

# Department of Transportation

## Office of Project Development

700 E Broadway Avenue

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

FAX: 605/773-2614

October 2, 2015

### ADDENDUM NO. 1

**RE: Item #3, October 7, 2015 Letting - NH 0212(156)306, NH 0281(99)152, PCN 023T, 03HS, Spink County - Cold Milling Asphalt Concrete, Asphalt Concrete Resurfacing, ADA Upgrades, Signal & Roadway Lighting**

#### 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 Provision Checklist, dated 6/24/15 and replace it with the enclosed Special Provision Checklist, dated 9/21/15. "Agreement for use and restoration of detour and/or wet weather detour" was added to the checklist.

Please add "Agreement for use and restoration of detour and/or wet weather detour" after the "Special Provision for Contract Time, dated 8/24/15.

**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 250E0010 "Incidental Work"

Bid Item 635E5535 "Sawed-In, Preformed Detector Loop"

**Bid Items were removed:**

Bid Item 635E5530 "Preformed Detector Loop"

**PLANS:** Please destroy sheets A2, B2, F3, and L2, and replace with the enclosed sheets, dated 9/25/15 and 9/28/15. Sheet A2a was added.

**Sheet A2:** Bid Item 250E0010 "Incidental Work" and Bid Item 635E5535 "Sawed-In, Preformed Detector Loop" were added. Bid Item 635E5530 "Preformed Detector Loop" was removed.

**Sheet A2a:** Estimate of Quantities placement was adjusted.

**Sheet B2:** CONCRETE SIDEWALK AND CURB & GUTTER @ CONDUIT, JUNCTIONS BOX, AND FOOTING LOACTIONS note was added.

**Sheet F3:** BLEND, HAUL & STOCKPILE GRANULAR MATERIAL note was revised.

**Sheet L2:** Bid Item 250E0010 "Incidental Work" and Bid Item 635E5535 "Sawed-In, Preformed Detector Loop" were added. Bid Item 635E5530 "Preformed Detector Loop" was removed. INCIDENTAL WORK note was added.

**Sheets L12 & L24:** Items for "Sawed-In, Preformed Detector Loop" were added and items "Preformed Detector Loop" were removed from table.

**Sheet L36:** The standard plate for PREFORMED DETECTOR LOOPS (635.70) was replaced by the standard plate for SAWED-IN DETECTOR LOOP (635.71).

Sincerely,

Sam Weisgram  
Engineering Supervisor

SW/cj

CC: Jeff Senst, Aberdeen Region Engineer  
Brad Letcher, Huron Area Engineer

REV. 9/21/15

SPECIAL PROVISIONS

PROJECT NUMBER(S): NH 0212(156)306, NH 0281(99)152 PCN: 023T, 03HS

TYPE OF WORK: COLD MILLING ASPHALT CONCRETE, ASPHALT CONCRETE  
RESURFACING, ADA UPGRADES, SIGNAL & ROADWAY LIGHTING

COUNTY: SPINK

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.

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.

Dan Thielsen is the official in charge of the Aberdeen Career Center for Spink County.

**THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:**

**Special Provision for Contract Time, dated 8/24/15.**

**Agreement for Use and Restoration of Detour and/or Wet Weather Detour.**

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

**Special Provision Regarding Railroad Insurance Requirements, dated 8/24/15.**

NOTE: The contractor WILL NOT be granted permission to proceed with any work on Railroad Right-of-Way until he has been notified by the Railroad that his insurance has been approved and the insurances and certificates has been provided to the SDDOT Area Office.

**Special Provision For Working on Railroad Property, dated 8/24/15.**

**Special Provision for Flexible Pavement Smoothness, dated 7/21/15.**

**Special Provision for Signal Head Battery Backup and Flash System, dated 8/24/15.**

**Special Provision for Optical Activated Emergency Vehicle  
Pre-Emption System, dated 8/24/15.**

**List of Utilities.**

**Special Provision for Contractor Administered Preconstruction Meeting, dated 4/18/13.**

Fuel Adjustment Affidavit, DOT form 208 dated 7/15.

Standard Title VI Assurance, dated 7/14/08.

Special Provision For Disadvantaged Business Enterprise, dated 5/20/15.

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.

Special Provision for Price Schedule for Miscellaneous Items, dated 8/3/15.

\* \* \* \*

**SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION  
AGREEMENT FOR USE AND RESTORATION OF DETOUR  
AND/OR WET WEATHER DETOUR**

Agreement #   1    
File #           

This Agreement is made by and between the State of South Dakota, acting by and through its Department of Transportation, hereafter referred to as "STATE," and City of Redfield, South Dakota, hereafter referred to as "GOVERNING AGENCY."

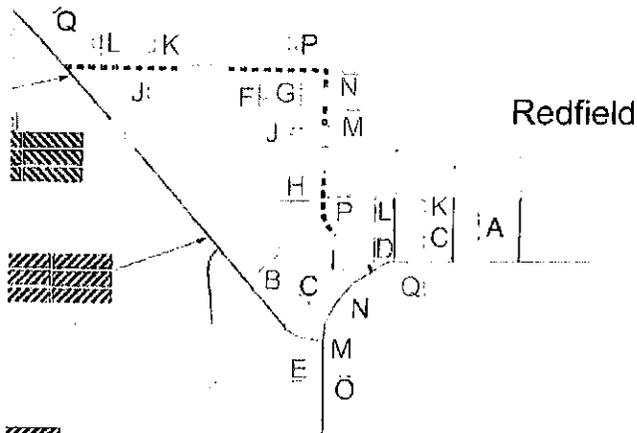
WHEREAS, the STATE has authorized the preliminary engineering for Highway Project Number NH 0212(160)306 and in order to complete said project it may become necessary to detour traffic over a portion of the Highway System of GOVERNING AGENCY.

NOW, THEREFORE, in consideration of the mutual promises and obligations set out in this Agreement, the parties agree as follows:

1. The portion of the GOVERNING AGENCY'S highway system which may be used as a detour road by the STATE is identified as follows and will hereinafter be referred to as the "DETOUR ROAD":

4<sup>th</sup> Avenue between US 212 and 3<sup>rd</sup> Street; 3<sup>rd</sup> Street between 4<sup>th</sup> Avenue and Pope Lane; and Pope Lane between 3<sup>rd</sup> Street and US 212 & 281

Car Detour Route  
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2. Unless otherwise agreed herein, the STATE or the STATE'S Assignee, will restore the DETOUR ROAD, after it has been used as a detour, to the condition which existed immediately prior to the STATE'S use or as near as possible thereto. Estimates and projections concerning loss of useful life will not be considered in determining the restored condition of the highway roadbed and highway appurtenances.

3. An inspection team, consisting of representatives of the GOVERNING AGENCY and the STATE, will inspect the DETOUR ROAD prior to its use as a detour to determine and record its existing condition, including the type, thickness, and width of surfacing material in place. Authorized representatives of the GOVERNING AGENCY and the STATE will sign the report of the inspection, thereby agreeing to the original condition of the DETOUR ROAD as contained in the report.
4. The STATE or the STATE'S Assignee will be responsible for the maintenance of the DETOUR ROAD during the time the DETOUR ROAD is used as a detour.
5. The STATE or the STATE'S Assignee shall erect and maintain all traffic control signs, devices, and pavement markings necessary for the safe and efficient flow of traffic while the DETOUR ROAD is being used for a detour.
6. Once the STATE is no longer using the DETOUR ROAD as a detour, the GOVERNING AGENCY shall be responsible for maintenance of the DETOUR ROAD.
7. It is further agreed the use of the DETOUR ROAD shall be subject to the following additional conditions:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

IN WITNESS WHEREOF, the said parties hereto have caused this Agreement to be entered into be their respective and duly authorized representatives.

Name of Governing Agency:

Redfield, South Dakota

State of South Dakota  
 Department of Transportation

By: *Adam J. Thomas*

By: *Mark J. [Signature]*

Its: Finance Officer

Its: Engineer III

Date: 9-11-15

Date: 9/11/15

Attest:

*Shelly [Signature]*  
 Financial Clerk/Auditor

(Seal)

# ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT NH 0212(156)306 NH 0281(99)152	SHEET A2	TOTAL SHEETS A3
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Plotting Date: 10/02/2015 Revision Date: 10/2/2015 RG

## Signal and Lighting – Section L 023T

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1520	Remove Signal Equipment	Lump Sum	LS
110E1530	Remove Signal Pole Footing	6	Each
110E1540	Remove Luminaire Pole Footing	20	Each
110E5110	Salvage Signal Equipment	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	28	Each
635E2135	Signal Pole with 35' Mast Arm and Luminaire Arm	2	Each
635E2140	Signal Pole with 40' Mast Arm and Luminaire Arm	2	Each
635E3340	Roadway Luminaire, 400 Watt with Photoelectric Cell	32	Each
635E4010	1 Section Vehicle Signal Head	4	Each
635E4030	3 Section Vehicle Signal Head	16	Each
635E5020	2' Diameter Footing	280.0	Ft
635E5030	3' Diameter Footing	50.0	Ft
635E5302	Type 2 Electrical Junction Box	23	Each
635E5303	Type 3 Electrical Junction Box	3	Each
635E5400	Electrical Service Cabinet	3	Each
635E5430	Traffic Signal Controller	1	Each
635E5510	Signal Flasher Unit	2	Each
635E5515	Signal Head Battery Backup and Flash System	1	Each
635E5535	Sawed-In, Preformed Detector Loop	20	Each
635E5550	Detector Unit	10	Each
635E5560	Emergency Vehicle Preemption Unit	1	Each
635E5570	Optical Detector	4	Each
635E5900	Pedestrian Push Button	8	Each
635E5910	Pedestrian Push Button Pole	8	Each
635E5922	Pedestrian Signal Head with Countdown Timer	8	Each
635E5930	Pedestrian Crossing Sign	8	Each
635E8120	2" Rigid Conduit, Schedule 40	5,455	Ft
635E8130	3" Rigid Conduit, Schedule 40	275	Ft
635E8150	5" Rigid Conduit, Schedule 40	20	Ft
635E8220	2" Rigid Conduit, Schedule 80	2,070	Ft
635E8230	3" Rigid Conduit, Schedule 80	250	Ft
635E8240	4" Rigid Conduit, Schedule 80	105	Ft
635E9011	1/C #1 AWG Copper Wire	9,935	Ft
635E9012	1/C #2 AWG Copper Wire	8,625	Ft
635E9014	1/C #4 AWG Copper Wire	8,480	Ft
635E9016	1/C #6 AWG Copper Wire	4,970	Ft
635E9020	1/C #10 AWG Copper Wire	2,920	Ft

## Signal and Lighting – Section L, Continued 023T

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E9024	1/C #14 AWG Copper Wire	2,240	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	2,055	Ft
635E9507	7/C #14 AWG Copper Tray Cable, K2	670	Ft
635E9519	19/C #14 AWG Copper Tray Cable, K2	670	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	1,945	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	2,080	Ft
635E9800	Preemption Cable	1,745	Ft

## 03HS

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1520	Remove Signal Equipment	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	6	Each
635E3340	Roadway Luminaire, 400 Watt with Photoelectric Cell	6	Each
635E4010	1 Section Vehicle Signal Head	4	Each
635E5020	2' Diameter Footing	60.0	Ft
635E5302	Type 2 Electrical Junction Box	2	Each
635E5400	Electrical Service Cabinet	1	Each
635E5510	Signal Flasher Unit	2	Each
635E8120	2" Rigid Conduit, Schedule 40	940	Ft
635E8130	3" Rigid Conduit, Schedule 40	35	Ft
635E8220	2" Rigid Conduit, Schedule 80	220	Ft
635E9016	1/C #6 AWG Copper Wire	4,480	Ft
635E9020	1/C #10 AWG Copper Wire	1,745	Ft
635E9024	1/C #14 AWG Copper Wire	480	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	390	Ft
900E5840	Permanent Vehicle Classification System	1	Each

## Pavement Marking – Section M 023T

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0030	Cold Applied Plastic Pavement Marking, 24"	1,045	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	8	Each
633E0050	Cold Applied Plastic Pavement Marking, Message	6	Word
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each
633E1300	Pavement Marking Paint, White	221	Gal
633E1305	Pavement Marking Paint, Yellow	74	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	1,045	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	8	Each
633E5035	Grooving for Cold Applied Plastic Pavement Marking, Message	6	Word
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each

## 03HS

Bid Item Number	Item	Quantity	Unit
633E0030	Cold Applied Plastic Pavement Marking, 24"	230	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	2	Each
633E0050	Cold Applied Plastic Pavement Marking, Message	7	Word
633E1300	Pavement Marking Paint, White	9	Gal
633E1305	Pavement Marking Paint, Yellow	29	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	230	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	2	Each
633E5035	Grooving for Cold Applied Plastic Pavement Marking, Message	7	Word

# ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0212(156)306 NH 0281(99)152	A2a	A3

Plotting Date: 09/29/2015 Revision Date: 9/28/15 RG

## Permanent Signing – Section S

### 023T

Bid Item Number	Item	Quantity	Unit
110E0130	Remove Traffic Sign	92	Each
110E7150	Remove Sign for Reset	2	Each
632E1320	2.0"x2.0" Perforated Tube Post	793.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	44.0	Ft
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	100	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	383.8	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	236.5	SqFt
632E3500	Reset Sign	2	Each

### 03HS

Bid Item Number	Item	Quantity	Unit
110E0130	Remove Traffic Sign	27	Each
110E7150	Remove Sign for Reset	4	Each
632E1320	2.0"x2.0" Perforated Tube Post	294.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	28.0	Ft
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	123.2	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	63.3	SqFt
632E3500	Reset Sign	4	Each

Plot Scale - 1:200

Plotted From - tpr13418

File - .../spmk023T/NotesSectionA.dgn

**SECTION B ESTIMATE OF QUANTITIES**
**03HS**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	358	Ft
110E0310	Remove Concrete Curb	7	Ft
110E1010	Remove Asphalt Concrete Pavement	100.1	SqYd
110E1100	Remove Concrete Pavement	401.2	SqYd
110E1140	Remove Concrete Sidewalk	539.0	SqYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
380E4010	6" PCC Fillet Section	107.4	SqYd
380E4050	8" PCC Fillet Section	426.8	SqYd
650E0060	Type B66 Concrete Curb and Gutter	74	Ft
650E0080	Type B68 Concrete Curb and Gutter	82	Ft
651E0040	4" Concrete Sidewalk	5,277	SqFt
651E0060	6" Concrete Sidewalk	154	SqFt
651E7000	Type 1 Detectable Warnings	370	SqFt
671E7010	Adjust Manhole	1	Each
734E0010	Erosion Control	Lump Sum	LS

**023T**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	1,364	Ft
110E0310	Remove Concrete Curb	21	Ft
110E0320	Remove Concrete Gutter	304	Ft
110E1010	Remove Asphalt Concrete Pavement	357.1	SqYd
110E1100	Remove Concrete Pavement	62.2	SqYd
110E1110	Remove Concrete Approach Pavement	43.6	SqYd
110E1140	Remove Concrete Sidewalk	762.0	SqYd
110E1300	Remove Concrete Retaining Wall	18.0	Ft
110E7700	Remove Drop Inlet Frame and Grate Assembly for Reset	1	Each
230E0100	Remove and Replace Topsoil	Lump Sum	LS
380E3020	6" PCC Driveway Pavement	7.3	SqYd
380E4010	6" PCC Fillet Section	353.9	SqYd
451E6080	Adjust Water Valve Box	1	Each
530E0300	Type C Concrete Retaining Wall	36	SqFt
650E0060	Type B66 Concrete Curb and Gutter	450	Ft
650E0080	Type B68 Concrete Curb and Gutter	353	Ft
650E3060	Type B6 Concrete Curb	10	Ft
650E4680	Type P8 Concrete Gutter	24	Ft
650E6060	6" Concrete Valley Gutter	198	Ft
651E0040	4" Concrete Sidewalk	9,661	SqFt
651E7000	Type 1 Detectable Warnings	858	SqFt
651E7010	Type 2 Detectable Warnings	32	SqFt
670E6000	Adjust Drop Inlet	3	Each
670E7000	Reset Drop Inlet Frame and Grate Assembly	1	Each
734E0010	Erosion Control	Lump Sum	LS
998E0100	Railroad Protective Insurance	Lump Sum	LS

**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.

**ADJUSTMENT OF MANHOLES**

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

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

**TABLE OF ADJUST MANHOLES**

Station	L/R	Type of Adjustment
47+98	R	Lower 2"

**TABLE FOR ADJUSTMENT OF WATER VALVES**

Station	Adjustment
B 3+45 - L	Lower 2"

**ADJUSTMENT OF DROP INLETS**

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

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

**TABLE FOR ADJUSTMENT OF DROP INLETS**

Station	Adjustment
a -0+67 - 32' L	Raise 2"
b 4+05 - 33.8' L	Raise 2"
b 4+14 - 32.6' R	Raise 2"

**TABLE FOR REMOVE AND RESET DROP INLET FRAME AND GRATE ASSEMBLY**

Station
a 3+62.77-39.9' L

**6" & 8" PCC FILLET SECTIONS**

Payment for "6" PCC Fillet Section" & "8" PCC Fillet Section" shall be based on plans quantity. If additions or reductions to the area of PCC fillet sections are ordered by the Engineer, payment will be made in accordance with the contract unit price per square yard for "6" PCC Fillet Section" & "8" PCC Fillet Section".

**6" WIDE VERTICAL CURB BEHIND SIDEWALK**

There are locations behind and beside new sidewalk and curb ramps that call for a 6" wide vertical curb with a maximum height of 12" (See Curb Ramp Detail Sheets). The 6" wide vertical curb shall be constructed according to the specifications given in Detail D on Standard Plate 651.03 (Type 3 Curb Ramp), regardless of the type of curb ramp is installed in these quadrants.

All costs to construct the 6" wide vertical curb with a maximum height of 12" shall be incidental to the contract unit price per square foot for "4" Concrete Sidewalk."

**CURB AND GUTTER REPLACEMENT**

At the following locations not shown on the curb ramp details the curb and gutter is being replaced. Station b 0+30 to b 0+40-R and Station b 2+20 to b 2+30-L. The Contractor shall verify these locations with the Engineer. The quantities for the removal and replacement of the curb and gutter are included in the Table of Pavement, Curb and Gutter, and Sidewalk Quantities.

**CONCRETE SIDEWALK ADJACENT TO BUILDINGS**

When placing sidewalk adjacent to buildings, the elevation of the new sidewalk may be either higher or lower than the existing sidewalk. This may require that modifications be made to building exteriors, such as removal of siding, installation of flashing, etc. Building modifications shall be approved by the Engineer. All costs associated with modifying buildings for sidewalk placement shall be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.

**CONCRETE SIDEWALK AND CURB & GUTTER @ CONDUIT, JUNCTIONS BOX, AND FOOTING LOCATIONS**

Any removal and replacement of concrete sidewalk and curb & gutter necessary for installation of conduit, junction boxes, and footings shall be incidental to the contract lump sum price for Incidental Work as noted in Section L of these plans.

**SECTION L ESTIMATE OF QUANTITIES PCN 023T**

DESCRIPTION	QUANTITY	UNIT
Remove Signal Equipment	Lump Sum	LS
Remove Signal Pole Footing	6	Each
Remove Luminaire Pole Footing	20	Each
Salvage Signal Equipment	Lump Sum	LS
Incidental Work	Lump Sum	LS
Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	28	Each
Signal Pole with 35' Mast Arm and Luminaire Arm	2	Each
Signal Pole with 40' Mast Arm and Luminaire Arm	2	Each
Roadway Luminaire, 400 Watt with Photoelectric Cell	32	Each
1 Section Vehicle Signal Head	4	Each
3 Section Vehicle Signal Head	16	Each
2' Diameter Footing	280.0	Ft
3' Diameter Footing	50.0	Ft
Type 2 Electrical Junction Box	23	Each
Type 3 Electrical Junction Box	3	Each
Electrical Service Cabinet	3	Each
Traffic Signal Controller	1	Each
Signal Flasher Unit	2	Each
Signal Head Battery Backup and Flash System	1	Each
Sawed-In, Preformed Detector Loop	20	Each
Detector Unit	10	Each
Emergency Vehicle Preemption Unit	1	Each
Optical Detector	4	Each
Pedestrian Push Button	8	Each
Pedestrian Push Button Pole	8	Each
Pedestrian Signal Head with Countdown Timer	8	Each
Pedestrian Crossing Sign	8	Each
2" Rigid Conduit, Schedule 40	5,455	Ft
3" Rigid Conduit, Schedule 40	275	Ft
5" Rigid Conduit, Schedule 40	20	Ft
2" Rigid Conduit, Schedule 80	2,070	Ft
3" Rigid Conduit, Schedule 80	250	Ft
4" Rigid Conduit, Schedule 80	105	Ft
1/C #1 AWG Copper Wire	9,935	Ft
1/C #2 AWG Copper Wire	8,625	Ft
1/C #4 AWG Copper Wire	8,480	Ft
1/C #6 AWG Copper Wire	4,970	Ft
1/C #10 AWG Copper Wire	2,920	Ft
1/C #14 AWG Copper Wire	2,240	Ft
4/C #14 AWG Copper Tray Cable, K2	2,055	Ft
7/C #14 AWG Copper Tray Cable, K2	670	Ft
19/C #14 AWG Copper Tray Cable, K2	670	Ft
#16 AWG Copper Twisted Shielded Pair	1,945	Ft
2/C #10 AWG Copper Pole and Bracket Cable	2,080	Ft
Preemption Cable	1,745	Ft

**SECTION L ESTIMATE OF QUANTITIES PCN 03HS**

DESCRIPTION	QUANTITY	UNIT
Remove Signal Equipment	Lump Sum	LS
Incidental Work	Lump Sum	LS
Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	6	Each
Roadway Luminaire, 400 Watt with Photoelectric Cell	6	Each
1 Section Vehicle Signal Head	4	Each
2' Diameter Footing	60.0	Ft
Type 2 Electrical Junction Box	2	Each
Electrical Service Cabinet	1	Each
Signal Flasher Unit	2	Each
2" Rigid Conduit, Schedule 40	940	Ft
3" Rigid Conduit, Schedule 40	35	Ft
2" Rigid Conduit, Schedule 80	220	Ft
1/C #6 AWG Copper Wire	4,480	Ft
1/C #10 AWG Copper Wire	1,745	Ft
1/C #14 AWG Copper Wire	480	Ft
2/C #10 AWG Copper Pole and Bracket Cable	390	Ft
Permanent Vehicle Classification System	1	Each

**SUPPLYING AS BUILT PLANS**

If the traffic signal systems or roadway lighting systems are constructed differently than what is stated in the plans, the Contractor shall supply as built plans to the Engineer and a copy shall be sent to the Traffic Design Engineer. The as built plans may include conduit layouts, wiring diagrams, or other drawings depicting the changes from the original plans.

**SHOP DRAWING AND CATALOG CUTS SUBMITTALS**

The Contractor shall submit shop drawings and catalog cuts in accordance with Section 985 of the Specifications.

Adobe PDF submittals shall be sent to the following email addresses:

[Norris.Leone@state.sd.us](mailto:Norris.Leone@state.sd.us)  
[Pete.Longman@state.sd.us](mailto:Pete.Longman@state.sd.us)

**INCIDENTAL WORK**

The restoration of areas being disturbed due to installation of conduit, electrical junction boxes, and footings shall be incidental to the contract lump sum price for Incidental Work. This work includes but is not limited removal and replacement of concrete sidewalk and Curb & Gutter, as well as any landscaping and seeding/sodding necessary to restore the disturbed areas to the satisfaction of the Engineer.

**SALVAGE SIGNAL EQUIPMENT**

Existing signal equipment shall be salvaged and delivered to the City of Redfield by the Contractor. The Contractor shall notify the City 5 days before the delivery of the salvaged signal equipment. The City contact is Adam Hansen at (605) 472-4550.

All costs for work involved in the salvage and delivery of the existing signal equipment shall be incidental to the contract lump sum price for "Salvage Signal Equipment".

**SALVAGE LUMINAIRE POLE**

Existing luminaire poles EL2-EL32 are property of NorthWestern Energy. The Contractor shall coordinate the removal of luminaire poles EL2-EL32 and the installation of new luminaire poles L1-L34 with NorthWestern Energy. NorthWestern shall be responsible for removing the existing lighting. The NorthWestern Energy contact is Todd Fenner at (605) 450-0747.

All costs for work involved in coordinate the removal of the existing luminaire poles shall be incidental to the contract unit price per each for "Breakaway Base Luminaire Pole with Arm, 50' Mounting Height".

**REMOVE SIGNAL POLE FOOTING**

The footings of existing signal poles EA1-EA4, ESC1-ESC2 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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0212(156)306 NH 0281(99)152	L2	L38

Plotting Date: 10/02/2015 Revision Date: 10/02/2015 NL

All costs for removing the footings of the existing signal poles shall be incidental to the contract unit price per each for "Remove Signal Pole Footing".

**REMOVE LUMINAIRE POLE FOOTING**

The footings of existing luminaire poles EL2-EL21 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.

All costs for removing the footings of the existing luminaire poles shall be incidental to the contract unit price per each for "Remove Luminaire Pole Footing".

**FOOTING DATA**

Subsurface conditions within the project will consist of glacial till derived soils. These soils will vary from silt-clay to clay-sand with trace gravel layers at various depths throughout the project.

The subsurface conditions at the intersection of US212 & 281/Seventh Ave. and Main St. consist of brown to gray silt-clay to 20 feet below the surface with trace gravel layers at various depths throughout the intersection. Neither water levels nor hole stability information were recorded during the investigation in 1974. However, the boring placed in the northwest corner of the intersection was logged as being wet below 13 feet.

During construction of the cylindrical footings, concrete placement operations should closely follow excavation procedures. The longer the excavations are left open the more likely caving may occur. If caving soils are encountered during excavation, casing may be required to construct the cylindrical footings.

Concrete shall not be dropped through standing water. If water is present in the excavation it shall be removed prior to concrete placement or the concrete shall be tremied. If caving occurs during dewatering the concrete shall be placed through a tremie or by means of a casing.

The boring logs and laboratory tests are available for review at the Central Office in Pierre. If questions arise or additional information is needed concerning the cylindrical footings contact the Geotechnical Engineering Activity in Pierre at (605) 773 3401.

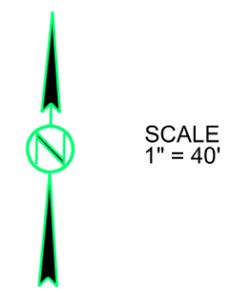
**TABLE OF FOOTING DATA**

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
L1-L34	2' - 0"	10' - 0"	1' - 8"	65' - 3"	8-#7 x 9' - 6"
A2, A4	3' - 0"	12' - 0"	2' - 8"	120' - 9"	14-#8 x 11' - 6"
A1, A3	3' - 0"	13' - 0"	2' - 8"	129' - 3"	14-#8 x 12' - 6"

\* Footing depth shall be below ground level.  
 \*\* The size of all spirals shall be #3.

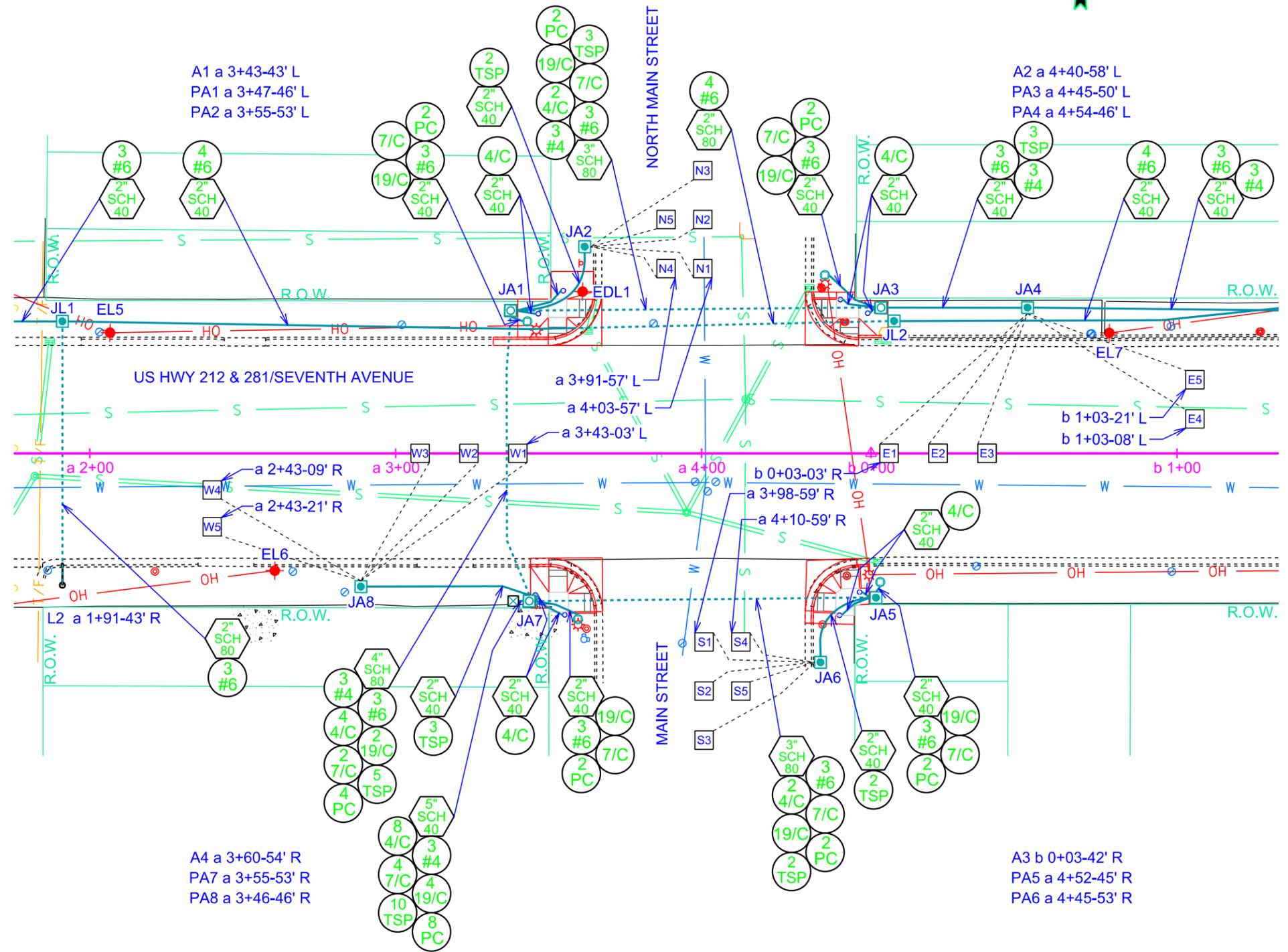
# CONDUIT LAYOUT

## US HWY 212 & 281/SEVENTH AVENUE & MAIN STREET



### ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
○	3' DIAMETER FOOTING (A1-A4)	50	EACH
□	TYPE 2 ELECTRICAL JUNCTION BOX (JA2, JA4, JA5, JA6, JA8)	5	EACH
◻	TYPE 3 ELECTRICAL JUNCTION BOX (JA1, JA3, JA7)	3	EACH
▲	ELECTRICAL SERVICE CABINET	1	EACH
∅	GALVANIZED STEEL UTILITY POLE NOT A BID ITEM	1	EACH
⊕	METER SOCKET NOT A BID ITEM	1	EACH
⊞	TRAFFIC SIGNAL CONTROLLER	1	EACH
□	SAWED-IN, PREFORMED DETECTOR LOOP (N1-N5, E1-E5, S1-S5, W1-W5)	20	EACH
	DETECTOR UNIT	10	EACH
⬡	2" RIGID CONDUIT, SCHEDULE 40	565	FT
⬡	5" RIGID CONDUIT, SCHEDULE 40	20	FT
⬡	3" RIGID CONDUIT, SCHEDULE 80	250	FT
⬡	4" RIGID CONDUIT, SCHEDULE 80	105	FT
○	1/C #4 AWG COPPER WIRE	1,435	FT
○	1/C #6 AWG COPPER WIRE	2,020	FT
○	4/C #14 AWG COPPER TRAY CABLE, K2	2,055	FT
○	7/C #14 AWG COPPER TRAY CABLE, K2	670	FT
○	19/C #14 AWG COPPER TRAY CABLE, K2	670	FT
○	#16 AWG COPPER TWISTED SHIELDED PAIR	1,945	FT
○	2/C #10 AWG COPPER POLE & BRACKET CABLE	260	FT
○	PREEMPTION CABLE	1,745	FT



Plot Scale - 1"=40'

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# SIGNAL TIMING

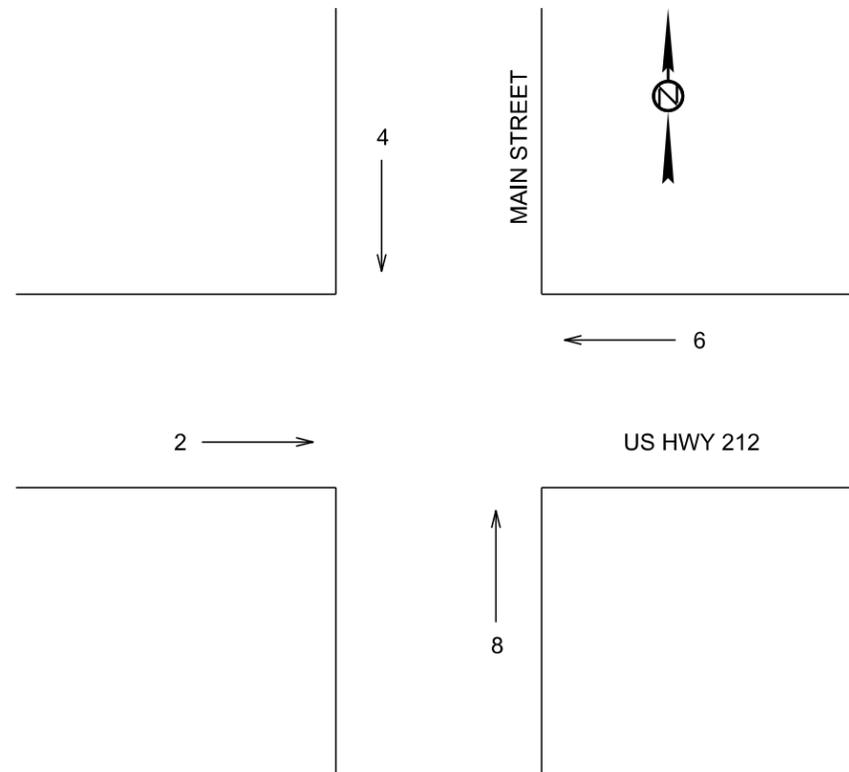
## US HWY 212 / SEVENTH AVENUE & MAIN STREET

PHASING AND SEQUENCING															
INTERVAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	FLASH DISPLAY
5, 6, 7, 8	G	Y		G	G	Y									R
13, 14, 15, 16	G	Y		G	G	Y									R
9, 10, 11, 12								G	Y		G	G	Y		Y
1, 2, 3, 4								G	Y		G	G	Y		Y
19, 20, 23, 24	DW	DW	DW	W	F DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	NO DISPLAY
17, 18, 21, 22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	F DW	DW	DW	NO DISPLAY
MOVEMENTS	4&8		4&8 W/PED			2&6		2&6 W/PED							
PHASES															

CONTROLLER TIMINGS (FREE OPERATION)								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE	←	→	↑	↓	←	→	↑	↓
MIN GREEN		12		7		12		7
ADDED INITIAL								
MAX INITIAL								
PASSAGE TIME		3.5		3		3.5		3
MAXIMUM 1		22		16		22		16
TIME BEFORE								
TIME TO REDUCE								
MINIMUM GAP								
YELLOW CHANGE		4		3.5		4		3.5
RED CLEARANCE		2.5		2.5		2.5		2.5
WALK		8		8		8		8
PED CLEARANCE		18		19		18		19
RECALL		SOFT		OFF		SOFT		OFF

TIMING PLAN 1	
TIME OF DAY (TOD)	PATTERN (C/S/O)
7:00 - 23:00	FREE
23:00 - 7:00	FLASH

WEEKLY PROGRAM							
	SUN	MON	TUE	WED	THU	FRI	SAT
TIMING PLAN	1	1	1	1	1	1	1

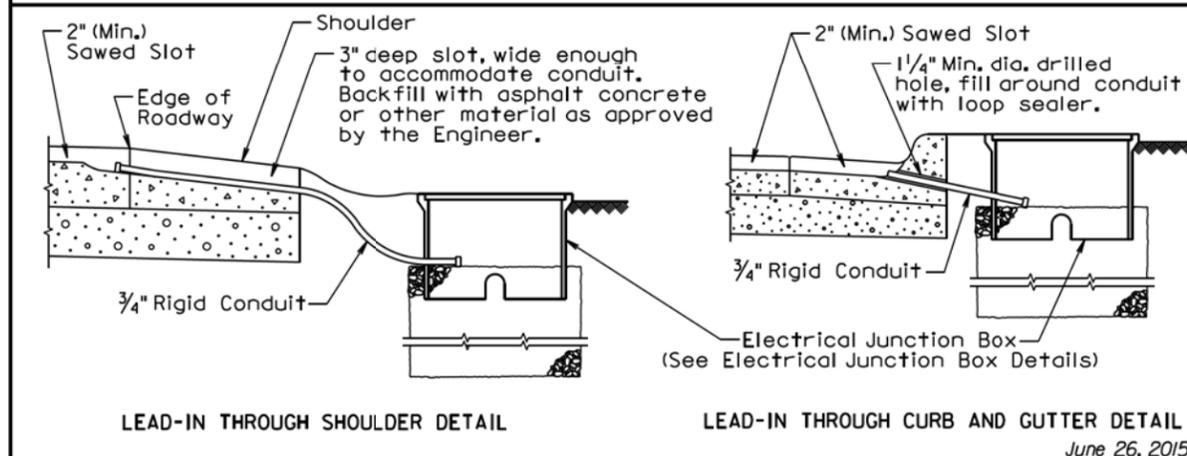
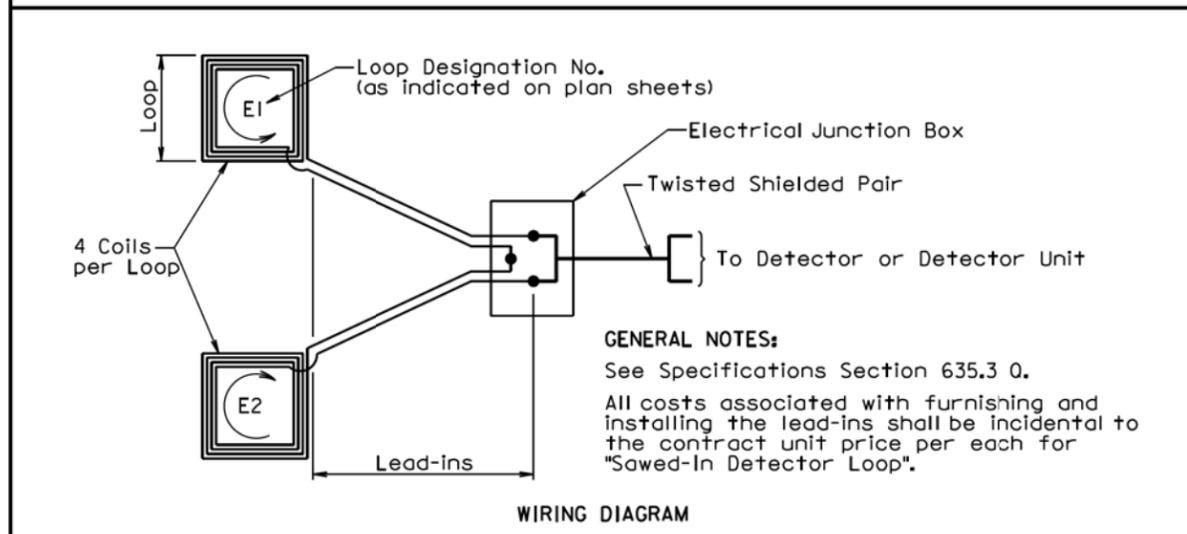
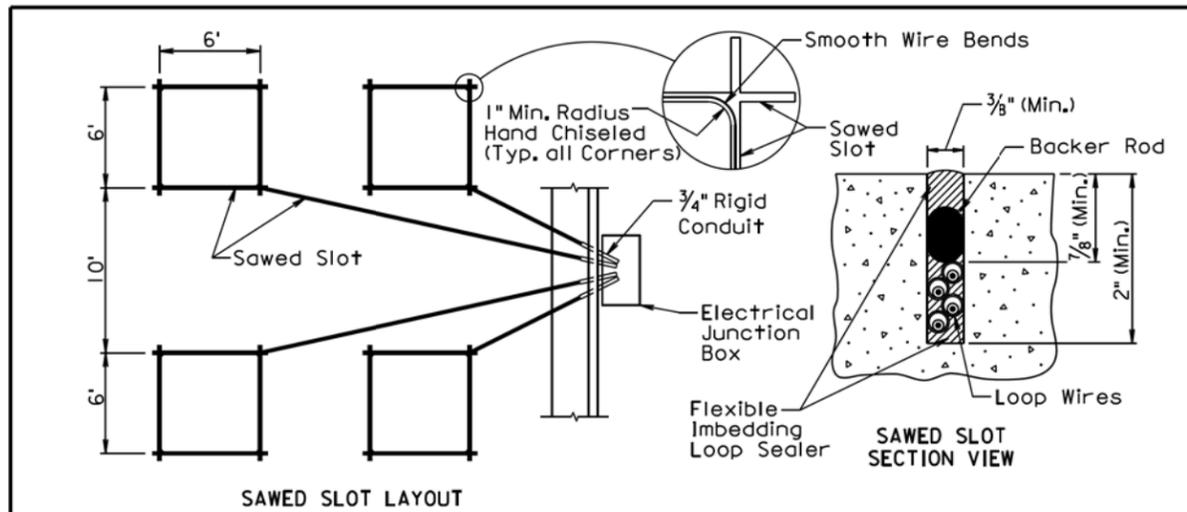


DETECTOR SETTINGS								
DETECTOR LABEL	AMPLIFIED CHANNEL DETECTOR	DETECTOR TYPE	DETECTOR OPERATION			LOCKING CALL	MOVEMENT CALLED	MOVEMENT EXTENDED
			CALLS & EXTENDS	CALLS ONLY	EXTENDS ONLY			
N1, N2, N3	1	SAWED-IN, PREFORMED	X				4	4&8
N4, N5	2	SAWED-IN, PREFORMED	X				4	4&8
S1, S2, S3	3	SAWED-IN, PREFORMED	X				8	4&8
S4, S5	4	SAWED-IN, PREFORMED	X				8	4&8
E1, E2, E3	5	SAWED-IN, PREFORMED	X				6	2&6
W1, W2, W3	6	SAWED-IN, PREFORMED	X				2	2&6
E4, E5	7	SAWED-IN, PREFORMED	X			X	6	2&6
W4, W5	8	SAWED-IN, PREFORMED	X			X	2	2&6

Plot Scale - 1:40

Plotted From - trpr14341

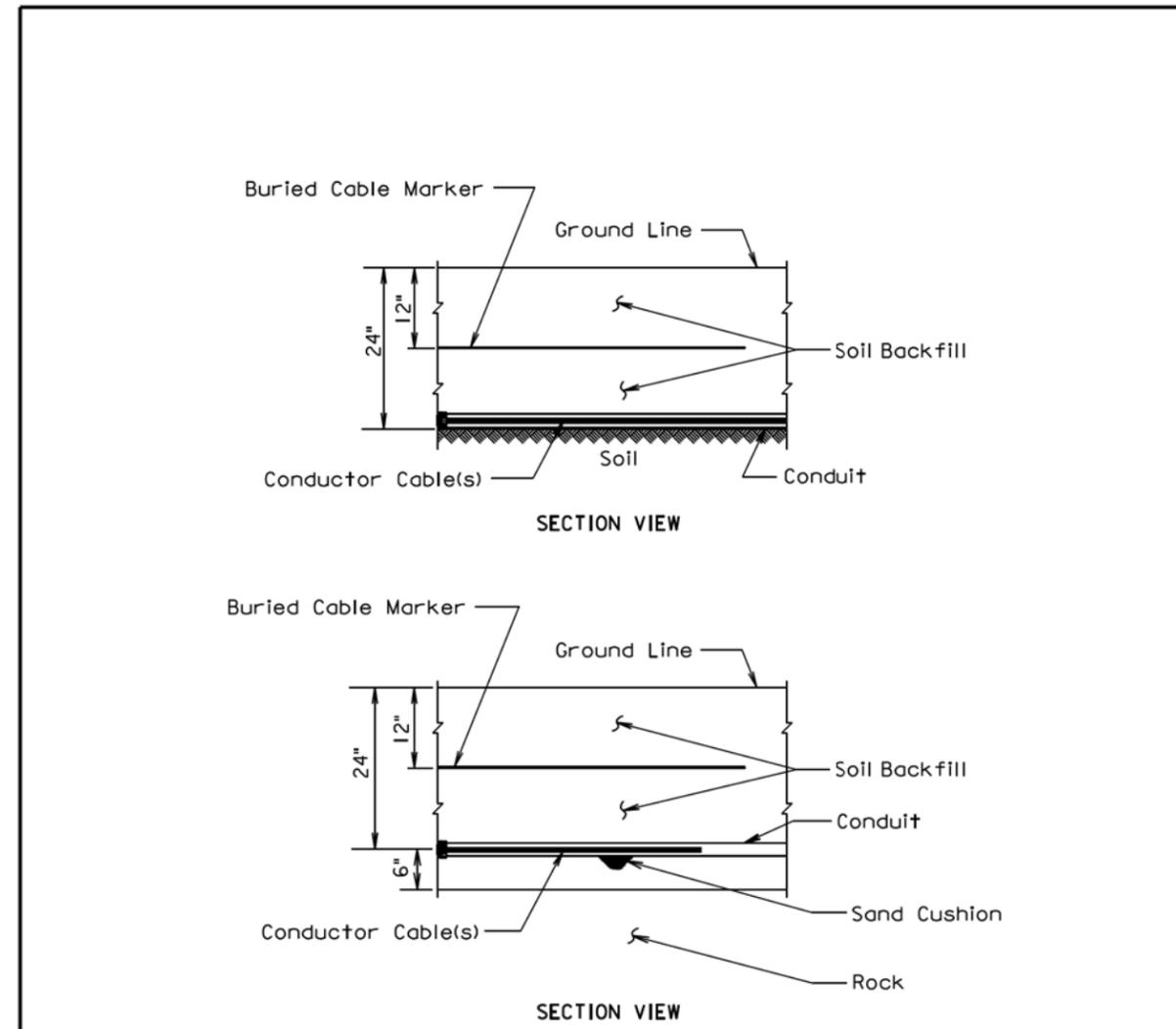
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SD DOT	SAWED-IN DETECTOR LOOP	PLATE NUMBER 635.71
		Sheet 1 of 1

Published Date: 3rd Qtr. 2015

June 26, 2015



**GENERAL NOTE:**  
The Buried Cable Marker shall be plastic, approximately 6" wide, and shall be capable of sustaining a minimum of a 350% tolerance of elongation without tearing. The Buried Cable Marker shall have a life expectancy approximately equal to that of the conductor(s) beneath it. A phrase indicating the presence of a buried electric circuit below shall be printed in a contrasting color on the cable marker. The Buried Cable Marker shall be subject to approval by the Engineer. All costs associated with furnishing and installing the Buried Cable Marker shall be incidental to the contract unit price per Foot for the bid item used for the electrical conductor.

SD DOT	CONDUIT INSTALLATION	PLATE NUMBER 635.76
		Sheet 1 of 1

Published Date: 3rd Qtr. 2015

March 31, 2000

Plot Scale - 1:200

- Plotted From - tpr14341

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