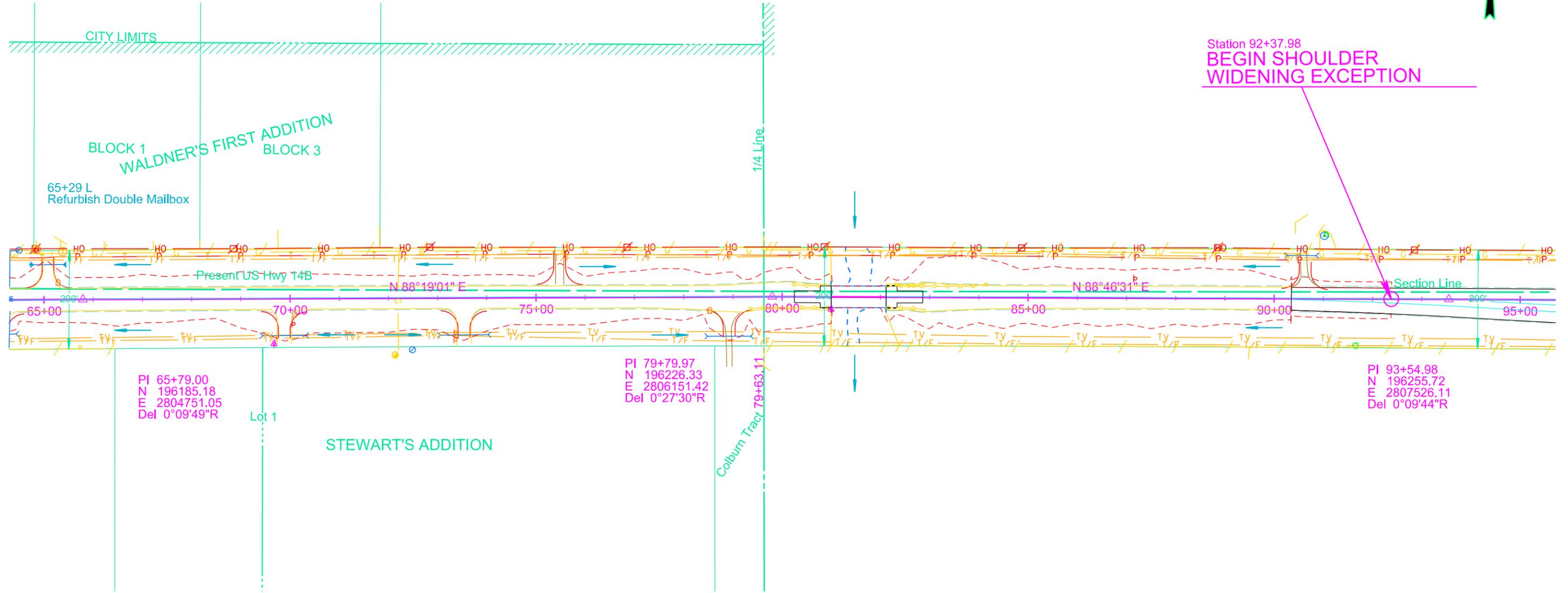
65+09-71' L
Take Out 2 End Sections
(Incidental Work, Grading)

65+35-71' L to 65+31-71' L
Install 24"-4' RCP
& 1 Safety End

Refurbish single mailbox
at the following locations:
70+09 R
78+53 R



Sec. 14 - T110N - R50W



PI 65+79.00
N 196185.18
E 2804751.05
Del 0°09'49"R

Lot 1

STEWART'S ADDITION

PI 79+79.97
N 196226.33
E 2806151.42
Del 0°27'30"R

Colburn Tract 79+63.11

PI 93+54.98
N 196255.72
E 2807526.11
Del 0°09'44"R

BROOKINGS

Sec. 23 - T110N - R50W

Plot Scale - 1:200

Plotted From - TRSF12141

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-P 0014(184)418 NH 014B(04)418 IM 0295(39)132	B26	B47
Plotting Date: 03/06/2015		Revised 3-6-15 JWF	

Carl H. Folwaczny & Wendy J. Folwaczny
 Outlot 2, except the North 154 feet thereof, in the SE1/4 SE1/4 of Section 13 - Township 110 North - Range 50 West of the 5th P.M.

Douglas M, Eidsness & Laura L. Eidsness
 Outlot 1, except the North 154 feet thereof, in the SE1/4 SE1/4 of Section 13 - Township 110 North - Range 50 West of the 5th P.M.

163+37-59' L Retain 18"-67' CMP
 165+84 Retain 24"-85' RCP
 165+84 Take Out 2 End Sections (Incidental Work, Grading)

166+83-65' L Retain 18"-67' CMP
 170+20-55' L Retain 18"-77' CMP
 175+60-89' L Take Out 24"-115' CMP (Incidental Work, Grading)

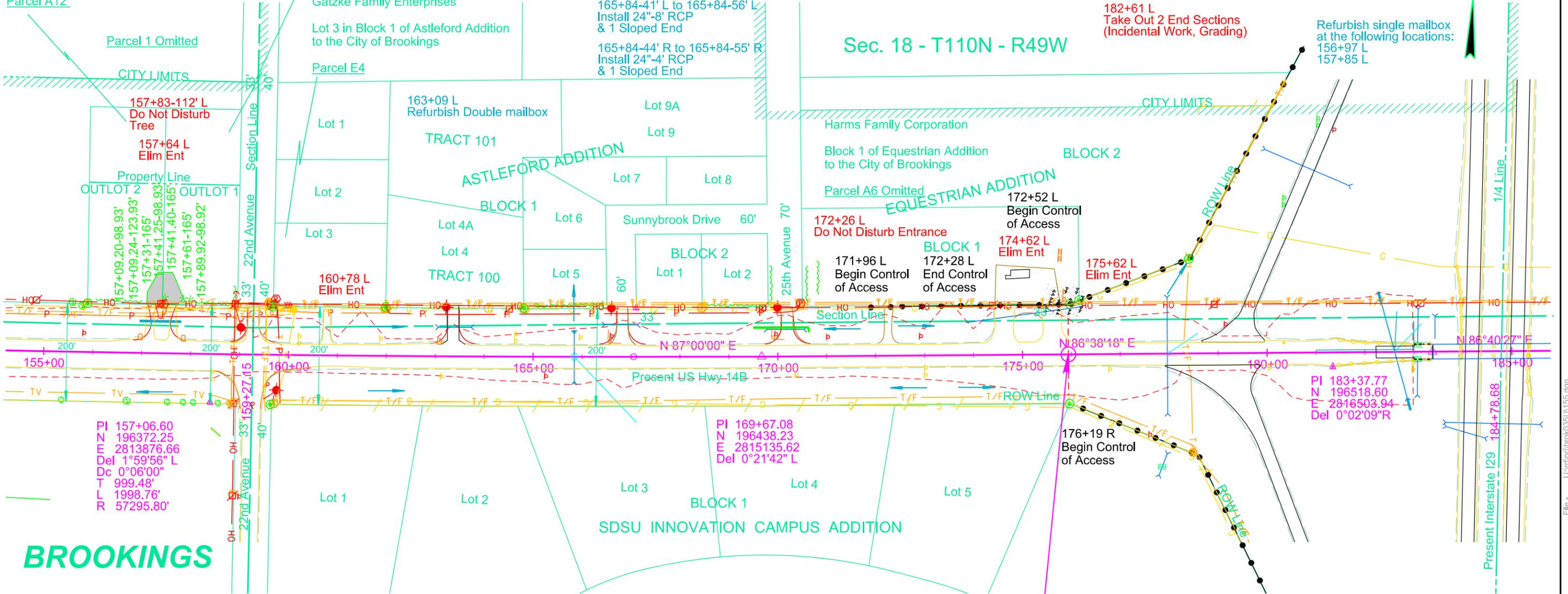
177+96 Retain 30"-236' RCP

182+61 Retain 48"-206' RCP
 183+06 to 183+07 R Retain 12"- 71' CMP
 183+08 to 183+09 L Retain 12"- 70' CMP
 183+37.77 to 185+91.00 Retain Bridge
 183+43 to 183+44 L Retain 12"- 50' CMP

183+08-14' L Retain Type D Drop Inlet and Type D Frame and Gate
 183+07-15' R Retain Type D Drop Inlet and Type D Frame and Gate

Parcel A12

Parcel A5



Refurbish single mailbox at the following locations:
 156+97 L
 157+85 L



BROOKINGS

Sec. 19 - T110N - R49W

BEGIN EXCEPTION PCN 035U
 BEGIN PCN 04D3
 Station 175+93.90

PI 157+06.60
 N 196372.25
 E 2813876.66
 Del 1°59'56" L
 Dc 0°06'00"
 T 999.48'
 L 1998.76'
 R 57295.80'

PI 169+67.08
 N 196438.23
 E 2815135.62
 Del 0°21'42" L

PI 183+37.77
 N 196518.60
 E 2816503.94
 Del 0°02'09" R

158+82-98' R to 158+93-98' L
 Do Not Disturb Underground Telephone Cable

Parcel A12
 157+09.20 to 157+41.36 L
 Temporary Easement for Entrance containing 0.1 ac (1670 sq ft), more or less

Parcel A5
 157+41.25 to 157+89.92 L
 Temporary Easement for Entrance containing 0.1 ac (2251 sq ft), more or less

182+34-102' L to 182+28-123' L
 Install 48" - 14' RCP & 1 Flared End

182+86-94' R to 182+92-119' R
 Install 48" - 18' RCP & 1 Flared End

Plot Scale - 1:200

Plotted From - TRSF12139

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186+21-15' R
Retain Type D Drop Inlet
and Type D Frame and Grate

186+21 to 186+21 R
Retain 12"-60' CMP

186+21 to 186+22 L
Retain 12"-66' CMP

186+21-15' L
Retain Type D Drop Inlet
and Type D Frame and Grate

188+22 to 189+47 R
Retain 18"-136' RCP

195+18-62' R
Take Out End Section
(Incidental Work, Grading)

197+84-56' R
Take Out End Section
(Incidental Work, Grading)

195+64-61' R to 195+60-61' R
Install 18"-4' RCP
& 1 Safety End

197+65-56' R to 197+52-56' R
Install 18"-14' CMP
& 1 Safety End

195+18-62' L
Retain 24"-87' RCP

195+18-65' R
Retain 24"-108' RCP

200+23-54' L
Retain 18"-55' CMP

197+88-56' R
Retain 18"-54' RCP

Farmers Implement & Irrigation, Inc.

Block 2 of Freeland Addition
to the City of Brookings

197+16-59' L
Take Out 18"-63' CMP
(Incidental Work, Grading)

203+59-55' R
Take Out 18"-57' CMP
(Incidental Work, Grading)

203+79-54' L
Take Out 18"-50' CMP
(Incidental Work, Grading)

Wadsworth, Inc.

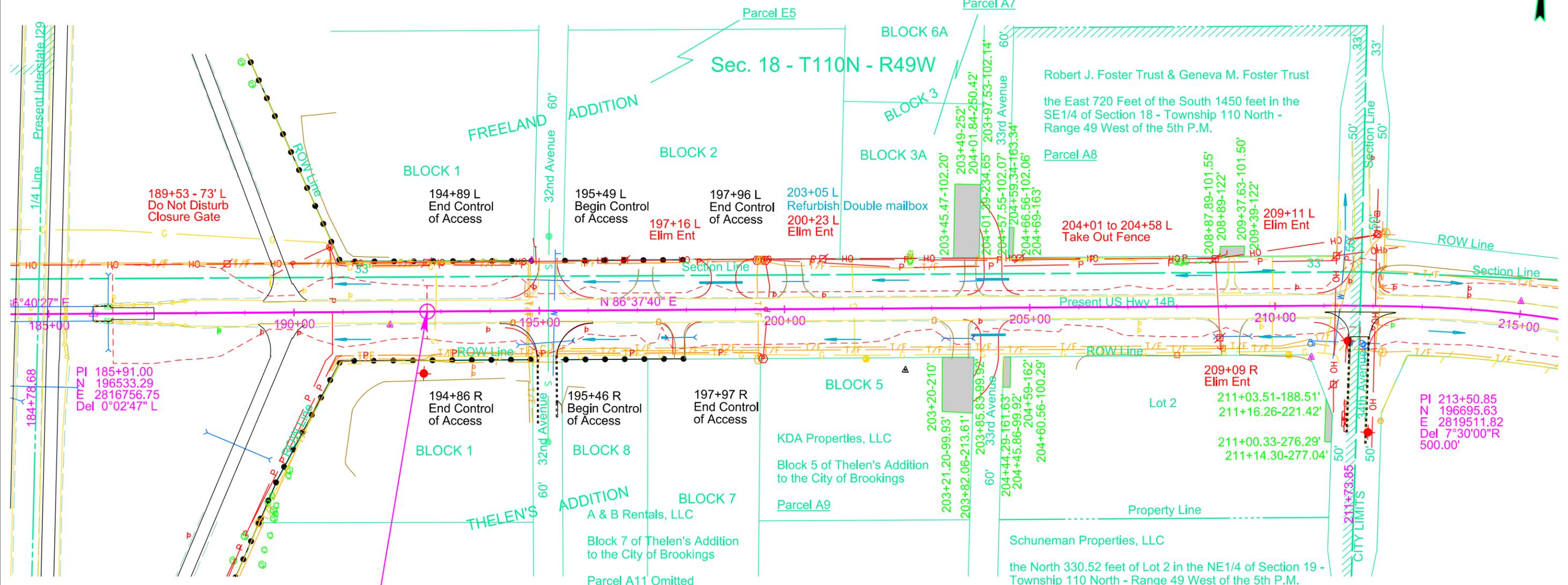
Block 3A of Blocks 3, 6 and 9
of Freeland Addition
to the City of Brookings

204+18-55' R
Install 18"-64' CMP
& 2 Safety Ends

204+26-58' L
Install 18"-62' CMP
& 2 Safety Ends

209+09-61' R
Take Out 18"-68' RCP
(Incidental Work, Grading)

Refurbish single mailbox
at the following locations:
197+43 R
203+05 R



BROOKINGS

END EXCEPTION PCN 035U
END PCN 04D3
Station 192+71.5

200+23-56' L
Take Out 18"-55' CMP
(Incidental Work, Grading)

198+75-55' L
Install 18"- 82' CMP
& 2 Safety Ends

Sec. 19 - T110N - R49W

Parcel A7
203+45.47 to 204+01.39 L
Temporary Easement for
Entrance Relocation containing
0.2 ac (7821 sq ft), more or less

Parcel A8
204+57.55 to 204+69 L
Temporary Easement for
Entrance Relocation containing
0.1 ac (570 sq ft), more or less

Parcel A10
211+00.33 to 211+16.26 R
Temporary Easement for
Entrance Relocation containing
0.1 ac (978 sq ft), more or less

Parcel A9
203+20 to 203+85.83 R
Temporary Easement for
Entrance Relocation containing
0.2 ac (7092 sq ft), more or less

Parcel A8
208+87.89 to 209+39 L
Temporary Easement for
Entrance Removal containing
0.1 ac (908 sq ft), more or less

Parcel A10
204+44.29 to 204+60.56 R
Temporary Easement for
Entrance Relocation containing
0.1 ac (1021 sq ft), more or less

Plot Scale - 1:200

Plotted From - TRSF12139

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CLASS Q3R HOT MIXED ASPHALT CONCRETE

Asphalt concrete aggregates shall consist of cold milled material (RAP) and virgin aggregate.

Virgin mineral aggregate shall be furnished by the Contractor.

Mineral Aggregate for Class Q3R Hot Mixed Asphalt Concrete shall conform to the requirements of the Special Provision for Gyratory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement for Class Q3 except for the following:

Gyratory Compactive Effort:

	N _{initial}	N _{design}	N _{maximum}
Class Q3R	6	50	75

Salvaged asphalt concrete material shall be obtained from the material produced by cold milling on this project and may be used without further testing. The salvaged asphalt concrete material shall be crushed so that the maximum particle size in the cold feed will not exceed 1-1/2 inches. An estimated 9,100.0 tons of salvaged asphalt material will be used for Class Q3R Asphalt Concrete.

The Class Q3R Hot Mixed Asphalt Concrete shall include 20 percent salvaged asphalt concrete (RAP) in the mixture. Job mix formula tolerances for the RAP shall be ± 5 % from the target value.

The mix design criteria for the Class Q3R Hot Mixed Asphalt Concrete shall conform to the requirement of the Special Provision except for the following:

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.

All remaining requirements of the Special Provision for the Class Q3R Hot Mixed Asphalt Concrete shall apply.

Summary of Class Q3R Hot Mixed Asphalt Concrete Compaction

Location	With Specified Density Ton	Without Specified Density Ton
US 14W		
Sta. a 412+29.7 to Sta. a 5+81.7 Mainline	400.9	---
Shoulders	---	32.1 / 23.3 / 201.9
Sta. b 3+53.1 to Sta. c 56+97.9 Mainline	1,749.3	---
Shoulders	---	114.1 / 915.9
US 14E		
Sta. a 415+80.8 to Sta. b 8+94 Mainline	419.4	---
Shoulders	---	20.2 / 141.1
Sta. b 8+94 to Sta. c 56+97.9 Mainline	1,659.4	---
Shoulders	---	108.3 / 867.2
US 14		
Sta. d 41+53.3 to Sta. d 62+89.7 Mainline	468.6	---
Shoulders	---	205.3

**Summary of Class Q3R Hot Mixed Asphalt Concrete Compaction
(Continued)**

Location	With Specified Density Ton	Without Specified Density Ton
US 14		
Sta. d 62+89.7 to Sta. d 91+47 Mainline	1,289.0	---
Shoulders	---	383.3
Sta. d 95+73 to Sta. d 142+13.4 Mainline	1,259.7	---
Shoulders	---	551.6
Sta. e 809+00 to Sta. e 815+29.8 Mainline	188.3	---
Shoulders	---	90.9
US 14WB		
Sta. 5+81.7 to Sta. 31+52.7 Mainline	719.1	---
Shoulders	---	56.8 / 42.8 / 375.2
US 14EB		
Sta. 5+85.9 to Sta. 31+52.7 Mainline	717.9	---
Shoulders	---	56.6 / 42.7 / 374.5
US 14B		
Sta. 31+52.7 to Sta. 43+48.0 Mainline	357.3	---
Shoulders	---	319.8
Sta. 43+48 to Sta. 90+34.9 Mainline	1,956.9	---
Shoulders	---	1,348.0 / 1,348.0 / 1,001.4
Sta. 90+34.9 to Sta. 121+65.8 Mainline	1,325.5	---
Shoulders	---	134.7 / 149.5 / 939.5
Sta. 121+65.8 to Sta. 175+93.9 Mainline	2,624.0	---
Shoulders	---	1,811.9 / 1,811.9 / 1,140.7
Sta. 175+93.9 to Sta. 182+98 Mainline	316.6	---
Shoulders	---	208.1 / 208.1 / 136.4
Sta. 186+30 to Sta. 192+71.5 Mainline	246.1	---
Shoulders	---	149.3 / 149.3 / 123.0
Sta. 192+71.5 to Sta. 221+38.8 Mainline	1,381.3	---
Shoulders	---	951.4 / 951.4 / 609.1
Sta. 221+38.8 to Sta. 280+51.9 Mainline	2,025.5	---
Shoulders	---	1,513.0
US 14B Ramp		
Sta. 5+85.9 to Sta. 31+52.7 Mainline	199.9	---
Shoulders	---	61.2 / 145.7
Miscellaneous Areas		
Intersecting Streets	---	616.7
I-29 Median Crossover	---	2,900.8
Public Median Crossover	---	319.8
Guardrail Additional Surfacing	---	301.1
TOTALS	19,304.3	23,954.0

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH-P 0014(184)418, NH 014B(04)418 & IM 0295(39)132	F7	F77

Revised: 19 Mar 15, RML

CROSSOVER CLOSURE

The crossover closures (estimated at 448') shall be installed for the median crossovers at Sta. 12+00 (I-29) and Sta. 145+00 (I-29). The crossover closure shall be constructed according to details on standard plate 629.40.

TABLE OF CROSSOVER CLOSURES

Location	Length
	Ft.
Sta. 12+00	224
Sta. 145+00	224
TOTAL	448

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0295(39)132, NH 014B(04)418 NH-P 0014(184)418	M2	M36

SECTION M ESTIMATE OF QUANTITIES 035T

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	165	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	113	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	5	Each
633E1300	Pavement Marking Paint, White	105.0	Gal
633E1305	Pavement Marking Paint, Yellow	75.0	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	165	Ft
633E5020	Grooving for Cold Applied Plastic Pavement Marking, Area	113	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	5	Each

SECTION M ESTIMATE OF QUANTITIES 035U

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	1,478	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	13	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	103	Each
633E1300	Pavement Marking Paint, White	139.0	Gal
633E1305	Pavement Marking Paint, Yellow	145.0	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	1,478	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	103	Each

SECTION M ESTIMATE OF QUANTITIES 04D3

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	115	Ft
633E0035	Cold Applied Plastic Pavement Marking, Area	235	SqFt
633E0040	Cold Applied Plastic Pavement Marking, Arrow	2	Each
633E1300	Pavement Marking Paint, White	9.0	Gal
633E1305	Pavement Marking Paint, Yellow	16.0	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	115	Ft
633E5020	Grooving for Cold Applied Plastic Pavement Marking, Area	235	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	2	Each

PAVEMENT MARKING

Cold Applied Plastic Pavement Marking shall be as defined in Section 983 of the Specifications.

Pavement Marking Paint shall be as defined in sections 980 and 981 of the Specifications.

GROOVE PAVEMENT FOR PAVEMENT MARKING

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue shall not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, shall be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state.

PERMANENT PAVEMENT MARKING

Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

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

Glass beads shall be applied on the wet paint line at a minimum of eight pounds of glass beads per gallon of paint.

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones, lane drops, turn lanes, and taper sections. All materials shall be applied as per manufacturer's recommendations.

The application of Permanent Pavement Marking paint may not begin until 7 calendar days following completion of final surfacing (including Flush Seal if applied) and shall be completed within 14 calendar days following completion of the final surfacing.

For each working day the application of permanent pavement marking paint remains uncompleted beyond the time limits described in the preceding paragraph, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day.

The liquidated damages shall apply up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with section 8.7 of the specifications, until the permanent pavement marking is completed, even though the project may be open to traffic.

COLD WEATHER, WATERBORNE PAINT

Waterborne paint applied after October 15 shall be formulated as cold weather, waterborne paint, and shall be applied in accordance with manufacturer's recommendations, including minimum temperature requirements.

There shall be no adjustment in the contract unit prices should cold weather formulated paint be required.

Cold weather, waterborne paint shall conform to section 980 of the specifications except for the following:

980.1 A - Resin Binder shall be Fastrack XSR manufactured by Dow, or approved equal.

980.1.1 Quantitative Requirements:

The Pigment, Percent By Weight for white: 60.0 – 63.0 and for yellow: 58.5-61.5.

The Pigment, Percent By Weight when tested in accordance with ASTM D3723 for white: 60.0-63.0 and for yellow: 56.1-59.2.

The Non-volatile Vehicle, percent by weight, min. for white: 41.5 and yellow: 41.5 when tested in accordance with FTMS 141c (method 4051.1).

Revised March 20, 2015 DLM

PAVEMENT MARKING PAINT

All 24" yellow and solid area yellow from station 180+00 to 189+32 on US14B shall be paint.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0295(39)132, NH 014B(04)418 NH-P 0014(184)418	M3	M36

Table of Quantities

(for information only)

Revised March 20, 2015 DLM

Item	US14 NH-P 0014(184)418	US14B NH 014B(04)418	I29 & US14B IM 0295(39)132	Total	Units
Cold Applied Plastic Pavement Marking, 24" Yellow	165	628	115	908	Ft
Cold Applied Plastic Pavement Marking, 24" White		850		850	Ft
Cold Applied Plastic Pavement Marking, Arrow	5	103	2	110	Each
Cold Applies Plastic Pavement Parking Area	113		235	348	SqFt
Pavement Marking Paint. White	105	139	9	253	Gal
Pavement Marking Paint. Yellow	75	154	16	245	Gal
Grooving for Cold Applied Plastic Pavement Marking, 24"	165	1478	115	1758	Ft
Grooving for Cold Applied Plastic Pavement Marking, Arrow(Left)	5	85		90	Each
Grooving for Cold Applied Plastic Pavement Marking, Arrow(Right)		8	2	10	Each
Grooving for Cold Applied Plastic Pavement Marking, Area	113		235	348	SqFt

Pavement Markings US14B

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH 014B(04)418 IM 0295(39)132	M21	M36

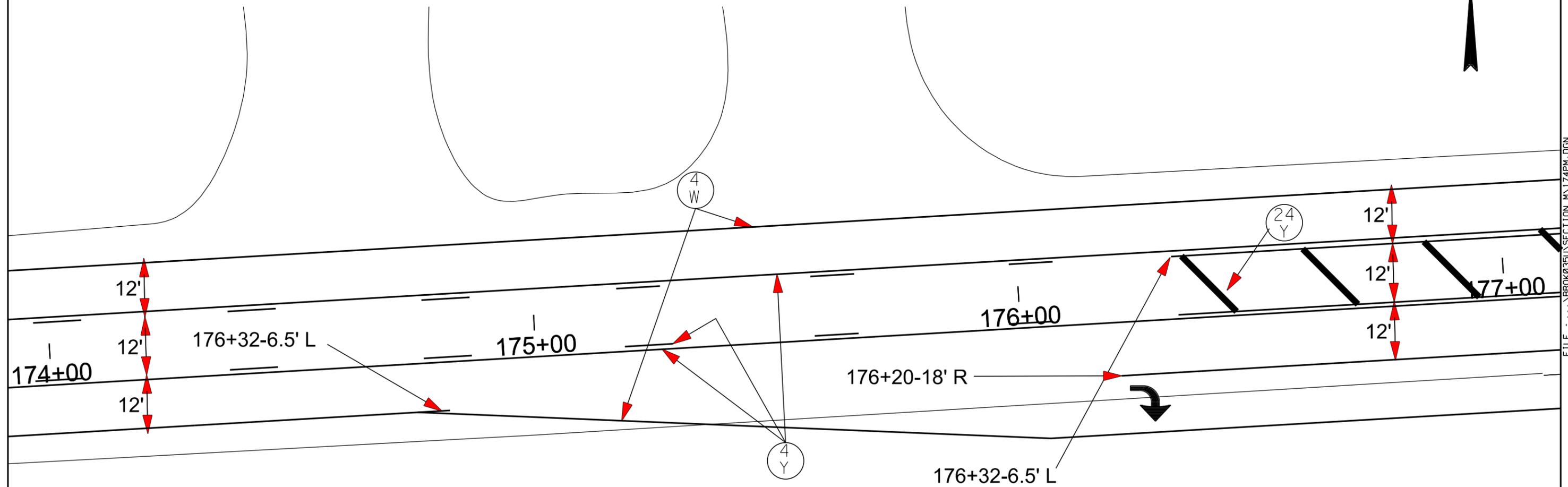
Plotting Date: 03/20/2015

Revised March 20, 2015 DLM



PLOT SCALE - 1:20

PLOT NAME - 1



PLOTTED FROM - TRAB17879

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Pavement Markings US14B

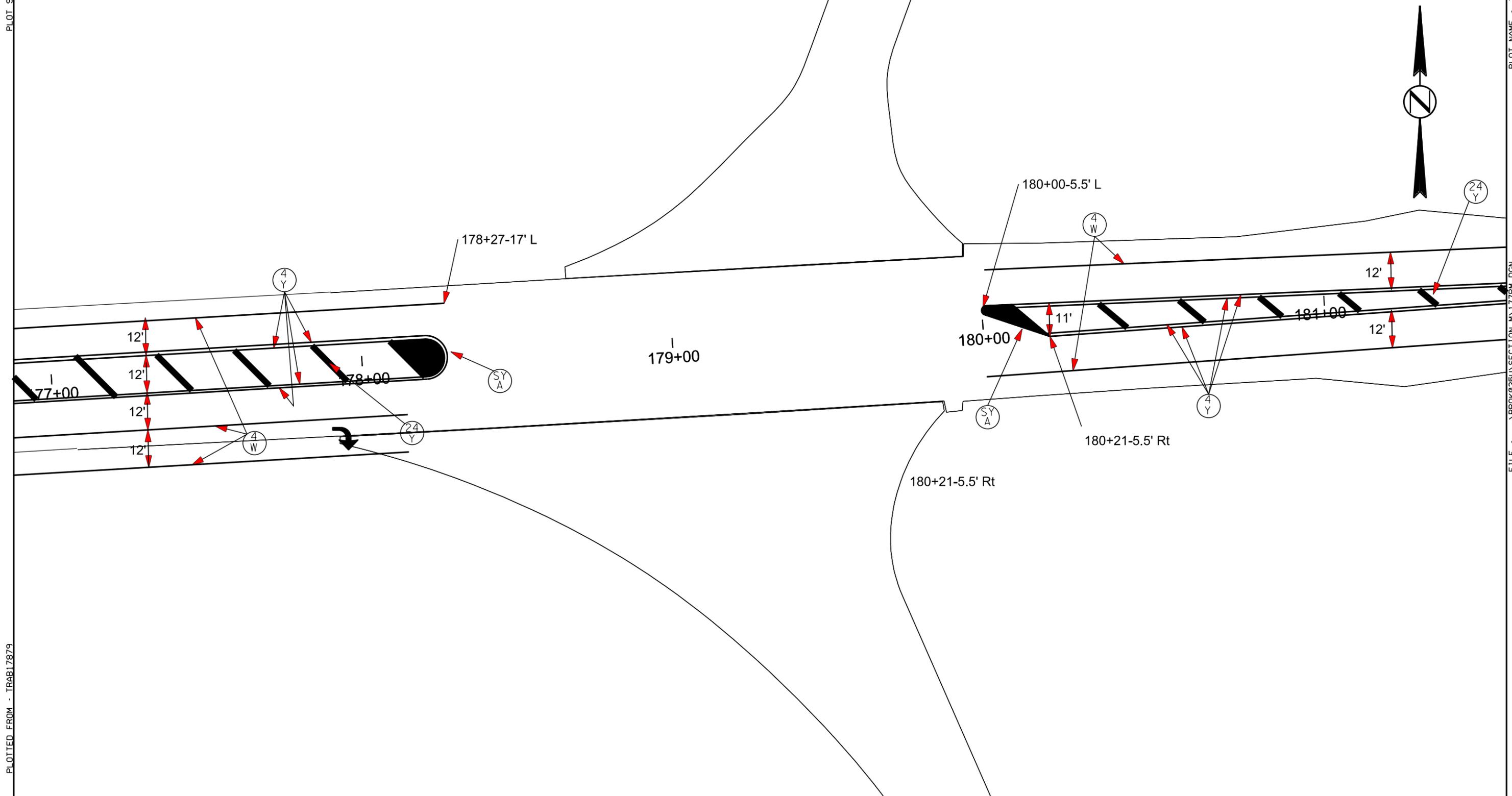
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0295 (39)132	M22	M36

Plotting Date: 03/20/2015

Revised March 20, 2015 DLM

PLOT SCALE - 1"=30'

PLOT NAME - 2



PLOTTED FROM - TRAB17879

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0295(39)132, NH 014B(04)418 NH-P 0014(184)418	S2	S49

Revised 03/23/15 CP

SECTION S – ESTIMATE OF QUANTITIES – NH-P 0014(184)418, PCN 035T

Bid Item Number	Item	Quantity	Unit
110E0100	Remove Concrete Footing(s)	Lump Sum	LS
110E0130	Remove Traffic Sign	151	Each
110E7150	Remove Sign for Reset	22	Each
632E1320	2.0"x2.0" Perforated Tube Post	1,408.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	377.0	Ft
632E2020	4"x4" White Delineator with 1.12 Lb/Ft Post	30	Each
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	54	Each
632E2220	Guardrail Delineator	36	Each
632E2510	Type 2 Object Marker Back to Back	5	Each
632E2520	Type 2 Object Marker	4	Each
632E3003	Aluminum Overlay Sign, Nonremovable Copy High Intensity	144.0	SqFt
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	809.5	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	840.3	SqFt
632E3500	Reset Sign	22	Each
635E5020	2' Diameter Footing	10.0	Ft
900E2024	Miscellaneous Work, Electrical	Lump Sum	LS

SECTION S – ESTIMATE OF QUANTITIES – NH 014B(04)418, PCN 035U

Bid Item Number	Item	Quantity	Unit
110E0130	Remove Traffic Sign	76	Each
110E7150	Remove Sign for Reset	12	Each
632E1320	2.0"x2.0" Perforated Tube Post	782.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	156.0	Ft
632E2020	4"x4" White Delineator with 1.12 Lb/Ft Post	7	Each
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	91	Each
632E2220	Guardrail Delineator	60	Each
632E2510	Type 2 Object Marker Back to Back	8	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	568.7	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	276.1	SqFt
632E3500	Reset Sign	12	Each

GENERAL PERMANENT SIGNING NOTES

Permanent sign locations shall be staked in the field by the Contractor and checked by the Engineer. The Contractor shall give the Engineer a minimum of one week to check staked locations prior to sign/post installation.

The Contractor shall be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

Prior to ordering sign posts, the Contractor shall verify post lengths.

REMOVE EXISTING SIGNS

Existing signs within the project limits are summarized in the Sign Table. This table provides the approximate MRM location for each sign. Existing signs in the table are indicated to be removed and not reused.

All existing signs and hardware listed to be removed shall become the property of the Contractor.

Holes remaining from the removal of 4"x6" sign posts shall be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

All costs associated with the removal of existing signs, posts, and hardware shall be incidental to the contract unit price per each for REMOVE TRAFFIC SIGN.

All existing sign posts and/or sign bases shall be removed in their entirety.

DATE DECALS

The Contractor shall furnish and affix a date decal to each new sign installed. Date decals shall be self-adhesive weather resistant stickers with removable paper backing, approximately 2" X 2" in size. The date decal shall display the last two digits of the year the sign was manufactured with black numerals on a white background.

One decal shall be placed in the extreme lower left corner of the front of each extruded aluminum panel sign, or the extreme lower left corner of the back of each flat aluminum sign.

Sign supports or other obstructions shall not block the view of the date decal upon completion of the sign installation.

All costs to furnish and install date decals on new signs shall be incidental to the contract unit price per square foot for, FLAT ALUMINUM SIGN, NONREMOVABLE COPY HIGH INTENSITY, or FLAT ALUMINUM SIGN, NONREMOVABLE COPY SUPER/VERY HIGH INTENSITY.

NEW PERMANENT SIGNING

New signs for installation are summarized in the Sign Table.

Sign Design

Signs shall be constructed as required per the Manual on Uniform Traffic Control Devices (MUTCD), the latest edition of "Standard Highway Signs", and as specified on the Special Sign Design sheets.

All sign material shall comply with Section 982 of the Specifications.

All upper/lower case letters and numerals shall be as required per the MUTCD, the latest edition of "Standard Highway Signs", and as illustrated on the Special Sign Design sheets.

The Contractor shall furnish the Aberdeen Region Traffic Engineer (P.O. Box 1767; Aberdeen, SD 57402) with a detailed sign layout sheet for each sign shown. These detailed sign layout shall be approved by the Region Traffic Engineer prior to ordering the signs.

Sign Sheeting

Signs shall be constructed using High Intensity (ASTM D4956 Type IV) or Super/Very High Intensity (ASTM D4956 Type XI) reflective sheeting as summarized in the US 14 & US 14B Permanent Sign Installation Tables.

All signs shall be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films. Digitally printed signs will not be accepted.

All black legend and borders shall be nonreflectorized (unless otherwise specified in these plans).

NEW PERMANENT SIGNING, CONTINUED

Sign Installation Hardware

Aluminum U-Channel stiffeners shall be used on all standard highway signs greater than 36 inches in width and shall conform to Alloy 6063-T6 or 6061-T6. The U-Channel shall be 2 inches in width and free of holes. The U-Channel stiffeners shall also be used to connect various signs together so that an entire sign assembly can be erected on a single installation.

Stiffeners may be fastened to signs by use of 1/4 inch diameter drive rivets.

Refer to the Breakaway Sign Supports diagram for typical sign and stiffener details.

The Contractor shall use 3/8 inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts shall extend through each post.

All costs associated with furnishing and installing the new permanent signs, furnishing and installing stiffeners and hardware shall be incidental to the contract unit price per square foot for FLAT ALUMINUM SIGN, NONREMOVABLE COPY HIGH INTENSITY, or FLAT ALUMINUM SIGN, NONREMOVABLE COPY SUPER/VERY HIGH INTENSITY.

REMOVE CONCRETE FOOTING

Concrete footings that are to be removed shall be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area shall be to the satisfaction of the Engineer.

The existing footing located at MRM 418.378 and 418.379 shall be removed by the Contractor

All costs for removing the concrete footings shall be incidental to the contract lump sum price for "Remove Concrete Footing(s)".

CONCRETE FOOTING

For concrete footing details see standard plate 635.55 in Section L.

TABLE OF FOOTING DATA

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
MRM 418.378, 418.379 Stop Ahead with Flashing Beacon	2' - 0"	5' - 0"	1' - 8"	39' - 0"	8-#7 x 4' - 6"

* Footing depth shall be below ground level.

** The size of all spirals shall be #3.

SQUARE TUBE ANCHOR SLEEVE

The Contractor shall furnish and install new square tube anchor sleeve as follows:

2.5" x 18", 12 Gauge square tube anchor sleeve, (or equivalent components as approved by the Engineer).

A 2.25" x 2.25" x 4' perforated tube post (12 Gauge) shall be used as the anchor post for installation with the square tube anchor sleeve.

SQUARE TUBE POST SLEEVE

All 2.5"x2.5" perforated tube post (10 Gauge) shall be sleeved with a 2 3/16"x2 3/16"x4' perforated tube post (10 Gauge).

WINGED SLIP BASE ANCHOR

The Contractor shall furnish and install new winged anchor as required per the plans.

Winged anchor shall be installed using direct drive method.

Winged anchor shall consist of a slip base (upper), 48 inch long winged anchor (lower), and hardware kit.

MISCELLANEOUS WORK, ELECTRICAL

The Contractor shall splice into the existing electrical cable to the flashing beacons that are listed to be moved at MRM 418.378 and 418.379. The Contractor shall install a type 1 electrical junction box (See Standard Plate 635.65 in Section L) at the splice. The Contractor shall install schedule 80 conduit under the roadway.

All costs associated with materials and labor for supplying power to the flashing beacons on the relocated signs shall be incidental to the contract lump sum price for MISCELLANEOUS WORK, ELECTRICAL.

MILEAGE REFERENCE MARKERS

MRMs (Mileage Reference Markers) are not to be disturbed. If an MRM is attached to a sign listed for replacement it shall be salvaged and reattached to the new sign in the same location. Payment for this work shall be incidental to the various signing contract items.

DELINEATION

All delineators shall be removed and shall become property of the Contractor. New delineators shall be installed at 528 Ft intervals. Payment for removal and installation of delineators shall be paid for at the contract unit price per each for "4"X4" White Delineator Back to Back with 1.12 Lb/Ft Post." The top of all delineators shall be 4 feet above the road surface.

