



Department of Transportation

Office of Project Development

700 E Broadway Avenue

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

FAX: 605/773-2614

February 9, 2016

ADDENDUM NO. 1

**RE: Item #1, February 17, 2016 Letting - NH 0034(160)386, PCN 02R6, Lake County
- Urban Grading, Storm Sewer, Curb & Gutter, Sidewalk, Traffic Signals,
Roadway Lighting, PCC Surfacing**

TO WHOM IT MAY CONCERN:

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

SPECIAL PROVISIONS:

Please remove the Special Provisions checklist and replace with attached Special Provisions checklist revised 2/5/16. "Special Provision for Cooperation by Contractor and Department" dated 2/5/16 was added.

Please add the "Special Provision for Cooperation by Contractor and Department" dated 2/5/16 after the "Special Provision for Contract Time", dated 1/7/16.

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

Bid Items were added:

Bid Item 009E4330 "Project Management, Category III"

Quantities for Bid Items were changed:

Bid Item 635E5550 "Detector Unit" changed from 21 to 13 Each

PLANS: Please destroy sheets A1, A2, B2, B46, B47, B69, L2, L22, L25, L26, L27, L29 and replace with the enclosed sheets, dated 2/5/16.

Sheets A1 & A2: Bid Item 009E4330 "Project Management, Category III" was added and Quantities for Bid Item 635E5550 "Detector Unit" was changed from 21 to 13 Each.

Sheet B2: Bid Item 009E4330 "Project Management, Category III" was added.

Sheet B46: Plan note for Eliminate Entrance at 53+00 Lt was added.

Sheet B47: Note for 24' entrance to be constructed at Sta 53+00 Lt. was removed.

Sheet B68: C&G Layout was revised.

Sheet L2: Quantities for Bid Item 635E5550 "Detector Unit" was changed from 21 to 13 Each.

Sheets L22 & L25: ESTIMATE OF QUANTITIES was revised.

Sheets L26 & L27: DETECTOR SETTINGS table was revised.

Sheet L29: WIRING DIAGRAM was revised.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Craig Smith, Mitchell Region Engineer
Travis Dressen, Sioux Falls Area Engineer

REV. 2/5/16

SPECIAL PROVISIONS

PROJECT NUMBER(S): NH 0034(160)386 PCN: 02R6

TYPE OF WORK: URBAN GRADING, STORM SEWER, CURB & GUTTER, SIDEWALK,
TRAFFIC SIGNALS, ROADWAY LIGHTING, PCC SURFACING

COUNTY: LAKE

The following clauses have been prepared subsequent to the Standard Specifications for Roads and Bridges and refer only to the above described improvement, for which the following Proposal is made.

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

Jim Baltzer is the official in charge of the Madison Career Center for Lake County.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Special Provision for Contract Time, dated 1/7/16.

Special Provision for Cooperation by Contractor and Department, dated 2/5/16.

Special Provision for Prosecution and Progress, dated 1/20/15.

Special Provision Regarding Right of Entry, dated 1/7/16.

Special Provision for Subletting of Contract, dated 1/8/16.

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

Special Provision Regarding Combination Bids, dated 1/5/16.

Special Provision Regarding Section 404 of the Clean water Act, dated 7/9/15.

Fact Sheet #43.

Special Provision for Durable Pavement Markings, dated 1/7/16.

**Special Provision for Contractor Furnished Mix Designs for
PCC Pavement, dated 6/19/15.**

Special Provision for Contractor Staking with Machine Control Grading Option, dated 1/7/16.

Special Provision for PI PCC Pavement Smoothness with 0.2” Blanking Band, dated 7/21/15.

List of Utilities.

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

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

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

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

Special Provision For EEO Affirmative Action Requirements on Federal and Federal-aid Construction Contracts, dated 9/1/97.

Special Provision For Required Contract Provisions Federal-aid Construction Contracts, Form FHWA 1273 (Rev. May/1/12), dated 4/30/13.

Required Contract Provisions Federal-aid Construction Contracts, Form FHWA 1273 (Rev. 5/1/12).

Special Provision for Cargo Preference Act, dated 1/20/16.

Special Provision Regarding Minimum Wage on Federal-Aid Projects, dated 4/30/13.

Wage and Hour Division US Department of Labor Washington DC.

- US Dept. of Labor Decision Number SD150001, dated 10/9/15.

Special Provision for Price Schedule for Miscellaneous Items, dated 10/14/15.

Special Provision Regarding Storm Water Discharge, dated 5/3/13.

General Permit for Storm Water Discharges Associated with Construction

Activities, dated 2/1/10. <http://denr.sd.gov/des/sw/Permits/ConstructionGeneralPermit2010.pdf>

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**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
COOPERATION BY CONTRACTOR AND DEPARTMENT**

FEBRUARY 5, 2016

Delete Section 5.5 of the specifications and replace with the following:

5.5 COOPERATION BY CONTRACTOR AND DEPARTMENT - The Department will supply the Contractor with the number of sets of plans and related contract documents noted in the proposal, 1 of which the Contractor will have available on the project.

A. General: The Contractor will give the work the constant attention necessary to facilitate the progress, supervise, and direct all the work of the Contractor and all subcontractors to completely and efficiently perform work in accordance with the contract documents.

All subcontractors will communicate directly with the Contractor regarding questions about site readiness for construction, current activities of the Contractor and other subcontractors, and any other scheduling types of questions. The Contractor and all subcontractors will cooperate with the Engineer, inspectors, and other contractors.

B. Management and Supervision: The Contractor will provide the management and supervision required by this specification, and in accordance with this specification, regardless of the amount of work subcontracted.

Prior to the preconstruction meeting, the Contractor will provide the Project Engineer written designation of the Project Manager and the Project Superintendent. If the Contractor desires to make changes in designated individuals for Project Manager and Project Superintendent following the preconstruction meeting, the change must be submitted in writing or by email to the Project Engineer in advance of the change. For each crew (Contractor and subcontractor) working on the project, the crew will have a crew working superintendent/foreman.

The project category is defined in the Notice to Contractors.

The following titles, definitions, and responsibilities for Contractor and subcontractor management and supervision will be used by the Department.

1. Titles and Definitions:

- a. **Project Manager:** A Contractor employee that is the designated decision making authority for the Contractor and all subcontractors. For category I and II projects, the Project Manager and the Project Superintendent may be the same individual.
- b. **Project Superintendent:** A Contractor employee that is in responsible charge of the contract work and directs the daily project operations. For category I and II projects, the Contractor may designate a willing and capable subcontractor employee as the Project Superintendent.
- c. **Contractor or Subcontractor Working Superintendent/Foreman:** An employee of the Contractor or subcontractor that directs a group of employees working for the Contractor or subcontractor to complete a specific type of work the Contractor or subcontractor has contracted to complete.

2. Responsibilities:

- a. **Project Manager:** The Project Manager will:
 - 1) Be accessible to the Project Engineer as required in Section 5.5 C.
 - 2) Be capable of reading and understanding the plans and specifications and is experienced in and capable of accomplishing the type of work being performed.
 - 3) Schedule and lead the preconstruction meeting.
 - 4) Manage the submittal and approval process.
 - 5) Manage the project scheduling and schedule updating process including leading the schedule update meetings which may be led in person or remotely. This responsibility may be assigned to a willing and capable subcontractor employee for category I and II projects. Assignment of the duties to a subcontractor does not relieve the Contractor of the overall management responsibilities on the project.
 - 6) Coordinate and manage all subcontractors including, but not limited to, subcontractor approval, general performance, schedule integration, and accessibility. Contractors and subcontractors are expected to be on site and completing work according to the project schedule throughout the life of the project such that the periods of non-construction activity are kept to a minimum.

- 7) Be the designated person with final decision making authority for the Contractor and subcontractors.
- 8) Be the designated Contractor employee to negotiate with the Project Engineer for any contract component with monetary or contract time implications including, but not limited to; change orders, time extensions, and price adjustments. The duties of contract components with monetary or contract time implications must remain with an employee of the Contractor for all category projects.
- 9) If the Engineer determines, in his or her sole discretion, the designee is not fulfilling their assigned role for one or more of the responsibilities, the Engineer will provide written or email notice identifying the insufficient duties and the Contractor will immediately reassign those duties to a designated, willing, and capable individual, as needed, to fulfill the identified duties.

b. Project Superintendent: The Project Superintendent will:

- 1) Be accessible to the Project Engineer as required in Section 5.5 C.
- 2) Be capable of reading and understanding the plans and specifications and is experienced in and capable of accomplishing the type of work being performed.
- 3) Direct the daily project operations in accordance with the construction schedule.
- 4) As appropriate for the project category and at a frequency that is mutually agreed upon with the Engineer, lead construction progress meetings including look-ahead scheduling and planned activities of subcontractors.
- 5) For category III projects, prepare construction progress meeting agendas and designate a Contractor or subcontractor employee to take general notes of the meeting including, but not limited to, future action items, party responsible for future actions items, condensed summary of major issues discussed. The designated individual will distribute the notes to all key project supervision including the Department and affected utilities within a reasonable timeframe mutually agreed upon by the Project Superintendent and Project Engineer. If no timeframe is agreed upon, the designated individual will distribute the notes no later than the end of the next

business day. This practice is also recommended when construction progress meetings are held for category I & II projects.

- 6) When construction progress meetings are not held, update the Project Engineer on changes to subcontractor activities.
- 7) Oversee and direct the daily work activities of all subcontractors on the project. Contractors and subcontractors are expected to be on site and completing work according to the project schedule throughout the life of the project such that the periods of non-construction activity are kept to a minimum.
- 8) Be the designated representative for the Contractor and subcontractors with decision making authority for the Contractor and subcontractors to seek clarification and interpretation of contract document requirements from the Project Engineer.
- 9) Work through the Project Manager to negotiate with the Project Engineer for any contract component with monetary or contract time implications including, but not limited to; change orders, time extensions, and price adjustments.
- 10) If the Engineer determines, in his or her sole discretion, the designee is not fulfilling their assigned role for one or more of the responsibilities, the Engineer will provide written or email notice identifying the insufficient duties and the Contractor will immediately reassign those duties to a designated, willing, and capable individual, as needed, to fulfill the identified duties.

c. Contractor or Subcontractor Working Superintendent/Foreman: A designated employee of the Contractor or subcontractor who will:

- 1) Direct a group of employees working for their respective company to complete a specific type of work their respective company has contracted to complete.
- 2) Be onsite during the progress of the type of work assigned.
- 3) Be capable of reading and understanding the plans and specifications and is experienced in and capable of accomplishing the type of work being performed.
- 4) Work with the Project Manager or the Project Superintendent or both to update the progress schedule for assigned work.

- 5) As appropriate for the project category type, participate in portions of construction progress meetings involving their respective company's specific work being performed.
- 6) Update the Project Superintendent on changes to activities when progress meetings are not held as planned.
- 7) Be the designated representative for the assigned construction staff to seek clarification and interpretation of contract document requirements from the Project Engineer.
- 8) Work through the Project Superintendent or the Project Manager or both for any contract component with monetary or contract time implications including, but not limited to; change orders, time extensions, and price adjustments.

C. Contractor Accessibility Guidelines by Project Category: The following are guidelines for the Project Manager and Project Superintendent to be accessible to the Project Engineer. The Contractor and Project Engineer will agree upon the specific requirements to be used during the preconstruction meeting. The Contractor and Project Engineer may agree to either a shorter or longer accessibility requirement. If no alternate set of requirements are agreed upon, the guidelines listed in this specification will be the requirements. During construction of the project, the Contractor and Project Engineer may mutually agree to revise the agreement, if necessary, in writing or by email for specific needs during the project.

1. Category I and II:

a. Project Manager:

- 1) Will be available by phone or other mutually available technology with a response time within 2 business days.

b. Project Superintendent:

- 1) May be off site with prior notice to the Project Engineer.
- 2) When off site, the Project Superintendent will be available by phone with a response time within 1 business day, or on site as scheduled.

2. Category III:

a. Project Manager:

- 1) Will be available by phone or other mutually available technology with a response time within 1 business day.

b. Project Superintendent:

- 1) May be off site with prior notice to the Project Engineer.
- 2) When off site, the Project Superintendent will be available by phone with a response time of the same business day, or on site as scheduled.

D. Department Accessibility Guidelines: The following are guidelines for the Project Engineer and Engineering Supervisor to be accessible to the Contractor and are to be agreed upon during the preconstruction meeting. If weekend work is anticipated, the Contractor will provide notice to the Project Engineer by Thursday of the same week. The Contractor and Project Engineer will agree upon the specific requirements to be used during the preconstruction meeting. The Contractor and Project Engineer may agree to either a shorter or longer accessibility requirement. If no alternate set of requirements are agreed upon, the guidelines listed in this specifications will be the requirements. During construction of the project, the Contractor and Project Engineer may mutually agree to revise the agreement, if necessary, in writing or by email for specific needs during the project. The Department will submit changes in designated Department individuals, either temporarily or permanently, for Field Technician, Project Engineer, or Engineering Supervisor in writing or by email to the Contractor's designated Project Manager and Project Superintendent in advance of the change.

1. Category I, II, and III:

a. Field Technician:

- 1) Will to be on site during the construction of their assigned work activities and will be available to the Project Superintendent and associated Working Superintendent/Foreman while these work activities are performed.
- 2) May be off site during work activities that do not require testing or inspecting.
- 3) Will participate in progress meetings when invited by the Project Engineer.

b. Project Engineer:

- 1) Will be available by phone with a response time of the same business day or on site within 1 business day for Category I & II projects and within 1/2 business day for Category III projects.
- 2) When off site for more than 1 business day, the Project Engineer will notify the Project Superintendent and any Working Superintendent/Foremen and will remain available by phone with a response time of the same business day or on site within 1 business day.

c. Engineering Supervisor:

- 1) Will be available to Project Manager and Project Superintendent through the Project Engineer by phone or other mutually available technology with a response time of 1 business day or on site within 2 business days.

E. Project Management Payment: Project management will be paid for at the contract lump sum price. Payment will be full compensation for all costs associated with providing project management and performing all related duties.

Payment for project management will be made as follows:

1. 20% of contract item lump sum price upon designation of Project Manager and Project Superintendent.
2. 50% of contract item lump sum price when construction project is 25% completed.
3. 75% of contract item lump sum price when construction project is 50% completed.
4. 90% of contract item lump sum price when construction project is 75% completed.
5. 100% of contract item price when construction project is 100% completed and the Area Office has issued the Acceptance of Field Work in accordance with Section 5.16.

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ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0034(160)386	A1	A4

Grading – Section B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	5.159	Mile
009E3290	Structure Staking	10	Each
009E3300	Three Man Survey Crew	40.0	Hour
009E4300	Construction Schedule, Category III	Lump Sum	LS
009E4330	Project Management, Category III	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	1,009	Ft
110E0310	Remove Concrete Curb	26	Ft
110E0320	Remove Concrete Gutter	86	Ft
110E0400	Remove Drop Inlet	47	Each
110E0460	Remove Manhole	12	Each
110E0605	Remove Chain Link Fence	117	Ft
110E1010	Remove Asphalt Concrete Pavement	2,801.0	SqYd
110E1100	Remove Concrete Pavement	38,017.1	SqYd
110E1110	Remove Concrete Approach Pavement	1,793.3	SqYd
110E1120	Remove Concrete Median Pavement	33.2	SqYd
110E1130	Remove Concrete Driveway Pavement	365.1	SqYd
110E1140	Remove Concrete Sidewalk	4,467.9	SqYd
110E1300	Remove Concrete Retaining Wall	1,151.8	Ft
110E5800	Salvage Fence	82	Ft
110E7802	Remove Fence for Reset	30	Ft
120E0010	Unclassified Excavation	34,022	CuYd
120E0900	Contaminated Material Excavation	100	CuYd
120E2000	Undercutting	26,470	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
380E2564	4" Barrier Type Colored Median PCC Pavement	56.4	SqYd
380E3520	6" PCC Approach Pavement	338.5	SqYd
380E3540	8" PCC Approach Pavement	1,268.8	SqYd
380E4060	8.5" PCC Fillet Section	1,273.3	SqYd
450E0103	12" RCP Class 3, Furnish	124	Ft
450E0110	12" RCP, Install	124	Ft
450E0123	18" RCP Class 3, Furnish	2,990	Ft
450E0130	18" RCP, Install	2,990	Ft
450E0143	24" RCP Class 3, Furnish	890	Ft
450E0150	24" RCP, Install	890	Ft
450E0163	30" RCP Class 3, Furnish	280	Ft
450E0170	30" RCP, Install	280	Ft
450E0183	36" RCP Class 3, Furnish	742	Ft
450E0190	36" RCP, Install	742	Ft
450E3033	36" RCP Arch Class 3, Furnish	224	Ft
450E3040	36" RCP Arch, Install	224	Ft
450E3053	48" RCP Arch Class 3, Furnish	376	Ft
450E3060	48" RCP Arch, Install	376	Ft

Grading – Section B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E3063	54" RCP Arch Class 3, Furnish	1,480	Ft
450E3070	54" RCP Arch, Install	1,480	Ft
450E3073	60" RCP Arch Class 3, Furnish	1,124	Ft
450E3080	60" RCP Arch, Install	1,124	Ft
450E7005	12" High Density Polyethylene Pipe, Furnish	12	Ft
450E7006	12" High Density Polyethylene Pipe, Install	12	Ft
460E0060	Class A45 Concrete, Self Consolidating	3.4	CuYd
460E0300	Breakout Structural Concrete	1.3	CuYd
460E0380	Install Dowel in Concrete	118	Each
462E0100	Class M6 Concrete	325.5	CuYd
470E0020	Pipe Handrail	113.0	Ft
480E0100	Reinforcing Steel	59,905	Lb
480E0200	Epoxy Coated Reinforcing Steel	1,224	Lb
530E0300	Type C Concrete Retaining Wall	695	SqFt
530E0310	Special Type C Concrete Retaining Wall	949	SqFt
530E0460	Gravity Segmental Block Wall	1,700	SqFt
600E0300	Type III Field Laboratory	1	Each
620E4100	Reset Fence	30	Ft
650E0085	Type B68.5 Concrete Curb and Gutter	8,148	Ft
650E0385	Type BL68.5 Concrete Curb and Gutter	374	Ft
650E4685	Type P8.5 Concrete Gutter	1,332	Ft
651E0040	4" Concrete Sidewalk	8,548	SqFt
651E0060	6" Concrete Sidewalk	35,154	SqFt
651E0160	6" Reinforced Concrete Sidewalk	3,881	SqFt
651E0540	4" Colored Concrete Sidewalk	2,896	SqFt
651E7000	Type 1 Detectable Warnings	1,170	SqFt
670E1200	Type B Frame and Grate Assembly	44	Each
670E5340	4' x 11' Precast Concrete Type S Drop Inlet Lid	23	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	25	Each
670E5400	Precast Drop Inlet Collar	44	Each
671E5502	2" Adjusting Ring for Manhole	36	Each
671E6009	Type A9 Manhole Frame and Lid	17	Each
831E0300	Reinforcement Fabric (MSE)	3,961	SqYd
900E0900	Curb Stop	1	Each

Traffic Control – Section C

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	80.0	Hour
634E0110	Traffic Control Signs	2,086	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	118	Each
634E0330	Temporary Raised Pavement Markers	22,868	Ft
634E0420	Type C Advance Warning Arrow Board	6	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	2,500	Ft
634E0565	Remove Pavement Marking, Arrow	11	Each
634E0600	4" Temporary Pavement Marking Tape Type I	26,222	Ft
634E0640	Temporary Pavement Marking	20,252	Ft
634E1002	Detour Signing	499.0	SqFt
634E1020	Temporary Business Signing	126.0	SqFt
634E2000	Longitudinal Pedestrian Barricade	340	Ft
634E2020	Temporary Curb Ramp	2	Each
634E2025	Longitudinal Pedestrian Channelizer	340	Ft
634E2030	Audible Message Device	4	Each

Erosion and Sediment Control – Section D

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E1350	Restoration of Stockpile Site	Lump Sum	LS
110E1690	Remove Sediment	27.5	CuYd
110E1695	Remove Sediment Filter Bag	4,104	Ft
110E1700	Remove Silt Fence	3,074	Ft
230E0010	Placing Topsoil	470	CuYd
730E0206	Type D Permanent Seed Mixture	273	Lb
730E0251	Special Permanent Seed Mixture 1	110	Lb
731E0100	Fertilizing	1,326	Lb
732E0300	Bonded Fiber Matrix	12.5	Ton
734E0042	Soil Stabilizer	1,083.0	SqYd
734E0180	Sediment Filter Bag	4,104	Ft
734E0604	High Flow Silt Fence	3,030	Ft
734E0620	Repair Silt Fence	769	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	47	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	499	Ft
734E3000	Water Pollution Control	Lump Sum	LS
734E5000	Dewatering	24	Hour
900E1320	Construction Entrance	1	Each



INDEX OF SHEETS

A1 and A2 Estimate of Quantities for Sections B, C, D, F, L, M, and S
A3 and A4 Environmental Commitments

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0034(160)386	A2	A4

Surfacing – Section F

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	179.8	MGal
260E2010	Gravel Cushion	2,170.0	Ton
260E2030	Gravel Cushion, Salvaged	12,797.9	Ton
* 260E6000	Granular Material, Furnish	28,143.5	Ton
* 270E0200	Blend, Haul, and Stockpile Granular Material	56,287.0	Ton
320E1200	Asphalt Concrete Composite	1,051.8	Ton
380E0060	8.5" Nonreinforced PCC Pavement	36,149.4	SqYd
380E3020	6" PCC Driveway Pavement	348.9	SqYd
380E3040	8" PCC Driveway Pavement	859.7	SqYd
380E5010	Fast Track Concrete	247.8	SqYd
380E6000	Dowel Bar	21,703	Each
380E6110	Insert Steel Bar in PCC Pavement	222	Each

* - Denotes Non-Participating

Signal and Lighting – Section L

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1510	Remove Luminaire Pole	4	Each
110E1520	Remove Signal Equipment	Lump Sum	LS
110E1530	Remove Signal Pole Footing	2	Each
110E1540	Remove Luminaire Pole Footing	20	Each
110E5100	Salvage Luminaire Pole	13	Each
110E5110	Salvage Signal Equipment	Lump Sum	LS
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	25	Each
635E2140	Signal Pole with 40' Mast Arm and Luminaire Arm	1	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	33	Each
635E4010	1 Section Vehicle Signal Head	2	Each
635E5020	2' Diameter Footing	257.0	Ft
635E5030	3' Diameter Footing	24.0	Ft
635E5302	Type 2 Electrical Junction Box	29	Each
635E5303	Type 3 Electrical Junction Box	3	Each
635E5304	Type 4 Electrical Junction Box	4	Each
635E5380	Reset Electrical Junction Box	1	Each
635E5400	Electrical Service Cabinet	4	Each
635E5440	Master Controller	1	Each
635E5530	Preformed Detector Loop	25	Each
635E5535	Sawed-In, Preformed Detector Loop	11	Each
635E5550	Detector Unit	13	Each
635E5900	Pedestrian Push Button	16	Each
635E5910	Pedestrian Push Button Pole	16	Each
635E5922	Pedestrian Signal Head with Countdown Timer	8	Each
635E5930	Pedestrian Crossing Sign	16	Each
635E7500	Remove and Reset Luminaire Pole	1	Each
635E7510	Remove and Reset Signal Pole	1	Each
635E7530	Relocate Signal Equipment	Lump Sum	LS
635E8120	2" Rigid Conduit, Schedule 40	6,395	Ft
635E8140	4" Rigid Conduit, Schedule 40	55	Ft
635E8220	2" Rigid Conduit, Schedule 80	2,300	Ft
635E8230	3" Rigid Conduit, Schedule 80	830	Ft
635E9012	1/C #2 AWG Copper Wire	5,645	Ft
635E9014	1/C #4 AWG Copper Wire	14,505	Ft
635E9016	1/C #6 AWG Copper Wire	10,405	Ft
635E9020	1/C #10 AWG Copper Wire	1,840	Ft
635E9021	2/C #12 AWG Copper Wire	1,125	Ft
635E9024	1/C #14 AWG Copper Wire	90	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	3,075	Ft
635E9507	7/C #14 AWG Copper Tray Cable, K2	475	Ft
635E9512	12/C #14 AWG Copper Tray Cable, K2	1,015	Ft
635E9519	19/C #14 AWG Copper Tray Cable, K2	330	Ft
635E9524	24/C #14 AWG Copper Tray Cable, K2	640	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	4,405	Ft

Signal and Lighting – Section L

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	1,755	Ft
635E9924	24 Strand Fiber Optic Cable	1,250	Ft

Pavement Marking – Section M

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0020	Cold Applied Plastic Pavement Marking, 8"	930	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	2,065	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	56	Each
633E1445	Pavement Marking Paint, Arrow	2	Each
633E3000	Durable Pavement Marking, 4" White	3,505	Ft
633E3005	Durable Pavement Marking, 4" Yellow	11,065	Ft
633E5005	Grooving for Cold Applied Plastic Pavement Marking, 8"	930	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	2,065	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	56	Each
633E5100	Grooving for Durable Pavement Marking, 4"	14,570	Ft
634E0560	Remove Pavement Marking, 4" or Equivalent	1,860	Ft
634E0565	Remove Pavement Marking, Arrow	17	Each

Permanent Signing – Section S

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E5020	Salvage Traffic Sign	72	Each
632E1320	2.0"x2.0" Perforated Tube Post	70.5	Ft
632E1340	2.5"x2.5" Perforated Tube Post	443.6	Ft
632E1550	Miscellaneous Post Hardware	Lump Sum	LS
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	278.0	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	250.8	SqFt
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	14	Each

SPECIFICATIONS

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



SECTION B ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	5.159	Mile
009E3290	Structure Staking	10	Each
009E3300	Three Man Survey Crew	40.0	Hour
009E4300	Construction Schedule, Category III	Lump Sum	LS
009E4330	Project Management, Category III	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	1,009	Ft
110E0310	Remove Concrete Curb	26	Ft
110E0320	Remove Concrete Gutter	86	Ft
110E0400	Remove Drop Inlet	47	Each
110E0460	Remove Manhole	12	Each
110E0605	Remove Chain Link Fence	117	Ft
110E1010	Remove Asphalt Concrete Pavement	2,801.0	SqYd
110E1100	Remove Concrete Pavement	38,017.1	SqYd
110E1110	Remove Concrete Approach Pavement	1,793.3	SqYd
110E1120	Remove Concrete Median Pavement	33.2	SqYd
110E1130	Remove Concrete Driveway Pavement	365.1	SqYd
110E1140	Remove Concrete Sidewalk	4,467.9	SqYd
110E1300	Remove Concrete Retaining Wall	1,151.8	Ft
110E5800	Salvage Fence	82	Ft
110E7802	Remove Fence for Reset	30	Ft
120E0010	Unclassified Excavation	34,022	CuYd
120E0900	Contaminated Material Excavation	100	CuYd
120E2000	Undercutting	26,470	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
380E2564	4" Barrier Type Colored Median PCC Pavement	56.4	SqYd
380E3520	6" PCC Approach Pavement	338.5	SqYd
380E3540	8" PCC Approach Pavement	1,268.8	SqYd
380E4060	8.5" PCC Fillet Section	1,273.3	SqYd
450E0103	12" RCP Class 3, Furnish	124	Ft
450E0110	12" RCP, Install	124	Ft
450E0123	18" RCP Class 3, Furnish	2,990	Ft
450E0130	18" RCP, Install	2,990	Ft
450E0143	24" RCP Class 3, Furnish	890	Ft
450E0150	24" RCP, Install	890	Ft
450E0163	30" RCP Class 3, Furnish	280	Ft
450E0170	30" RCP, Install	280	Ft
450E0183	36" RCP Class 3, Furnish	742	Ft
450E0190	36" RCP, Install	742	Ft
450E3033	36" RCP Arch Class 3, Furnish	224	Ft
450E3040	36" RCP Arch, Install	224	Ft
450E3053	48" RCP Arch Class 3, Furnish	376	Ft
450E3060	48" RCP Arch, Install	376	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E3063	54" RCP Arch Class 3, Furnish	1,480	Ft
450E3070	54" RCP Arch, Install	1,480	Ft
450E3073	60" RCP Arch Class 3, Furnish	1,124	Ft
450E3080	60" RCP Arch, Install	1,124	Ft
450E7005	12" High Density Polyethylene Pipe, Furnish	12	Ft
450E7006	12" High Density Polyethylene Pipe, Install	12	Ft
460E0060	Class A45 Concrete, Self Consolidating	3.4	CuYd
460E0300	Breakout Structural Concrete	1.3	CuYd
460E0380	Install Dowel in Concrete	118	Each
462E0100	Class M6 Concrete	325.5	CuYd
470E0020	Pipe Handrail	113.0	Ft
480E0100	Reinforcing Steel	59,905	Lb
480E0200	Epoxy Coated Reinforcing Steel	1,224	Lb
530E0300	Type C Concrete Retaining Wall	695	SqFt
530E0310	Special Type C Concrete Retaining Wall	949	SqFt
530E0460	Gravity Segmental Block Wall	1,700	SqFt
600E0300	Type III Field Laboratory	1	Each
620E4100	Reset Fence	30	Ft
650E0085	Type B68.5 Concrete Curb and Gutter	8,148	Ft
650E0385	Type BL68.5 Concrete Curb and Gutter	374	Ft
650E4685	Type P8.5 Concrete Gutter	1,332	Ft
651E0040	4" Concrete Sidewalk	8,548	SqFt
651E0060	6" Concrete Sidewalk	35,154	SqFt
651E0160	6" Reinforced Concrete Sidewalk	3,881	SqFt
651E0540	4" Colored Concrete Sidewalk	2,896	SqFt
651E7000	Type 1 Detectable Warnings	1,170	SqFt
670E1200	Type B Frame and Grate Assembly	44	Each
670E5340	4' x 11' Precast Concrete Type S Drop Inlet Lid	23	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	25	Each
670E5400	Precast Drop Inlet Collar	44	Each
671E5502	2" Adjusting Ring for Manhole	36	Each
671E6009	Type A9 Manhole Frame and Lid	17	Each
831E0300	Reinforcement Fabric (MSE)	3,961	SqYd
900E0900	Curb Stop	1	Each

CONDITION OF OLD/HISTORIC PROPERTIES

The contractor is encouraged to investigate old/historic properties that may be affected with construction of this project. If possible, take photos of the building structure (walls and foundation), and note any other existing conditions. These records would provide confirmation, as to the condition of the buildings prior to construction, in the case that damages are claimed following the construction of the project.

There are existing limestone stairs at Sta 51+17-42'L and Sta 51+66-42'L. The contractor shall take precautions to protect these stairs during construction.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 1 MGal. No separate payment will be made for the Water for Embankment and all costs associated shall be incidental to the contract unit price per cubic yard of "Unclassified Excavation".

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0034(160)386	B2	B133

The estimated cubic yards of excavation and/or embankment required to construct outlet ditches, ditch blocks, and approaches are included in the earthwork balance notes on the profile sheets.

Special ditch grades and other sections of the roadway different than the typical sections shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

A copy of the soils profile is available for review at the Mitchell Region and Sioux Falls Area offices.

TYPE III FIELD LABORATORY

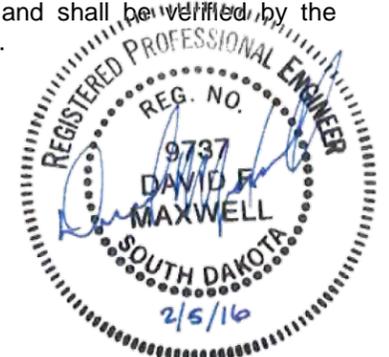
The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by job location and approved by the DOT. Prior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

The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Project Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order (CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for "Type III Field Laboratory".

UTILITIES

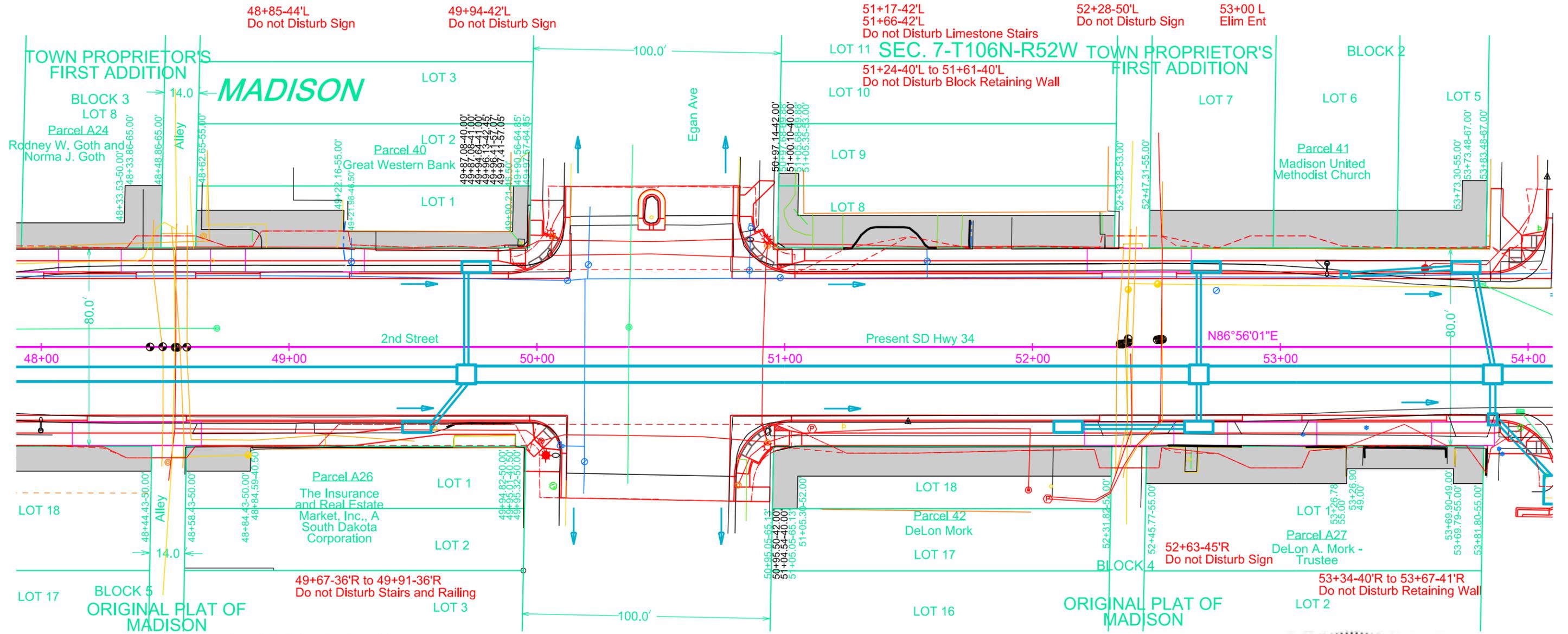
The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the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

Subsurface utility explorations were done for this project. The findings can be found in the SUBSURFACE UTILITY LOCATIONS table elsewhere in the plans. The table is provided to aid the Contractor during construction. All information in the table is approximate and shall be verified by the Contractor prior to construction in those areas.





Take out Drop Inlets with Frame and Grate at the following locations:
53+81-25'L
53+97-26'R



Install 2' X 3' Type B Drop Inlet with Type B Frame & Grate and 6" Concrete Collar at the following locations:
53+26.21-29.17'L

Install 4' X 3' Type B Drop Inlet with Type B Frame & Grate and 6" Concrete Collar at the following locations:
53+85.72-29.17'R

Install 7'x7' Junction Box with Type A9 Manhole Frame & Lid at the following locations:
49+71.53-11.00'R
52+67.10-11.00'R
53+85.72-11.00'R

Install 4' X 11' Type S Drop Inlet Base and Type S Precast Lid at the following locations:
49+75.53-31.63'L
49+51.52-31.63'R
52+14.34-31.63'R
52+67.10-31.63'R
52+70.10-31.63'L
53+74.86-31.63'L

49+57.02-32.17'R to 49+71.53-14.50'R
Install 18" - 24' RCP
(Between Drop Inlet and Junction Box)

49+71.53-30.17'L to 49+71.53-7.50'R
Install 18" - 38' RCP
(Between Drop Inlet and Junction Box)

49+75.03-11.00'R to 52+63.60-11.00'R
Install 60" - 290' Arch RCP
(Between Junction Boxes)

52+19.84-32.17'R to 52+61.60-32.17'R
Install 18" - 42' RCP
(Between Drop Inlets)

52+67.10-30.17'R to 52+67.10-14.50'R
Install 18" - 16' RCP
(Between Drop Inlet and Junction Box)

52+67.10-30.17'L to 52+67.10-7.50'R
Install 18" - 38' RCP
(Between Drop Inlet and Junction Box)

52+70.60-11.00'R to 53+82.22-11.00'R
Install 60" - 112' Arch RCP
(Between Junction Boxes)

53+27.71-29.16'L to 53+69.36-31.77'L
Install 18" - 42' RCP
(Between Drop Inlets)

53+78.48-30.17'L to 53+85.72-7.50'R
Install 18" - 40' RCP
(Between Drop Inlet and Junction Box)

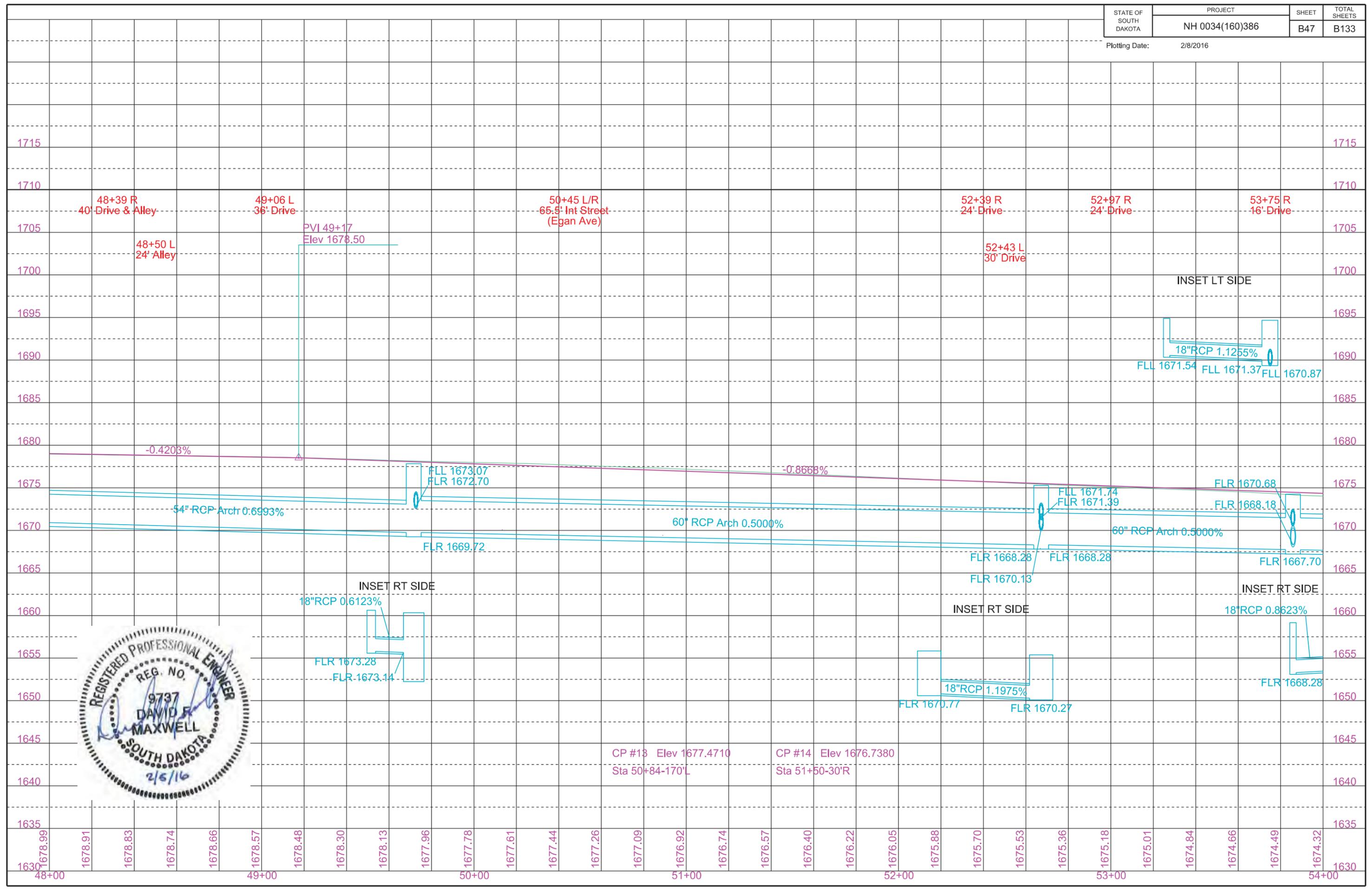
53+85.72-14.50'R to 53+85.72-27.17'R
Install 24" - 14' RCP
(Between Drop Inlet and Junction Box)

53+89.22-11.00'R to 57+46.29-11.00'R
Install 60" - 358' Arch RCP
(Between Junction Boxes)

53+87.22-29.17'R to 54+08.68-51.98'R
Install 18" - 32' RCP
(Between Drop Inlets)



Plotting Date: 2/8/2016

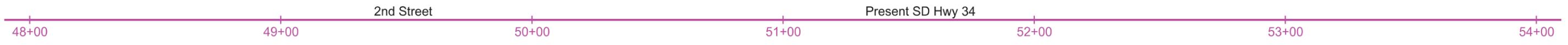
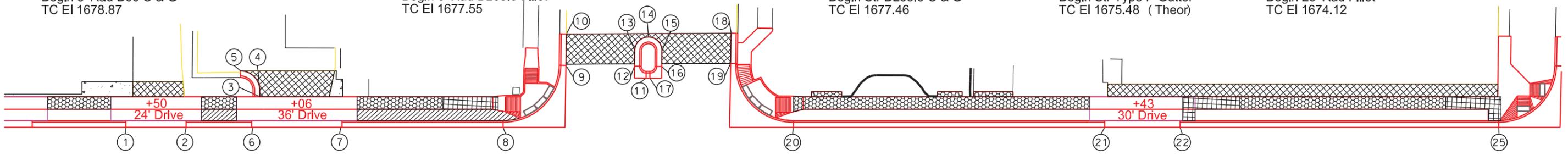


CURB & GUTTER LAYOUT

Note: All Curb & Gutter is Type B68.5 and all Type P Gutter is Type P8.5 except as noted.



- | | | | | | | |
|---|---|--|--|--|--|--|
| 1 48+38.33-27.50'L
End Str C & G
Begin Str Type P Gutter
TC EI 1678.50 (Theor) | 5 48+83.90-49.98'L
End 8' Rad B66 C & G
TC EI (Match Existing) | 8 49+88.53-27.50'L
End Str C & G
Begin 25' Rad Fillet
TC EI 1677.55 | 12 50+40.86-51.82'L
End 5' Rad BL68.5 Fillet
Begin Str BL68.5 C & G
TC EI 1677.52 | 14 50+46.44-63.42'L
Midpt 5' Rad BL68.5 C & G
TC EI 1677.77 | 18 50+79.31-64.91'L
Begin Str C & G
TC EI (Match Existing) | 22 52+58.10-27.50'L
End Str Type P Gutter
Begin Str C & G
TC EI 1675.27 (Theor) |
| 2 48+62.33-27.50'L
End Str Type P Gutter
Begin Str C & G
TC EI 1678.40 (Theor) | 6 48+88.87-27.50'L
End Str C & G
Begin Str Type P Gutter
TC EI 1678.29 (Theor) | 9 50+13.53-52.15'L
End 25' Rad Fillet
Begin Str C & G
TC EI 1677.31 | 13 50+40.94-58.07'L
End Str C & G
Begin 5' Rad CL68.5 C & G
TC EI 1677.60 | 15 50+51.78-57.92'L
End 5' Rad BL68.5 C & G
Begin Str BL68.5 C & G
TC EI 1677.63 | 19 50+79.11-52.91'L
End Str C & G
Begin 25' Rad Fillet
TC EI 1676.91 | 23 Intentionally left blank |
| 3 48+91.60-39.67'L
Begin Str B66 C & G
TC EI 1678.81 | 7 49+23.87-27.50'L
End Str Type P Gutter
Begin Str C & G
TC EI 1678.11 (Theor) | 10 50+13.70-64.61'L
End Str C & G
TC EI (Match Existing) | | 16 50+51.70-51.67'L
End Str C & G
Begin 5' Rad BL68.5 Fillet
TC EI 1677.51 | 20 51+04.11-27.50'L
End 25' Rad Fillet
Begin Str C & G
TC EI 1676.56 | 24 Intentionally left blank |
| 4 48+91.60-42.31'L
End Str B66 C & G
Begin 8' Rad B66 C & G
TC EI 1678.87 | | 11 50+45.46-47.09'L
End Str BL68.5 C & G
Begin 5' Rad BL68.5 Fillet
TC EI 1677.55 | | 17 50+46.96-47.07'L
End 5' Rad BL68.5 Fillet
Begin Str BL68.5 C & G
TC EI 1677.46 | 21 52+28.10-27.50'L
End Str C & G
Begin Str Type P Gutter
TC EI 1675.48 (Theor) | 25 53+84.98-27.50'L
End Str C & G
Begin 25' Rad Fillet
TC EI 1674.12 |



- | | | | | | | | | | | | | | | |
|--|--|---|---|--|--|---|---|--|--|--|--|--|--|---|
| 26 48+18.60-27.50'R
End Str C & G
Begin Str Type P Gutter
TC EI 1678.36 (Theor) | 27 48+58.60-27.50'R
End Str Type P Gutter
Begin Str C & G
TC EI 1678.20 (Theor) | 28 49+97.08-27.50'R
End Str C & G
Begin 15' Rad Fillet
TC EI 1677.26 | 29 50+12.06-42.80'R
End 15' Rad Fillet
Begin Str C & G
TC EI 1677.19 | 30 50+11.72-60.77'R
End Str C & G
TC EI (Match Existing) | 31 50+77.52-62.05'R
Begin Str C & G
TC EI (Match Existing) | 32 50+77.70-52.10'R
End Str C & G
Begin 25' Rad Fillet
TC EI 1677.03 | 33 51+02.69-27.50'R
End 25' Rad Fillet
Begin Str C & G
TC EI 1676.34 | 34 52+27.06-27.50'R
End Str C & G
Begin Str Type P Gutter
TC EI 1675.27 (Theor) | 35 52+51.06-27.50'R
End Str Type P Gutter
Begin Str C & G
TC EI 1675.06 (Theor) | 36 52+84.71-27.50'R
End Str C & G
Begin Str Type P Gutter
TC EI 1674.77 (Theor) | 37 53+08.71-27.50'R
End Str Type P Gutter
Begin Str C & G
TC EI 1674.56 (Theor) | 38 53+67.09-27.50'R
End Str C & G
Begin Str Type P Gutter
TC EI 1674.05 (Theor) | 39 53+83.09-27.50'R
End Str Type P Gutter
Begin Str C & G
TC EI 1673.91 (Theor) | 40 53+88.35-27.50'R
End Str C & G
Begin 25' Rad Fillet
TC EI 1673.87 |
|--|--|---|---|--|--|---|---|--|--|--|--|--|--|---|

- Gravel
- Asphalt
- Concrete
- 4" Colored Concrete Sidewalk
- 4" Concrete Sidewalk
- 6" Reinforced Concrete Sidewalk



SECTION L ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1510	Remove Luminaire Pole	4	Each
110E1520	Remove Signal Equipment	Lump Sum	LS
110E1530	Remove Signal Pole Footing	2	Each
110E1540	Remove Luminaire Pole Footing	20	Each
110E5100	Salvage Luminaire Pole	13	Each
110E5110	Salvage Signal Equipment	Lump Sum	LS
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	25	Each
635E2140	Signal Pole with 40' Mast Arm and Luminaire Arm	1	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	33	Each
635E4010	1 Section Vehicle Signal Head	2	Each
635E5020	2' Diameter Footing	257.0	Ft
635E5030	3' Diameter Footing	24.0	Ft
635E5302	Type 2 Electrical Junction Box	29	Each
635E5303	Type 3 Electrical Junction Box	3	Each
635E5304	Type 4 Electrical Junction Box	4	Each
635E5380	Reset Electrical Junction Box	1	Each
635E5400	Electrical Service Cabinet	4	Each
635E5440	Master Controller	1	Each
635E5530	Preformed Detector Loop	25	Each
635E5535	Sawed-In, Preformed Detector Loop	11	Each
635E5550	Detector Unit	13	Each
635E5900	Pedestrian Push Button	16	Each
635E5910	Pedestrian Push Button Pole	16	Each
635E5922	Pedestrian Signal Head with Countdown Timer	8	Each
635E5930	Pedestrian Crossing Sign	16	Each
635E7500	Remove and Reset Luminaire Pole	1	Each
635E7510	Remove and Reset Signal Pole	1	Each
635E7530	Relocate Signal Equipment	Lump Sum	LS
635E8120	2" Rigid Conduit, Schedule 40	6,395	Ft
635E8140	4" Rigid Conduit, Schedule 40	55	Ft
635E8220	2" Rigid Conduit, Schedule 80	2,300	Ft
635E8230	3" Rigid Conduit, Schedule 80	830	Ft
635E9012	1/C #2 AWG Copper Wire	5,645	Ft
635E9014	1/C #4 AWG Copper Wire	14,505	Ft
635E9016	1/C #6 AWG Copper Wire	10,405	Ft
635E9020	1/C #10 AWG Copper Wire	1,840	Ft
635E9021	2/C #12 AWG Copper Wire	1,125	Ft
635E9024	1/C #14 AWG Copper Wire	90	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	3,075	Ft
635E9507	7/C #14 AWG Copper Tray Cable, K2	475	Ft
635E9512	12/C #14 AWG Copper Tray Cable, K2	1,015	Ft
635E9519	19/C #14 AWG Copper Tray Cable, K2	330	Ft
635E9524	24/C #14 AWG Copper Tray Cable, K2	640	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	4,405	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	1,755	Ft
635E9924	24 Strand Fiber Optic Cable	1,250	Ft

SUPPLYING AS BUILT PLANS

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

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

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

Adobe PDF submittals shall be sent to the following email address:
jwiegand@hrgreen.com

Upon review of the submittals, they will be sent by the Engineer to the following email address for concurrence of approvals or remarks:
John.Less@state.sd.us

EXISTING LUMINAIRE POLES AND LUMINAIRE POLE FOOTINGS

Existing roadway lighting along SD 34/2nd Street is a combination of luminaire poles on footings or direct-bury luminaire poles. At certain locations, as noted in the plans, the luminaire poles originally on footings have been removed and replaced with a direct-bury luminaire pole next to the existing footing. The footings that have not been removed are noted in the plans for removal with this project. At each roadway lighting location for salvage or removals, the plans indicate whether the roadway luminaire pole is on an existing footing or a direct-bury and whether a footing is to be removed.

SALVAGE LUMINAIRE POLE

Existing direct-bury luminaire poles SEL 1-13 shall be salvaged and delivered to the City of Madison by the Contractor. The Contractor shall notify the City 5 days before the delivery of the salvaged luminaire poles. The City contact is Chad Comes at (605) 256-7514.

All costs for work involved in the salvage and delivery of the existing luminaire poles shall be incidental to the contract unit price per each for "Salvage Luminaire Pole".

REMOVE LUMINAIRE POLE

Existing luminaire poles on footings shall be removed by the Contractor, identified as REL 1-4 in the plans.

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

REMOVE LUMINAIRE POLE FOOTING

Revised 12/9/2015 KAM
Revised 2/8/2016 JDW

Existing luminaire pole footings identified as RELF 1-20 in the plans shall be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area shall be to the satisfaction of the Engineer.

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

REMOVE SIGNAL EQUIPMENT

All existing signal equipment removed and not relocated as part of this project, salvaged by the SDDOT, or salvaged by the City of Madison shall become the property of the Contractor.

All costs for work involved in the removal of existing signal equipment shall be incidental to the contract lump sum price for "Remove Signal Equipment".

SALVAGE SIGNAL EQUIPMENT

Existing signal equipment noted in the plan sheets for relocation shall be salvaged and stored by the Contractor until relocated to the respective signal pole.

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

REMOVE AND RESET LUMINAIRE POLE

Existing luminaire pole EL1 shall be removed and reset at the new location as Reset EL1 as shown on the plan sheets. A recommendation from the manufacturer will be required to be supplied to the Engineer for the design of the anchor bolts. J-hook style is no longer acceptable.

The new pole footing, junction box, and conduit under Washington Avenue have been included under their respective bid items.

It shall be the Contractor's responsibility to obtain the bolt circle pattern and anchor bolts for the relocated poles from the pole manufacturer.

A luminaire pole and luminaire damaged during relocation shall be repaired or replaced by the Contractor at no cost to the State.

The Contractor shall intercept the 4 #4 wire on the east side of Washington Avenue, install junction box JL 15 at location of interception, and splice in new 3 #4 wire to the reset luminaire pole. The Contractor shall be responsible for field verifying connection needs to the north of JL 15.

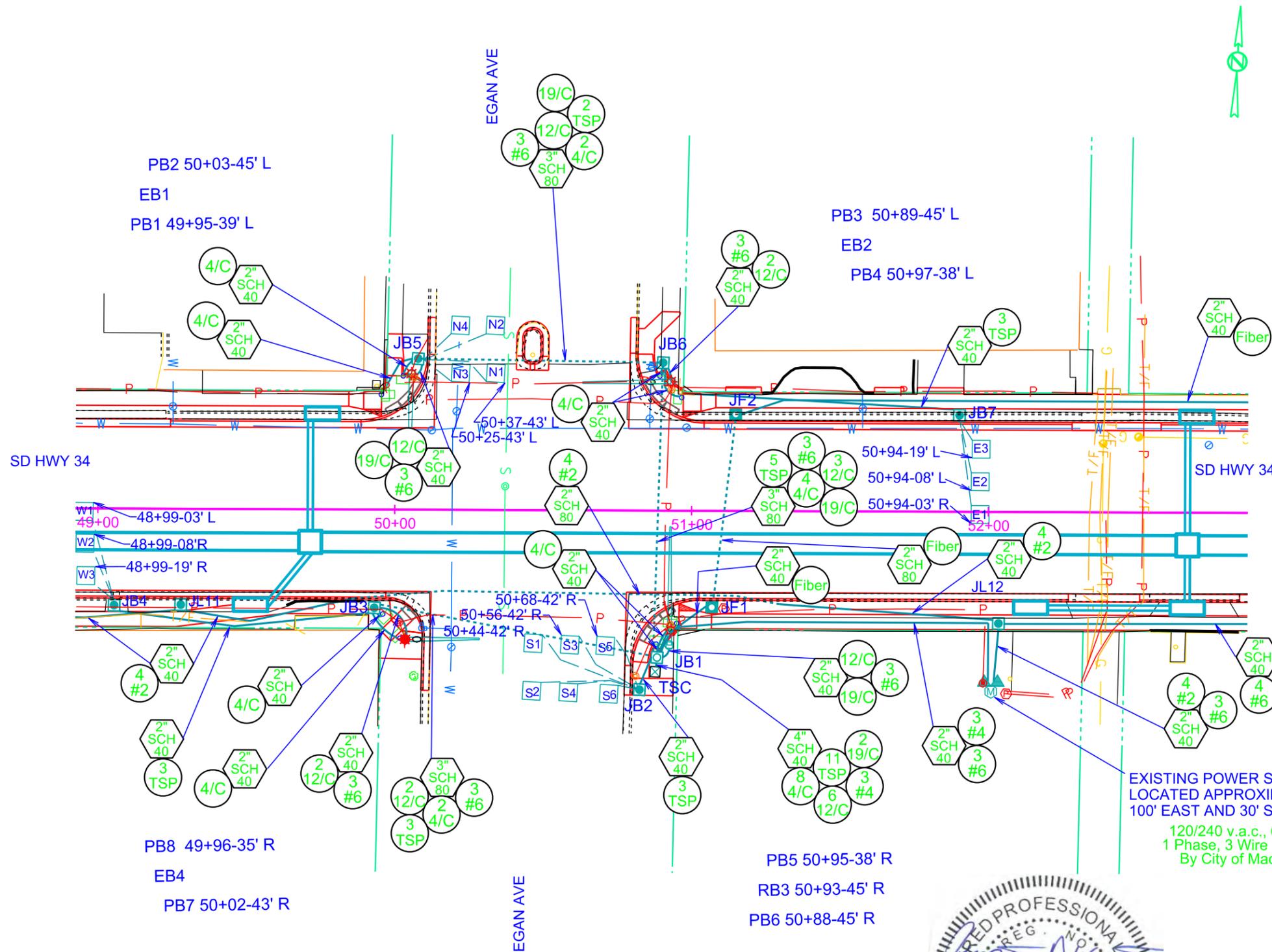
All costs involved with removing and resetting the existing luminaire pole including new anchor bolts with associated hardware shall be incidental to the contract unit price per each for "Remove and Reset Luminaire Pole".



CONDUIT LAYOUT

SD HWY 34/2ND STREET & EGAN AVENUE

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET L22	TOTAL SHEETS L39
Plotting Date: 2/8/2016		Revised By: JDW	



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
	3' DIAMETER FOOTING (RB3)	12	FT
☐	TYPE 2 ELECTRICAL JUNCTION BOX (JB2-JB7)	6	EACH
☐	TYPE 3 ELECTRICAL JUNCTION BOX (JB1)	1	EACH
▲	ELECTRICAL SERVICE CABINET	1	EACH
Ⓜ	METER SOCKET NOT A BID ITEM	1	EACH
☐	PREFORMED DETECTOR LOOP (E1-E3, N1, N3, S1, S3, S6, W1-W3)	11	EACH
☐	SAWED-IN, PREFORMED DETECTOR LOOP (N2, N4, S2, S4, S6)	5	EACH
	DETECTOR UNIT	7	EACH
2" SCH 40	2" RIGID CONDUIT, SCHEDULE 40	630	FT
4" SCH 40	4" RIGID CONDUIT, SCHEDULE 40	30	FT
3" SCH 80	3" RIGID CONDUIT, SCHEDULE 80	300	FT
#4	1/C #4 AWG COPPER WIRE	630	FT
#6	1/C #6 AWG COPPER WIRE	1,765	FT
4/C	4/C #14 AWG COPPER TRAY CABLE, K2	1,555	FT
12/C	12/C #14 AWG COPPER TRAY CABLE, K2	1,015	FT
19/C	19/C #14 AWG COPPER TRAY CABLE, K2	330	FT
TSP	#16 AWG COPPER TWISTED SHIELDED PAIR	2,195	FT
	2/C #10 AWG COPPER POLE & BRACKET CABLE	65	FT
	RELOCATE SIGNAL EQUIPMENT	LS	LUMP SUM

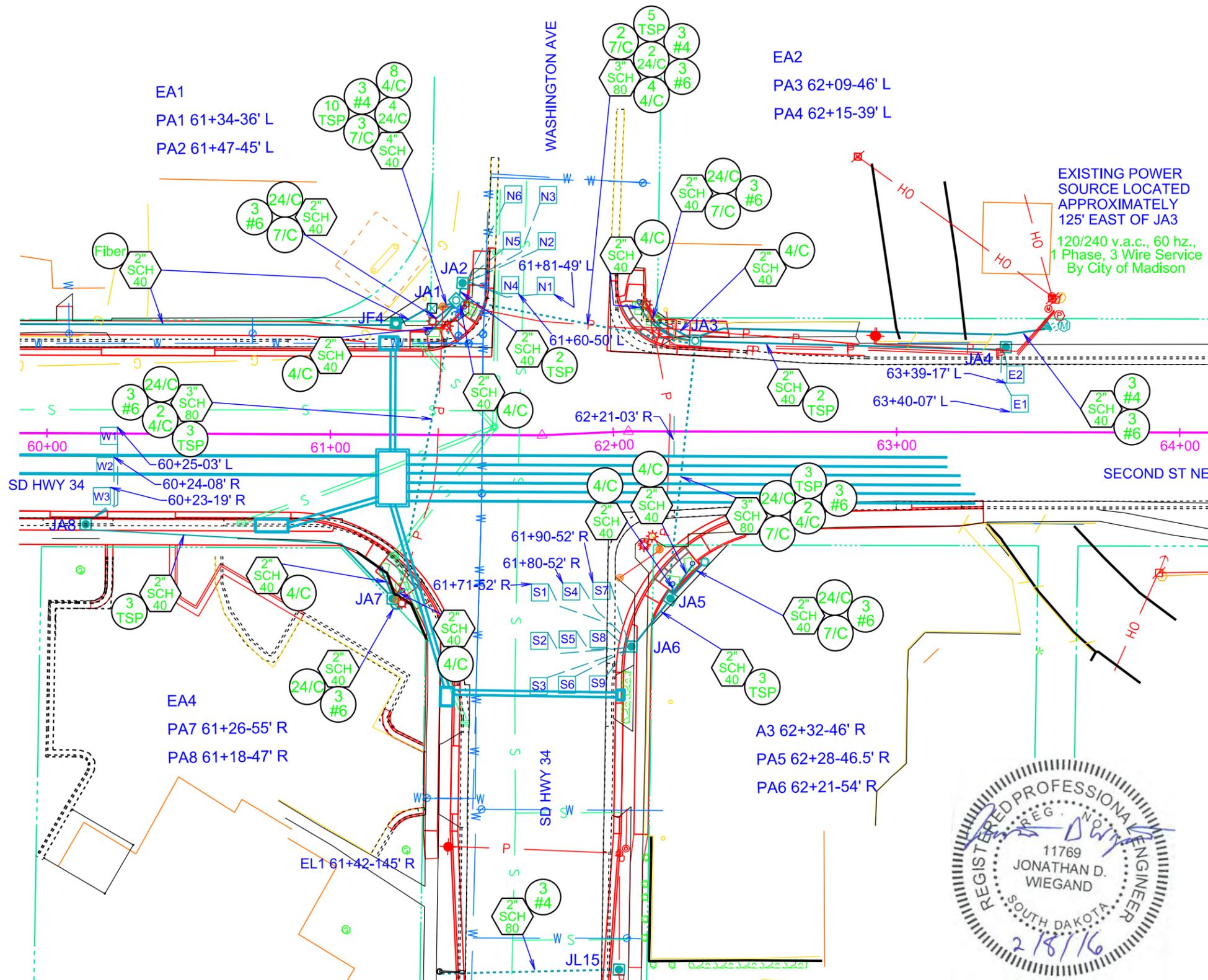
EXISTING POWER SOURCE
LOCATED APPROXIMATELY
100' EAST AND 30' SOUTH OF JB1
120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By City of Madison



RELOCATE SIGNAL EQUIPMENT	
KEY	ITEM
☒	TRAFFIC SIGNAL CONTROLLER

CONDUIT LAYOUT

SD HWY 34/2ND STREET & WASHINGTON AVENUE



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
○	3' DIAMETER FOOTING (A3)	12	FT
□	TYPE 2 ELECTRICAL JUNCTION BOX (JA2, JA4-JA8)	6	EACH
□	TYPE 3 ELECTRICAL JUNCTION BOX (JA1, JA3)	2	EACH
▲	ELECTRICAL SERVICE CABINET	1	EACH
Ⓜ	METER SOCKET NOT A BID ITEM	1	EACH
□	PREFORMED DETECTOR LOOP (N1, N4, S1-S9, W1-3)	14	EACH
□	SAWED-IN, PREFORMED DETECTOR LOOP (N2, N3, N5, N6, E1, E2)	6	EACH
	DETECTOR UNIT	6	EACH
○	2" RIGID CONDUIT, SCHEDULE 40	665	FT
○	4" RIGID CONDUIT, SCHEDULE 40	25	FT
○	3" RIGID CONDUIT, SCHEDULE 80	300	FT
○	1/C #4 AWG COPPER WIRE	870	FT
○	1/C #6 AWG COPPER WIRE	1,740	FT
○	4/C #14 AWG COPPER TRAY CABLE, K2	1,520	FT
○	7/C #14 AWG COPPER TRAY CABLE, K2	475	FT
○	24/C #14 AWG COPPER TRAY CABLE, K2	640	FT
○	#16 AWG COPPER TWISTED SHIELDED PAIR	2,210	FT
	2/C #10 AWG COPPER POLE & BRACKET CABLE	65	FT
	RELOCATE SIGNAL EQUIPMENT	LS	LUMP SUM



RELOCATE SIGNAL EQUIPMENT	
KEY	ITEM
☒	TRAFFIC SIGNAL CONTROLLER

SIGNAL TIMING

SD HWY 34/2ND STREET & EGAN AVENUE

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET L26	TOTAL SHEETS L39
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Plotting Date: 2/8/2016 Revised By: JDW

PHASING AND SEQUENCING															
INTERVAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	FLASH DISPLAY
SIGNAL HEAD															
1, 2, 3, 4, 5, 6, 7, 8	G	Y		G	G	Y									Y
9, 10, 11, 12, 13, 14								G	Y		G	G	Y		R
EB & WB: 15,16,17,18	DW	DW	DW	W	F	DW	DW	DW	DW	DW	DW	DW	DW	DW	NO DISPLAY
NB & SB: 19,20,21,22	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	F	DW	DW	DW	NO DISPLAY
MOVEMENTS	2&6		2&6 W/PED		4&8		4&8 W/PED								
PHASES	↔ ↔ or ↔ ↔		↔ ↔		↔ ↔ or ↔ ↔		↔ ↔								



CONTROLLER TIMINGS (FREE OPERATION)								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE	↔	→	↗	↓	↘	←	↖	↑
MIN GREEN		12		7		12		7
ADDED INITIAL								
MAX INITIAL								
PASSAGE TIME		3.5		3		3.5		3
MAXIMUM 1		38		32		38		32
MAXIMUM 2								
TIME BEFORE								
TIME TO REDUCE								
MINIMUM GAP								
YELLOW CHANGE		4		3		4		3
RED CLEARANCE		2.5		3		2.5		3
WALK		7		7		7		7
PED CLEARANCE		25		22		25		22
RECALL		SOFT		OFF		SOFT		OFF

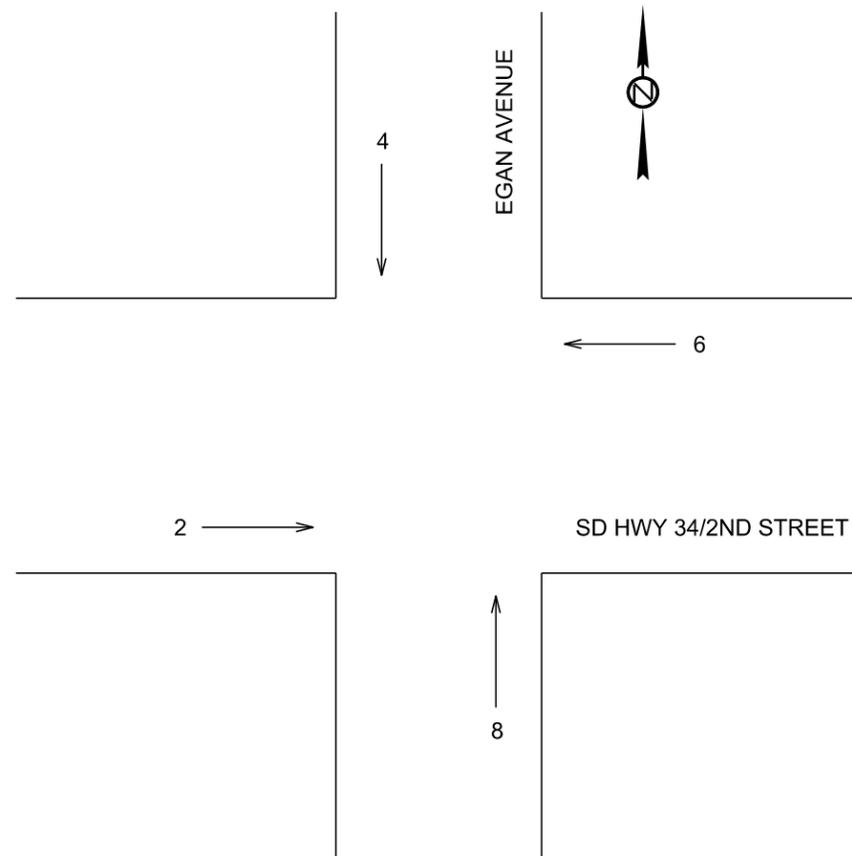
TIMING PLAN 1	
TIME OF DAY (TOD)	PATTERN (C/S/O)
6:00 - 7:00	FREE
7:00 - 9:00	1/1/1
9:00 - 11:00	FREE
11:00 - 13:30	1/1/2
13:30 - 16:00	FREE
16:00 - 18:30	1/2/2
18:30 - 23:00	FREE
23:00 - 6:00	FLASH

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

COORDINATION TIMING								
CYCLE 1 = 75 SEC								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE	↔	→	↗	↓	↘	←	↖	↑
TIME - SPLIT 1		40		35		40		35
COORDINATED PHASE		X				X		
OFFSET 1 = 59 SEC								

COORDINATION TIMING								
CYCLE 1 = 75 SEC								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE	↔	→	↗	↓	↘	←	↖	↑
TIME - SPLIT 1		40		35		40		35
COORDINATED PHASE		X				X		
OFFSET 2 = 1 SEC								

COORDINATION TIMING								
CYCLE 1 = 75 SEC								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE	↔	→	↗	↓	↘	←	↖	↑
TIME - SPLIT 2		41		34		41		34
COORDINATED PHASE		X				X		
OFFSET 2 = 1 SEC								



DETECTOR SETTINGS								
DETECTOR LABEL	AMPLIFIED CHANNEL DETECTOR	DETECTOR TYPE	DETECTOR OPERATION			LOCKING CALL	MOVEMENT CALLED	MOVEMENT EXTENDED
			CALLS & EXTENDS	CALLS ONLY	EXTENDS ONLY			
N1,N2,N3,N4	1	PREFORMED	X				4	4&8
E1,E2	2	PREFORMED	X			X	6	2&6
E3	3	PREFORMED	X			X	6	2&6
S1,S2,S3,S4	4	PREFORMED	X				8	4&8
S5,S6	5	PREFORMED	X				8	4&8
W1,W2	6	PREFORMED	X			X	2	2&6
W3	7	PREFORMED	X			X	2	2&6

SIGNAL TIMING

SD HWY 34/2ND STREET & WASHINGTON AVENUE

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET L27	TOTAL SHEETS L39
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Plotting Date: 2/8/2016 Revised By: JDW

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

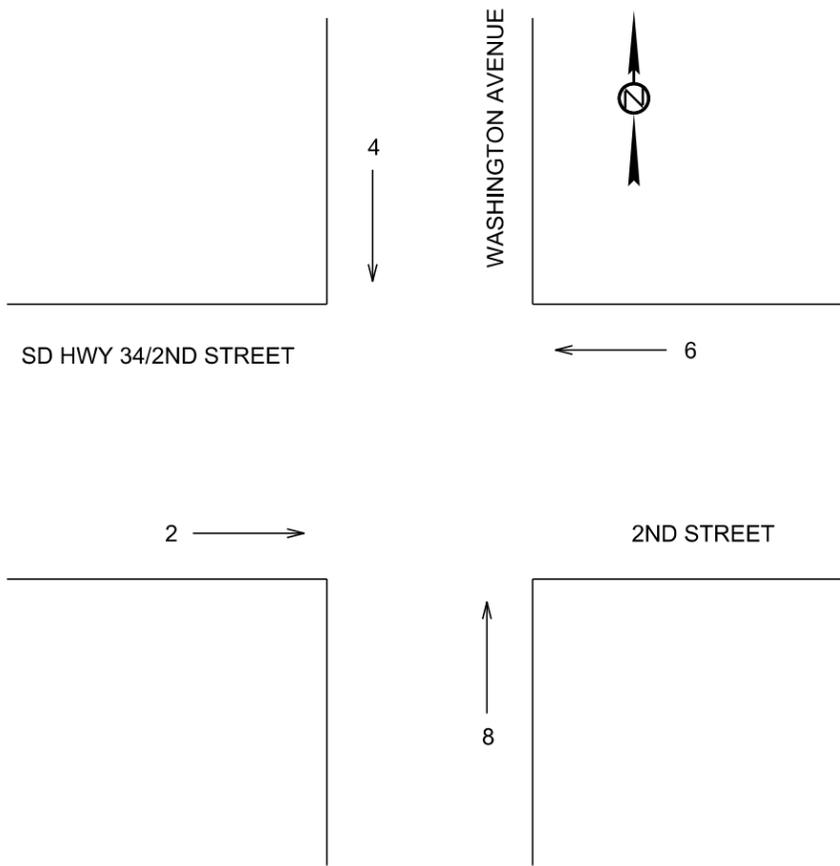
CONTROLLER TIMINGS (FREE OPERATION)								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE								
MIN GREEN		12		10		12		10
ADDED INITIAL								
MAX INITIAL								
PASSAGE TIME		3.5		3		3.5		3.5
MAXIMUM 1		39		36		39		36
MAXIMUM 2								
TIME BEFORE								
TIME TO REDUCE								
MINIMUM GAP								
YELLOW CHANGE		4		4		4		4
RED CLEARANCE		3		2.5		3		2.5
WALK		7		7		7		7
PED CLEARANCE		27		25		27		25
RECALL		SOFT		OFF		SOFT		OFF

TIMING PLAN 1	
TIME OF DAY (TOD)	PATTERN (C/S/O)
6:00 - 7:00	FREE
7:00 - 9:00	1/1/1
9:00 - 11:00	FREE
11:00 - 13:30	1/2/1
13:30 - 16:00	FREE
16:00 - 18:30	1/2/1
18:30 - 23:00	FREE
23:00 - 6:00	FLASH

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

COORDINATION TIMING								
CYCLE 1 = 75 SEC								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE								
TIME - SPLIT 1		40		35		40		35
COORDINATED PHASE		X				X		
OFFSET 1 = 0 SEC								

COORDINATION TIMING								
CYCLE 1 = 75 SEC								
MOVEMENT	1	2	3	4	5	6	7	8
PHASE								
TIME - SPLIT 2		39		36		39		36
COORDINATED PHASE		X				X		
OFFSET 1 = 0 SEC								



DETECTOR SETTINGS								
DETECTOR LABEL	AMPLIFIED CHANNEL DETECTOR	DETECTOR TYPE	DETECTOR OPERATION			LOCKING CALL	MOVEMENT CALLED	MOVEMENT EXTENDED
			CALLS & EXTENDS	CALLS ONLY	EXTENDS ONLY			
N1,N2,N3,N4,N5,N6	1	PREFORMED	X				4	4&8
E1,E2	2	PREFORMED	X			X	6	2&6
S1,S2,S3,S4,S5,S6	3	PREFORMED	X				8	4&8
S7,S8,S9	4	PREFORMED	X				8	4&8
W1,W2	5	PREFORMED	X			X	2	2&6
W3	6	PREFORMED	X			X	2	2&6

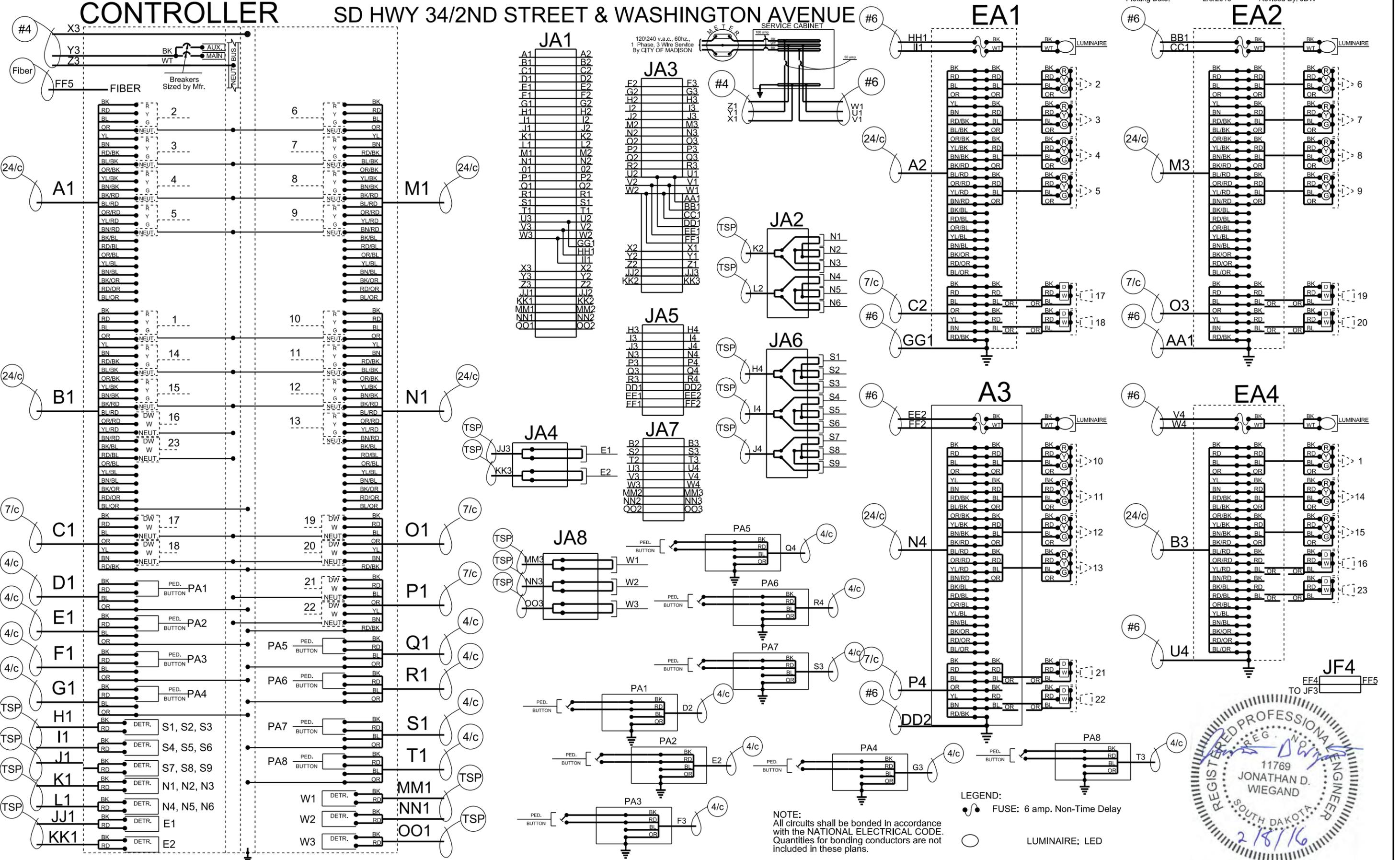


WIRING DIAGRAM

SD HWY 34/2ND STREET & WASHINGTON AVENUE

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET L29	TOTAL SHEETS L39
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Plotting Date: 2/8/2016 Revised By: JDW



LEGEND:
 FUSE: 6 amp. Non-Time Delay
 LUMINAIRE: LED

NOTE:
 All circuits shall be bonded in accordance with the NATIONAL ELECTRICAL CODE. Quantities for bonding conductors are not included in these plans.

