

October 9, 2025

ADDENDUM NO. 1

**RE: Item #1, October 15, 2025 Letting - EM 0292(88)73, IM 2292(104)0, PCN 06JQ, 07D0,
Lincoln County - Structures (276.5' Steel Girder, 313' Steel Girder, 11x10 CIP RCBC),
Grading, PCC Surfacing, Storm Sewer, Pavement Marking, Lighting, Signal, Sidewalk**

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

SDEBS BID PROPOSAL: *The electronic bid proposal for this contract has been revised to include the changes associated with this addendum. Bidders must log in to the SDEBS to retrieve and incorporate these changes into their bid.*

Bid Items were added:

Bid Item 120E7110 "Select Fill Material"

Bid Item 480E0518 "No. 18 Rebar Splice"

Bid Item 635E8415 "1" Innerduct, SDR 13.5"

Quantities for Bid Items were changed:

Bid Item 120E0600 "Contractor Furnished Borrow" changed from 585,739 to 336,748 CuYd

Bid Item 120E6200 "Water for Granular Material" changed from 779.3 to 790.0 MGal

Bid Item 260E2010 "Gravel Cushion" changed from 29,201.9 to 30,096.4 Ton

Bid Item 380E0080 "9.5" Nonreinforced PCC Pavement" changed from 22,662.1 to 26,069.8 SqYd

Bid Item 430E0700 "Precast Concrete Headwall for Drain" changed from 11 to 19 Each

Bid Item 510E0300 "Preboring Pile" changed from 200 to 280 Ft

Bid Item 635E5310 "Special Electrical Junction Box" changed from 69 to 73 Each

Bid Item 635E9020 "1/C #10 AWG Copper Wire" changed from 3,140 to 3,725 Ft

Bid Item 635E9022 "1/C #12 AWG Copper Wire" changed from 13,065 to 15,765 Ft

Bid Item 635E9924 "24 Strand Fiber Optic Cable" changed from 920 to 24,470 Ft

Bid Item 680E0260 "6" Corrugated Polyethylene Drainage Tubing" changed from 1,293 to 333 Ft

Bid Item 680E0660 "6" Slotted Corrugated Polyethylene Drainage Tubing" changed from 1,029 to 2,107 Ft

PLANS: Please destroy sheets A2, A4-A6, B2, B6, B8, B28, B32, B39, B49, B50, B64, B132, E2, E4, E17, E32, E62, E71, E75, E78, E115, F2, F4, F69, F70, L2, L11-L15, L28-L32, L37, L39, & L42-L45 and replace with the enclosed sheets, dated 10/8/25. Sheets B138A & F97A were added.

Sheets A2 & B2:

Section B – Grading PCN 06JQ

Bid Items were added:

Bid Item 120E7110 “Select Fill Material”

Bid Item 430E0700 “Precast Concrete Headwall for Drain”

Quantities for Bid Items were changed:

Bid Item 120E0600 “Contractor Furnished Borrow” changed from 585,739 to 336,748 CuYd

Bid Item 680E0260 “6” Corrugated Polyethylene Drainage Tubing” changed from 1,293 to 333 Ft

Bid Item 680E0660 “6” Slotted Corrugated Polyethylene Drainage Tubing” changed from 1,029 to 2,107 Ft

Sheets A4 & E2:

Section E – Structures PCN 06JQ Structure No. 42-065-016

Bid Items were added:

Bid Item 480E0518 “No. 18 Rebar Splice”

Bid Item 510E0300 “Preboring Pile”

Section E – Structures PCN 06JQ Structure No. 42-065-020

Bid Items were added:

Bid Item 480E0518 “No. 18 Rebar Splice”

Sheets A5 & F2:

Section F – Surfacing PCN 06JQ

Quantities for Bid Items were changed:

Bid Item 120E6200 “Water for Granular Material” changed from 430.4 to 441.1 MGal

Bid Item 260E2010 “Gravel Cushion” changed from 24,553.7 to 25,448.2 Ton

Bid Item 380E0080 “9.5” Nonreinforced PCC Pavement” changed from 22,662.1 to 26,069.8 SqYd

Sheets A6 & L2:

Section L – Signal & Lighting PCN 06JQ

Bid Items were added:

Bid Item 635E8415 “1” Innerduct, SDR 13.5”

Quantities for Bid Items were changed:

Bid Item 635E5310 “Special Electrical Junction Box” changed from 69 to 73 Each

Bid Item 635E9020 “1/C #10 AWG Copper Wire” changed from 1,920 to 2,505 Ft

Bid Item 635E9022 “1/C #12 AWG Copper Wire” changed from 13,065 to 15,765 Ft

Bid Item 635E9924 “24 Strand Fiber Optic Cable” changed from 920 to 24,470 Ft

Sheet B6: TABLE OF EXCAVATION QUANTITIES BY BALANCES was revised.

Select Fill Material item was added and associated quantity was removed from the Contractor Furnished Borrow item.

Sheet B8: SELECT FILL MATERIAL ADJACENT TO STRUCTURES note was revised.

Sheets B28, B32 & B39: Underdrain leader notes were revised.

Sheet B49: Revised underdrain outlet headwall locations near Ramp B and Ramp C. Added Install notes for Precast Concrete Headwall for Drain.

Sheet B50: Earthwork Table was revised.

Sheet B64: Earthwork Tables were added.

Sheet B132: Notes were revised.

Sheet B138A: Standard Plate 430.50 was added.

Sheets E4 & E17: Bid Item 480E0518 "No. 18 Rebar Splice" was added.

Sheet E32: Information Only Quantities were revised.

Sheet E62: Bid Item 480E0518 "No. 18 Rebar Splice" and Bid Item 510E0300 "Preboring Pile" were added.

ABUTMENTS note was revised. *Preboring pile note was added.*

Sheets E71 & E75: Bid Item 510E0300 "Preboring Pile" was added.

Sheet E78: Bid Item 480E0518 "No. 18 Rebar Splice" was added.

Sheet E115: RETAINING WALL, Note 5 was revised.

Sheet F4: TABLE OF 9.5" NONREINFORCED PCC PAVEMENT – PCN 06JQ was revised.

Sheets F69 & F70: PCC PAVEMENT JOINT LAYOUT was revised.

Sheet F97A: SPECIAL DETAIL was added.

Sheet L11: I-29 MEDIAN INNERDUCT note was added.

Sheets L12-L15: SIGNAL CONDUIT AND CABLE QUANTITIES table was revised.

Sheet L28: CONDUIT LAYOUT and ESTIMATE OF LIGHTING QUANTITIES – PCN 06JQ was revised.

Sheet L29, L30, L31, L32, L37, L39, L42, L43, L44 & L45: CONDUIT LAYOUT was revised.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/gp

CC: Travis Dressen, Mitchell Region Engineer
Harry Johnston, Sioux Falls Area Engineer

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

 Plotting Date: 10/8/2025	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	A2	A18
	Revised Date: 10/8/2025 Initials: NBG		

Section B - Grading
PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	62	Each
009E3230	Grade Staking	9.654	Mile
009E3245	Final Cross Section Survey	9.654	Mile
009E3250	Miscellaneous Staking	9.654	Mile
009E3280	Slope Staking	9.654	Mile
009E3290	Structure Staking	4	Each
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E4300	Construction Schedule, Category III	Lump Sum	LS
100E0020	Clear and Grub Tree	169	Each
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	8,780	Ft
110E0707	Remove High Tension 4 Cable Guardrail	362	Ft
110E0749	Remove High Tension 4 Cable Guardrail Anchor Assembly	3	Each
110E1100	Remove Concrete Pavement	10,689.9	SqYd
110E7000	Remove Crossover Closure for Reset	600	Ft
120E0010	Unclassified Excavation	180,689	CuYd
120E0420	Contractor Furnished Select Subgrade Topping	77,353	CuYd
120E0600	Contractor Furnished Borrow Excavation	336,748	CuYd
120E1000	Muck Excavation	25,713	CuYd
120E6100	Water for Embankment	6,842.0	MGal
120E6200	Water for Granular Material	250.7	MGal
120E7110	Select Fill Material	255,096	CuYd
120E7500	Aggregate Column	4,031.0	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	9,474.6	Ton
260E6010	Granular Material	200.0	Ton
270E0110	Salvage and Stockpile Granular Material	6,480.8	Ton
380E4070	9" PCC Fillet Section	130.2	SqYd
421E0100	Pipe Culvert Undercut	189	CuYd
430E0700	Precast Concrete Headwall for Drain	8	Each
450E0102	12" RCP Class 2, Furnish	284	Ft
450E0110	12" RCP, Install	284	Ft
450E0122	18" RCP Class 2, Furnish	4,830	Ft
450E0130	18" RCP, Install	4,830	Ft
450E0142	24" RCP Class 2, Furnish	364	Ft
450E0143	24" RCP Class 3, Furnish	396	Ft
450E0150	24" RCP, Install	760	Ft
450E0162	30" RCP Class 2, Furnish	204	Ft
450E0163	30" RCP Class 3, Furnish	708	Ft
450E0170	30" RCP, Install	912	Ft
450E0182	36" RCP Class 2, Furnish	104	Ft
450E0190	36" RCP, Install	104	Ft

Section B - Grading (Continued)
PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E2008	18" RCP Flared End, Furnish	8	Each
450E2009	18" RCP Flared End, Install	8	Each
450E2016	24" RCP Flared End, Furnish	4	Each
450E2017	24" RCP Flared End, Install	4	Each
450E2024	30" RCP Flared End, Furnish	12	Each
450E2025	30" RCP Flared End, Install	12	Each
450E2028	36" RCP Flared End, Furnish	2	Each
450E2029	36" RCP Flared End, Install	2	Each
450E3022	30" RCP Arch Class 2, Furnish	884	Ft
450E3030	30" RCP Arch, Install	884	Ft
450E3042	42" RCP Arch Class 2, Furnish	296	Ft
450E3050	42" RCP Arch, Install	296	Ft
450E4508	30" RCP Arch Flared End, Furnish	12	Each
450E4509	30" RCP Arch Flared End, Install	12	Each
450E4516	42" RCP Arch Flared End, Furnish	4	Each
450E4517	42" RCP Arch Flared End, Install	4	Each
450E4758	18" CMP 14 Gauge, Furnish	696	Ft
450E4760	18" CMP, Install	696	Ft
450E4768	24" CMP 14 Gauge, Furnish	134	Ft
450E4770	24" CMP, Install	134	Ft
450E5010	18" CMP Elbow, Furnish	20	Each
450E5011	18" CMP Elbow, Install	20	Each
450E5211	18" CMP Flared End, Furnish	9	Each
450E5212	18" CMP Flared End, Install	9	Each
450E5215	24" CMP Flared End, Furnish	2	Each
450E5216	24" CMP Flared End, Install	2	Each
462E0100	Class M6 Concrete	236.7	CuYd
464E0100	Controlled Density Fill	600.0	CuYd
480E0100	Reinforcing Steel	36,356	Lb
600E0300	Type III Field Laboratory	1	Each
621E0160	6' Chain Link Fence with Tension Wired Top	13,940	Ft
628E1500	Concrete Barrier End Protection	1	Each
629E0110	High Tension 4 Cable Guardrail	7,228	Ft
629E0290	High Tension Cable Guardrail Anchor Assembly	11	Each
* 629E1109	Furnish High Tension Cable Guardrail Post and Sleeve	50	Each
629E9050	Reset Crossover Closure	600	Ft
630E0500	Type 1 MGS	1,702.5	Ft
630E1500	Type 1 Guardrail Transition	1	Each
630E2018	MGS MASH Tangent End Terminal	9	Each
630E2065	MGS Trailing End Terminal	8	Each
635E8260	6" Rigid Conduit, Schedule 80	75	Ft
650E0090	Type B69 Concrete Curb and Gutter	138	Ft
650E0095	Type B69.5 Concrete Curb and Gutter	4,797	Ft

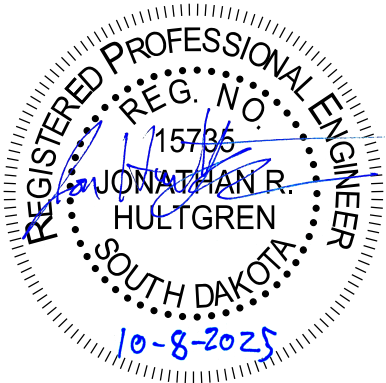
INDEX OF SHEETS

A2 to A7 Estimate of Quantities for Sections B, C, D, E, F, H, L, M, and S
A8 to A18 Environmental Commitments

Section B - Grading (Continued)
PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
650E0390	Type BL69 Concrete Curb and Gutter	7,194	Ft
650E2100	Special Concrete Curb and Gutter	7,772	Ft
651E0060	6" Concrete Sidewalk	74,305	SqFt
651E7000	Type 1 Detectable Warnings	698	SqFt
670E1200	Type B Frame and Grate	26	Each
670E2200	Type C Frame and Grate	2	Each
670E5200	Special Frame and Grate Assembly	1	Each
670E5200	Special Frame and Grate Assembly	2	Each
670E5200	Special Frame and Grate Assembly	35	Each
670E5200	Special Frame and Grate Assembly	1	Each
670E5200	Special Frame and Grate Assembly	4	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	8	Each
670E5400	Precast Drop Inlet Collar	28	Each
671E6010	Type A10 Manhole Frame and Lid	4	Each
671E7010	Adjust Manhole	1	Each
680E0224	4" PVC Outlet Pipe	13	Ft
680E0260	6" Corrugated Polyethylene Drainage Tubing	333	Ft
680E0660	6" Slotted Corrugated Polyethylene Drainage Tubing	2,107	Ft
700E0210	Class B Riprap	454.0	Ton
831E0110	Type B Drainage Fabric	657	SqYd
900E0010	Refurbish Single Mailbox	1	Each
900E1049	EPS Geomembrane	5,319.0	SqYd
900E1050	Expanded Polystyrene (EPS) Foam	7,936.0	CuYd
900E2030	Miscellaneous Work	7	Site

* - Denotes Non-Participating



Section D - Erosion and Sediment Control
(Continued)
PCN 07D0

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	3.2	CuYd
110E1693	Remove Erosion Control Wattle	350	Ft
110E1700	Remove Silt Fence	1,039	Ft
120E6300	Water for Vegetation	2,632.5	MGal
230E0010	Placing Topsoil	4,875	CuYd
730E0212	Type G Permanent Seed Mixture	236	Lb
731E0200	Fertilizing	6.80	Ton
732E0300	Bonded Fiber Matrix	17.7	Ton
734E0044	Soil Stabilizer	9.1	Acre
734E0154	12" Diameter Erosion Control Wattle	1,400	Ft
734E0165	Remove and Reset Erosion Control Wattle	350	Ft
734E0602	Low Flow Silt Fence	4,199	Ft
734E0610	Mucking Silt Fence	288	CuYd
734E0620	Repair Silt Fence	1,039	Ft
734E5005	Dewatering	Lump Sum	LS
734E5010	Sweeping	24	Hour
900E1310	Concrete Washout Facility	2	Each
900E1320	Construction Entrance	1	Each

Section E - Structures
PCN 06JQ

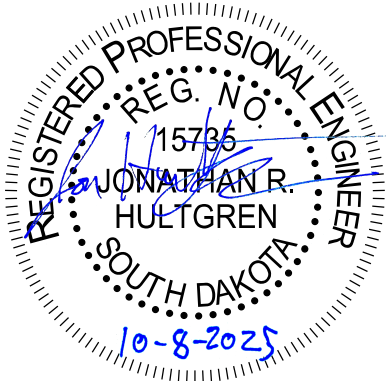
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
420E0300	Structure Excavation, Retaining Wall	2,750	CuYd
420E1000	Foundation Preparation, Retaining Wall	1,277	CuYd
421E0200	Box Culvert Undercut	139	CuYd
430E0200	Bridge End Embankment	1,878	CuYd
430E0700	Precast Concrete Headwall for Drain	1	Each
460E0100	Class A45 Concrete, Miscellaneous	659.8	CuYd
460E0120	Class A45 Concrete, Box Culvert	268.5	CuYd
460E0204	Anti-Graffiti Coating	26,543.0	SqFt
480E0100	Reinforcing Steel	49,688	Lb
480E0200	Epoxy Coated Reinforcing Steel	100,103	Lb
530E0420	MSE Large Panel Wall, Furnish	10,140	SqFt
530E0422	MSE Large Panel Wall, Install	10,140	SqFt
530E0702	Granular Backfill for MSE Large Panel Wall	6,009.0	CuYd
651E0040	4" Concrete Sidewalk	164	SqFt
680E0040	4" Underdrain Pipe	1,345	Ft
680E2500	Porous Backfill	660.0	Ton

Structure No. 42-065-016

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	939.0	SqYd
120E7000	Select Granular Backfill	14.9	Ton
410E0020	Structural Steel	Lump Sum	LS
410E0700	Abutment Joint Drain	2	Each
410E2100	Finger Type Expansion Joint Assembly	2	Each
420E0100	Structure Excavation, Bridge	465	CuYd
430E0200	Bridge End Embankment	1,720	CuYd
430E0300	Granular Bridge End Backfill	156.0	CuYd
430E0510	Approach Slab Underdrain Excavation	2.0	CuYd
430E0700	Precast Concrete Headwall for Drain	6	Each
460E0030	Class A45 Concrete, Bridge Deck	340.1	CuYd
460E0050	Class A45 Concrete, Bridge	560.6	CuYd
460E0150	Concrete Approach Slab for Bridge	238.5	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	34.6	SqYd
460E0500	Deck Drain, Girder Bridge	9	Each
480E0100	Reinforcing Steel	73,346	Lb
480E0200	Epoxy Coated Reinforcing Steel	8,496	Lb
480E0300	Stainless Reinforcing Steel	67,897	Lb
480E0518	No. 18 Rebar Splice	104	Each
510E0300	Preboring Pile	80	Ft
510E3521	HP 14x73 Steel Test Pile, Furnish and Drive	420	Ft
510E3525	HP 14x73 Steel Bearing Pile, Furnish and Drive	7,120	Ft
635E8020	2" Rigid Galvanized Steel Conduit	313	Ft
680E0040	4" Underdrain Pipe	380	Ft
680E2500	Porous Backfill	32.0	Ton
734E2022	Bridge Berm Slope Protection, Quarried Aggregate	442.1	SqYd
831E0100	Type A Drainage Fabric	443	SqYd
831E0110	Type B Drainage Fabric	47	SqYd
831E1030	Perforated Geocell	425	SqFt

Structure No. 42-065-020

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	2,470.0	SqYd
120E7000	Select Granular Backfill	37.0	Ton
410E0020	Structural Steel	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	184.5	Ft
420E0100	Structure Excavation, Bridge	407	CuYd
430E0200	Bridge End Embankment	2,980	CuYd
430E0300	Granular Bridge End Backfill	408.0	CuYd
430E0510	Approach Slab Underdrain Excavation	6.0	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0030	Class A45 Concrete, Bridge Deck	820.2	CuYd
460E0050	Class A45 Concrete, Bridge	530.4	CuYd
460E0150	Concrete Approach Slab for Bridge	407.4	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	150.4	SqYd
462E0100	Class M6 Concrete	40.9	CuYd
470E0220	Steel Pedestrian Railing on Concrete Barrier	767.0	Ft
480E0100	Reinforcing Steel	111,682	Lb
480E0200	Epoxy Coated Reinforcing Steel	1,284	Lb
480E0300	Stainless Reinforcing Steel	203,000	Lb
480E0518	No. 18 Rebar Splice	132	Each
510E0300	Preboring Pile	200	Ft
510E3521	HP 14x73 Steel Test Pile, Furnish and Drive	365	Ft
510E3525	HP 14x73 Steel Bearing Pile, Furnish and Drive	8,400	Ft
635E8020	2" Rigid Galvanized Steel Conduit	277	Ft
635E8040	4" Rigid Galvanized Steel Conduit	1,110	Ft
680E0040	4" Underdrain Pipe	117	Ft
680E2500	Porous Backfill	14.0	Ton
734E2022	Bridge Berm Slope Protection, Quarried Aggregate	583.0	SqYd
831E0100	Type A Drainage Fabric	584	SqYd
831E0110	Type B Drainage Fabric	118	SqYd
831E1030	Perforated Geocell	1,056	SqFt



Section F - Surfacing
PCN 06JQ

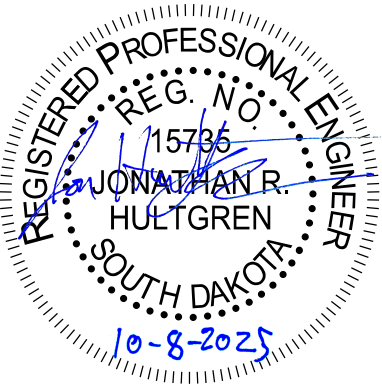
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	441.1	MGal
260E1010	Base Course	4,704.4	Ton
260E2010	Gravel Cushion	25,448.2	Ton
260E2030	Gravel Cushion, Salvaged	6,480.6	Ton
320E1200	Asphalt Concrete Composite	123.4	Ton
380E0070	9" Nonreinforced PCC Pavement	25,562.2	SqYd
380E0080	9.5" Nonreinforced PCC Pavement	26,069.8	SqYd
380E0130	12" Nonreinforced PCC Pavement	952.2	SqYd
380E0150	13" Nonreinforced PCC Pavement	7,302.5	SqYd
380E0800	PCC Shoulder Pavement	10,538.2	SqYd
380E2228	9.5" Nonmetallic Fiber Reinforced PCC Pavement	1,289.9	SqYd
380E6000	Dowel Bar	32,969	Each
380E6110	Insert Steel Bar in PCC Pavement	3,382	Each
380E6450	Saw Joint in PCC Pavement	7,399.3	Ft
380E6505	NGCS Grinding PCC Pavement	1,524.4	SqYd
410E2600	Membrane Sealant Expansion Joint	246.4	Ft

PCN 07D0

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	98.2	MGal
260E2010	Gravel Cushion	4,648.2	Ton
260E2030	Gravel Cushion, Salvaged	3,538.1	Ton
320E1200	Asphalt Concrete Composite	236.9	Ton
320E5000	Saw and Seal Joint in Asphalt Concrete	990	Ft
380E0050	8" Nonreinforced PCC Pavement	1,706.7	SqYd
380E0100	10.5" Nonreinforced PCC Pavement	6,291.8	SqYd
380E0150	13" Nonreinforced PCC Pavement	167.2	SqYd
380E0800	PCC Shoulder Pavement	6,162.9	SqYd
380E6000	Dowel Bar	3,987	Each
380E6110	Insert Steel Bar in PCC Pavement	2,361	Each
380E6450	Saw Joint in PCC Pavement	5,099.3	Ft
380E6505	NGCS Grinding PCC Pavement	7,219.2	SqYd

Section H - Landscaping
PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6300	Water for Vegetation	195.0	MGal
230E0020	Contractor Furnished Topsoil	4,517	CuYd
380E2566	6" Barrier Type Colored Median PCC Pavement	4,347.0	SqYd
380E2576	6" Barrier Type Colored and Patterned Median PCC Pavement	907.0	SqYd
680E0206	6" Perforated PVC Drain Pipe with Sleeve	1,980	Ft
680E0226	6" PVC Outlet Pipe	237	Ft
680E2500	Porous Backfill	1,182.0	Ton
730E0208	Type E Permanent Seed Mixture	8	Lb
730E0212	Type G Permanent Seed Mixture	5	Lb
731E0100	Fertilizing	1,210	Lb
732E0300	Bonded Fiber Matrix	1.3	Ton
733E0100	Sodding	2,870	SqYd
735E0110	1 Gallon Perennial Plant, Furnish and Plant	553	Each
735E2225	2.5" Caliper Deciduous Tree, Furnish and Plant	42	Each
735E5010	1 Gallon Ornamental Grass, Furnish and Plant	1,500	Each
900E2030	Miscellaneous Work	1	Site
900E5150	Landscape Edging	392	Ft
900E5151	Ornamental Landscaping Boulders	16	Each
900E5152	Weed Barrier Fabric	612	SqYd
900E5157	4" Depth Shredded Bark Mulch	1,402.0	SqYd
900E5161	Planter	Lump Sum	LS
900E5163	Ornamental Landscape Feature	18	Each
900E5430	Irrigation System	Lump Sum	LS
900E6010	Precast Concrete Welcome Sign, Furnish	2	Each
900E6011	Precast Concrete Welcome Sign, Install	2	Each



Section L - Signal & Lighting
PCN 06JQ

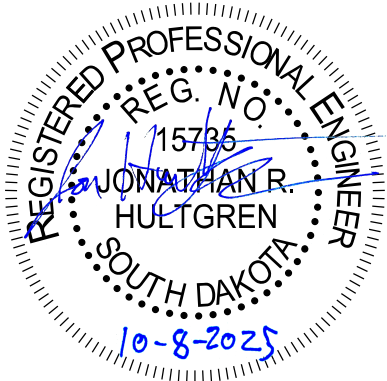
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1540	Remove Luminaire Pole Footing	2	Each
635E0040	Breakaway Base Luminaire Pole with Arm, 40' Mounting Height	34	Each
635E0140	Breakaway Base Luminaire Pole with Twin Arms, 40' Mounting Height	27	Each
635E0640	Fixed Base Luminaire Pole with Arm, 40' Mounting Height	1	Each
635E0740	Fixed Base Luminaire Pole with Twin Arms, 40' Mounting Height	1	Each
635E0900	Decorative Luminaire Pole	8	Each
635E2000	Pedestal Signal Pole	15	Each
635E2025	Signal Pole with 25' Mast Arm	3	Each
635E2030	Signal Pole with 30' Mast Arm	3	Each
635E2040	Signal Pole with 40' Mast Arm	1	Each
635E2045	Signal Pole with 45' Mast Arm	1	Each
635E3545	Under Bridge Deck Luminaire, LED	4	Each
635E3585	Tunnel Luminaire, LED	13	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	83	Each
635E3810	Decorative Luminaire, LED	22	Each
635E3815	Decorative Luminaire, LED with Photoelectric Cell	8	Each
635E4030	3 Section Vehicle Signal Head	34	Each
635E5020	2' Diameter Footing	608.0	Ft
635E5030	3' Diameter Footing	97.0	Ft
635E5310	Special Electrical Junction Box	73	Each
635E5360	Surface Mounted Junction Box	7	Each
635E5400	Electrical Service Cabinet	7	Each
635E5420	Circuit Control Center	3	Each
635E5430	Traffic Signal Controller	2	Each
635E5450	Side Mounted Cabinet	4	Each
635E5515	Battery Backup System for Traffic Signal	2	Each
635E5520	Video Detection System	2	Each
635E5560	Emergency Vehicle Preemption Unit	2	Each
635E5570	Optical Detector	6	Each
635E5600	Surveillance Camera	1	Each
635E5880	Accessible Pedestrian Signal	12	Each
635E5910	Pedestrian Push Button Pole	2	Each
635E5922	Pedestrian Signal Head with Countdown Timer	12	Each
635E5930	Pedestrian Crossing Sign	12	Each
635E5980	Rectangular Rapid Flashing Beacon System	2	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E7500	Remove and Reset Luminaire Pole	2	Each
635E7899	Locator Ball	3	Each
635E8008	0.75" Rigid Galvanized Steel Conduit	300	Ft
635E8010	1" Rigid Galvanized Steel Conduit	40	Ft
635E8030	3" Rigid Galvanized Steel Conduit	800	Ft
635E8108	0.75" Rigid Conduit, Schedule 40	15	Ft

Section L - Signal & Lighting (continued)
PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E8110	1" Rigid Conduit, Schedule 40	220	Ft
635E8120	2" Rigid Conduit, Schedule 40	14,380	Ft
635E8130	3" Rigid Conduit, Schedule 40	225	Ft
635E8140	4" Rigid Conduit, Schedule 40	150	Ft
635E8150	5" Rigid Conduit, Schedule 40	40	Ft
635E8210	1" Rigid Conduit, Schedule 80	430	Ft
635E8220	2" Rigid Conduit, Schedule 80	3,120	Ft
635E8230	3" Rigid Conduit, Schedule 80	430	Ft
635E8240	4" Rigid Conduit, Schedule 80	550	Ft
635E8250	5" Rigid Conduit, Schedule 80	70	Ft
635E8415	1" Innerduct, SDR 13.5	3,285	Ft
635E8420	1.5" Innerduct, SDR 13.5	7,420	Ft
635E8830	2/2/2/4 Aluminum Wire	8,780	Ft
635E9012	1/C #2 AWG Copper Wire	3,975	Ft
635E9014	1/C #4 AWG Copper Wire	5,390	Ft
635E9016	1/C #6 AWG Copper Wire	29,615	Ft
635E9018	1/C #8 AWG Copper Wire	10,790	Ft
635E9020	1/C #10 AWG Copper Wire	2,505	Ft
635E9022	1/C #12 AWG Copper Wire	15,765	Ft
635E9302	2/C #14 AWG IMSA Copper Cable, K1	195	Ft
635E9303	3/C #14 AWG IMSA Copper Cable, K1	240	Ft
635E9305	5/C #14 AWG IMSA Copper Cable, K1	1,115	Ft
635E9307	7/C #14 AWG IMSA Copper Cable, K1	1,070	Ft
635E9312	12/C #14 AWG IMSA Copper Cable, K1	2,640	Ft
635E9325	25/C #14 AWG IMSA Copper Cable, K1	1,510	Ft
635E9720	12/2 UF-B Copper Pole and Bracket Cable	5,405	Ft
635E9862	Outdoor Rated Cat6 Cable	265	Ft
635E9924	24 Strand Fiber Optic Cable	24,470	Ft

PCN 07D0

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1540	Remove Luminaire Pole Footing	2	Each
635E5020	2' Diameter Footing	16.0	Ft
635E5380	Reset Electrical Junction Box	3	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E7500	Remove and Reset Luminaire Pole	2	Each
635E8120	2" Rigid Conduit, Schedule 40	1,960	Ft
635E8220	2" Rigid Conduit, Schedule 80	195	Ft
635E9012	1/C #2 AWG Copper Wire	4,540	Ft
635E9720	12/2 UF-B Copper Pole and Bracket Cable	130	Ft



SECTION B ESTIMATE OF QUANTITIES - PCN 06JQ

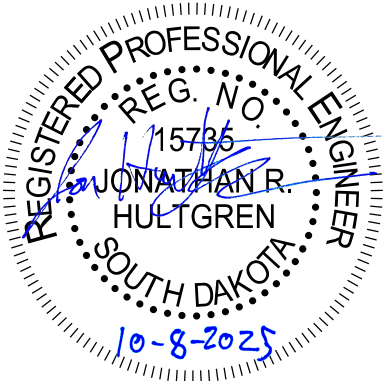
	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	B2	B182
Plotting Date:	10/8/2025	Revised Date:	10/8/2025
		Initials:	NBG

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	62	Each
009E3230	Grade Staking	9.654	Mile
009E3245	Final Cross Section Survey	9.654	Mile
009E3250	Miscellaneous Staking	9.654	Mile
009E3280	Slope Staking	9.654	Mile
009E3290	Structure Staking	4	Each
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E4300	Construction Schedule, Category III	Lump Sum	LS
100E0020	Clear and Grub Tree	169	Each
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	8,780	Ft
110E0707	Remove High Tension 4 Cable Guardrail	362	Ft
110E0749	Remove High Tension 4 Cable Guardrail Anchor Assembly	3	Each
110E1100	Remove Concrete Pavement	10,689.9	SqYd
110E7000	Remove Crossover Closure for Reset	600	Ft
120E0010	Unclassified Excavation	180,689	CuYd
120E0420	Contractor Furnished Select Subgrade Topping	77,353	CuYd
120E0600	Contractor Furnished Borrow Excavation	336,748	CuYd
120E1000	Muck Excavation	25,713	CuYd
120E6100	Water for Embankment	6,842.0	MGal
120E6200	Water for Granular Material	250.7	MGal
120E7110	Select Fill Material	255,096	CuYd
120E7500	Aggregate Column	4,031.0	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	9,474.6	Ton
260E6010	Granular Material	200.0	Ton
270E0110	Salvage and Stockpile Granular Material	6,480.8	Ton
380E4070	9" PCC Fillet Section	130.2	SqYd
421E0100	Pipe Culvert Undercut	189	CuYd
430E0700	Precast Concrete Headwall for Drain	8	Each
450E0102	12" RCP Class 2, Furnish	284	Ft
450E0110	12" RCP, Install	284	Ft
450E0122	18" RCP Class 2, Furnish	4,830	Ft
450E0130	18" RCP, Install	4,830	Ft
450E0142	24" RCP Class 2, Furnish	364	Ft
450E0143	24" RCP Class 3, Furnish	396	Ft
450E0150	24" RCP, Install	760	Ft
450E0162	30" RCP Class 2, Furnish	204	Ft
450E0163	30" RCP Class 3, Furnish	708	Ft
450E0170	30" RCP, Install	912	Ft
450E0182	36" RCP Class 2, Furnish	104	Ft
450E0190	36" RCP, Install	104	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E2008	18" RCP Flared End, Furnish	8	Each
450E2009	18" RCP Flared End, Install	8	Each
450E2016	24" RCP Flared End, Furnish	4	Each
450E2017	24" RCP Flared End, Install	4	Each
450E2024	30" RCP Flared End, Furnish	12	Each
450E2025	30" RCP Flared End, Install	12	Each
450E2028	36" RCP Flared End, Furnish	2	Each
450E2029	36" RCP Flared End, Install	2	Each
450E3022	30" RCP Arch Class 2, Furnish	884	Ft
450E3030	30" RCP Arch, Install	884	Ft
450E3042	42" RCP Arch Class 2, Furnish	296	Ft
450E3050	42" RCP Arch, Install	296	Ft
450E4508	30" RCP Arch Flared End, Furnish	12	Each
450E4509	30" RCP Arch Flared End, Install	12	Each
450E4516	42" RCP Arch Flared End, Furnish	4	Each
450E4517	42" RCP Arch Flared End, Install	4	Each
450E4758	18" CMP 14 Gauge, Furnish	696	Ft
450E4760	18" CMP, Install	696	Ft
450E4768	24" CMP 14 Gauge, Furnish	134	Ft
450E4770	24" CMP, Install	134	Ft
450E5010	18" CMP Elbow, Furnish	20	Each
450E5011	18" CMP Elbow, Install	20	Each
450E5211	18" CMP Flared End, Furnish	9	Each
450E5212	18" CMP Flared End, Install	9	Each
450E5215	24" CMP Flared End, Furnish	2	Each
450E5216	24" CMP Flared End, Install	2	Each
462E0100	Class M6 Concrete	236.7	CuYd
464E0100	Controlled Density Fill	600.0	CuYd
480E0100	Reinforcing Steel	36,356	Lb
600E0300	Type III Field Laboratory	1	Each
621E0160	6' Chain Link Fence with Tension Wired Top	13,940	Ft
628E1500	Concrete Barrier End Protection	1	Each
629E0110	High Tension 4 Cable Guardrail	7,228	Ft
629E0290	High Tension Cable Guardrail Anchor Assembly	11	Each
* 629E1109	Furnish High Tension Cable Guardrail Post and Sleeve	50	Each
629E9050	Reset Crossover Closure	600	Ft
630E0500	Type 1 MGS	1,702.5	Ft
630E1500	Type 1 Guardrail Transition	1	Each
630E2018	MGS MASH Tangent End Terminal	9	Each
630E2065	MGS Trailing End Terminal	8	Each
635E8260	6" Rigid Conduit, Schedule 80	75	Ft
650E0090	Type B69 Concrete Curb and Gutter	138	Ft
650E0095	Type B69.5 Concrete Curb and Gutter	4,797	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
650E0390	Type BL69 Concrete Curb and Gutter	7,194	Ft
650E2100	Special Concrete Curb and Gutter	7,772	Ft
651E0060	6" Concrete Sidewalk	74,305	SqFt
651E7000	Type 1 Detectable Warnings	698	SqFt
670E1200	Type B Frame and Grate	26	Each
670E2200	Type C Frame and Grate	2	Each
670E5200	Special Frame and Grate Assembly	1	Each
670E5200	Special Frame and Grate Assembly	2	Each
670E5200	Special Frame and Grate Assembly	35	Each
670E5200	Special Frame and Grate Assembly	1	Each
670E5200	Special Frame and Grate Assembly	4	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	8	Each
670E5400	Precast Drop Inlet Collar	28	Each
671E6010	Type A10 Manhole Frame and Lid	4	Each
671E7010	Adjust Manhole	1	Each
680E0224	4" PVC Outlet Pipe	13	Ft
680E0260	6" Corrugated Polyethylene Drainage Tubing	333	Ft
680E0660	6" Slotted Corrugated Polyethylene Drainage Tubing	2,107	Ft
700E0210	Class B Riprap	454.0	Ton
831E0110	Type B Drainage Fabric	657	SqYd
900E0010	Refurbish Single Mailbox	1	Each
900E1049	EPS Geomembrane	5,319.0	SqYd
900E1050	Expanded Polystyrene (EPS) Foam	7,936.0	CuYd
900E2030	Miscellaneous Work	7	Site

* - Denotes Non-Participating



SHRINKAGE FACTOR:

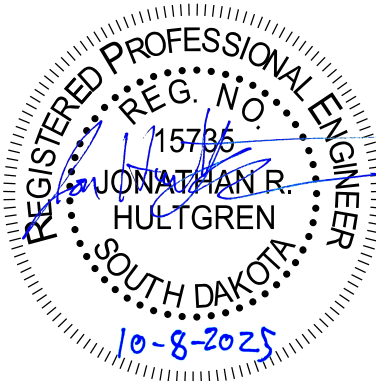
Location	Shrinkage (%)
85 th Street	+35
85 th Street / I-29 Ramps	+35
Ramp D Conn.	+35
Ramp C Louise Avenue	+20
I-29 (mainline)	+20
I-229 (mainline)	+20
I-229 (ramps)	+20

 Plotting Date: 10/8/2025	PROJECT EM 0292(88)73 IM 2292(104)0	SHEET B6	TOTAL SHEETS B182
	Revised Date: 10/8/2025 Initials: NBG		

TABLE OF EXCAVATION QUANTITIES BY BALANCES

				Excavation	Granular Material Exc.	*** Excavation for Select Topping	* Muck Excavation	Unstable Excavation	* Contractor Furnished Borrow Excavation	** Excavation for Select Fill Material	Total Excavation	* Contractor Furnished Select Subgrade Topping	* Base Course for Foundations Improvement Area	* Select Fill Material	* EPS Foam	** Out-of- Balance Excavation	** Waste
Roadway	Station to	Station	Construction Phase	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)
I-29 SBL	30+28	47+60	Phase 1B	797	906	2,359	1,788	619	4,567		11,036	4,198					1,788
I-29 NBL	36+90	47+30	Phase 1A	1,069	600	1,609	1,178		1,675		6,131	2,508					1,178
I-29 NBL	78+80	106+06	Phase 2B	5,343	1,174	5,049					11,566	6,569					
Ramp A & Ramp E	12+20	26+21	Phase 1A/2B	4,625		996	7,373	3,065	34,087		50,146	5,550				19,795	7,373
Ramp B & Ramp F	20+00	33+85	Phase 1A	206		1,575	900	27,454	27,886		58,021	4,916					900
Ramp C & Ramp G	30+00	43+45	Phase 1B	5,653		1,625	1,610	14,532	19,244		42,664	4,813					1,610
Ramp D & Ramp H	41+78	58+00	Phase 1B	14,868		23	4,655	8,329	79,688		107,563	6,084					4,655
Ramp D	58+00	62+00	Phase 1B	31				4,044		30,682	34,757	926		33,831			
Ramp D	62+00	70+00	Phase 1B	673		227		3,526		42,551	46,977	2,304		45,669		996	
Ramp D	70+00	77+28	Phase 1B	1,648	433	1,658					3,739	2,527					
Ramp D Conn & I-229 Ramp C	70+00	86+53	Phase 1B	463	316	1,051	267	6,778	53,198		62,073	5,514					267
EB 85th Street	299+35	315+50	Phase 1B			1,574	3,589	6,248	76,813		88,224	12,534					3,589
EB 85th Street	315+50	319+50	Phase 1B	488				1,109	7,118	88,357	97,072	3,397	1,462	88,357	3,856		
EB 85th Street	320+80	325+00	Phase 1A	2,206			3,723	5,086	3,260	87,239	101,514	3,668	3,551	87,239	3,333		3,723
EB 85th Street	325+00	339+30	Phase 1A	10,901		5,086	630	479	29,212		46,308	11,845					630
Shared Use Path	10+00	13+11	Phase 2B													2,593	
Shared Use Path	15+15	17+82	Phase 2B												747	1,071	
06JQ Subtotals:				48,971	3,429	22,832	25,713	81,269	336,748	248,829	767,791	77,353	5,013	255,096	7,936	24,455	25,713
I-229 NBL	154+86	183+17	Phase 2B	10,541	143	4,297					14,981	5,199					
I-229 Ramp B	19+34	46+55	Phase 2B	4,477		3,857					8,334	4,666					
I-229 Ramp C Louise	20+00	44+24	Phase 2B	3,507	1,729						5,236						
07D0 Subtotals:				18,525	1,872	8,154					28,551	9,865					
Project Totals:				67,496	5,301	30,986	25,713	81,269	336,748	248,829	796,342	87,218	5,013	255,096	7,936	24,455	25,713

- * The quantities for these items are in the Estimate of Quantities under their respective bid items.
- ** The quantities for these items are for information only.
- *** Undercutting for Select Topping shall be paid for once under "Unclassified Excavation".



MUCK EXCAVATION

The areas of muck excavation are drawn on the cross sections with a normal depth of 3 feet. The estimated quantity of 25,713 cubic yards (PCN 06JQ) of muck excavation will be paid for at the contract unit price per cubic yard for “Muck Excavation”.

Muck excavation consists of the removal of highly organic and/or highly saturated material from the designated areas shown on the cross sections. Highly organic muck material will not be used in the embankment but may be used as topsoil. Non-organic muck material may be used as embankment outside of the fill subgrade shoulder if it is properly handled and dried prior to placement in the embankment.

Field measurement of muck excavation will not be made unless the Engineer orders additional excavation, or when the Engineer determines, in accordance with Section 120.3 A.1 of the Specifications, that the classification of excavation be changed.

If the areas designated as muck excavation can be removed with similar equipment and procedures as used for unclassified excavation, the material will be measured and paid for as “Unclassified Excavation”.

TABLE OF MUCK EXCAVATION

Roadway	Station	to	Station	L/R	Depth (ft)	Quantity (CuYd)
85th Street	299+75		302+90	L	3	1,009
85th Street	299+75		305+50	R	3	950
85th Street	304+50		305+50	L	3	148
85th Street	309+30		312+00	R	3	1,326
85th Street	311+00		312+00	L	3	156
85th Street	321+60		327+00	L	3	3,723
85th Street	330+25		333+50	L	3	336
85th Street	330+50		331+00	L	3	83
85th Street	330+50		333+00	R	3	211
Ramp A	10+00		17+00	L/R	3	6,211
Ramp B	21+00		27+00	L/R	3	900
Ramp C	30+00		36+40	L/R	3	1,610
Ramp D	46+00		51+00	L/R	3	4,655
Ramp E	1+00		3+87	R	3	1,162
Ramp D_Conn	80+50		81+50	L	3	267
I-29	30+28		32+00	L	3	206
I-29	39+00		44+50	R	3	1,178
I-29	39+50		45+00	L	3	1,582
PCN 06JQ Total:						25,713

SELECT FILL MATERIAL ADJACENT TO STRUCTURES

Select fill material will be used to construct the roadway embankment at the limits specified in the table below. The 85th St. interchange includes the ramp areas approximately 200 feet left and right of centerline (85th St.) to where the ramps converge.

Select fill material must meet the following specifications: a maximum liquid limit (LL) of 45, a plastic index (PI) greater than 10 but less than 25, 100% passing the 1 ½ inch sieve, and a maximum of 70% passing the #4 sieve.

Alignment	Station to Station	Quantity of Select Fill Material (Cubic Yards)
85 th St. Interchange	315+50 to 325+00	175,596
Ramp D	58+00 to 70+00	79,500

The Contractor will be responsible for the following minimum testing prior to use of each borrow site:

One test for liquid limit and plastic index, and one sieve analysis from each source prior to placement of material. Test results will be provided to the Project Engineer for verification of specification compliance.

The Department will be responsible for the following minimum testing:

One test for liquid limit and plastic index, and one sieve analysis for every 10,000 cubic yards of material. Independent Assurance testing will not be required.

Select Fill Material will be paid for at the contract price per cubic yard for “Select Fill Material”

SALVAGE AND STOCKPILE GRANULAR MATERIAL

An estimated 6,480.6 tons (3,429 Cubic Yards) (PCN 06JQ) and 3,538.1 tons (1,872 Cubic Yards) (PCN 07D0) of granular base material will be salvaged from the entire length of the existing highway (including ramps) and stockpiled at a site furnished by the Contractor and satisfactory to the Engineer.

Salvaged and Stockpiled Granular Material will conform to the requirements of Section 884 of the Specifications.

The quantity of salvage granular base material may vary from the plans. No adjustment will be made to the contract unit price for variations of the quantity of “Salvage and Stockpile Granular Material.”

 Plotting Date: 10/8/2025	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	B8	B182
	Revised Date: 10/8/2025 Initials: NBG		

CONTRACTOR FURNISHED BORROW EXCAVATION

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

The Contractor furnished borrow excavation material will be uniform in texture and free from organic material. The liquid limit will not exceed 45 and the plastic index will not exceed 25.

The Contractor will be responsible for the following minimum testing prior to use of each borrow site:

A minimum of one test for liquid limit and plastic index and a 4 point for each location and soil type, with samples obtained according to SD201.

The Department will be responsible for the following minimum testing:

A minimum of one test for liquid limit and plastic index and a 4 point for every 100,000 cubic yards or a major change in soil type. Independent Assurance testing will not be required.

LG Everest may have a potential site for contractor furnished borrow material. The Contractor can contact LG Everest for details regarding possible quantity and suitability of available material. It shall be the Contractor’s responsibility to verify and assure all requirements and clearance needed for the Contractor Furnished Borrow material are addressed. The approximate borrow pit location is on the south side of Rice Street ½ mile east of I-229 Exit 7.

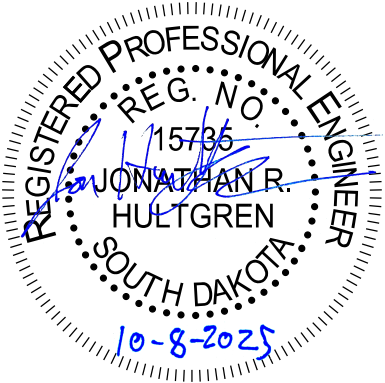
The soil at the LG Everest West Nelson Pit has been tested by the SD DOT Geotechnical Office and is suitable for use as contractor furnished borrow. The material is not to be used for “Select Subgrade Topping” and “Select Fill Material Adjacent to Structures” without approval by the Engineer. Contact the Mitchell Region Materials Engineer for additional soil boring data. (605) 995-8127

LG Everest's phone number is (605) 330-6586.

ADJUST AIR/VACUUM VAULT (L&C RURAL WATER SYSTEM)

The Contractor will adjust an existing Lewis and Clark Rural Water System Vault to the extent necessary on this project. Adjusting the Vault may consist of placing adjusting rings if necessary, and resetting the manhole frame and cover. The elevation of the frame and cover will be set at the same elevation of the adjacent new pavement or surrounding ground. The manhole frame, cover, and rings that are cracked or broken due to carelessness of the Contractor will be replaced with a new manhole frame, cover, and rings that conform with the Specifications at the Contractor's expense. The manhole will be adjusted to the satisfaction of the Engineer and L&C. All costs involved in adjusting the Manhole will be incidental to the contract unit price per each for “Adjust Manhole”.

In addition, the Contractor will extend the Sch. 80 PVC vent pipe from the vault to outlet 2 feet south of the back of the eastbound 85th Street sidewalk. This extension will be paid per the contract unit price per foot for “6” Rigid Conduit, Schedule 80”.



TYPICAL GRADING SECTIONS

SD DOT	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	B28	B182

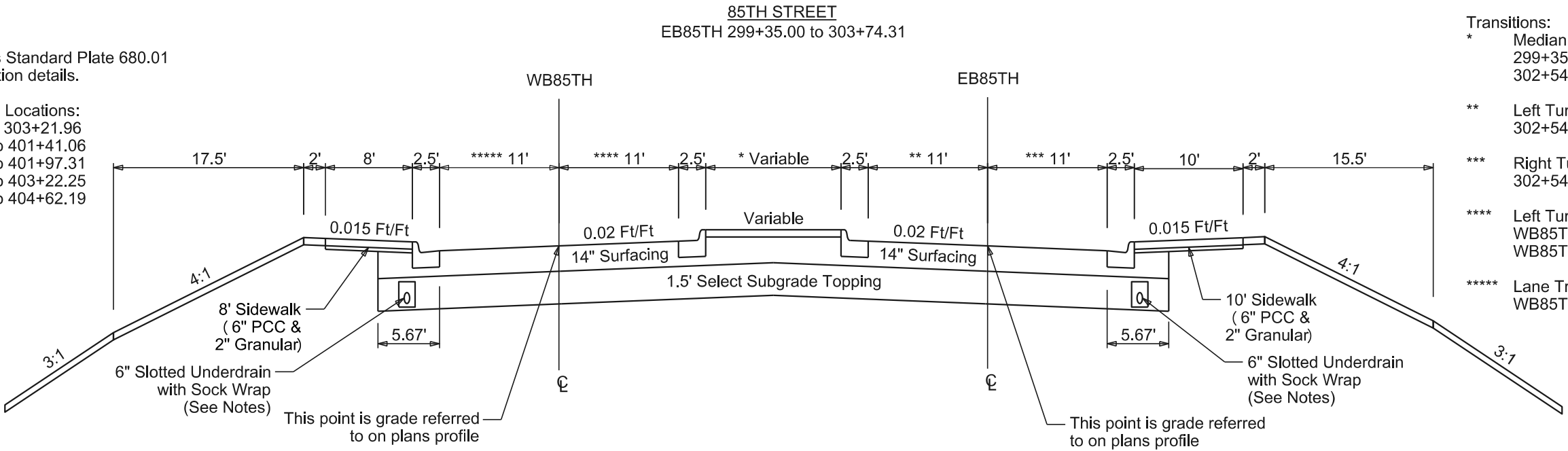
Plotting Date: 10/8/2025

Revised Date: 10/8/2025
Initials: NBG

Notes:

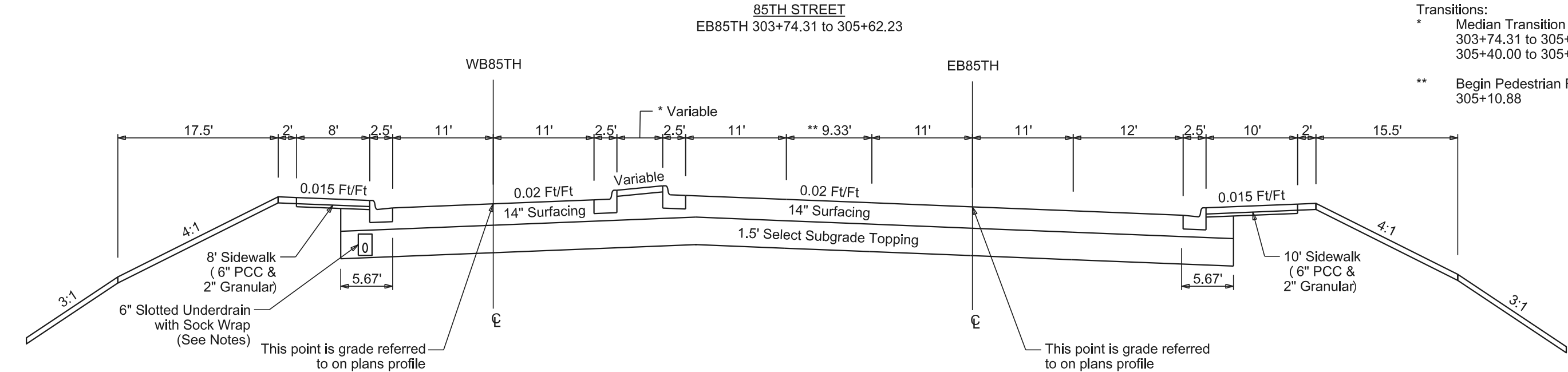
See City of Sioux Falls Standard Plate 680.01 for Underdrain installation details.

Underdrain Installation Locations:
EB85TH 302+03.25 to 303+21.96
WB85TH 399+73.20 to 401+41.06
WB85TH 401+52.06 to 401+97.31
WB85TH 402+03.31 to 403+22.25
WB85TH 403+28.25 to 404+62.19



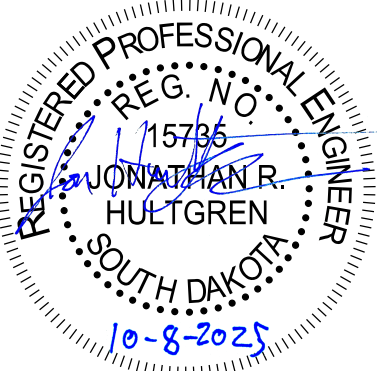
Transitions:

- * Median Transition
299+35.00 to 302+54.31 - 18.8' to 24'
302+54.31 to 303+74.10 - 24' to 4.8'
- ** Left Turn Lane Transition
302+54.31 to 303+74.31 - 11' to 31.33'
- *** Right Turn Lane Transition
302+54.31 to 303+74.31 - 11' to 23'
- **** Left Turn Lane Transition
WB85TH 399+35.00 to 401+37.43 - 25' to 28.73'
WB85TH 401+37.43 to 402+54.02 - 28.73' to 11'
- ***** Lane Transition
WB85TH 399+35.00 to 399+63.40 - 0' to 11'



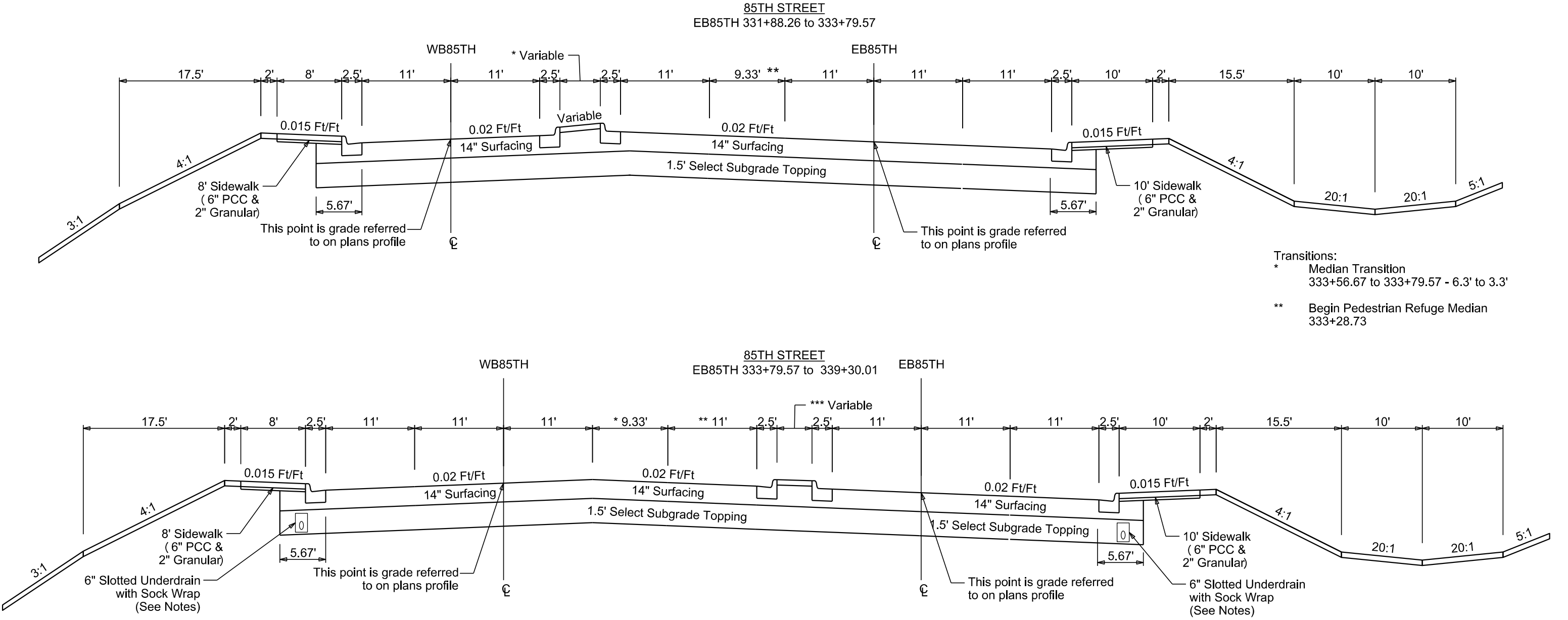
Transitions:

- * Median Transition
303+74.31 to 305+40.00 - 5.3'
305+40.00 to 305+61.57 - 5.3' to 3'
- ** Begin Pedestrian Refuge Median
305+10.88



TYPICAL GRADING SECTIONS

SD DOT	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73	B32	B182
	IM 2292(104)0		
Plotting Date:	10/8/2025	Revised Date:	10/8/2025
		Initials:	NBG

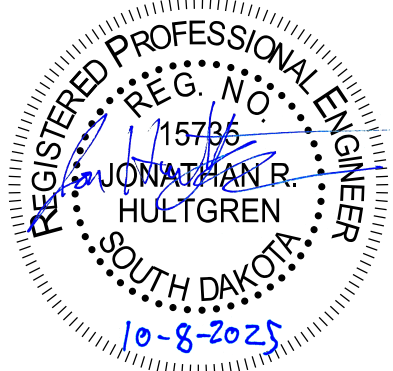


Transitions:
* Median Transition
333+56.67 to 333+79.57 - 6.3' to 3.3'
** Begin Pedestrian Refuge Median
333+28.73

Transitions:
* End Pedestrian Refuge Median
WB85TH 435+60.42
Pedestrian Refuge Median Transition
WB85TH 438+05.21 to 438+60.34 - 9.33' to 0'
** WB85TH 438+06.13 to 439+26.25 - 11' to 0'
*** 334+85.46 to 335+06.78 - 2.8' to 6.3'
338+07.07 to 339+26.98 - 6.3' to 26.6'

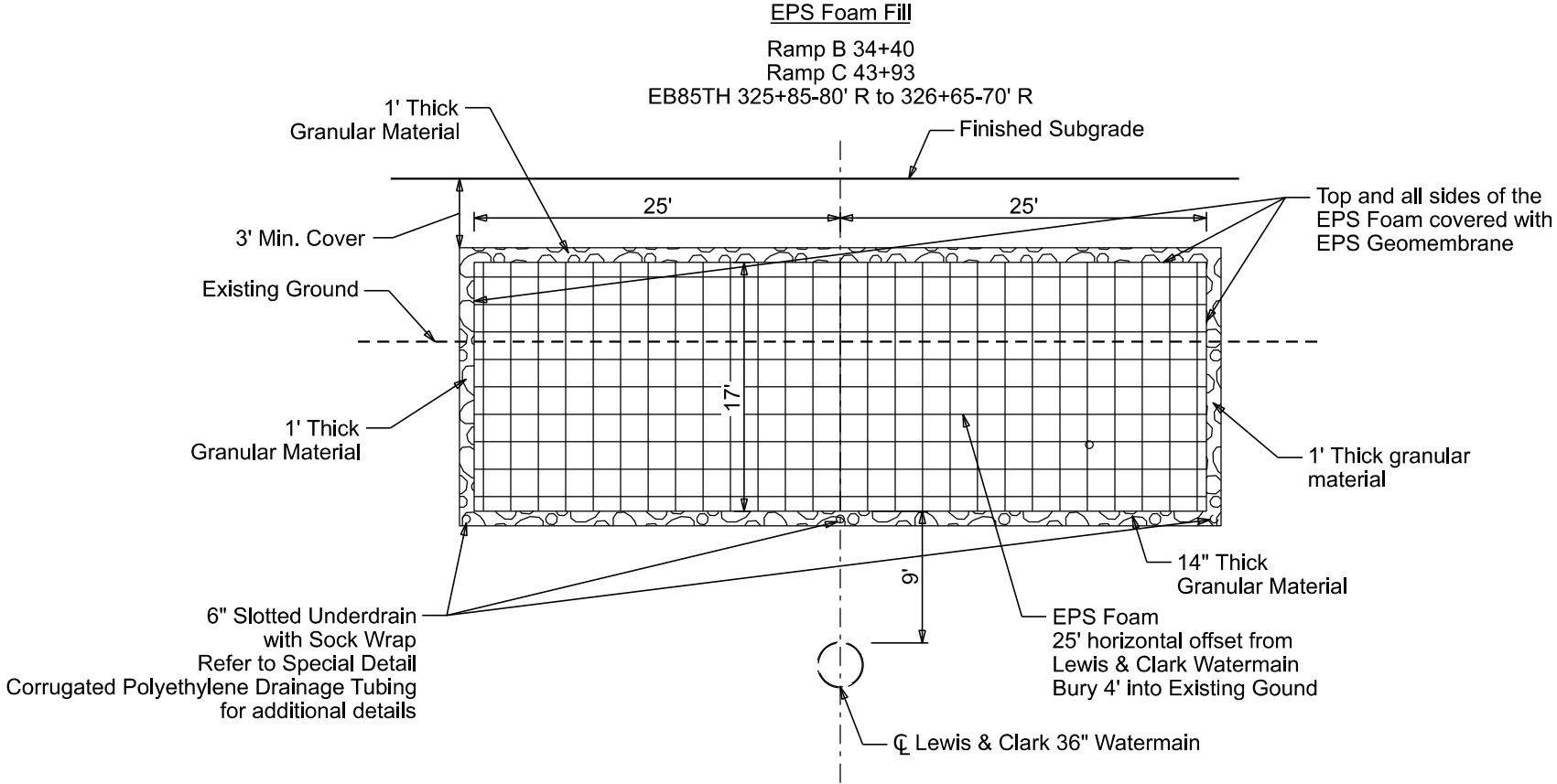
Notes:
See City of Sioux Falls Standard Plate 680.01
for Underdrain installation details.

Underdrain Installation Locations:
EB85TH 335+53.01 to 336+37.67
EB85TH 336+43.67 to 338+11.74
EB85TH 338+17.74 to 339+37.74
WB85TH 438+18.12 to 439+38.12

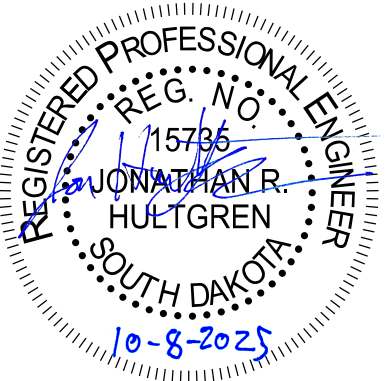
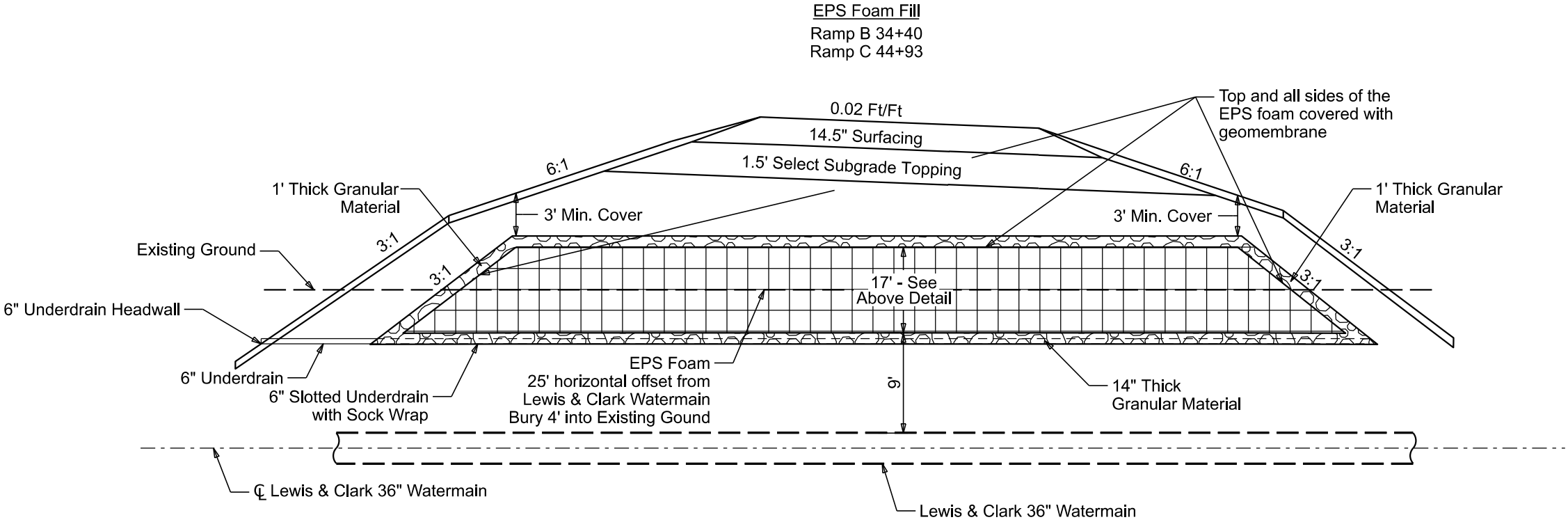


TYPICAL GRADING SECTIONS

SD DOT	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73	B39	B182
	IM 2292(104)0		
Plotting Date:	10/8/2025	Revised Date:	10/8/2025
		Initials:	NBG



Refer to special provisions for additional project information and payment information for the EPS Foam and EPS Geomembrane



	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	B49	B182

Plotting Date:	10/8/2025	Revised Date:	10/8/2025
		Initials:	NBG

ID: 324 to 323
318+44.50-28.00' R to 318+46.25-26.75' L
Install 18"-54' RCP CL2
(Between Drop Inlets)

WB85TH
PI 427+55.67
 Δ 03°22'34"
T 132.62'
L 265.16'
R 4500.00'

ID: 317 to 324
45+42.75-1.50' R to 318+44.50-28.00' R
Install 18"-38' RCP CL2
(Between Drop Inlets)

ID: 402 to 414
321+90.75-63.75' R to 321+90.50-27.00' R
Install 18"-36' RCP CL2
(Between Drop Inlets)

ID: 414 to 401
321+90.50-27.00' R to 10+32.50-1.75' L
Install 18"-58' RCP CL2
(Between Drop Inlets)

ID: 401 to JB #4
10+32.50-1.75' L to 322+94.63-44.62' L
Install 18" - 114' RCP CL2
(Between Drop Inlet and Manhole)

ID: 406 to JB #4
323+50.75-37.50' L to 322+93.63-44.62' L
Install 18"-56' RCP CL2
(Between Drop Inlet and Manhole)

ID: 407 to 406
323+96.00-69.25' L to 323+50.75-37.50' L
Install 18"-50' RCP CL2
(Between Drop Inlets)

ID: 502 to 501
327+50.00-15.00' R to 327+50.00-71.00' L
Install 18" - 88' RCP CL2
(Between Drop Inlets)

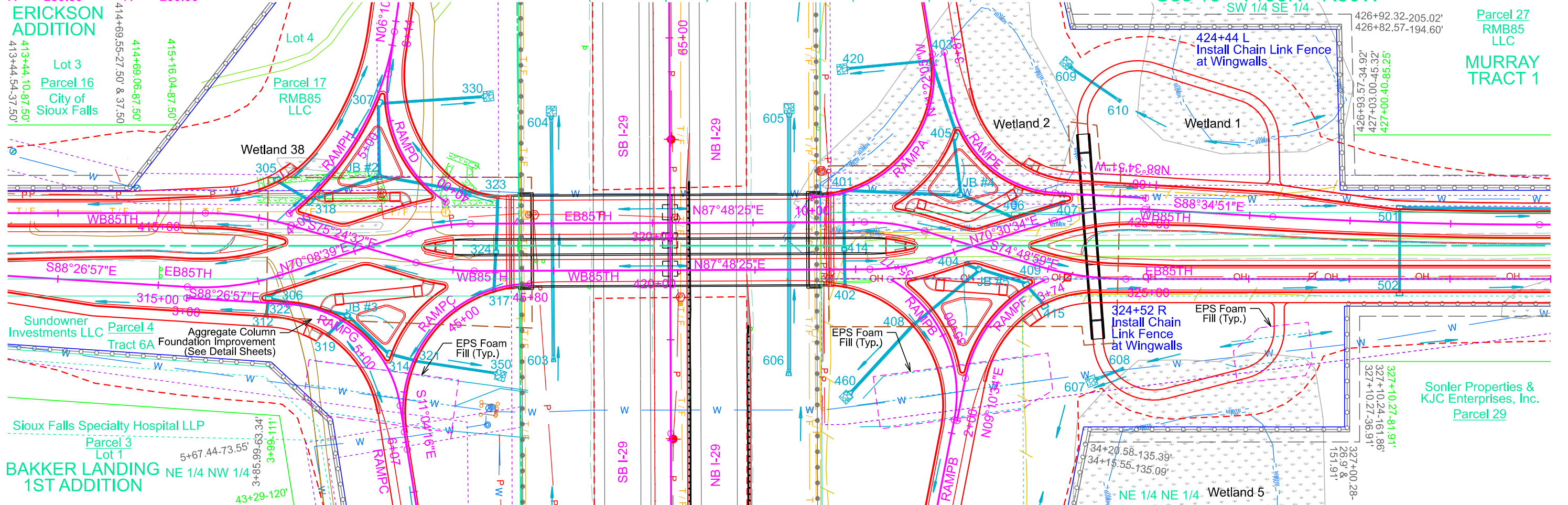
ID: 501 to 503
327+50.00-71.00' L to 330+00.00-69.00' L
Install 18" - 254' RCP CL2
(Between Drop Inlets)

413+44.10-87.50
413+44.54-37.50

Lot 3
Parcel 16
City of
Sioux Falls

Lot 4
Parcel 17
RMB85
LLC

Parcel 27
RMB85
LLC
MURRAY
TRACT 1



61+23' L (I-29)
End Take Out Barbed Wire Fence
61+58' L (I-29)
Begin Take Out Chain Link Fence

ID: 603 to 604
319+01.00-137.50' R to 319+00.00-106.50' L
Install 24" - 234' RCP CL3
& 2 Flared Ends

ID: 606 to 605
321+35.25-142.50' R to 321+36.22-108.25' L
Install 30" - 240' RCP CL3
& 2 Flared Ends

ID: 610 to 609
12+50.50' - 29.00' L to 12+60.50' - 31.50' R
Install 18" - 52' RCP CL2
& 2 Flared Ends

Parcel 3
EB85TH 310+56.73 R to RAMPC 34+40.52 L
Temporary Easement containing
1.27 ac (55255 sq ft), more or less

322+21' R (EB85TH)
Begin Take Out Barbed Wire Fence

Install 6' SF Type Inlet
at the following locations:
ID: 501 - EB85TH 327+50.00 - 71.00' L
ID: 502 - EB85TH 327+50.00 - 15.00' R

**Install 4'x6' DOT Type S Drop Inlet
at the following locations:
ID: 405 - RAMPA 11+41.50 - 34.00' R**

Install 3' x 4' Type C Drop Inlet
with 6" Concrete Collar and
Type C Frame and Grate
at the following locations:
ID: 324 - EB85TH 318+44.50 - 28.00' R
ID: 414 - EB85TH 321+90.50 - 27.00' R

Parcel 17
414+69.06 to 415+16.04 L
Temporary Easement containing
0.03 ac (1410 sq ft), more or less

Install DOT 5'x5' Junction Box
at the following locations:

ID: JB #2 - EB85TH	317+46.25 - 62.75' L
ID: JB #4 - EB85TH	322+94.63 - 44.62' L
ID: JB #5 - EB85TH	323+34.14 - 20.25' R

Install Class B Riprap (10'x10'x2') and
Type B Drainage Fabric (24 SqYd)
at the following locations:

- EB85TH 319+00 L
- EB85TH 321+36 L
- TRAIL 12+61 L
- TRAIL 15+49 R

325+85-80' R to 326+65-70' R
Install EPS Foam Fill over L&C Watermain

Parcel 27
426+90.22 to 438+55.06 L
Temporary Easement containing
1.14 ac (49685 sq ft), more or less

Install DOT 3'x4' Type B Drop Inlet
at the following locations:

ID: 401 -	RAMP A	10+32.50	- 1.75' L
ID: 404 -	EB85TH	323+21.25	- 18.50' R
ID: 406 -	EB85TH	323+50.75	- 37.50' L
ID: 407 -	EB85TH	323+96.00	- 69.25' L

Install DOT 2'x3' Type B Drop Inlet
at the following locations:

- ID: 306 - EB85TH 316+17.00 - 14.00' R
- ID: 317 - RAMP C 45+42.75 - 1.50' R
- ID: 323 - EB85TH 318+46.25 - 26.25' L
- ID: 402 - EB85TH 321+90.75 - 63.75' R

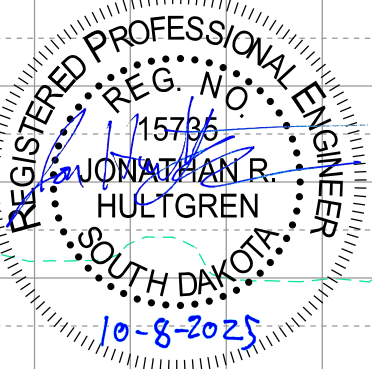
318+79.74 to 321+56.24
Install Bridge (Str. No. 42-065-020)
See Section E

324+45.77
Install 11'x10' Box Culvert (Str. No. 42-066-020)
See Section E

Parcel 29
327+00.28 to 339+29.98 R
Temporary Easement containing
1.39 ac (60745 sq ft), more or less

	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0		
		B50	B182

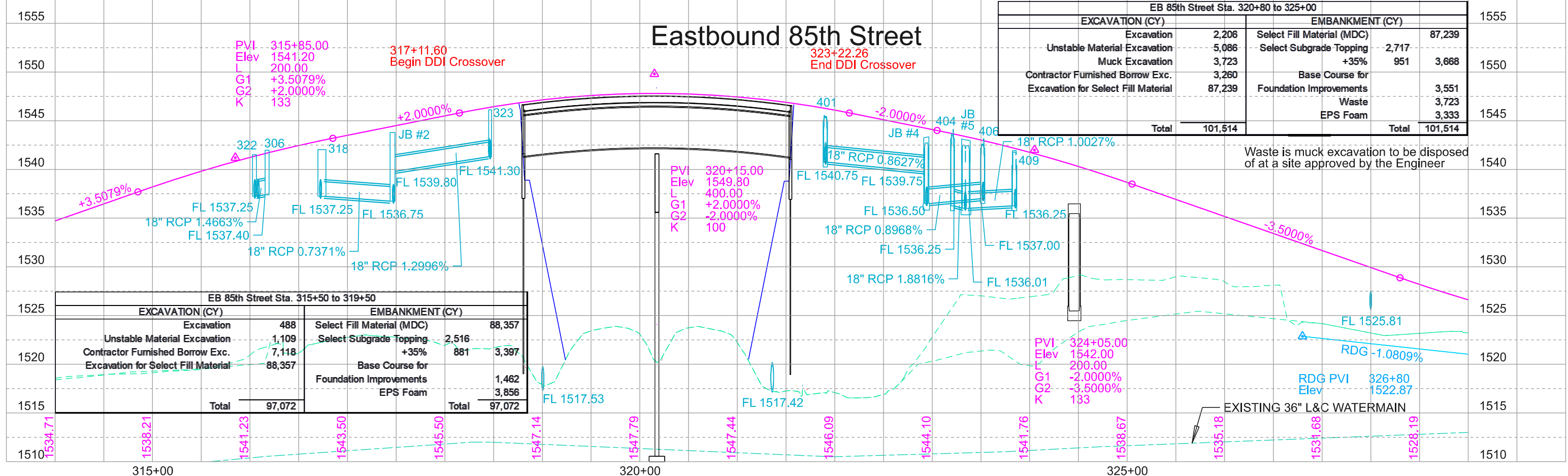
Plotting Date: 10/8/2025
 Revised Date: 10/8/2025 NBG



EB 85th Street Sta. 320+80 to 325+00					
EXCAVATION (CY)			EMBANKMENT (CY)		
Excavation	2,206		Select Fill Material (MDC)		87,239
Unstable Material Excavation	5,086		Select Subgrade Topping	2,717	
Muck Excavation	3,723		+35%	951	3,668
Contractor Furnished Borrow Exc.	3,260		Base Course for		
Excavation for Select Fill Material	87,239		Foundation Improvements		3,551
			Waste		3,723
			EPS Foam		3,333
Total	101,514		Total		101,514

Waste is muck excavation to be disposed of at a site approved by the Engineer

EB 85th Street Sta. 315+50 to 319+50			
EXCAVATION (CY)		EMBANKMENT (CY)	
Excavation	488	Select Fill Material (MDC)	88,357
Unstable Material Excavation	1,109	Select Subgrade Topping	2,516
Contractor Furnished Borrow Exc.	7,118	+35%	881
Excavation for Select Fill Material	88,357	Base Course for Foundation Improvements	1,462
		EPS Foam	3,856
Total	97,072	Total	97,072

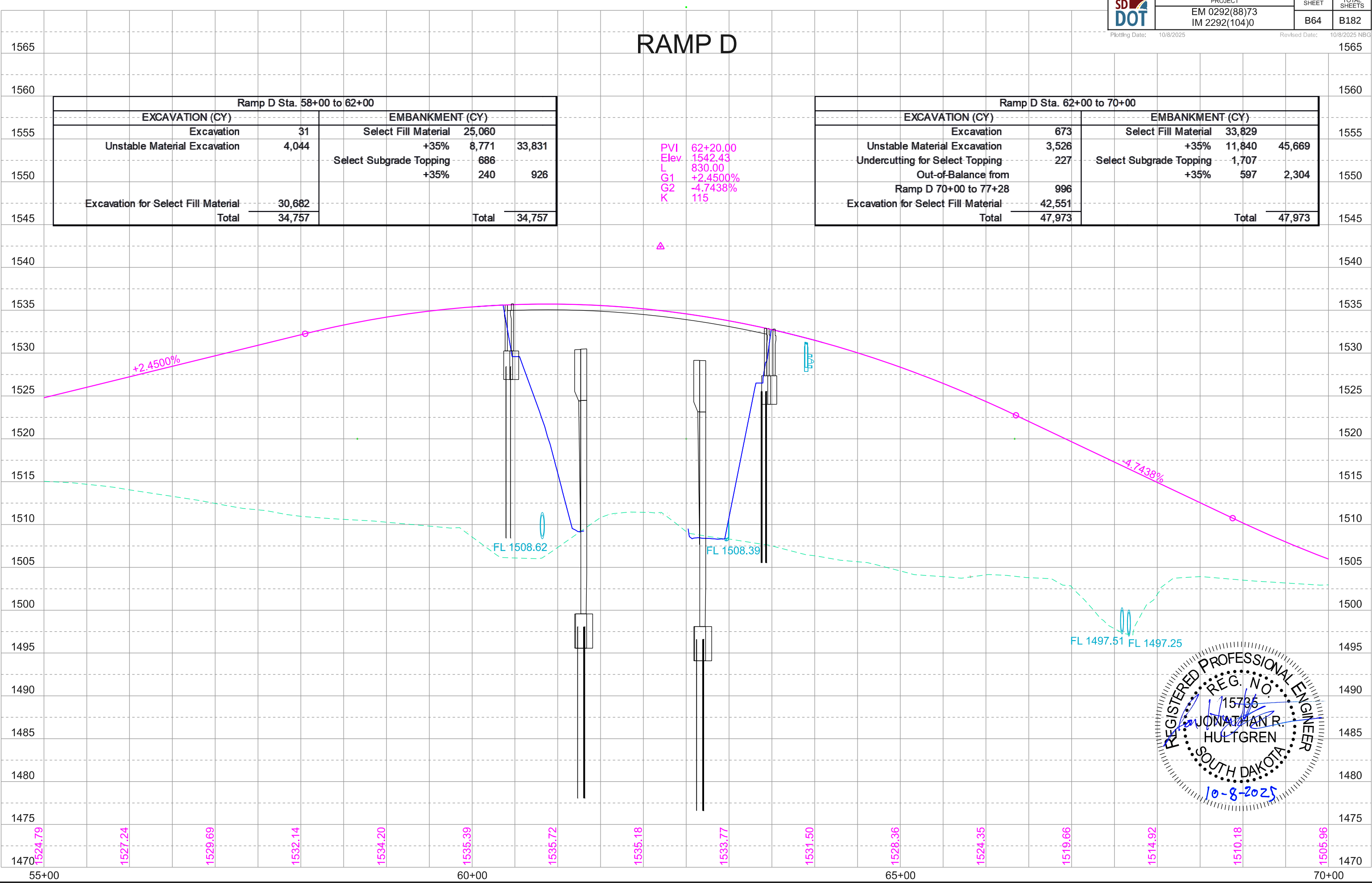


RAMP D

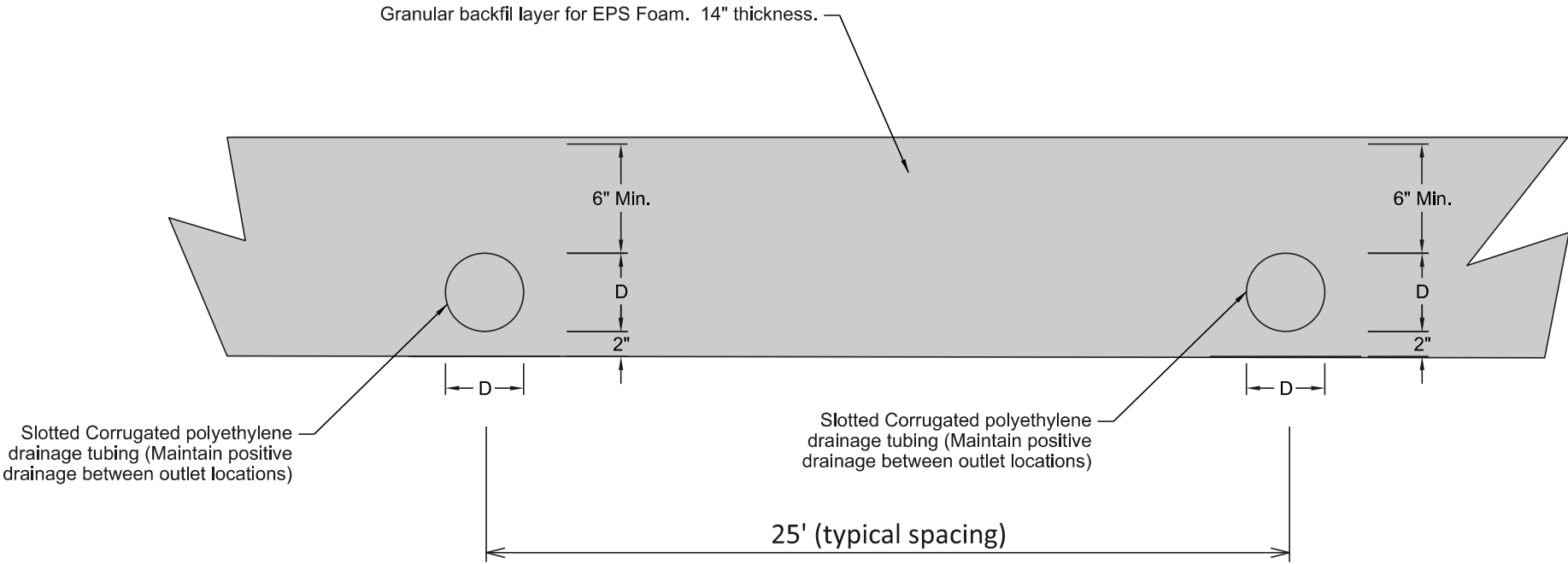
Ramp D Sta. 58+00 to 62+00					
EXCAVATION (CY)			EMBANKMENT (CY)		
Excavation	31		Select Fill Material	25,060	
Unstable Material Excavation	4,044		+35%	8,771	33,831
			Select Subgrade Topping	686	
			+35%	240	926
Excavation for Select Fill Material	30,682				
Total	34,757		Total	34,757	

Ramp D Sta. 62+00 to 70+00					
EXCAVATION (CY)			EMBANKMENT (CY)		
Excavation	673		Select Fill Material	33,829	
Unstable Material Excavation	3,526		+35%	11,840	45,669
Undercutting for Select Topping	227		Select Subgrade Topping	1,707	
Out-of-Balance from			+35%	597	2,304
Ramp D 70+00 to 77+28	996				
Excavation for Select Fill Material	42,551				
Total	47,973		Total	47,973	

PVI 62+20.00
Elev. 1542.43
L 830.00
G1 +2.4500%
G2 -4.7438%
K 115



Slotted Corrugated Polyethylene Drainage Tubing



Notes:

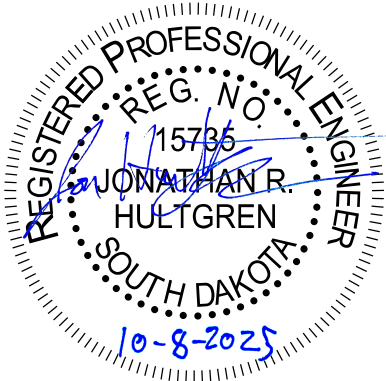
The underdrain pipe shall be Slotted Corrugated Polyethylene Drainage Tubing that meets requirements as set forth in SDDOT Standard Specifications Section 680.

The granular backfill layer for the underdrain pipe shall be washed natural rock meeting the gradation requirements of type "Size #1A" as specified in Section 820 - Coarse Aggregate for use in Portland Cement Concrete of the SDDOT Standard Specifications Section 831.

If discharged to channel, rodent guards shall be 6" x 6" 23 gauge galvanized steel wire mesh, 1/4" mesh spacing (Keystone LG Hardware Cloth or equal).

The alignment shall be approved by the Engineer prior to installation.

Refer to typical sections for additional details on placement under the EPS Foam. Underdrain shall be spaced at 25' intervals and within the drainable rock layer under the EPS Foam. The length of the underdrain will run the width of EPS Foam area.



SECTION E – ESTIMATE OF STRUCTURE QUANTITIES

PCN 06JQ:

Str. No. 42-065-016

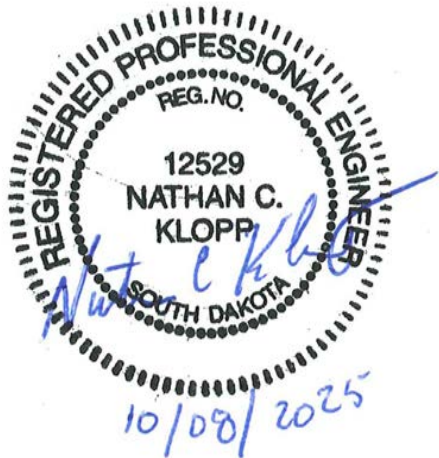
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	939.0	SqYd
120E7000	Select Granular Backfill	14.9	Ton
410E0020	Structural Steel	Lump Sum	LS
410E0700	Abutment Joint Drain	2	Each
410E2100	Finger Type Expansion Joint Assembly	2	Each
420E0100	Structure Excavation, Bridge	465	CuYd
430E0200	Bridge End Embankment	1,720	CuYd
430E0300	Granular Bridge End Backfill	156.0	CuYd
430E0510	Approach Slab Underdrain Excavation	2.0	CuYd
430E0700	Precast Concrete Headwall for Drain	6	Each
460E0030	Class A45 Concrete, Bridge Deck	340.1	CuYd
460E0050	Class A45 Concrete, Bridge	560.6	CuYd
460E0150	Concrete Approach Slab for Bridge	238.5	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	34.6	SqYd
460E0500	Deck Drain, Girder Bridge	9	Each
480E0100	Reinforcing Steel	73,346	Lb
480E0200	Epoxy Coated Reinforcing Steel	8,496	Lb
480E0300	Stainless Reinforcing Steel	67,897	Lb
480E0518	No. 18 Rebar Splice	104	Each
510E0300	Preboring Pile	80	Ft
510E3521	HP 14x73 Steel Test Pile, Furnish and Drive	420	Ft
510E3525	HP 14x73 Steel Bearing Pile, Furnish and Drive	7,120	Ft
635E8020	2" Rigid Galvanized Steel Conduit	313	Ft
680E0040	4" Underdrain Pipe	380	Ft
680E2500	Porous Backfill	32.0	Ton
734E2022	Bridge Berm Slope Protection, Quarried Aggregate	442.1	SqYd
831E0100	Type A Drainage Fabric	443	SqYd
831E0110	Type B Drainage Fabric	47	SqYd
831E1030	Perforated Geocell	425	SqFt

Str. No. 42-065-020

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	2,470.0	SqYd
120E7000	Select Granular Backfill	37.0	Ton
410E0020	Structural Steel	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	184.5	Ft
420E0100	Structure Excavation, Bridge	407	CuYd
430E0200	Bridge End Embankment	2,980	CuYd
430E0300	Granular Bridge End Backfill	408.0	CuYd
430E0510	Approach Slab Underdrain Excavation	6.0	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0030	Class A45 Concrete, Bridge Deck	820.2	CuYd
460E0050	Class A45 Concrete, Bridge	530.4	CuYd
460E0150	Concrete Approach Slab for Bridge	407.4	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	150.4	SqYd
462E0100	Class M6 Concrete	40.9	CuYd
470E0220	Steel Pedestrian Railing on Concrete Barrier	767.0	Ft
480E0100	Reinforcing Steel	111,682	Lb
480E0200	Epoxy Coated Reinforcing Steel	1,284	Lb
480E0300	Stainless Reinforcing Steel	203,000	Lb
480E0518	No. 18 Rebar Splice	132	Each
510E0300	Preboring Pile	200	Ft
510E3521	HP 14x73 Steel Test Pile, Furnish and Drive	365	Ft
510E3525	HP 14x73 Steel Bearing Pile, Furnish and Drive	8,400	Ft
635E8020	2" Rigid Galvanized Steel Conduit	277	Ft
635E8040	4" Rigid Galvanized Steel Conduit	1,110	Ft
680E0040	4" Underdrain Pipe	117	Ft
680E2500	Porous Backfill	14.0	Ton
734E2022	Bridge Berm Slope Protection, Quarried Aggregate	583.0	SqYd
831E0100	Type A Drainage Fabric	584	SqYd
831E0110	Type B Drainage Fabric	118	SqYd
831E1030	Perforated Geocell	1,056	SqFt

Str. No. 42-066-020, M.S.E. Large Panel Retaining Walls, and Reinforced Concrete Barriers

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
420E0300	Structure Excavation, Retaining Wall	2,750	CuYd
420E1000	Foundation Preparation, Retaining Wall	1,277	CuYd
421E0200	Box Culvert Undercut	139	CuYd
430E0200	Bridge End Embankment	1,878	CuYd
430E0700	Precast Concrete Headwall for Drain	1	Each
460E0100	Class A45 Concrete, Miscellaneous	659.8	CuYd
460E0120	Class A45 Concrete, Box Culvert	268.5	CuYd
460E0204	Anti-Graffiti Coating	26,543.0	SqFt
480E0100	Reinforcing Steel	49,688	Lb
480E0200	Epoxy Coated Reinforcing Steel	100,103	Lb
530E0420	MSE Large Panel Wall, Furnish	10,140	SqFt
530E0422	MSE Large Panel Wall, Install	10,140	SqFt
530E0702	Granular Backfill for MSE Large Panel Wall	6,009.0	CuYd
651E0040	4" Concrete Sidewalk	164	SqFt
680E0040	4" Underdrain Pipe	1,345	Ft
680E2500	Porous Backfill	660.0	Ton



ESTIMATE OF STRUCTURE QUANTITIES

DESCRIPTION	QUANTITY	UNIT	REMARKS
Bridge Elevation Survey	Lump Sum	L.S.	
Concrete Penetrating Sealer	2,470.0	Sq. Yd.	See Special Provision
Select Granular Backfill	37.0	Ton	
Structural Steel	Lump Sum	L.S.	See Special Provision
Membrane Sealant Expansion Joint	184.5	Ft.	
Structure Excavation, Bridge	407	Cu. Yd.	
Bridge End Embankment	2,980	Cu. Yd.	
Granular Bridge End Backfill	408.0	Cu. Yd.	
Approach Slab Underdrain Excavation	6.0	Cu. Yd.	
Precast Concrete Headwall for Drain	4	Each	
Class A45 Concrete, Bridge Deck	820.2	Cu. Yd.	
Class A45 Concrete, Bridge	530.4	Cu. Yd.	
Concrete Approach Slab for Bridge	407.4	Sq. Yd.	
Concrete Approach Sleeper Slab for Bridge	150.4	Sq. Yd.	
Class M6 Concrete	40.9	Cu. Yd.	
Steel Pedestrian Railing on Concrete Barrier	767.0	Ft.	
Reinforcing Steel	111,682	Lb.	
Epoxy Coated Reinforcing	1,284	Lb.	
Stainless Reinforcing Steel	203,000	Lb.	See Special Provision
No. 18 Rebar Splice	132	Each	
Preboring Pile	200	Ft.	
HP 14 x 73 Steel Test Pile, Furnish and Drive	365	Ft.	
HP 14 x 73 Steel Bearing Pile, Furnish and Drive	8,400	Ft.	
2" Galvanized Steel Conduit	277	Ft.	
4" Galvanized Steel Conduit	1,110	Ft.	
4" Underdrain Pipe	177	Ft.	
Porous Backfill	14	Ton	
Bridge Berm Slope Protection, Quarried Aggregate	583.0	Sq. Yd.	
Type A Drainage Fabric	584	Sq. Yd.	
Type B Drainage Fabric	118	Sq. Yd.	
Perforated Geocell	1,056	Sq. Ft.	

BRIDGE SPECIFICATIONS

- Design Specifications: AASHTO LRFD Bridge Design Specifications, 9th Edition.
- Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2025 Edition and required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.
- All welding and welding inspections will be in conformance with the latest edition of AASHTO/AWS D1.5/D1.5M Bridge Welding Code unless noted otherwise in the plans.

BRIDGE DESIGN LOADING

- AASHTO HL-93.
- Dead Load includes 22 psf for future wearing surface on the roadway.

DESIGN MATERIAL STRENGTHS

Class A45 Concrete

Reinforcing Steel (ASTM A615, Gr. 60)

Piling (ASTM A572 Grade 50)

Structural Steel (ASTM A709 Gr. 50T2)

$f'_c = 4,500$ psi

$f_y = 60,000$ psi

$f_y = 50,000$ psi

$f_y = 50,000$ psi

GENERAL CONSTRUCTION

- All lap splices shown are contact lap splices unless noted otherwise.
- All exposed concrete corners and edges will be chamfered 3/4-inch unless noted otherwise.
- Use 2-inch clear cover on all reinforcing steel except as shown otherwise on plans.
- The Contractor will imprint on the structure the date of new construction as specified and detailed on Standard Plate 460.02.
- Barrier curbs will be built perpendicular to the roadway grade line.
- Requests for construction joints or reinforcing steel splices at points other than those shown, must be submitted to the Engineer for prior approval. If additional splices are approved, no payment will be allowed for the added quantity of reinforcing steel.
- Bridge berms will be constructed to the plans template prior to any pile driving or construction of abutment footings. See Standard Plate 120.11. Berm slopes will not be disturbed after construction. Any alterations to the berm or slopes after berm construction will be submitted to the Bridge Construction Engineer for approval. Allow 30 days for review of proposals.
- The elevation of the bridge deck is 14 inches above subgrade elevation.

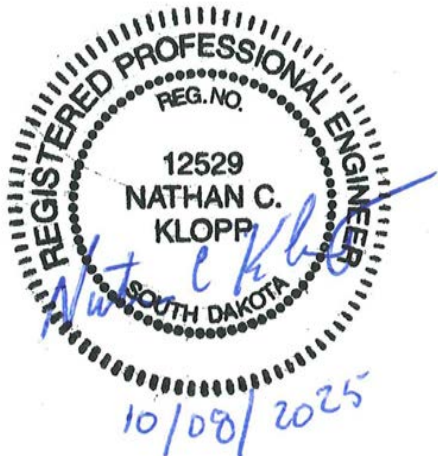
Revision Date: 10/08/2025
Plot Date: 10/08/2025
Initials: NCK



PROJECT	SHEET NO.	TOTAL SHEETS
EM 0292(88)73 IM 2292(104)0	E4	E130

DESIGN MIX OF CONCRETE

- All structural concrete will be Class A45 Concrete unless otherwise indicated.
- Type II cement conforming to Section 750 of the Construction Specifications is required in all concrete on the structure except in the abutments. Abutment concrete will use a Type III cement or an approved modified A45 mix. The modified mix will meet the requirements for A45 concrete specified in Section 460 of the Construction Specification with the following modifications: a high range water reducer is required at the manufactures' recommended dosage, the maximum concrete slump is 6 inches, the maximum water/cementitious material ratio will be at least 0.02 less than the A45 mix used in the rest of the substructure, and the minimum concrete temperature at time of placement will be 65 degrees Fahrenheit. If used, type III cement will contain a maximum 8% Tricalcium Aluminate (C₃A) and a maximum 0.6% Alkalis (Na₂O + 0.658K₂O).
- Grout design mix will be as specified in Section 460.2 K of the Construction Specifications. A compressive strength of 2000 psi will be attained by the grout prior to erection of any beams. Chamfer edges of grout pads 3/4-inch. The quantity of grout is included in and will be paid for at the contract unit price per cubic yard for Class A45 Concrete, Bridge.



ESTIMATE OF STRUCTURE QUANTITES AND NOTES
FOR
276'-6" STEEL GIRDER BRIDGE

30'-0" & 42'-0" ROADWAYS 0° SKEW
with 14'-0" PEDESTRIAN TRAIL SEC. 18/19 - T100N - R50W
85TH STREET OVER I-29 EM 0292(88)73
STA. 318+79.74EB to STA. 321+55.24EB HL-93
STR. NO. 42-065-020

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

DESIGNED BY DKW	CK. DES. BY NCK	DRAFTED BY NCM	APPROVED BY BRIDGE ENGINEER
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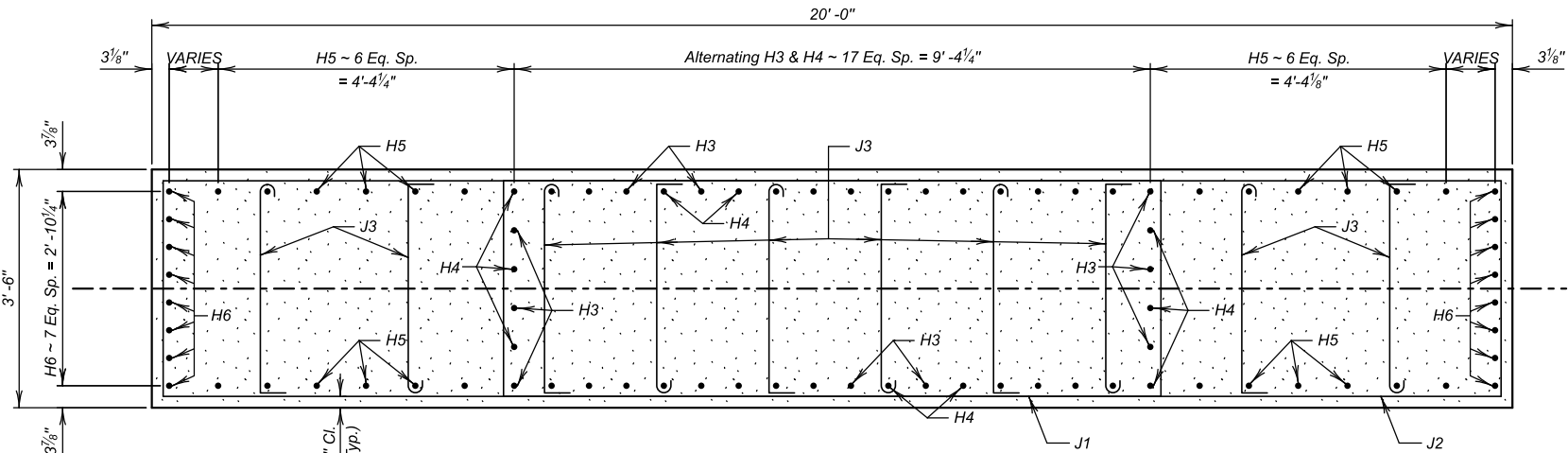
Revision Date: 10/08/2025
Plot Date: 10/08/2025
Initials: NCK



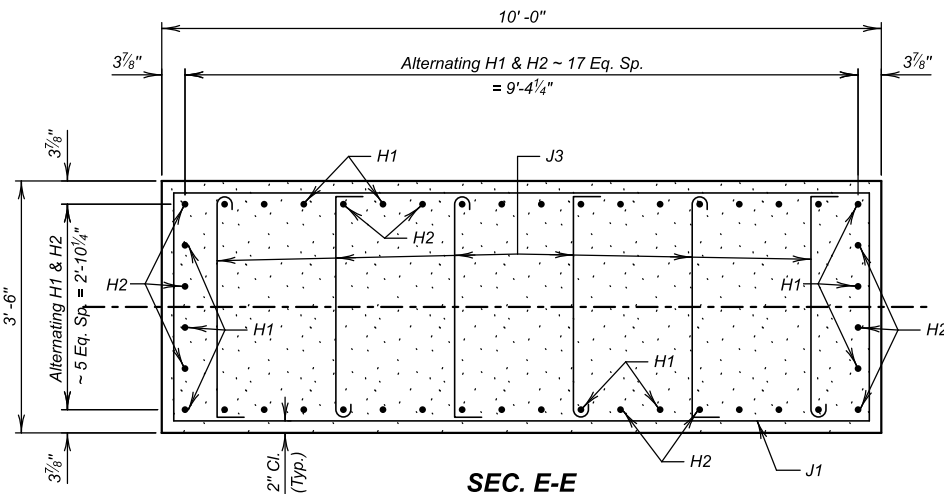
PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET NO.
E17
TOTAL SHEETS
E130

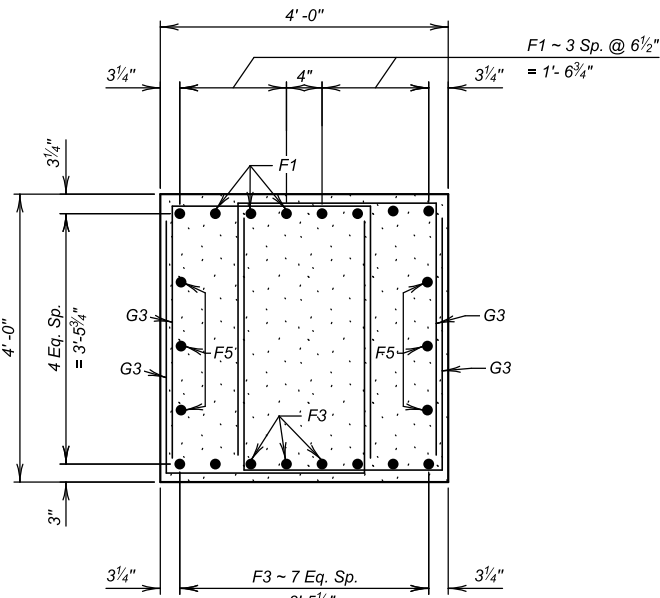
NOTE:
This sheet is to be used in conjunction
with Bent No. 2 (A) and (B)



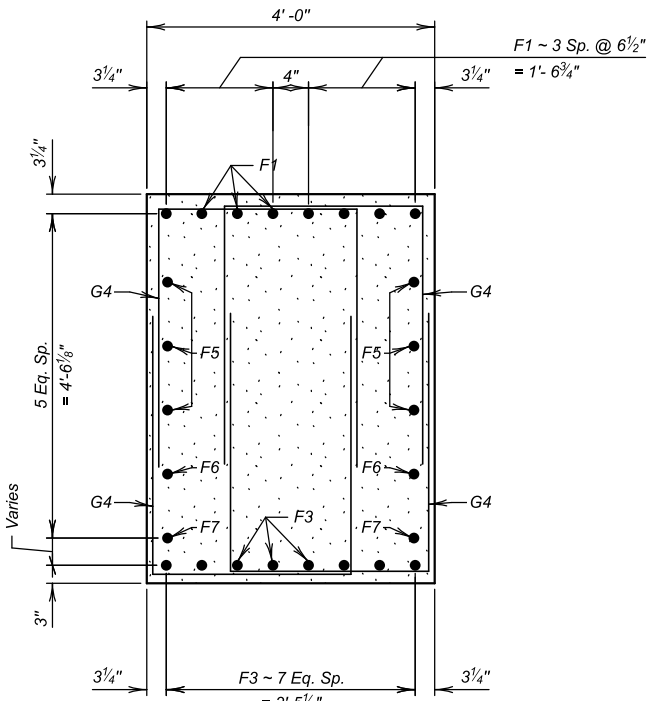
SEC. D-D



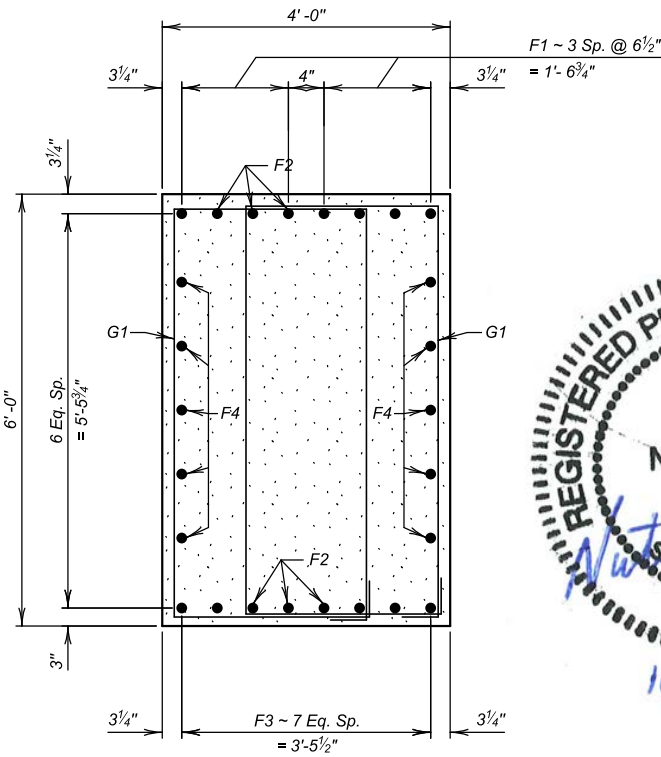
SEC. E-E



VIEW A-A



SEC. B-B



SEC. C-C

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type	Bending Details
F1	16	10	28' - 7"	1A	Type 17A
F2	16	10	59' - 6"	Str.	
F3	16	10	25' - 4"	19B	Type T9
F4	10	6	59' - 6"	Str.	
F5	12	6	21' - 2"	Str.	Type 1A
F6	4	6	20' - 11"	Str.	
F7	4	6	17' - 9"	Str.	Type 19B
F8	10	5	8' - 5"	17	
G1	156	5	17' - 2"	T2	Type 17
G3	48	5	9' - 8"	17	
G4	64	5	10' - 8"	17	Type 17
H1	66	18	14' - 5"	17A	
H2	66	18	16' - 5"	17A	Type 17
H3	66	18	16' - 6"	Str.	
H4	66	18	14' - 6"	Str.	Type 17
H5	18	6	25' - 6"	Str.	
H6	48	6	23' - 2"	Str.	Type 17
J1	63	5	26' - 7"	T2	
J2	108	5	17' - 0"	17	Type 17
J3	504	4	4' - 0"	T9	
K1	96	7	21' - 8"	17	Type 17
K2	120	9	21' - 8"	17	

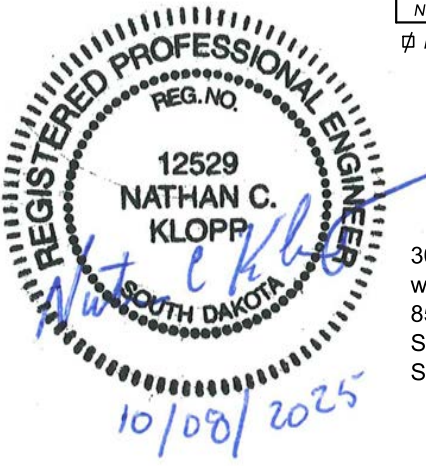
NOTE:
All dimensions are out to out of bars.

☆ See cutting diagram

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Class A45 Concrete, Bridge	Cu. Yd.	330.2
Reinforcing Steel	Lb.	89,390
Structure Excavation, Bridge	Cu. Yd.	367
HP 14 X 73 Steel Test Pile, Furnish and Drive	Ft.	1 @ 110' = 110'
HP 14 X 73 Steel Bearing Pile, Furnish and Drive	Ft.	59 @ 105' = 6195'
No. 18 Rebar Splice	Each	132

⊘ Includes 0.4 Cu. Yds. for Grout Pads for each Bent.



BENT NO. 2 DETAILS (C)

FOR

276'-6" STEEL GIRDER BRIDGE

30'-0" & 42'-0" ROADWAYS
with 14'-0" PEDESTRIAN TRAIL
85TH STREET OVER I-29
STA. 318+79.74EB to STA. 321+55.24EB
STR. NO. 42-065-020

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

15 OF 49

DESIGNED BY DKW	CK. DES. BY NCK	DRAFTED BY NCM	APPROVED BY BRIDGE ENGINEER
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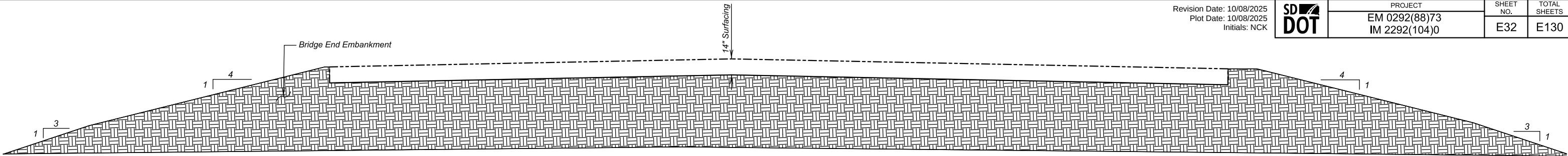
Revision Date: 10/08/2025
Plot Date: 10/08/2025
Initials: NCK



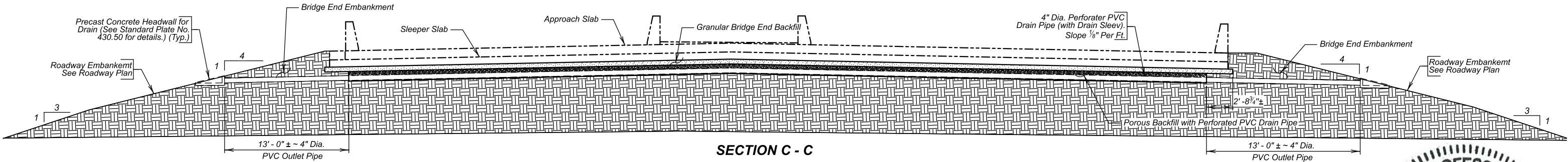
PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET
NO.
E32

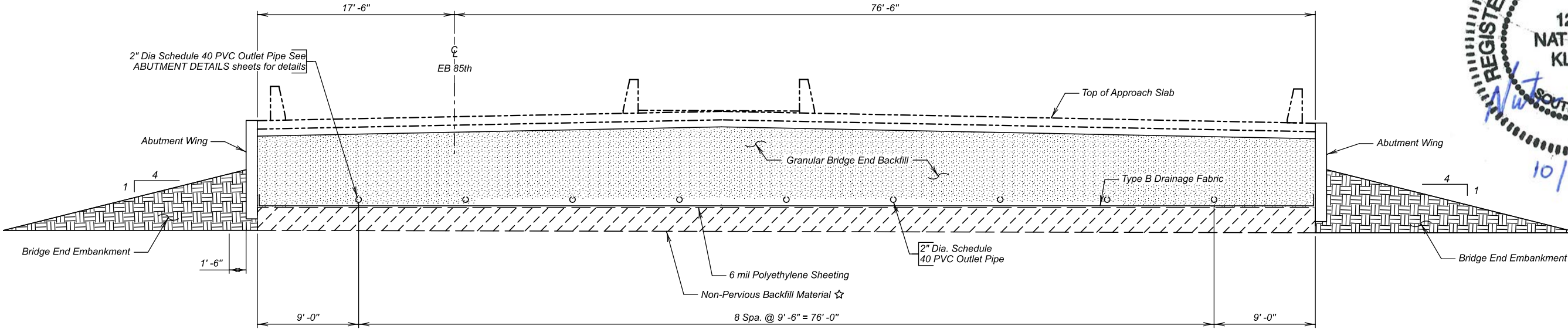
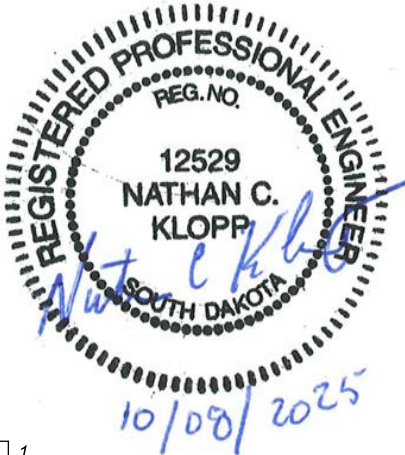
TOTAL
SHEETS
E130



SECTION D - D



SECTION C - C



SECTION B - B

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Granular Bridge End Backfill	Cu. Yd.	408
Approach Slab Underdrain Excavation	Cu. Yd.	6
Bridge End Embankment	Cu. Yd.	2,980
Porous Backfill	Ton	14
4" Underdrain Pipe	Ft.	177
Precast Concrete Headwall for Drain	Ea.	4

1. 126 Ft. 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve).
2. 52 Ft. 4" Dia. PVC Outlet Pipe.
3. 1,504 Sq. Ft. Vertical Composite Drain.

Items 1 thru 3 are approximate quantities contained in the 4" Underdrain Pipe and are for information only.

4. 4888 Sq. Ft. 6 Mil Polyethylene Sheeting, not including laps.
5. 216 Sq. Yd. Type B Drainage Fabric.

Items 4 and 5 are approximate quantities contained in the Granular Bridge End Backfill and are for information only.

GENEAL NOTES:

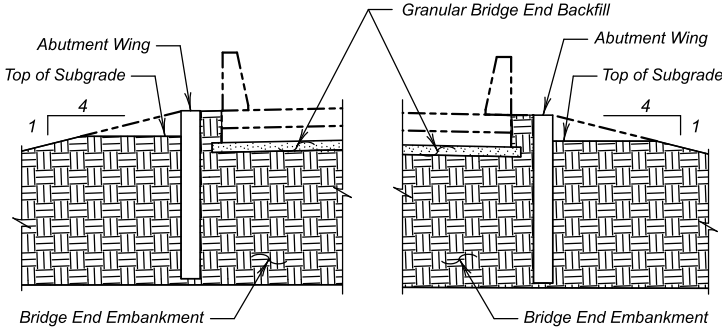
◇ The exact lengths of the 4" Perforated PVC Drain Pipe (with Drain Sleeve), 4" Dia. PVC Outlet Pipe will be field determined.

≠ For estimating purposes only, a factor of 1.89 Tons/Cu. Yd. was used to convert Cu. Yds. to Tons.

⊗ Shrinkage Factor of 1.25 used.

≠ Quantity under sleeper slab based on 12" wide trench.

☆ The quantity of Non-Pervious Backfill is included with Bridge End Embankment.



SECTION F - F

SECTION G - G

DETAILS OF BRIDGE END BACKFILL ADJACENT TO ABUTMENTS NO. 1 & 3 (B)

FOR

276'-6" STEEL GIRDER BRIDGE

30'-0" & 42'-0" ROADWAYS 0° SKEW
with 14'-0" PEDESTRIAN TRAIL SEC. 18/19 - T100N - R50W
85TH STREET OVER I-29 EM 0292(88)73
STA. 318+79.74EB to STA. 321+55.24EB HL-93
STR. NO. 42-065-020

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

30 OF 49

DESIGNED BY DKW	CK. DES. BY NCK	DRAFTED BY NCM	APPROVED BY BRIDGE ENGINEER
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ESTIMATE OF STRUCTURE QUANTITIES

DESCRIPTION	QUANTITY	UNIT	REMARKS
Bridge Elevation Survey	Lump Sum	L.S.	
Concrete Penetrating Sealer	939.0	Sq. Yd.	See Special Provisions
Select Granular Backfill	14.9	Ton	
Structural Steel	Lump Sum	L.S.	See Special Provisions
Abutment Joint Drain	2	Each	
Finger Type Expansion Joint Assembly	2	Each	
Structure Excavation, Bridge	465	Cu. Yd.	
Bridge End Embankment	1720	Cu. Yd.	
Granular Bridge End Backfill	156.0	Cu. Yd.	
Approach Slab Underdrain Excavation	2.0	Cu. Yd.	
Precast Concrete Headwall for Drain	6	Each	
Class A45 Concrete, Bridge Deck	340.1	Cu. Yd.	
Class A45 Concrete, Bridge	560.6	Cu. Yd.	
Concrete Approach Slab for Bridge	238.5	Sq. Yd.	
Concrete Approach Sleeper Slab for Bridge	34.6	Sq. Yd.	
Deck Drain, Girder Bridge	9	Each	
Reinforcing Steel	73,346	Lb.	
Epoxy Coated Reinforcing	8,496	Lb.	
Stainless Reinforcing Steel	67,897	Lb.	See Special Provisions
No. 18 Rebar Splice	104	Each	
Preboring Piles	80	Ft.	
HP 14 x 73 Steel Test Pile, Furnish and Drive	420	Ft.	
HP 14 x 73 Steel Bearing Pile, Furnish and Drive	7,120	Ft.	
2" Galvanized Steel Conduit	313	Ft.	
4" Underdrain Pipe	380	Ft.	
Porous Backfill	32.0	Ton	
Bridge Berm Slope Protection, Quarried Aggregate	442.1	Sq. Yd.	
Type A Drainage Fabric	443	Sq. Yd.	
Type B Drainage Fabric	47	Sq. Yd.	
Perforated Geocell	425	Sq. Ft.	

BRIDGE SPECIFICATIONS

1. Design Specifications: AASHTO LRFD Bridge Design Specifications, 9th Edition.
2. Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2025 Edition and required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.
3. All welding and welding inspections will be in conformance with the latest edition of AASHTO/AWS D1.5/D1.5M Bridge Welding Code unless noted otherwise in the plans.

BRIDGE DESIGN LOADING

1. AASHTO HL-93.
2. Dead Load includes 22 psf for future wearing surface on the roadway.

DESIGN MATERIAL STRENGTHS

Class A45 Concrete

Reinforcing Steel (ASTM A615, Gr. 60)

Piling (ASTM A572 Grade 50)

Structural Steel (ASTM A709 Gr. 50T2)

$f'_c = 4,500 \text{ psi}$

$f_y = 60,000 \text{ psi}$

$f_y = 50,000 \text{ psi}$

$f_y = 50,000 \text{ psi}$

GENERAL CONSTRUCTION

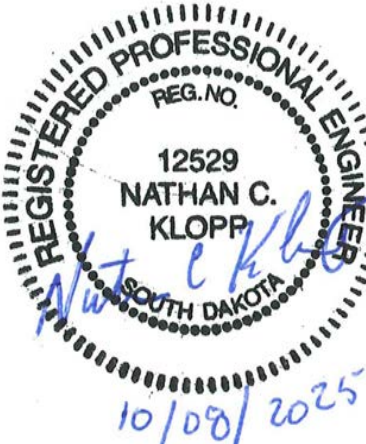
1. All lap splices shown are contact lap splices unless noted otherwise.
2. All exposed concrete corners and edges will be chamfered 3/4-inch unless noted otherwise.
3. Use 2-inch clear cover on all reinforcing steel except as shown otherwise on plans.
4. The Contractor will imprint on the structure the date of new construction as specified and detailed on Standard Plate 460.02.
5. Barrier curbs, and end blocks will be built perpendicular to the roadway grade line.
6. Requests for construction joints or reinforcing steel splices at points other than those shown, must be submitted to the Engineer for prior approval. If additional splices are approved, no payment will be allowed for the added quantity of reinforcing steel.
7. Bridge berms will be constructed to the plans template prior to any pile driving or construction of abutment footings. See Standard Plate 120.11. Berm slopes will not be disturbed after construction. Any alterations to the berm or slopes after berm construction will be submitted to the Bridge Construction Engineer for approval. Allow 30 days for review of proposals.
8. The elevation of the bridge deck is 14 inches above subgrade elevation.

DESIGN MIX OF CONCRETE

1. All structural concrete will be Class A45 Concrete unless otherwise indicated.
2. Grout design mix will be as specified in Section 460.2 K of the Construction Specifications. A compressive strength of 2000 psi will be attained by the grout prior to erection of any beams. Chamfer edges of grout pads 3/4-inch. The quantity of grout is included in and will be paid for at the contract unit price per cubic yard for Class A45 Concrete, Bridge.

ABUTMENTS

1. Preboring piling at each abutment is required to whichever is greater, ten feet or natural ground
2. The HP 14x73 Piling were designed using a factored bearing resistance of 134 tons per pile. Piling will develop a field verified nominal bearing resistance of 335 tons per pile.
3. One test pile will be driven at each abutment and will become part of the pile group. The test pile will be driven before any other pile and will be driven to the required field verified nominal resistance or as directed by the Engineer prior to driving any portion of the bearing piles.
4. The Contractor will have sufficient pile splice material on hand before pile driving is started. See Standard Plate 510.40.
5. Each finished abutment will include a Bridge Survey Marker. See Standard Plate 460.05.



ESTIMATE OF STRUCTURE QUANTITES AND NOTES
FOR
312'-11³/₈" STEEL GIRDER BRIDGE
27'-0" ROADWAY 55° LHF SKEW
RAMP D OVER 229 RAMP C SEC. 18 - T100N - R50W
STA. 60+35.34 to STA. 63+50.03 EM 0292(88)73
STR. NO. 42-065-016 HL-93

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

DESIGNED BY	CK. DES. BY	DRAFTED BY	APPROVED BY
CAK	NCK	NCM	
BRIDGE ENGINEER			

Revision Date: 10/08/2025
Plot Date: 10/08/2025
Initials: NCK

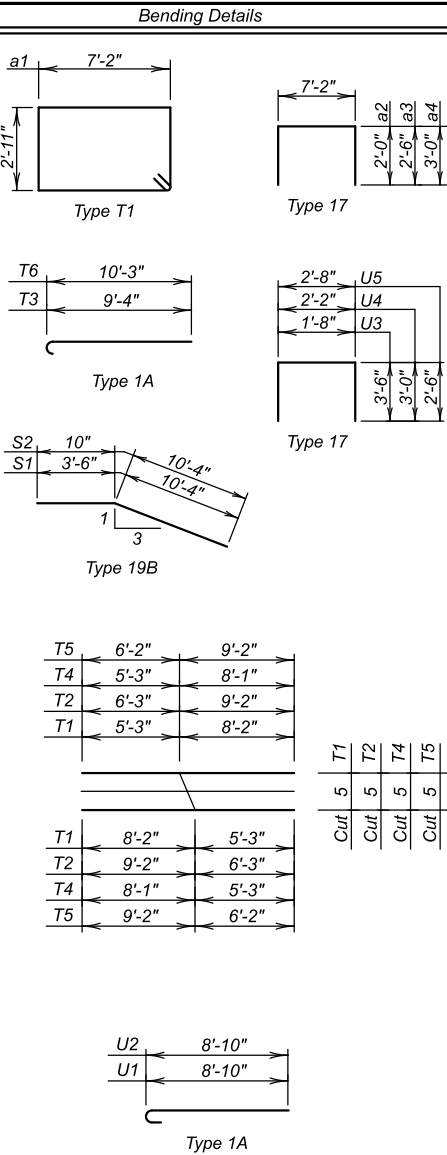


PROJECT
EM 0292(88)73 IM 2292(104)0

SHEET NO.	TOTAL SHEETS
E71	E130

REINFORCING SCHEDULE

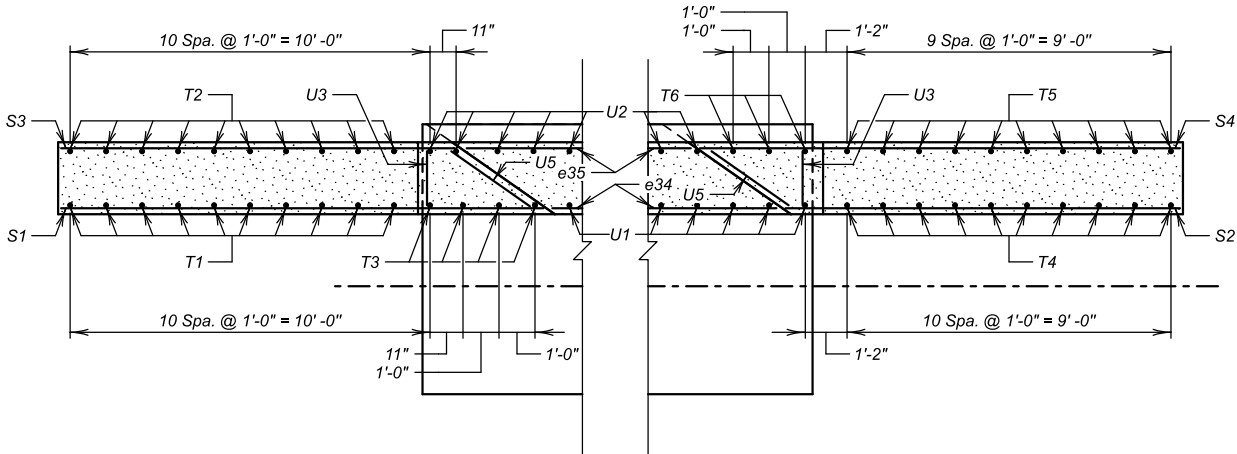
	Mk.	No.	Size	Length	Type
Δ	a1	53	5	21' - 0"	T1
Δ	a2	13	5	11' - 2"	17
Δ	a3	13	5	12' - 2"	17
Δ	a4	9	5	13' - 2"	17
Δ	e1	16	8	55' - 8"	str.
Δ	e2	12	8	16' - 11"	str.
Δ	e3	6	8	8' - 10"	str.
	e4	2	6	9' - 9"	str.
	e5	4	6	26' - 0"	str.
	e6	1	6	23' - 4"	str.
	e7	1	6	7' - 8"	str.
	e8	1	6	4' - 7"	str.
	e9	2	6	9' - 11"	str.
	e10	5	6	26' - 2"	str.
	e11	1	6	23' - 5"	str.
	e12	1	6	4' - 10"	str.
	e13	1	6	1' - 9"	str.
	e14	5	4	27' - 8"	str.
	e15	3	6	9' - 11"	str.
	e16	4	6	24' - 0"	str.
	e17	4	6	26' - 0"	str.
	e18	1	6	23' - 0"	str.
	e19	1	6	23' - 5"	str.
	e20	1	6	19' - 11"	str.
	e21	1	6	5' - 1"	str.
	e22	1	6	3' - 6"	str.
	e23	1	6	2' - 0"	str.
	e24	8	6	10' - 2"	str.
	e25	5	6	26' - 3"	str.
	e26	4	6	24' - 3"	str.
	e27	1	6	23' - 0"	str.
	e28	1	6	23' - 6"	str.
	e29	1	6	9' - 4"	str.
	e30	1	6	7' - 9"	str.
	e31	1	6	6' - 3"	str.
	e32	1	6	4' - 8"	str.
	e33	9	6	29' - 4"	str.
Δ	e34	4	4	24' - 4"	str.
Δ	e35	4	6	26' - 6"	str.
	S1	2	5	13' - 11"	19B
	S2	2	5	11' - 3"	19B
∅	T1	5	4	13' - 5"	str.
∅	T2	5	4	15' - 5"	str.
	T3	4	4	9' - 10"	1A
∅	T4	5	5	13' - 4"	str.
∅	T5	5	5	15' - 4"	str.
	T6	4	6	10' - 11"	1A
	U1	49	4	9' - 4"	1A
	U2	49	6	9' - 8"	1A
Δ	U3	49	5	8' - 8"	17
Δ	U4	49	5	8' - 2"	17
	U5	2	5	7' - 8"	17
Δ	Z1	18	7	4' - 0"	str.



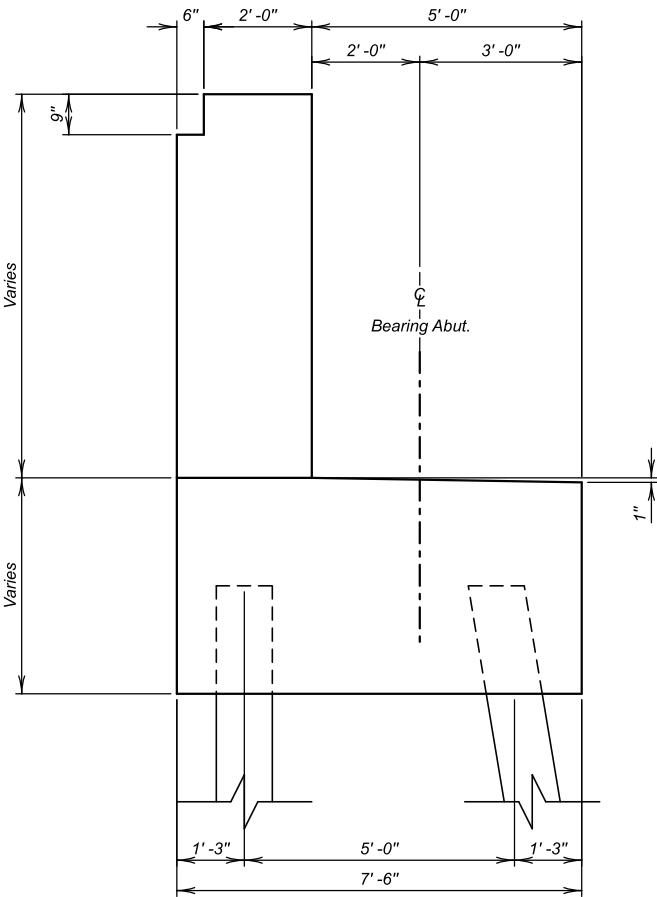
NOTES:
All dimensions are out to out of bars.
Δ Bars to be Epoxy Coated.
∅ See cutting diagram.

ESTIMATED QUANTITIES

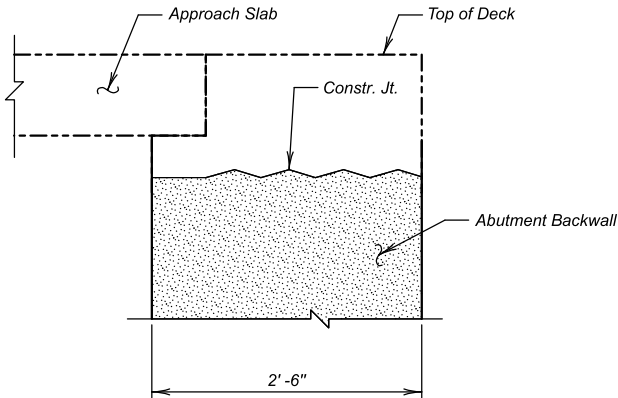
ITEM	UNIT	QUANTITY
Structure Excavation, Bridge	Cu. Yd.	96
Class A45 Concrete Bridge	Cu. Yd.	130.1
Reinforcing Steel	Lb.	4544
Epoxy Coated Reinforcing Steel	Lb.	4810
Preboring Pile	Ft.	4 @ 10' = 40'
HP 14 x 73 Steel Test Pile, Furnish and Drive	Ft.	1 @ 115' = 115'
HP 14 x 73 Steel Bearing Pile, Furnish and Drive	Ft.	7 @ 110' = 770'



Wing Wall Plan



TYPICAL SECTION



DETAIL "X"
(Resteel not shown)



ABUTMENT NO. 1 DETAILS (D)
FOR
312'-11³/₈" STEEL GIRDER BRIDGE
27'-0" ROADWAY
RAMP D OVER 229 RAMP C
STA. 60+35.34 to STA. 63+50.03
STR. NO. 42-065-016
55° LHF SKEW
SEC. 18 - T100N - R50W
EM 0292(88)73
HL-93

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

DESIGNED BY	CK. DES. BY	DRAFTED BY	APPROVED BY
CAK	NCK	NCM	BRIDGE ENGINEER

Revision Date: 10/08/2025
Plot Date: 10/08/2025
Initials: NCK



PROJECT	SHEET NO.	TOTAL SHEETS
EM 0292(88)73 IM 2292(104)0	E75	E130

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type	Bending Details
Δ	a1	53	5	21' - 0"	T1
Δ	e1	16	8	55' - 8"	str.
	e2	4	6	9' - 11"	str.
	e3	6	6	26' - 0"	str.
	e4	1	6	25' - 6"	str.
	e5	1	6	22' - 6"	str.
	e6	1	6	4' - 1"	str.
	e7	1	6	24' - 3"	str.
	e8	1	6	8' - 6"	str.
	e9	1	6	5' - 5"	str.
	e10	6	6	9' - 11"	str.
	e11	8	6	26' - 0"	str.
	e12	7	6	24' - 0"	str.
	e13	1	6	24' - 2"	str.
	e14	1	6	20' - 7"	str.
	e15	1	6	8' - 6"	str.
	e16	1	6	7' - 0"	str.
	e17	1	6	5' - 5"	str.
	e18	1	6	22' - 3"	str.
	e19	1	6	22' - 9"	str.
	e20	1	6	5' - 11"	str.
	e21	1	6	4' - 5"	str.
	e22	1	6	2' - 10"	str.
	e32	5	5	27' 6"	str.
	e33	5	6	29' - 4"	str.
Δ	e34	4	4	24' - 4"	str.
Δ	e35	4	6	26' - 6"	str.
	S1	2	5	11' - 3"	19B
	S2	2	5	13' - 11"	19B
∅	T1	5	4	13' - 0"	str.
∅	T2	5	4	12' - 1"	str.
∅	T3	5	5	13' - 0"	str.
∅	T4	5	5	12' - 1"	str.
∅	U1	48	4	8' - 11"	17
∅	U2	48	6	9' - 1"	17
Δ	U3	48	5	8' - 8"	17
Δ	U4	48	5	8' - 2"	17
	U5	4	5	7' - 8"	17
	U6	1	4	9' - 10"	1A
	U7	4	4	9' - 5"	1A
	U8	4	6	10' - 0"	1A
	U9	1	6	9' - 7"	1A
Δ	Z1	18	7	4' - 0"	str.

Type T1

Type 17

Type 1A

Type 19B

Type 1A

T4 4'-7" 7'-6"

T4 5'-0" 8'-0"

T2 4'-7" 7'-6"

T1 5'-0" 8'-0"

T1 8'-0" 5'-0"

T2 7'-6" 4'-7"

T3 8'-0" 5'-0"

T4 7'-6" 4'-7"

U2 8'-5"

U1 8'-5"

Type 1A

Cut 5

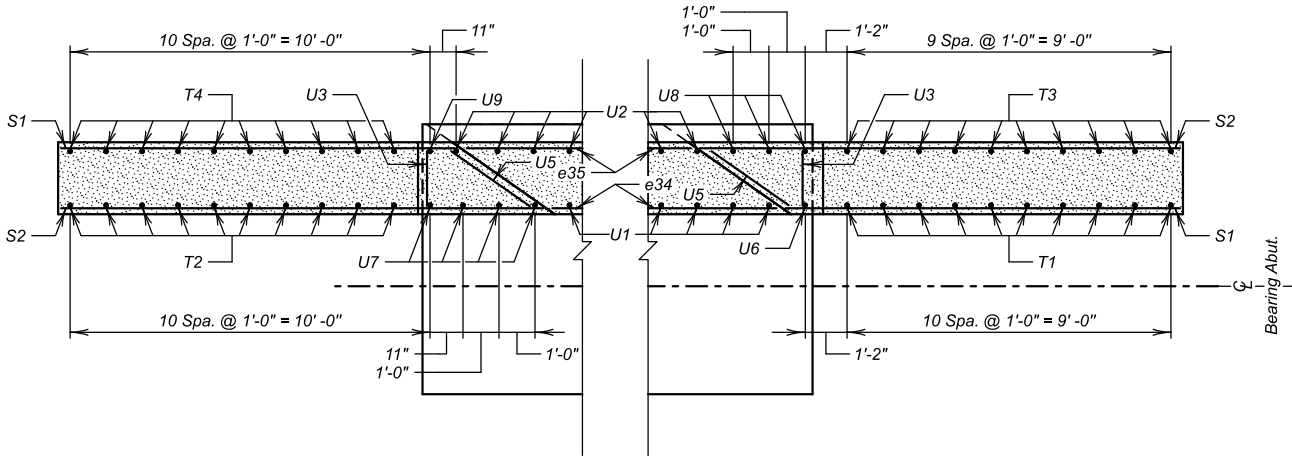
Cut 5

Cut 5

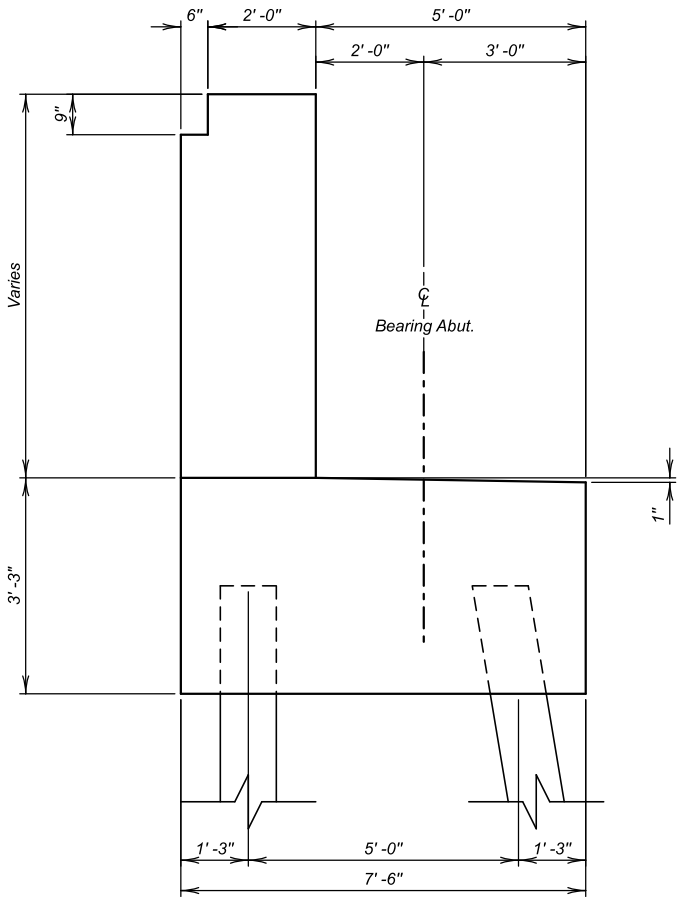
Cut 5

ESTIMATED QUANTITIES

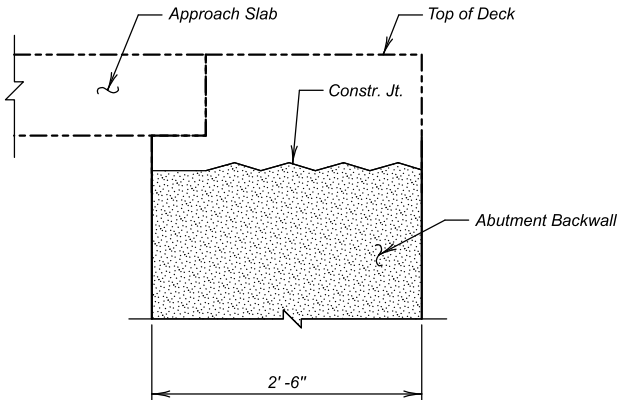
ITEM	UNIT	QUANTITY
Structure Excavation, Bridge	Cu. Yd.	73
Class A45 Concrete Bridge	Cu. Yd.	130.1
Reinforcing Steel	Lb.	4046
Epoxy Coated Reinforcing Steel	Lb.	3686
Preboring Pile	Ft.	4 @ 10' = 40'
HP 14 x 73 Steel Test Pile, Furnish and Drive	Ft.	1 @ 115' = 115'
HP 14 x 73 Steel Bearing Pile, Furnish and Drive	Ft.	7 @ 110' = 770'



Wing Wall Plan



TYPICAL SECTION



DETAIL "X"
(Resteel not shown)



ABUTMENT NO. 4 DETAILS (D)
FOR

312'-11³/₈" STEEL GIRDER BRIDGE
27'-0" ROADWAY
RAMP D OVER 229 RAMP C
STA. 60+35.34 to STA. 63+50.03
STR. NO. 42-065-016

55° LHF SKEW
SEC. 18 - T100N - R50W
EM 0292(88)73
HL-93

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

15 OF 53

DESIGNED BY	CK. DES. BY	DRAFTED BY	APPROVED BY
CAK	NCK	NCM	BRIDGE ENGINEER

NOTES:
All dimensions are out to out of bars.
Δ Bars to be Epoxy Coated.
∅ See cutting diagram.

NOTE:
Concrete shall be placed in the space under the beams (within the backwall width) during the pour. Care shall be taken to get the concrete vibrated into this area. If upon form removal the space is not completely filled and consolidated, the contractor shall grout in the remaining voids.

Revision Date: 10/08/2025
Plot Date: 10/08/2025
Initials: NCK



PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET
NO.
E78
TOTAL
SHEETS
E130

NOTE:
This sheet is to be used in conjunction
with Bent No. 2 (A) and (B).

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type	Bending Details	
F1	32	9	28' - 9"	17A		
F3	32	6	15' - 1"	19B		
F4	32	6	23' - 2"	Str.		
F5	16	8	18' - 4"	Str.		
G1	88	5	17' - 8"	T2		
G2	8	5	13' - 10"	T2		
G3	64	5	10' - 8"	17		
G4	64	5	11' - 8"	17		
H1	52	18	11' - 5"	17A		
H2	52	18	13' - 5"	17A		
H3	52	18	15' - 0"	Str.		
H4	52	18	13' - 0"	Str.		
H5	24	6	21' - 2"	Str.		
H6	64	6	18' - 0"	Str.		
J1	76	5	20' - 8"	T2		
J2	48	5	11' - 8"	17		
J3	104	5	15' - 2"	17		
J4	332	4	4' - 0"	T9		
K1	26	6	35' - 6"	Str.		
K2	74	6	11' - 6"	Str.		
K3	32	9	35' - 6"	Str.		
K4	78	9	17' - 6"	17		

NOTES-
All dimensions are out to out of bars.
See cutting diagram.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY	
		Bent No. 2	Bent No. 3
Class A45 Concrete Bridge	Cu. Yd.	150.2	150.2
Reinforcing Steel	Lb.	32378	32378
Structure Excavation, Bridge	Cu. Yd.	148	143
HP 14 x 73 Steel Test Pile, Furnish and Drive	Ft.	1 @ 95' = 95'	1 @ 95' = 95'
HP 14 x 73 Steel Bearing Pile, Furnish and Drive	Ft.	31 @ 90' = 2790'	31 @ 90' = 2790'
No. 18 Rebar Splice	Each	52	52

* Includes 0.4 Cu. Yds. for Grout Pads for each Bent.

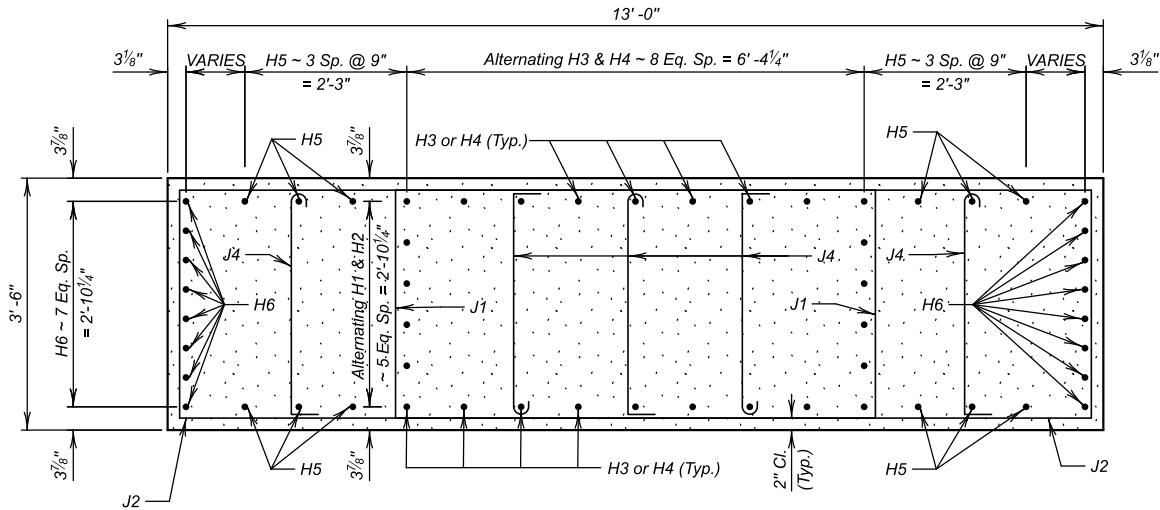
BENT NO. 2 & 3 DETAILS (C)
FOR

312'-11³/₈" STEEL GIRDER BRIDGE
27'-0" ROADWAY 55° LHF SKEW
RAMP D OVER 229 RAMP C SEC. 18 - T100N - R50W
STA. 60+35.34 to STA. 63+50.03 EM 0292(88)73
STR. NO. 42-065-016 HL-93

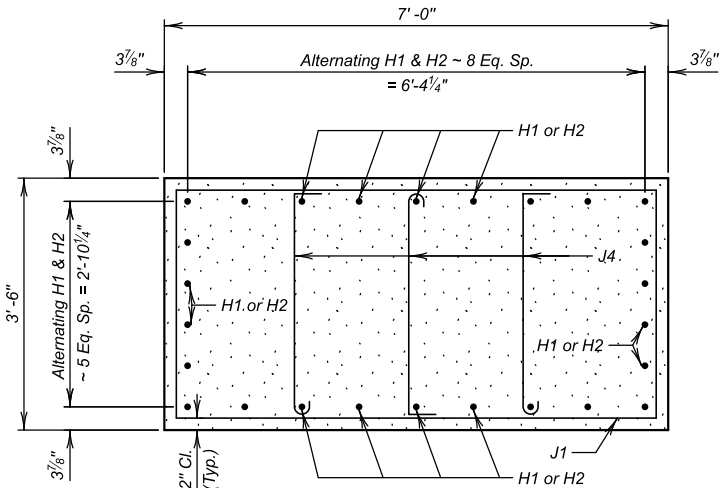
LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

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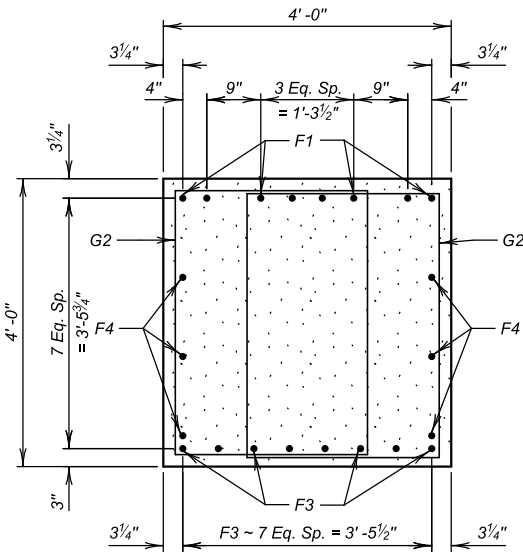
DESIGNED BY CAK	CK. DES. BY NCK	DRAFTED BY NCM	APPROVED BY BRIDGE ENGINEER
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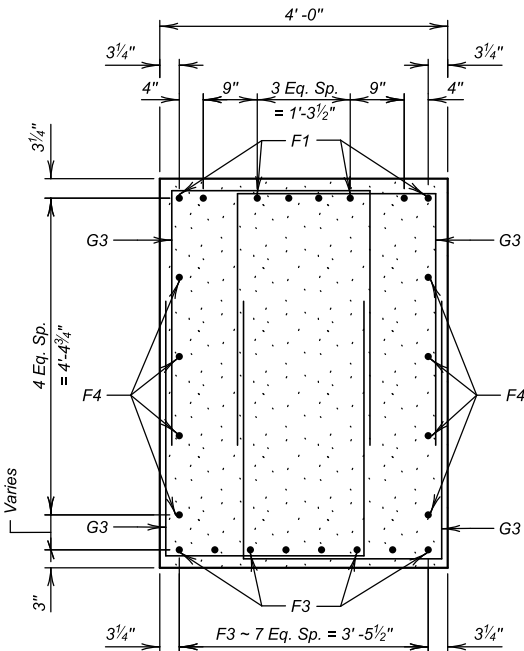
SEC. D-D



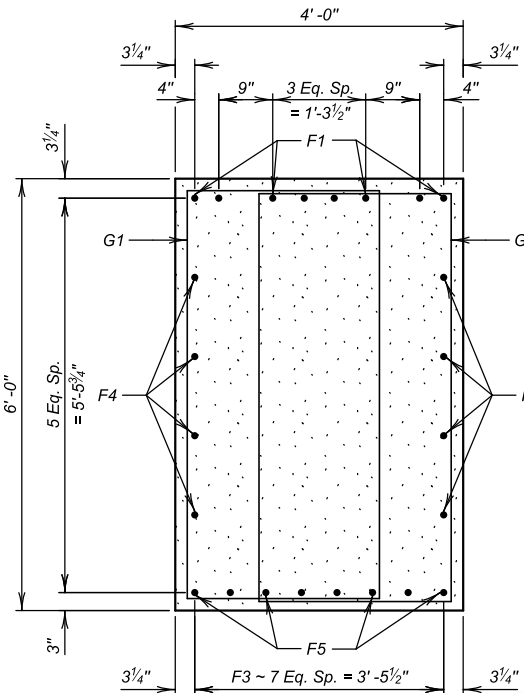
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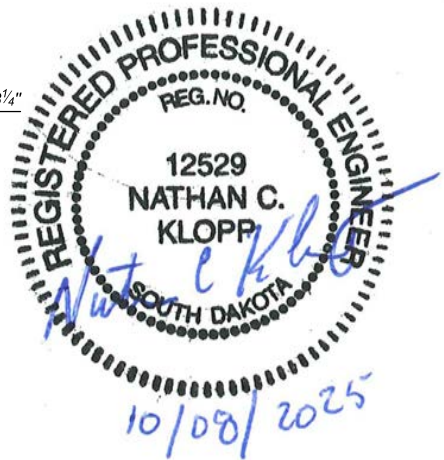
VIEW A-A



SEC. B-B



SEC. C-C



ESTIMATE OF STRUCTURE QUANTITIES

DESCRIPTION	QUANTITY	UNIT	REMARKS
Structure Excavation, Retaining Wall	2,750	Cu. Yd.	
Foundation Preparation, Retaining Wall	1,277	Cu. Yd.	
Bridge End Embankment	1878	Cu. Yd.	
Class A45 Concrete, Misc	550.6	Cu. Yd.	
Anti-Graffiti Coating	17,717	Sq Ft	
Epoxy Coated Reinforcing	84, 863	Lb.	
MSE Large Panel Wall, Furnish	10,140	Sq. Ft.	See Special Provision
MSE Large Panel Wall, Install	10,140	Sq. Ft.	
Granular Backfill for MSE Large Panel Wall	6,009.0	Cu. Yd.	
4" Concrete Sidewalk	164	Sq. Ft.	
4" Underdrain Pipe	735	Ft.	

SPECIFICATIONS

1. Design Specifications: AASHTO LRFD Bridge Design Specifications, 9th Edition.
2. Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2025 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

GENERAL NOTES

1. Concrete will be Class A45 in accordance with Section 460.
2. Design Material Strengths: Concrete f_c = 4,500 psi
Reinforcing Steel f_y = 60,000psi
3. Reinforcing steel will conform to ASTM A615, Grade 60.
4. Use 1" clear cover on all reinforcing steel except as shown.
5. All exposed concrete corners and edges will be chamfered 3/4" unless noted otherwise.
6. The Concrete Barrier Curb and Gutter may be either cast-in-place or slipformed. If slipformed, the finished Concrete Barrier Curb will be true to the specified line and grade within a tolerance of $\pm 14"$ in 10 feet.
7. The transverse sawed or formed joints in the Concrete Barrier Curb and Gutter will align with the transverse joints in the PCC pavement. The joint grooves may either be formed or saw cut. If saw cut, the concrete will have attained a compressive strength of 2,000 psi prior to sawing. Keyed joints will be used between concrete barrier curb and gutter and concrete barrier curb and gutter end section and between separate pours. Saw cut and seal same as adjacent PCC pavement.

8. Snap ties, if used, will be epoxy coated. The epoxy coating will concrete and compatible with the coating applied to the new epoxy reinforcing steel.

MOMENT SLAB BARRIERS

1. All cost for furnishing and installing the preformed expansion joint filler and bituminous paint will be incidental to the contract unit price per cubic yard for Class A45 Concrete, Misc.
2. The cost of the barrier form liners will be in the contract unit price per cubic yard for Class A45 Concrete, Misc. as appropriate to the panel being constructed. This payment will be full compensation for furnishing all materials, labor, tools and equipment necessary or incidental to the installation of Form Liner.

COMMERCIAL TEXTURE FINISH

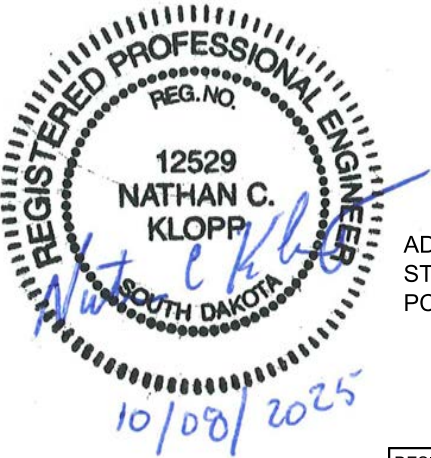
1. A commercial texture finish will be applied to the front, and top face of the barrier curbs.
2. The commercial texture finish used will be on the Department's approved list.
3. The commercial texture finish will be applied in accordance with Section 460.3 L.1.C
4. Where the commercial texture finish is to be applied, curing will be accomplished with cotton or burlap mats and polyethylene sheeting. Curing will continue for not less than seven days after placing concrete before the commercial texture finish is applied. Various commercial texture finish products require that the concrete be 28 days old before application. Therefore, the commercial texture surface finish will be applied in accordance with the manufacturer's recommendations. The commercial texture finish itself does not require a specific cure except for drying.
5. No separate payment will be made for the commercial texture. All costs for the surface preparation, furnishing, and installing the commercial texture finish will be incidental to the Concrete Curb and Gutter and Concrete Curb and Gutter End Section items to which the finish is applied.
6. The color of the back face will be AMS - STD - 595 33690 to match the barrier on the bridge.
7. The color of the top and inside face will be AMS - STD - 595 33690 to match the barrier on the bridge.

RETAINING WALL

1. The Mechanically Stabilized Earth (MSE) Large Panel Retaining Wall will be on the current approved products list located at the following website address:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>.
2. See Special Provision for MECHANICALLY STABILIZED EARTH (LARGE PANEL) WALLS

3. The wall panel front face surface texture will be intended to simulate a natural rock wall. Wall panels color will resemble pink quartzite. The wall coping will be colored tan. Color may be achieved by using colored concrete or surface staining. Submit wall panel pattern, colors, and method of achieving colors to the Engineer for approval a minimum of 2 weeks prior to fabrication.
4. The minimum embedment depth to the bottom of the MSE Large Panel retaining wall will be 2.0-foot.
5. Required minimum reinforcement length will be 8 feet as per AASHTO 11.10.2.1 or as determined by the wall designer. Initial calculations performed by SDDOT determined that reinforcement lengths will approximate 90% of the total retained height for wall sections underneath the abutment of the bridge (measured from the bottom of the wall to the top of the roadway above the wall), 75% of the total wall height for wall sections taller than 13 ft, 90% of the total wall height for wall sections between 9 ft and 13 ft tall, and 100% of the total wall height for wall sections less than 9 ft tall.
6. Horizontal dimensions shown are measured along the front face of the wall.
7. Top of wall elevations shown are at the top of the concrete coping.
8. The retaining wall will be installed in accordance to the selected wall companies' instructions, specifications, and approved shop drawings.
9. Construction of the wall will begin at the lowest course and proceed upward. An underdrain will be placed prior to wall backfill placement and will be functional to prevent water from backing up into the wall backfill. The lowest course of the wall must be placed and backfilled in its entirety prior to construction of any subsequent courses. Backfill must be placed in successive horizontal lifts.
10. A layer of Type B Drainage Fabric will be placed over the top of the Granular Backfill for MSE Large Panel Wall prior to placing any soil over the granular backfill. The intent of the fabric is to act as a separator and keep fines from intruding into the granular material. All costs in furnishing and installing the Type B Drainage Fabric will be incidental to the contract unit price per cubic yard for "Granular Backfill for MSE Large Panel Wall."



ESTIMATE OF QUANTITIES AND NOTES
FOR
M.S.E. RETAINING WALLS
AND CONCRETE BARRIERS

ADJACENT TO RAMP D
STA. 0+01.50 to STA. 6+65.00
PCN 06JQ

SEC. 18 - T100N - R50W
EM 0292(88)73

LINCOLN COUNTY
S.D. DEPT. OF TRANSPORTATION
MAY 2025

2 OF 11

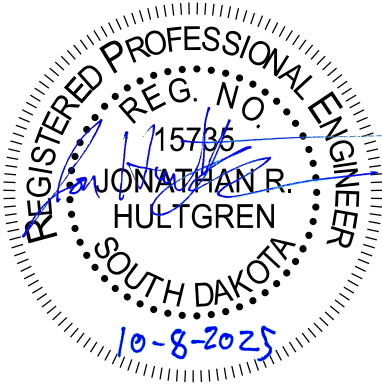
DESIGNED BY	CK. DES. BY	DRAFTED BY	APPROVED BY
HWC	NCK	NCM	
BRIDGE ENGINEER			

SECTION F ESTIMATE OF QUANTITIES - PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	441.1	MGal
260E1010	Base Course	4,704.4	Ton
260E2010	Gravel Cushion	25,448.2	Ton
260E2030	Gravel Cushion, Salvaged	6,480.6	Ton
320E1200	Asphalt Concrete Composite	123.4	Ton
380E0070	9" Nonreinforced PCC Pavement	25,562.2	SqYd
380E0080	9.5" Nonreinforced PCC Pavement	26,069.8	SqYd
380E0130	12" Nonreinforced PCC Pavement	952.2	SqYd
380E0150	13" Nonreinforced PCC Pavement	7,302.5	SqYd
380E0800	PCC Shoulder Pavement	10,538.2	SqYd
380E2228	9.5" Nonmetallic Fiber Reinforced PCC Pavement	1,289.9	SqYd
380E6000	Dowel Bar	32,969	Each
380E6110	Insert Steel Bar in PCC Pavement	3,382	Each
380E6450	Saw Joint in PCC Pavement	7,399.3	Ft
380E6505	NGCS Grinding PCC Pavement	1,524.4	SqYd
410E2600	Membrane Sealant Expansion Joint	246.4	Ft

SECTION F ESTIMATE OF QUANTITIES - PCN 07D0

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	98.2	MGal
260E2010	Gravel Cushion	4,648.2	Ton
260E2030	Gravel Cushion, Salvaged	3,538.1	Ton
320E1200	Asphalt Concrete Composite	236.9	Ton
320E5000	Saw and Seal Joint in Asphalt Concrete	990	Ft
380E0050	8" Nonreinforced PCC Pavement	1,706.7	SqYd
380E0100	10.5" Nonreinforced PCC Pavement	6,291.8	SqYd
380E0150	13" Nonreinforced PCC Pavement	167.2	SqYd
380E0800	PCC Shoulder Pavement	6,162.9	SqYd
380E6000	Dowel Bar	3,987	Each
380E6110	Insert Steel Bar in PCC Pavement	2,361	Each
380E6450	Saw Joint in PCC Pavement	5,099.3	Ft
380E6505	NGCS Grinding PCC Pavement	7,219.2	SqYd



CONTROL OF ACCESS

If a Contractor’s operations would require access to the interstate ROW in any location not currently designated as public access, prior approval must be obtained from the Department. All requests will be reviewed based on safety and construction sequencing. A Contractor will not assume that all requests will be granted.

The Contractor will be responsible for all safety control and signing measures.

Anytime Contractor operations have ceased for the day, any entrances approved in a control of access area will be closed by the Contractor.

The request for access will be provided in writing to the Engineer two weeks in advance of any proposed break in control of access.

SURFACING THICKNESS DIMENSIONS

The plans shown spread rates 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, the depth/quantity may be varied to achieve the required elevation.

EXISTING PCC PAVEMENT

I-29 Mainline

The existing concrete is 13” Plain Jointed PCC Pavement with 8” Plain Jointed PCC Shoulder Pavement. The transverse joints are perpendicular and are spaced at 20 feet with 1 ½” x 18” Epoxy Coated Dowel Bars at a spacing of 12”. The aggregate in the existing Plain Jointed PCC Pavement is quartzite. The south end from Sta. 30+27.8 to Sta. 43+50.0 is 11” Continuously Reinforced PCC Pavement with transverse #4 deformed steel, longitudinal #7 deformed steel, and 8” Plain Jointed PCC Shoulder Pavement.

I-229 Mainline and I-229 Ramps B & G

The existing concrete is 12” Plain Jointed PCC Pavement with 8” Plain Jointed PCC Shoulder Pavement. The transverse joints are perpendicular and are spaced at 20 feet with 1 ½” x 18” Epoxy Coated Dowel Bars at a spacing of 12”. The aggregate in the existing Plain Jointed PCC Pavement is quartzite. A portion of I-229 Mainline beginning near Sta. 181+00 is overlaid with 2.5” Class G Asphalt Concrete Pavement.

I-229 Ramp C Louise Avenue

The existing concrete is 12” Plain Jointed PCC Pavement with 12” Plain Jointed PCC Shoulder Pavement. The transverse joints are perpendicular and are spaced at 20 feet with 1 ½” x 18” Epoxy Coated Dowel Bars at a spacing of 12”. The aggregate in the existing Plain Jointed PCC Pavement is quartzite. The gore area and entire ramp is overlaid with 2.5” Class G Asphalt Concrete Pavement.

GRAVEL CUSHION, SALVAGED

The Gravel Cushion, Salvaged will be obtained from the stockpile site(s) provided by the Contractor from the salvaged material produced on this project and may be used without further gradation testing.

An estimated 6,480.6 tons (3,429 Cubic Yards) (PCN 06JQ) and 3,538.1 tons (1,872 Cubic Yards) (PCN 07D0) of granular base material will be used to construct permanent surfacing. An equal amount will be subtracted from the total for virgin Gravel Cushion.

Locations where Gravel Cushion or Gravel Cushion, Salvaged may be used for permanent surfacing are shown in the Typical Surfacing Sections.

All other requirements for Gravel Cushion, Salvaged will apply.

SAW JOINT IN ASPHALT CONCRETE OR PCC PAVEMENT

Prior to the removal of in-place asphalt concrete and PCC Pavement, the existing pavement will be sawed full depth to a true line with a vertical face. See typical sections. If approved by the Engineer, the Contractor may elect to use a different method to create this vertical face. All costs to saw joint will be incidental to the contract unit price per foot for “Saw Joint in PCC Pavement”.

JOINT SAWING TABLE

Station		Station	PCC Pavement Joint (feet)
PCN 06JQ			
I-29 NBL - Rt Shoulder			
36+92	to	50+84	1,412.5
75+02	to	106+06	3,119.1
I-29 SBL - Lt Shoulder			
30+28	to	51+32	2,123.4
I-229 Ramp C - Lt Shoulder			
22+72	to	30+07	744.3
Total - PCN 06JQ			7,399.3
PCN 07D0			
I-229 Ramp B - Rt Shoulder			
21+14	to	46+55	2,518.6
I-229 NBL - Rt Shoulder			
154+86	to	186+63	2,530.2
I-229 Ramp C Louise			
43+73	to	43+93	26.0
43+88	to	43+88	24.5
Total - PCN 07D0			5,099.3



PROJECT	SHEET	TOTAL SHEETS
EM 0292(88)73 IM 2292(104)0	F4	F105

Plotting Date: 10/8/2025
Revised Date: 10/8/2025
Initials: NBG

TABLE OF 13" NONREINFORCED PCC PAVEMENT - PCN 06JQ

Station		Station	13" Nonreinforced PCC Pavement (SqYd)	Gravel Cushion (Tons)	Water (Mgal)
I-29 NBL					
43+50.0	to	47+32.1	509.5	133.7	1.6
78+77.3	to	105+47.4	3,535.1	928.0	11.1
I-29 SBL					
43+50.0	to	47+57.5	568.6	149.3	1.8
RAMP A					
23+66.6	to	26+20.6	528.4	138.7	1.7
RAMP B					
20+00.0	to	22+53.2	526.0	138.1	1.7
RAMP C					
30+00.0	to	32+55.7	558.2	146.5	1.8
RAMP D					
72+38.3	to	77+27.8	1,076.7	282.6	3.4
Total - PCN 06JQ			7,302.5	1,916.9	23.1

TABLE OF 13" NONREINFORCED PCC PAVEMENT - PCN 07D0

Station		Station	13" Nonreinforced PCC Pavement (SqYd)	Gravel Cushion (Tons)	Water (Mgal)
I-229 NBL					
179+84.0	to	181+09.4	167.2	43.9	0.5
Total - PCN 07D0			167.2	43.9	0.5

TABLE OF 12" NONREINFORCED PCC PAVEMENT - PCN 06JQ

Station		Station	12" Nonreinforced PCC Pavement (SqYd)	Gravel Cushion (Tons)	Water (Mgal)
I-229 RAMP C					
23+91.9	to	30+07.0	952.2	249.9	3.0
Total - PCN 06JQ			952.2	249.9	3.0

TABLE OF 10.5" NONREINFORCED PCC PAVEMENT - PCN 07D0

Station		Station	10.5" Nonreinforced PCC Pavement (SqYd)	*Gravel Cushion (Tons)	Water (Mgal)
I-229 RAMP C LOUISE					
23+47.3	to	43+93.2	6,291.8	2,896.4	34.8
Total - PCN 07D0			6,291.8	2,896.4	34.8

* Includes gravel cushion under adjacent shoulder

TABLE OF 9.5" NONREINFORCED PCC PAVEMENT - PCN 06JQ

Station		Station	9.5" Nonreinforced PCC Pavement (SqYd)	*Gravel Cushion (Tons)	Water (Mgal)
RAMP A					
10+19.4	to	12+11.2	596.2	201.8	2.4
12+11.2	to	23+66.6	4,080.1	2,008.8	24.1
RAMP B					
22+53.2	to	29+65.3	1,977.0	1,096.9	13.2
29+65.3	to	30+95.2	397.0	178.4	2.1
30+95.2	to	34+09.9	1,118.9	473.5	5.7
34+09.9	to	35+77.2	377.4	149.2	1.8
RAMP C					
32+55.7	to	43+60.4	3,066.0	1,701.4	20.4
43+60.4	to	45+56.7	324.4	132.5	1.6
RAMP D					
40+00.0	to	41+89.7	385.6	154.1	1.8
41+89.7	to	46+32.0	1,775.9	619.1	7.4
46+32.0	to	47+51.2	477.1	193.4	2.3
47+51.2	to	54+17.1	2,515.4	1,200.7	14.4
54+17.1	to	56+75.7	548.5	248.9	3.0
56+75.7	to	60+13.3	970.6	528.8	6.3
63+99.2	to	72+38.3	1,691.0	784.4	9.4
RAMP E					
1+00.0	to	3+87.4	512.6	214.8	2.6
RAMP F					
2+00.0	to	3+74.2	382.5	164.0	2.0
RAMP G					
3+00.0	to	5+89.8	527.6	216.2	2.6
RAMP H					
4+00.0	to	6+13.8	628.4	229.5	2.8
RAMP D CONN					
70+00.0	to	83+72.5	3,717.6	1,935.0	23.2
Total - PCN 06JQ			26,069.8	12,431.4	149.1

* Includes gravel cushion under adjacent curb and gutter and/or shoulder

TABLE OF 9.5" NONMETALLIC FIBER REINFORCED PCC PAVEMENT - PCN 06JQ

Station		Station	9.5" Nonmetallic Fiber Reinforced PCC Pavement (SqYd)	*Gravel Cushion (Tons)	Water (Mgal)
EB 85TH STREET					
316+31.9	to	317+71.6	806.7	258.0	3.1
322+68.6	to	323+72.4	483.2	245.4	2.9
Total - PCN 06JQ			1,289.9	503.4	6.0

* Includes gravel cushion under adjacent curb and gutter

TABLE OF 9" NONREINFORCED PCC PAVEMENT - PCN 06JQ

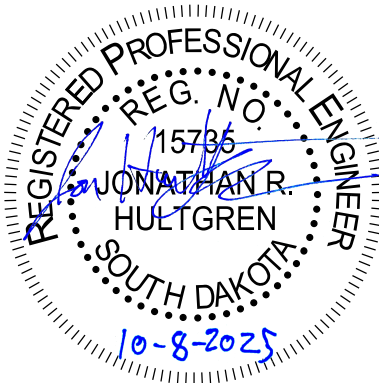
Station		Station	9" Nonreinforced PCC Pavement (SqYd)	*Gravel Cushion (Tons)	Water (Mgal)
EB 85TH STREET					
299+35	to	316+34	5,747.6	1,940.6	23.3
317+69	to	318+58	337.3	122.8	1.5
321+77	to	322+69	220.7	91.6	1.1
323+72	to	339+30	5,338.5	1,902.9	22.8
WB 85TH STREET					
399+34	to	416+30	5,641.5	2,018.9	24.2
417+66	to	418+56	212.4	55.8	0.7
421+76	to	422+64	207.3	54.4	0.7
423+70	to	439+29	5,568.4	1,950.8	23.4
ENT_NW					
8+11.0	to	9+17.0	491.0	203.1	2.4
ENT_SW					
7+00.0	to	8+40.0	630.0	282.7	3.4
ENT_NE					
5+11.0	to	6+29.0	525.2	232.9	2.8
ENT_SE					
6+00.0	to	7+27.0	642.3	273.4	3.3
Total - PCN 06JQ			25,562.2	9,129.9	109.6

* Includes gravel cushion under adjacent curb and gutter

TABLE OF 8" NONREINFORCED PCC PAVEMENT - PCN 07D0

Station		Station	8" Nonreinforced PCC Pavement (SqYd)	*Gravel Cushion (Tons)	Water (Mgal)
I-229 NBL					
181+09.4	to	183+16.7	508.7	196.6	2.4
I-229 RAMP C LOUISE					
20+00.0	to	23+47.3	1,198.0	420.2	5.0
Total - PCN 07D0			1,706.7	616.8	7.4

* Includes gravel cushion under adjacent shoulder



PCC PAVEMENT JOINT LAYOUT



PROJECT
EM 0292(88)73
IM 2292(104)0

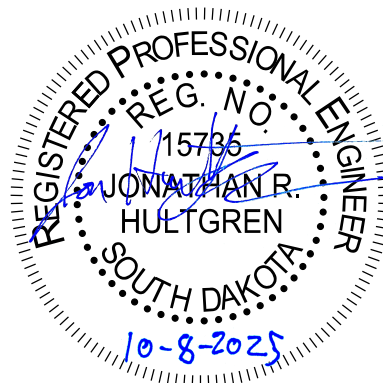
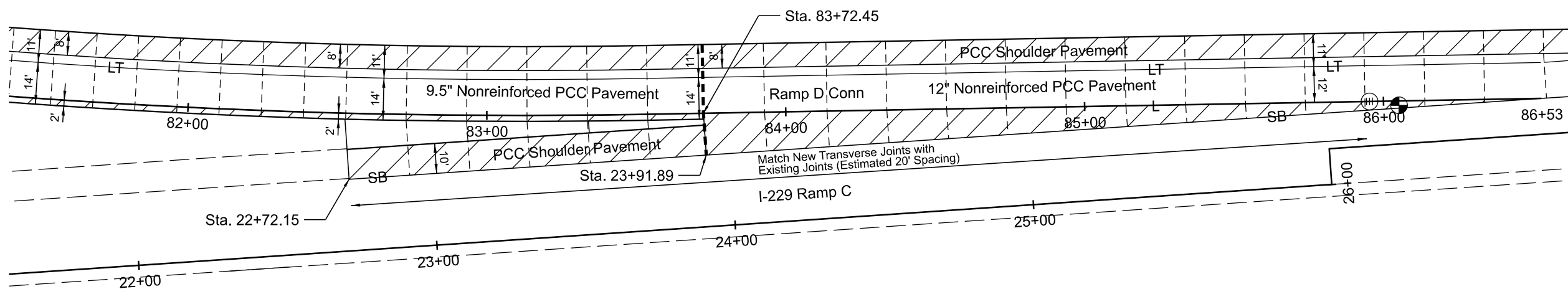
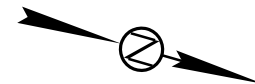
SHEET
F69

TOTAL
SHEETS
F105

Plotting Date: 10/8/2025

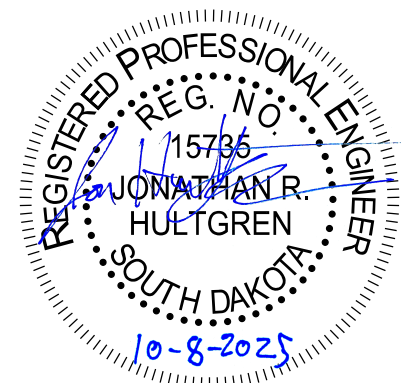
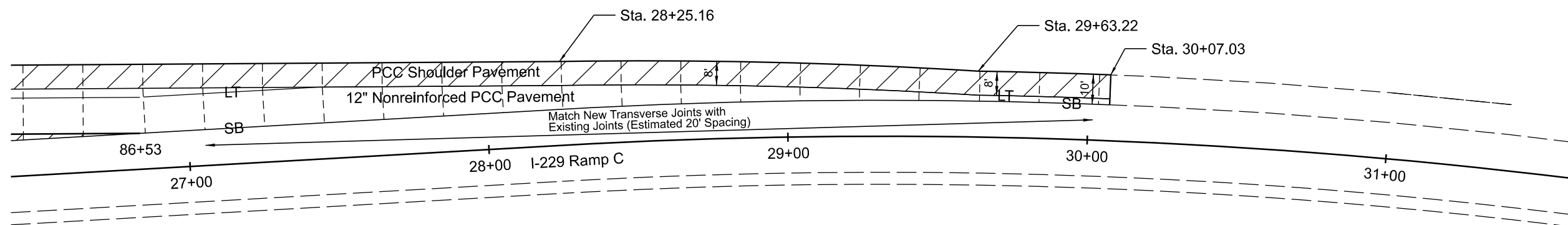
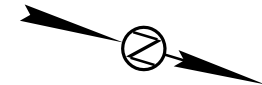
Revised Date: 10/8/2025
Initials: NRG

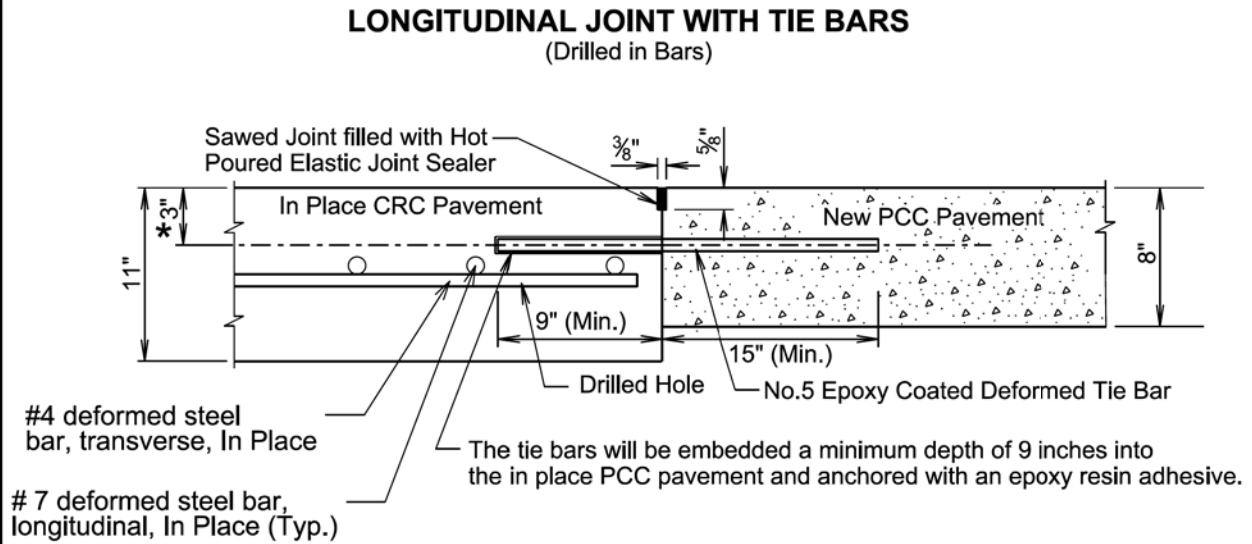
Joint Line Between the I-229 Ramp C 12" &
Ramp D Conn 9.5" Nonreinforced PCC Pavement



PCC PAVEMENT JOINT LAYOUT

 Plotting Date: 10/8/2025	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	F70	F105
Revised Date: 10/8/2025 Initials: NRG			





GENERAL NOTES (For the details above):

The epoxy coated deformed tie bars will be spaced in accordance with the following tables:

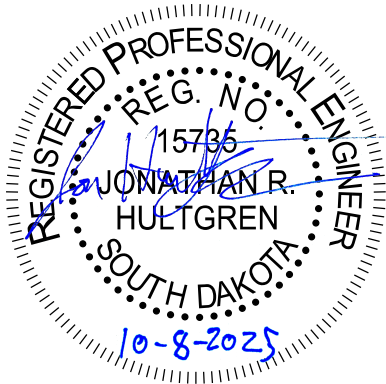
TIE BAR SPACING 30" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
10'	4

The tie bars will be placed a minimum of 15 inches from transverse contraction joints.

The required number of tie bars as shown in the table will be uniformly spaced within each panel. The uniformly spaced tie bars will be spaced a maximum of 30 inches center to center for a vertical face. The maximum tie bar spacing will apply to tie bars within each panel.

★ Tie bars will be placed above the existing steel bars in the In Place CRC Pavement. The tie bars will be placed at a depth of 3" below the top of the In Place CRC Pavement. The depth of the tie bars may be reduced to 2" below the top of the In Place CRC Pavement if the existing steel reinforcement interferes with the drill holes. Drilling will not be allowed within 2" from the top of the In Place CRC Pavement.

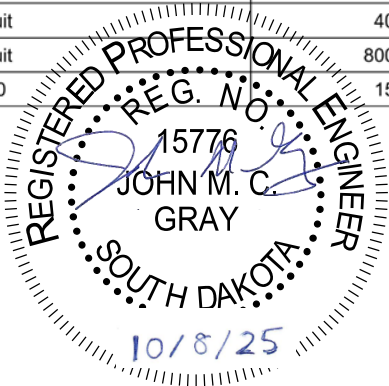
Published Date: 2026	S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS INTO EXISTING CRC	SPECIAL DETAIL
			Sheet 1 of 1



SECTION L ESTIMATE OF QUANTITIES

PCN 06JQ

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1540	Remove Luminaire Pole Footing	2	Each
635E0040	Breakaway Base Luminaire Pole with Arm, 40' Mounting Height	34	Each
635E0140	Breakaway Base Luminaire Pole with Twin Arms, 40' Mounting Height	27	Each
635E0640	Fixed Base Luminaire Pole with Arm, 40' Mounting Height	1	Each
635E0740	Fixed Base Luminaire Pole with Twin Arms, 40' Mounting Height	1	Each
635E0900	Decorative Luminaire Pole	8	Each
635E2000	Pedestal Signal Pole	15	Each
635E2025	Signal Pole with 25' Mast Arm	3	Each
635E2030	Signal Pole with 30' Mast Arm	3	Each
635E2040	Signal Pole with 40' Mast Arm	1	Each
635E2045	Signal Pole with 45' Mast Arm	1	Each
635E3545	Under Bridge Deck Luminaire, LED	4	Each
635E3585	Tunnel Luminaire, LED	13	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	83	Each
635E3810	Decorative Luminaire, LED	22	Each
635E3815	Decorative Luminaire, LED with Photoelectric Cell	8	Each
635E4030	3 Section Vehicle Signal Head	34	Each
635E5020	2' Diameter Footing	608.0	Ft
635E5030	3' Diameter Footing	97.0	Ft
635E5310	Special Electrical Junction Box	73	Each
635E5360	Surface Mounted Junction Box	7	Each
635E5400	Electrical Service Cabinet	7	Each
635E5420	Circuit Control Center	3	Each
635E5430	Traffic Signal Controller	2	Each
635E5450	Side Mounted Cabinet	4	Each
635E5515	Battery Backup System for Traffic Signal	2	Each
635E5520	Video Detection System	2	Each
635E5560	Emergency Vehicle Preemption Unit	2	Each
635E5570	Optical Detector	6	Each
635E5600	Surveillance Camera	1	Each
635E5880	Accessible Pedestrian Signal	12	Each
635E5910	Pedestrian Push Button Pole	2	Each
635E5922	Pedestrian Signal Head with Countdown Timer	12	Each
635E5930	Pedestrian Crossing Sign	12	Each
635E5980	Rectangular Rapid Flashing Beacon System	2	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E7500	Remove and Reset Luminaire Pole	2	Each
635E7899	Locator Ball	3	Each
635E8008	0.75" Rigid Galvanized Steel Conduit	300	Ft
635E8010	1" Rigid Galvanized Steel Conduit	40	Ft
635E8030	3" Rigid Galvanized Steel Conduit	800	Ft
635E8108	0.75" Rigid Conduit, Schedule 40	15	Ft

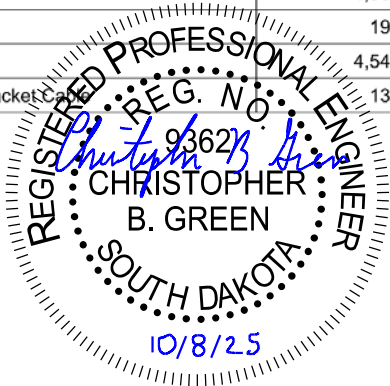


PCN 06JQ (Continued)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E8110	1" Rigid Conduit, Schedule 40	220	Ft
635E8120	2" Rigid Conduit, Schedule 40	14,380	Ft
635E8130	3" Rigid Conduit, Schedule 40	225	Ft
635E8140	4" Rigid Conduit, Schedule 40	150	Ft
635E8150	5" Rigid Conduit, Schedule 40	40	Ft
635E8210	1" Rigid Conduit, Schedule 80	430	Ft
635E8220	2" Rigid Conduit, Schedule 80	3,120	Ft
635E8230	3" Rigid Conduit, Schedule 80	430	Ft
635E8240	4" Rigid Conduit, Schedule 80	550	Ft
635E8250	5" Rigid Conduit, Schedule 80	70	Ft
635E8415	1" Innerduct, SDR 13.5	3,285	Ft
635E8420	1.5" Innerduct, SDR 13.5	7,420	Ft
635E8830	2/2/2/4 Aluminum Wire	8,780	Ft
635E9012	1/C #2 AWG Copper Wire	3,975	Ft
635E9014	1/C #4 AWG Copper Wire	5,390	Ft
635E9016	1/C #6 AWG Copper Wire	29,615	Ft
635E9018	1/C #8 AWG Copper Wire	10,790	Ft
635E9020	1/C #10 AWG Copper Wire	2,505	Ft
635E9022	1/C #12 AWG Copper Wire	15,765	Ft
635E9302	2/C #14 AWG IMSA Copper Cable, K1	195	Ft
635E9303	3/C #14 AWG IMSA Copper Cable, K1	240	Ft
635E9305	5/C #14 AWG IMSA Copper Cable, K1	1,115	Ft
635E9307	7/C #14 AWG IMSA Copper Cable, K1	1,070	Ft
635E9312	12/C #14 AWG IMSA Copper Cable, K1	2,640	Ft
635E9325	25/C #14 AWG IMSA Copper Cable, K1	1,510	Ft
635E9720	12/2 UF-B Copper Pole and Bracket Cable	5,405	Ft
635E9862	Outdoor Rated Cat6 Cable	265	Ft
635E9924	24 Strand Fiber Optic Cable	24,470	Ft

PCN 07D0

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1540	Remove Luminaire Pole Footing	2	Each
635E5020	2' Diameter Footing	16.0	Ft
635E5380	Reset Electrical Junction Box	3	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E7500	Remove and Reset Luminaire Pole	2	Each
635E8120	2" Rigid Conduit, Schedule 40	1,960	Ft
635E8220	2" Rigid Conduit, Schedule 80	195	Ft
635E9012	1/C #2 AWG Copper Wire	4,540	Ft
635E9720	12/2 UF-B Copper Pole and Bracket Cable	130	Ft



 Plotting Date: 10/8/2025	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L2	L92
Revised Date: 10/8/2025 Initials: NBG			

SPECIAL PROVISIONS

The following special provisions are attached to the project specifications and will be reviewed by the Contractor for furnishing and installing the proposed traffic equipment.

- Special Provision for Adaptive Traffic Signal Control System
- Special Provision for Optical Activated Emergency Vehicle Preemption System
- Special Provision for Traffic Signal Controller, Cabinets, Conflict Monitors, and Pedestrian Push Button Units.
- Special Provision for Traffic Signal Heads (LED Modules)

SUPPLYING AS BUILT PLANS

If the traffic signal system(s) or roadway lighting system(s) are constructed differently than what is stated in the plans, the Contractor will supply as built plans to the Engineer and a copy will be sent to the Traffic Design Engineer and City Lighting Department. 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 will submit shop drawings and catalog cuts in accordance with Section 985 of the Specifications.

PDF submittals will be sent to the following email addresses:

mylons@sehinc.com

Upon review of the submittals, they will be sent by the Engineer to the following email addresses for concurrence of approvals or remarks:

Stacy.Bartlett@state.sd.us
Hhoftiezer@siouxfalls.org

ON-SITE INSPECTION

An on-site inspection of the traffic signals will be conducted before acceptance of the project once the traffic signals are completed and operational. The on-site inspection will be conducted by the Project Engineer or Region Traffic Engineer with the Contractor, City Traffic Engineer, Consultant Design Engineer, City Light Department, and the Traffic Design Engineer present.

INNERDUCT

Innerduct will meet the following requirements:

- Compliant with NFPA70, National Electric Code
- UL listed
- Meets NEMA TC-7
- Have smooth exterior and longitudinally ribbed interior.

The innerduct conduit will be orange in color and longitudinally ribbed on the inside wall.

The innerduct bid items will include furnishing and installing the innerduct, as well as all work to seal the traffic interconnect conduit within the junction boxes.

Innerduct ends will be sealed using a mastic style tape wrapped around the end of the innerduct and fiber optic cable. If innerduct is empty, a heat shrinkable cap will be installed over the end of the innerduct.

All costs for the innerduct will be included in the contract unit price per foot for “1” Innerduct SDR 13.5” or “1.5” Innerduct SDR 13.5”.

TRAFFIC AND FIBER OPTIC CABLE CONDUIT

All nonmetallic conduit open ends will have an approved bell end or bushing installed to prevent damage to cable or conductors, per the City’s specifications Section 635A.3.G.6. #12 AWG Tracer wire will be installed in all traffic conduit and interconnect. The tracer wire will be paid for separately under its respective bid item, unless noted otherwise.

SIGNAL AIMING

Signals will be aimed such that all signals for each approach will be continuously visible for the minimum distance listed in the table in Section 4D.06 of the MUTCD.

All costs required for this work are incidental to the “3 Section Vehicle Head” bid item.

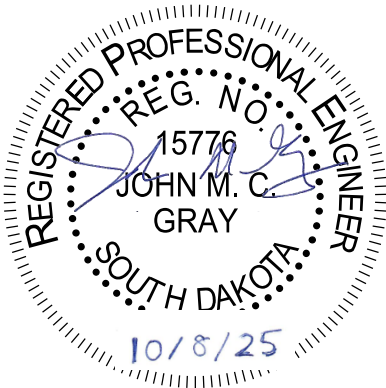
I-29 MEDIAN INNERDUCT

There is an existing 1” innerduct run in the I-29 median from the north side of the existing median crossover near I-29 Sta. 45+00 to a fiber junction box in the southwest quadrant of the I-29 / 41st Street interchange. The work was completed with PCN 01QS (2015) and modified with PCN 03RA (2021).

The contractor will be responsible for pulling fiber optic cable through the existing 1” innerduct conduit from near I-29 Sta. 45+00 to the fiber junction box in the southwest quadrant of the I-29 / 41st Street Interchange.

All costs to furnish and install the 24 SM fiber optic cable will be included in the contract unit price per foot for “24 Strand Fiber Optic Cable”.

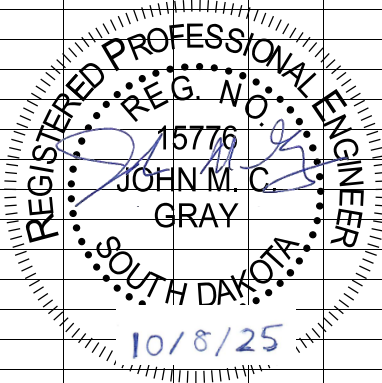
	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L11	L92
Plotting Date:	10/8/2025	Revised Date:	10/8/2025
		Initials:	NBG



SIGNAL CONDUIT AND CABLE QUANTITIES

Location to Location		Rigid Conduit		Rigid Conduit					Rigid Conduit				Innerduct		Fiber Optic Cable			Copper Wire			IMSA Copper Cable, K1							CAT6A		Preemption Cable				
		Galvanized Steel		Schedule 40					Schedule 80				SDR 13.5		24 SM FO	6 SM FO (Signal)	6 SM FO (DOT Cam.)				#14 AWG							(Signal)	(SF Camera)	EVP & 3C				
			3"	1"	2"	3"	4"	5"	1"		3"	4"	5"	1"	1.5"		(N.A.B.I.)	(N.A.B.I.)	1/C #6 AWG Ft	1/C #10 AWG Ft	1/C #12 AWG Ft	2/C	3/C	5/C	7/C	12/C	25/C	(N.A.B.I.)		(N.A.B.I.)				
			Ft	Ft	Ft	Ft	Ft	Ft		Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	
85TH STREET AT I-29 RAMPS C/D																																		
CC1	M5				25															120														
CC1	JS1							10												25				25	90	25								
JS1	JS2												70							75				75	300	75								
JS2	A1				10															20					20									
JS2	JS3																			75				75	225	75								
JS3	A2				10															20						20								
JS3	JS4																			65				65	130	65								
JS4	A3					10														20						20								
JS4	A4					25														35					35									
JS4	JS5																			65				65	65									
JS5	A5					30														40					40									
JS5	A6				30															40				40										
CC1	A1																							20						250				
CC1	A2																							20										
CC1	A3																285								125									
CC1	A4																						20	20						285				
CC1	A5																							135										
CC1	A6																						20											
A4	A4 PB																					10												
A6	A6 PB																					10												
CC1	JF1 (FIBER)												40	35						35														
JF1 (FIBER)	JF2 (FIBER)												1,750	875						3,510														
JF2 (FIBER)	JF3 (FIBER)												420	210						850														
JF3 (FIBER)	JF4 (FIBER)												1,180	590						2,370														
CC1	JS6							30												45				85	85	85								
JS6	A12				25															35				35										
JS6	JS7																			65				65	125	125								
JS7	A11				10															20				20										
JS7	JS8						90													95						200	200							
JS8	A10				10															20					20									
JS8	JS14		450																	455														
JS8	JS9										55									60					60	120								
JS9	A9					25														35						35								
JS9	PB1			10																20														
JS9	JS10												80							85					85	85								
JS10	A7					10														20						20								
85th Street at Ramps C/D Subtotal:			450	10	120	100	90	40			115	270	70		3,390	1,710	285		120		8,200	20	40	320	550	1,480	950			535				

1. All cable quantities shown include 5' of slack/coil in each junction box, 5' of slack/coil in each pole base, and 7' of slack/coil in cabinet, unless otherwise noted.
2. CAT6A signal camera cable and 6 FM FO signal camera cable are incidental to the "Video Detection System" bid item.
3. See Lighting plan quantities regarding street lighting cable quantities between lighting junction boxes and roadway (signal pole mounted) street lights.
4. Coil and store 50' of 24 SM fiber optic cable in each fiber optic junction box.
5. Preemption cables (EVP & 3C) are incidental to the "Emergency Vehicle Preemption Unit" bid item.
6. CAT6A (DOT camera) cable and 6 FM FO (DOT camera) cable are incidental to the "Surveillance Camera" bid item.



	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L13	L92
Plotting Date: 10/08/2025		Revised Date: 10/08/2025 NBC	

A circular professional engineer seal for the State of South Dakota. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "SOUTH DAKOTA" at the bottom, separated by tick marks. Inside the ring, the text "REG. NO." is at the top, "15776" is in the center, "JOHN M. C." is below the number, and "GRAY" is at the bottom. A blue ink signature is written across the center of the seal. At the bottom of the seal, the date "10/8/25" is handwritten in blue ink.

- Plotted From - ngjersvik File - C:\Users\ngjersvik\Downloads\06JQ PDFs\Table_of_Signal_Conduit_Quantities.pdf

SIGNAL CONDUIT AND CABLE QUANTITIES



PROJECT		SHEET	TOTAL SHEETS
EM 0292(88)73 IM 2292(104)0		L14	L92

Plotting Date: 10/08/2025 Revised Date: 10/08/2025 NBG

Location to Location		Rigid Conduit		Rigid Conduit					Rigid Conduit				Innerduct		Fiber Optic Cable			Copper Wire			IMSA Copper Cable, K1						CAT6A		Preemption Cable					
		Galvanized Steel		Schedule 40					Schedule 80				SDR 13.5		24 SM FO	6 SM FO (Signal)	6 SM FO (DOT Cam.)				#14 AWG						(Signal)	(SF Camera)	EVP & 3C					
			3"	1"	2"	3"	4"	5"	1"		3"	4"	5"	1"	1.5"		(N.A.B.I.)	(N.A.B.I.)	1/C #6 AWG Ft	1/C #10 AWG Ft	1/C #12 AWG Ft	2/C	3/C	5/C	7/C	12/C	25/C	(N.A.B.I.)		(N.A.B.I.)				
			Ft	Ft	Ft	Ft	Ft	Ft		Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	
85TH STREET AT I-29 RAMPS A/B																		240																
CC2	M6				60																													
CC2	JS12						50												65					65	125	125								
JS12	B1				10														20					20										
JS12	JS13											95							100						200	200								
JS13	B2					20													30							30								
JS13	JS14										80								85						85									
JS14	B3					10													20						20									
JS13	JS15											65							70						70	70								
JS15	B4					20													30							30								
JS15	PB2			10															20															
JS15	JS16										55								60						60									
JS16	B5					25													35						35									
CC2	B1																						20											
CC2	B2																						20	145			220							
CC2	B3																							70										
CC2	B4																						40	20										
CC2	B5																						20	20							670			
B1	B1 PB																					10												
B2	B2 PB																					10												
B4	B4 PB																					10												
B4	PB2																						45											
B5	B5 PB																						10											
CC2	JF7 (FIBER)													40	20				20															
JF7 (FIBER)	JF6 (FIBER)													520	260				260															
CC2	JS21						10												25						50	75	25							
JS21	B11					10													20						20									
JS21	JS20											55							60						120	60								
JS20	B10					10													20							20								
JS20	JS19											65							70						140	140								
JS19	B9					10													20						20									
JS19	JS17										50								55						110	55								
JS17	B7					10													20						20									
JS17	B8				40														50						50									
JS17	JS18										40								45						45									
JS18	B9				30														40						40									
85th Street at Ramps A/B Subtotal:				10	140	115	60				225	280			560	280			240		1,240	85	100	255	520	1,045	560	220		670				

REGISTERED PROFESSIONAL ENGINEER

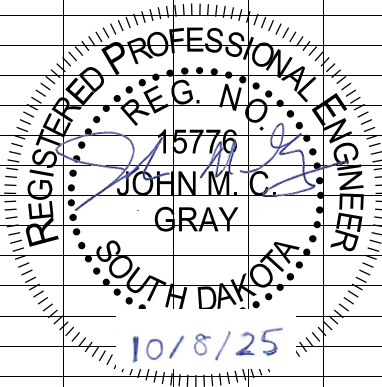
REG. NO. 15776

JOHN M. C. GRAY

SOUTH DAKOTA

10/8/25

1. All cable quantities shown include 5' of slack/coil in each junction box, 5' of slack/coil in each pole base, and 7' of slack/coil in cabinet, unless otherwise noted.
2. CAT6A signal camera cable and 6 FM FO signal camera cable are incidental to the "Video Detection System" bid item.
3. See Lighting plan quantities regarding street lighting cable quantities between lighting junction boxes and roadway (signal pole mounted) street lights.
4. Coil and store 50' of 24 SM fiber optic cable in each fiber optic junction box.
5. Preemption cables (EVP & 3C) are incidental to the "Emergency Vehicle Preemption Unit" bid item.
6. CAT6A (DOT camera) cable and 6 FM FO (DOT camera) cable are incidental to the "Surveillance Camera" bid item.



	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L15	L92
Plotting Date:	10/08/2025	Revised Date:	10/08/2025 NBC

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- | | |
|--|--|
| <p>1. All cable quantities shown include 5' of slack/coil in each junction box, 5' of slack/coil in each pole base, and 7' of slack/coil in cabinet, unless otherwise noted.</p> <p>2. CAT6A signal camera cable and 6 FM FO signal camera cable are incidental to the "Video Detection System" bid item.</p> <p>3. See Lighting plan quantities regarding street lighting cable quantities between lighting junction boxes and roadway (signal pole mounted) street lights.</p> <p>4. Coil and store 50' of 24 SM fiber optic cable in each fiber optic junction box.</p> | <p>5. Preemption cables (EVP & 3C) are incidental to the "Emergency Vehicle Preemption Unit" bid item.</p> <p>6. CAT6A (DOT camera) cable and 6 FM FO (DOT camera) cable are incidental to the "Surveillance Camera" bid item.</p> |
|--|--|

CONDUIT LAYOUT

85TH STREET



PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET
L28

TOTAL
SHEETS
L92

Plotting Date: 10/8/2025

Revised Date: 10/8/2025

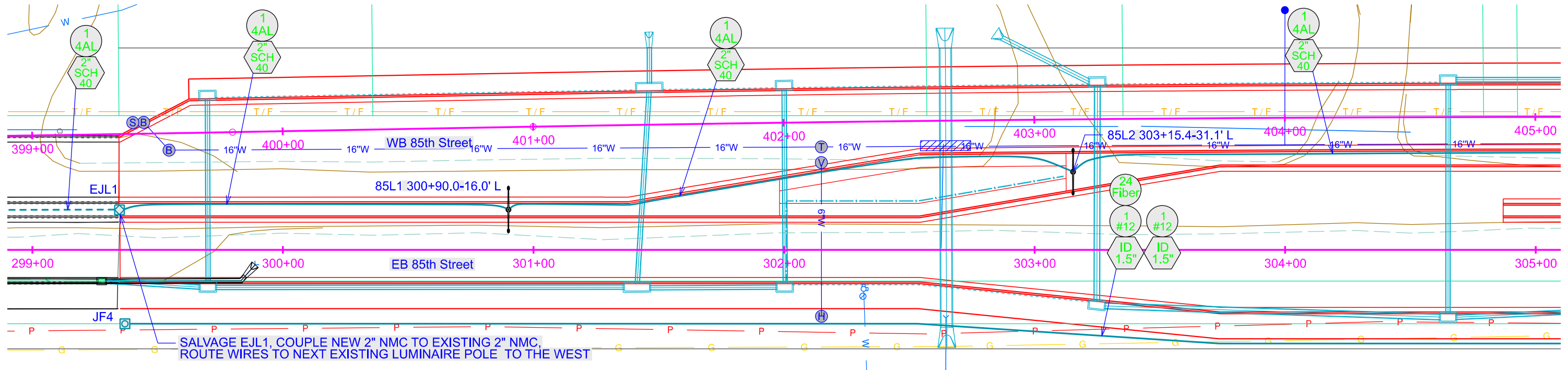
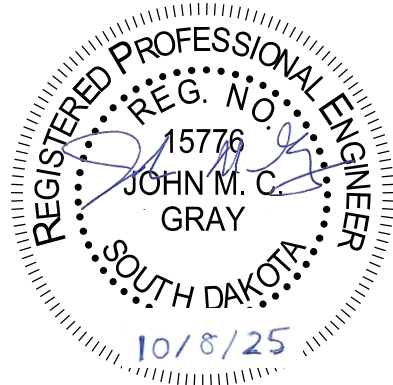
Initials: NBG

SCALE IN FEET
0 20 40



ESTIMATE OF QUANTITIES - PCN 07D0

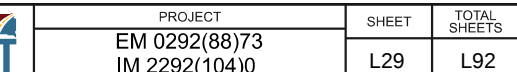
KEY	ITEM	EST QUANT	UNIT
	Salvage Electrical Junction Box (EJL6) (Not a Bid Item)	1	EACH
	Reset Electrical Junction Box (EJL4, EJL5, EJL7)	3	EACH
	Remove and Reset Luminaire Pole (EL400, EL401)	2	EACH
	2' Diameter Footing (EL400, EL401)	16.0	FT
	2" Rigid Conduit, Schedule 40	1,960	FT
	2" Rigid Conduit, Schedule 80	195	FT
	1/C #2 AWG Copper Wire	4,540	FT
Inside Pole	12/2 UF-B Copper Pole and Bracket Cable	130	FT



ESTIMATE OF LIGHTING QUANTITIES - PCN 06JQ

KEY	ITEM	EST QUANT	UNIT	KEY	ITEM	EST QUANT	UNIT	KEY	ITEM	EST QUANT	UNIT	KEY	ITEM	EST QUANT	UNIT
	Remove Meter Service (EM1-EM2) (Not a Bid Item)	2	EACH		Roadway Luminaire, LED with Photoelectric Cell (85L1-85L28, AL1-AL5, BL1-BL5, CL1-CL5, DL1-DL15, RDCL1-RDCL5)	91	EACH		Locator Ball	3	EACH		1/C #2 AWG Copper Wire	3,975	FT
	Salvage Electrical Junction Box (EJL1) (Not a Bid Item)	1	EACH		Under Bridge Deck Luminaire, LED (UBL1-UBL4)	4	EACH		Circuit Control Center	3	EACH		1/C #4 AWG Copper Wire	5,390	FT
	Remove and Reset Luminaire Pole (EL555, EL556)	2	EACH		Tunnel Luminaire, LED (PU1-PU13)	13	EACH		3/4" Rigid Galvanized Steel Conduit	300	FT		1/C #6 AWG Copper Wire	29,255	FT
	Breakaway Base Luminaire Pole w/ 8' Arm 40' Mounting Height (AL1-AL5, BL1-BL5, CL1-CL5, DL1-DL4, DL6-DL15, RDCL1-RDCL5)	34	EACH		Decorative Luminaire, LED (BRL1-BRL22)	22	EACH		1" Rigid Galvanized Steel Conduit	40	FT		1/C #8 AWG Copper Wire	10,790	FT
	Breakaway Base Luminaire Pole w/ Twin 8' Arms 40' Mounting Height (85L1-85L14, 85L16-85L28)	27	EACH		2' Diameter Footing (85L1-85L14, 85L16-85L28, AL1-AL5, BL1-BL5, CL1-CL5, DL1-DL4, DL6-DL15, RDCL1-RDCL5, EL555, EL556, LL1-LL8)	474.0	FT		3/4" Rigid Conduit, Schedule 40	15	FT		1/C #10 AWG Copper Wire	1,920	FT
	Fixed Base Luminaire Pole w/ 8' Arm 40' Mounting Height (DL5)	1	EACH		Decorative Luminaire, LED (BRL1-BRL22)	22	EACH		2" Rigid Conduit, Schedule 40	14,100	FT		1/C #12 AWG Copper Wire (Tracer)	270	FT
	Fixed Base Luminaire Pole w/ Twin 8' Arms 40' Mounting Height (85L15)	1	EACH		Decorative Luminaire, LED with Photoelectric Cell (LL1-LL8)	8	EACH		2" Rigid Conduit, Schedule 80	3,120	FT		2/2/2/4 Aluminum Wire	8,780	FT
	Decorative Luminaire Pole (LL1-LL8)	8	EACH		Special Electrical Junction Box (Lighting) (JL1-JL38)	38	EACH		1" Innerduct, SDR 13.5	3,285	FT	Inside Pole	12/2 UF-B Copper Pole and Bracket Cable	5,405	FT
	Meter Socket (Not a Bid Item)	7	EACH		Surface Mounted Junction Box (JBSM1-JBSM7)	7	EACH		1.5" Innerduct, SDR 13.5	7,420	FT				
	Electrical Service Cabinet (ESC1-ESC7)	7	EACH		Special Electrical Junction Box (Innerduct) (JF1-JF14)	14	EACH								

85TH STREET



Revised Date: 10/8/2025

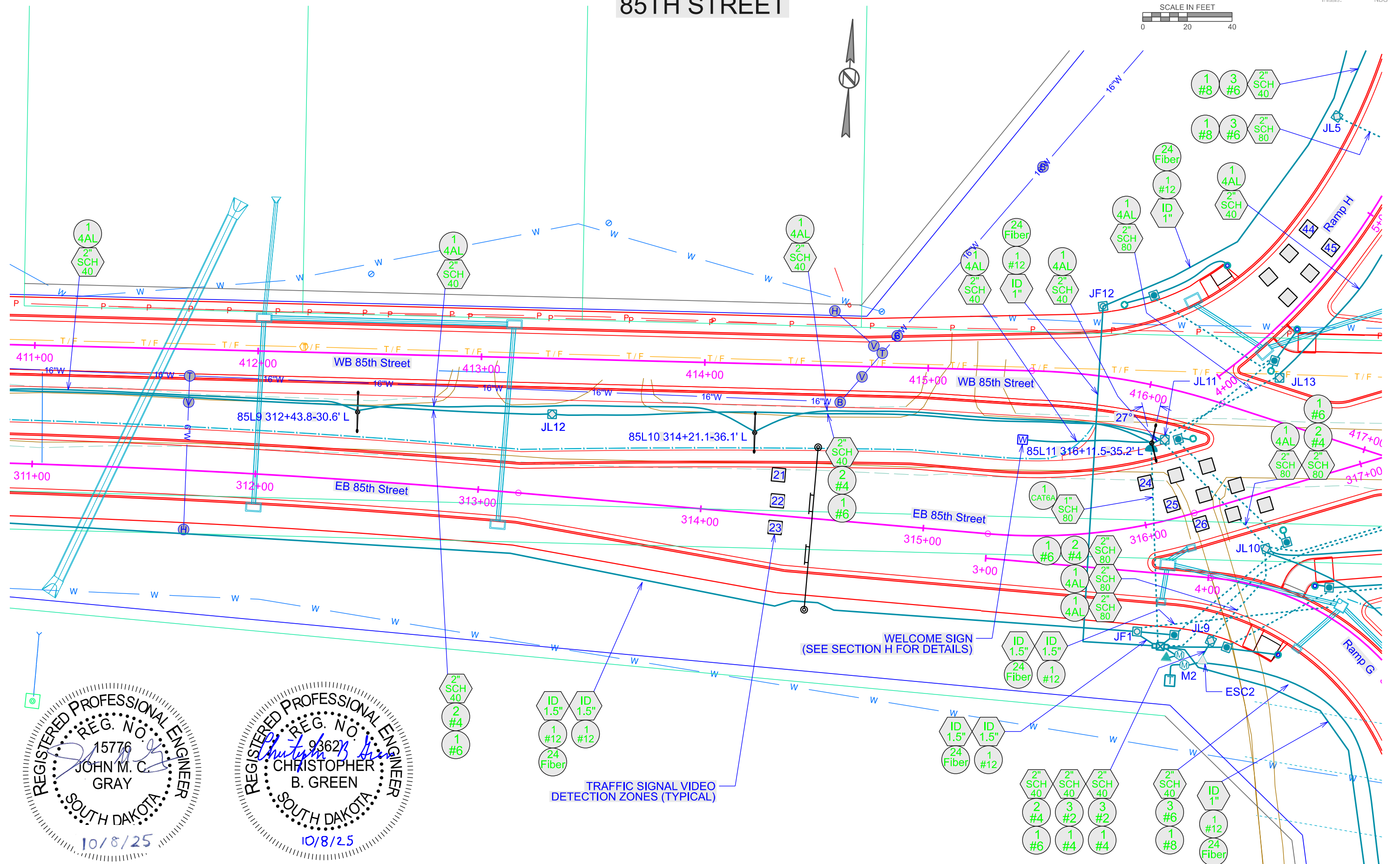
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	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L30	L92

Plotting Date: 10/8/2025
 Revised Date: 10/8/2025
Initials: NBG

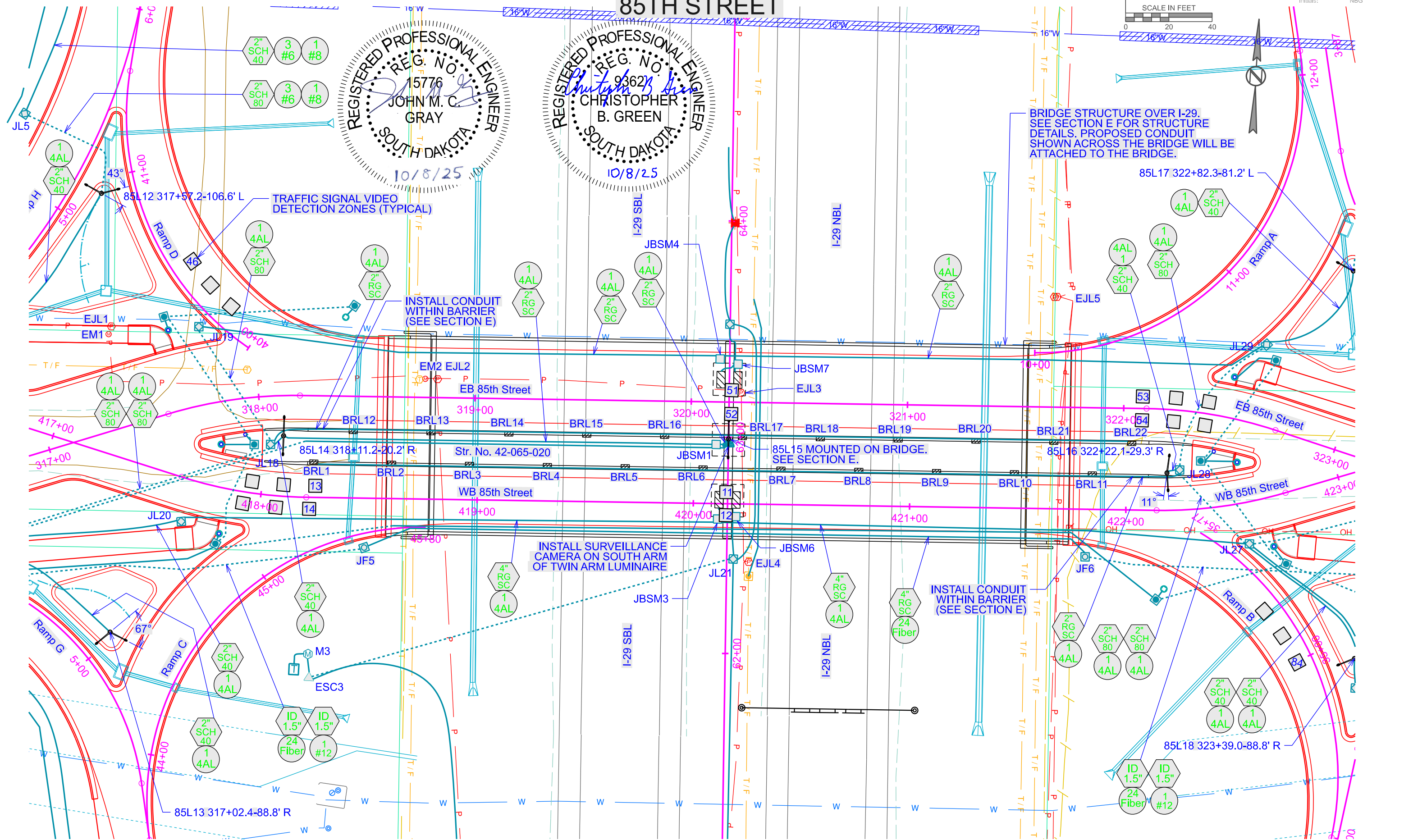
SCALE IN FEET



REGISTERED PROFESSIONAL ENGINEER
 REG. NO. 9362
 CHRISTOPHER B. GREEN
 SOUTH DAKOTA
 10/8/25

Plotted From - ngiersvik File - ...\\L 06JQ Conduit-Lighting-85th.dgn

	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L31	L92
Plotting Date:	10/8/2025	Revised Date:	10/8/2025
		Initials:	NBG



SIGNAL CONDUIT LAYOUT

85TH STREET & I-29 RAMPS C/D



PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET
L32
TOTAL
SHEETS
L92

Plotting Date: 10/8/2025

Revised Date: 10/8/2025
Initials: NBG

SCALE IN FEET
0 20 40



PROPOSED ITEM LOCATIONS

ITEM	STATION-OFFSET
A1	316+58.45-18.63' R
A2	316+31.33-32.04' L
A3	316+73.34-51.24' L
A4	316+89.84-65.77' L
A5	316+16.46-98.17' L
A6	316+67.94-101.99' L
A7	317+66.75-37.36' L
A8	318+39.69-36.55' L
A9	317+78.83-19.47' R
A10	317+66.54-59.63' R
A11	316+64.98-46.58' R
A12	316+40.41-71.43' R
PB1	317+91.74-16.69' R

VIDEO DETECTION ZONE
LOCATION (TYPICAL)

ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Special Electrical Junction Box (30") (Traffic) (JS1-JS11)	11	EACH
	Fiber Optic Interconnect Vault/Junction Box (30") (JF1, JF2, JF3, JF4, JF5)	5	EACH
	Meter Socket (Not a Bid Item) (M5)	1	EACH
	Electrical Service Cabinet (Signals) (ESC5)	1	EACH
	Traffic Signal Controller (CC1)	1	EACH
	Side Mounted Cabinet (For Battery Backup and Flash System) (Installed on Right Side of Cabinet Front)	1	EACH
	Signal Head Battery Backup and Flash System (Installed Within Side Mounted Cabinet) (Installed on Right Side of Cabinet Front)	1	EACH
	Side Mounted Cabinet (For Fiber Optic Cable) (Installed on Left Side of Cabinet Front)	1	EACH
	2/C #14 AWG IMSA Copper Cable, K1 (To Ped. Push Buttons)	100	FT
	3/C #14 AWG IMSA Copper Cable, K1 (To Ped. Signal Heads)	120	FT
	5/C #14 AWG IMSA Copper Cable, K1 (To 3 Section Signal Heads)	600	FT
	7/C #14 AWG IMSA Copper Cable, K1 (To Signal Bases)	550	FT
	12/C #14 AWG IMSA Copper Cable, K1 (To Signal Bases)	1,545	FT
	25/C #14 AWG IMSA Copper Cable, K1 (To Signal Bases)	950	FT
	Preemption Cable (Not a Bid Item) (Incidental to Emergency Vehicle Preemption Unit) (To Optical Detectors) (1 PC for the Preemption Unit) (1 PC for the Confirmation Light)	1,015	FT
	Outdoor Rated 6 FM FO Cable (To Signal Cameras) (Not a Bid Item) (Incidental to Video Detection System)	690	FT
	Outdoor Rated 6 FM FO Cable (To Surveillance Camera on 85L14) (Not a Bid Item) (Incidental to Surveillance Camera)	490	FT
	Outdoor Rated CAT6A Cable (To Surveillance Camera on 85L11) (Not a Bid Item) (Incidental to Surveillance Camera)	140	FT
	Traffic Signal Video Detection Zone (Not a Bid Item) (Incidental to Video Detection System)	-	-

CONDUIT LAYOUT

I-29



PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET
L37

TOTAL
SHEETS
L92

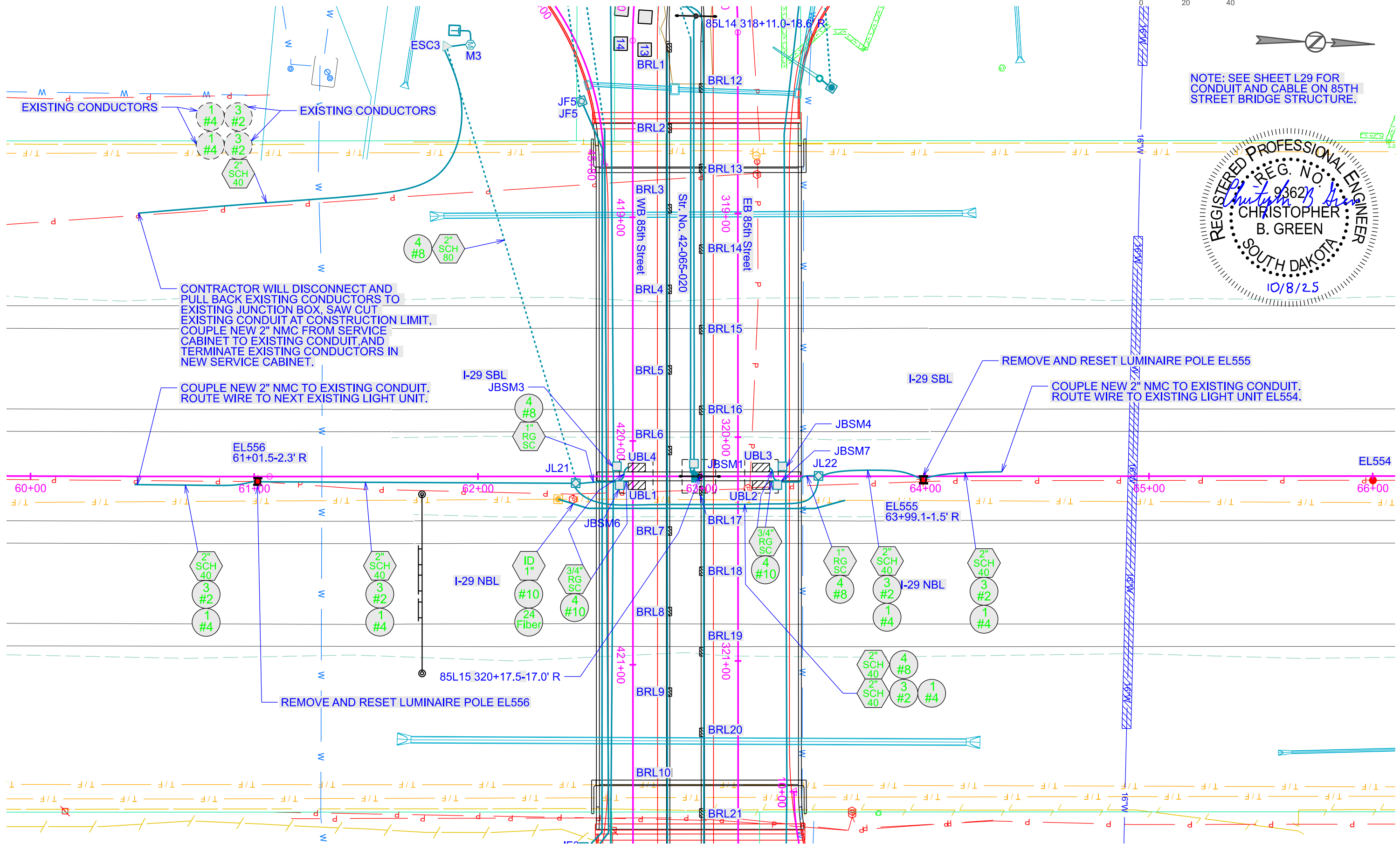
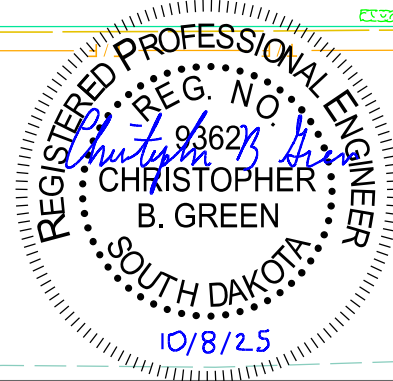
Plotting Date: 10/8/2025

Revised Date: 10/8/2025
Initials: NBG

SCALE IN FEET
0 20 40



NOTE: SEE SHEET L29 FOR
CONDUIT AND CABLE ON 85TH
STREET BRIDGE STRUCTURE.



CONDUIT LAYOUT RAMP A



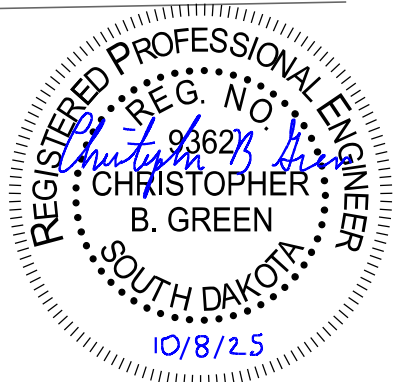
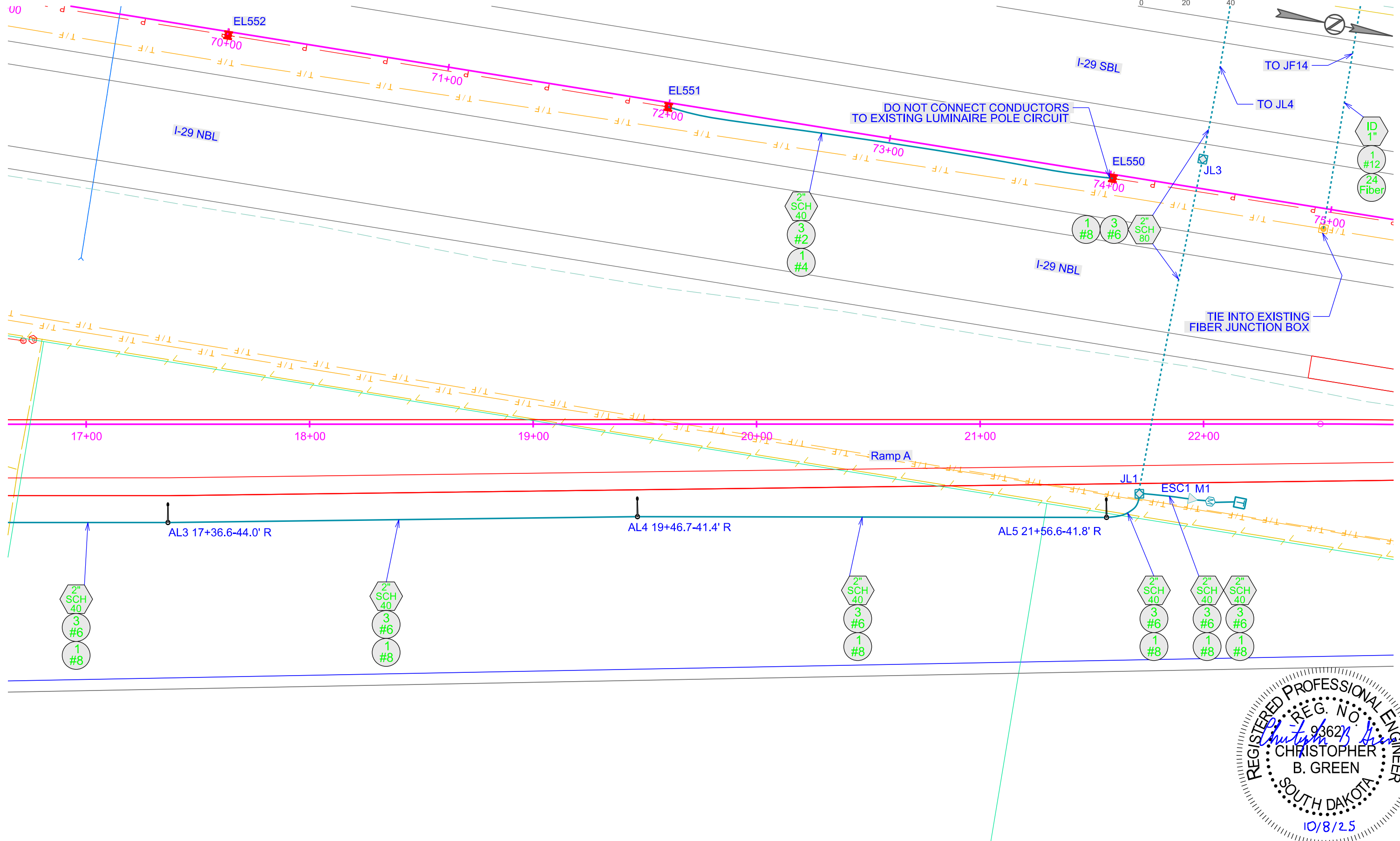
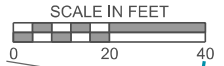
PROJECT
EM 0292(88)73
IM 2292(104)0

SHEET
L39

TOTAL
SHEETS
L92

Plotting Date: 10/8/2025

Revised Date: 10/8/2025
Initials: NBG



CONDUIT LAYOUT RAMP C

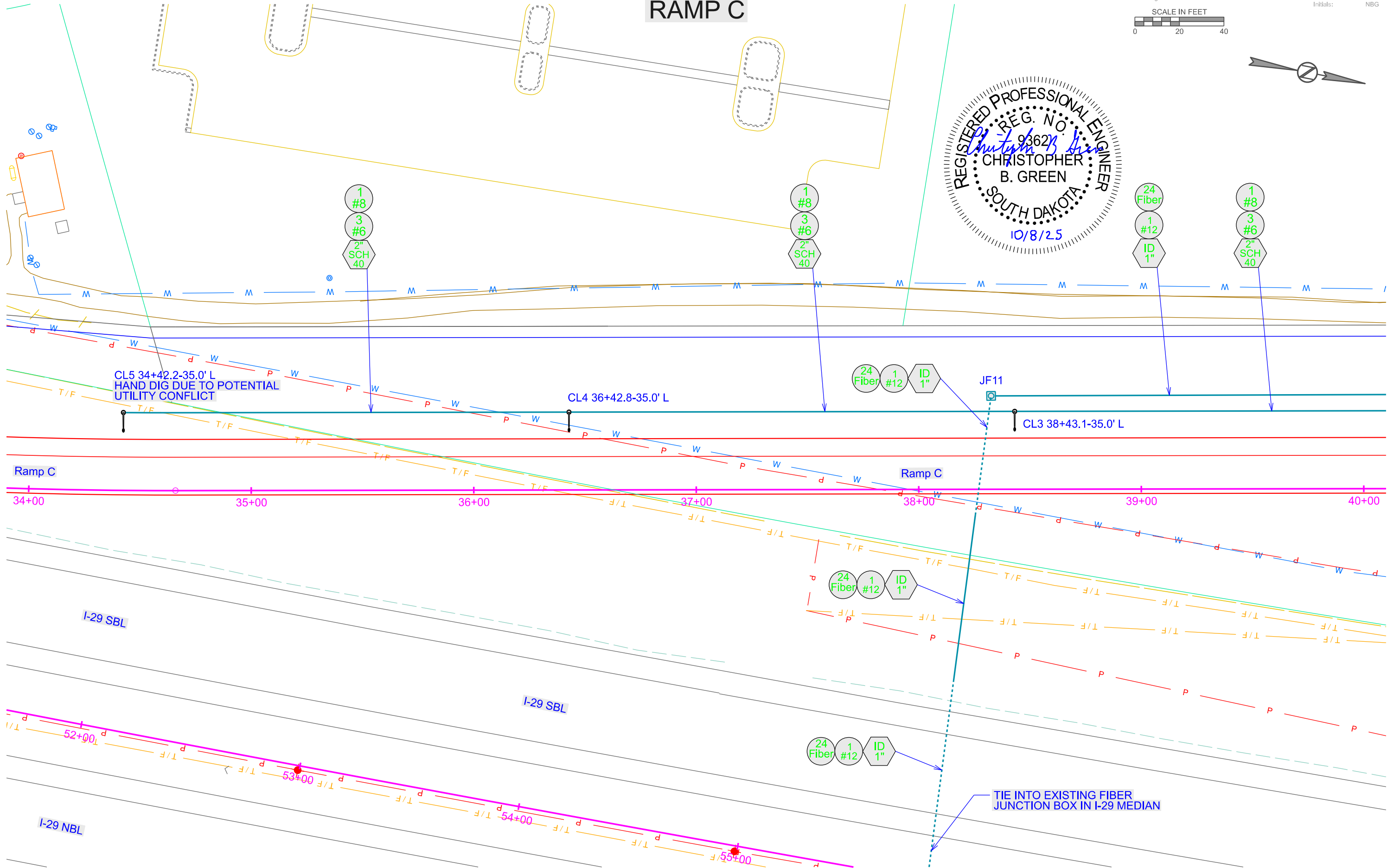
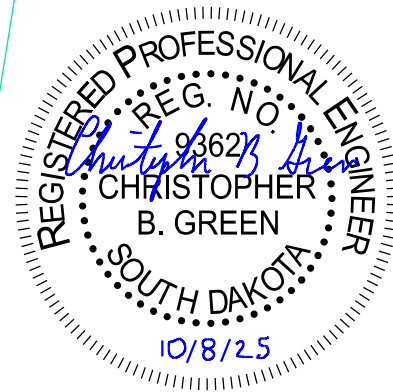
SD DOT	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L42	L92

Plotting Date: 10/8/2025

Revised Date: 10/8/2025

Initials: NBG

SCALE IN FEET
0 20 40



CONDUIT LAYOUT

RAMP C



PROJECT
EM 0292(88)73
IM 2292(104)0

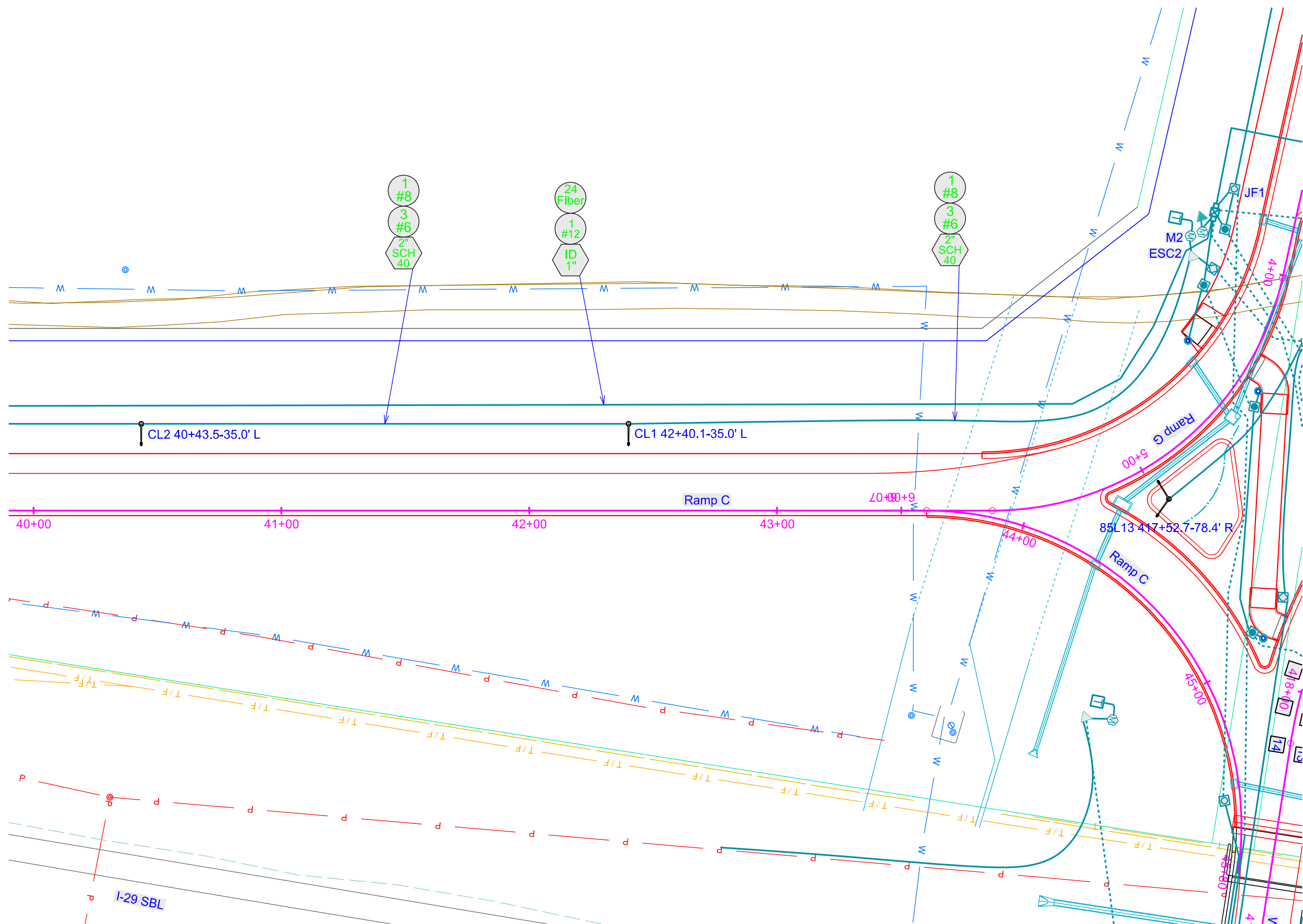
SHEET
L43

TOTAL
SHEETS
L92

Plotting Date: 10/8/2025

Revised Date: 10/8/2025
Initials: NBG

SCALE IN FEET
0 20 40



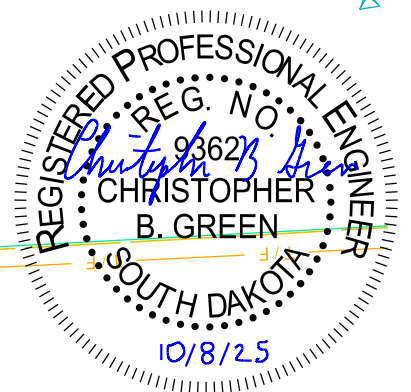
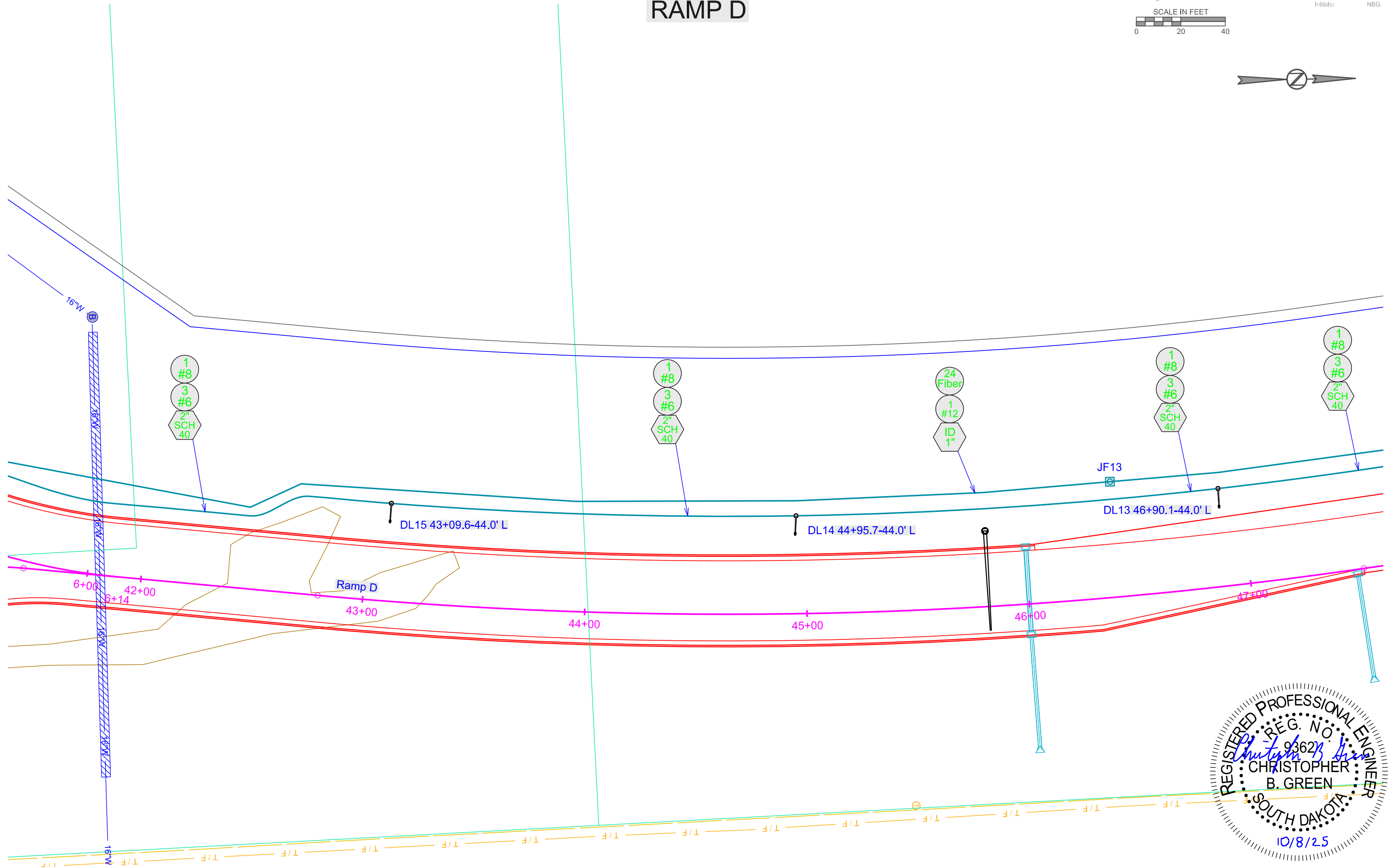
	PROJECT	SHEET	TOTAL SHEETS
	EM 0292(88)73 IM 2292(104)0	L44	L92

Plotting Date: 10/8/2025

Revised Date: 10/8/2025

Initials: NBG

SCALE IN FEET



CONDUIT LAYOUT RAMP D



Plotting Date: 10/8/2025

PROJECT

EM 0292(88)73
IM 2292(104)0

SHEET

L45

TOTAL SHEETS

L92

SCALE IN FEET

0

20

40



Revised Date: 10/8/2025

Initials: NBG

