

SECTION L: LIGHTING & SIGNAL PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L1	L63

Plotting Date: 7/7/2025

INDEX OF SHEETS

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BEGIN NH 0037(166)73

PCN 06WT
Station 36+77.59 NH 0037(166)73 =
Station 36+77.59 NH 0037(17)73
Approximately 84.0' East and 2622.0' South
of the Northwest Section corner of Section
28-T103N-R60W.
MRM: 73.25+0.004

EQUATION

62+99.13 Bk =
A 53+00.30 Ah

BEGIN EXCEPTION

Station A 54+10.00 R 60 W

EQUATION

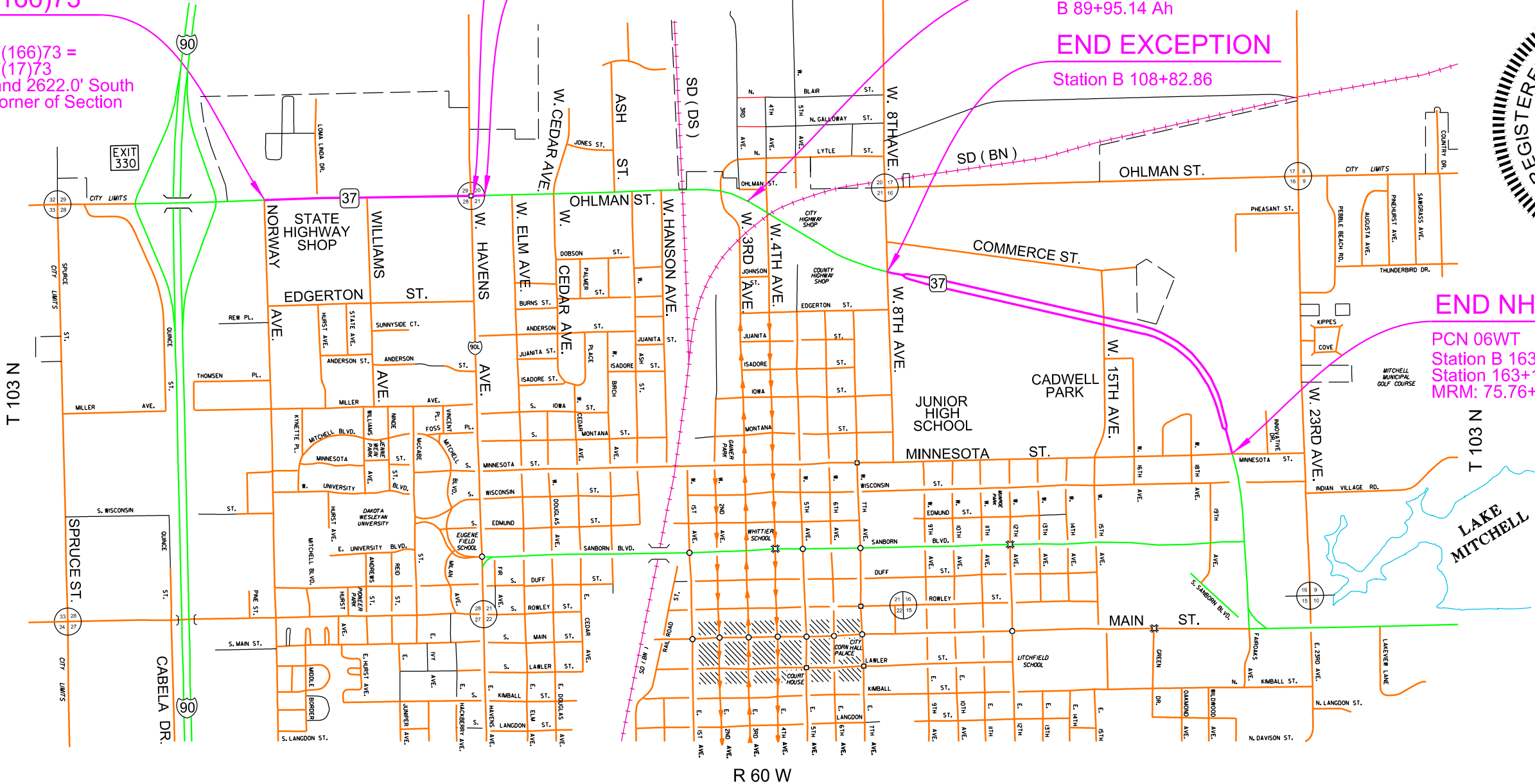
A 89+98.91 Bk =
B 89+95.14 Ah

END EXCEPTION

Station B 108+82.86

END NH 0037(166)73

PCN 06WT
Station B 163+15.42 NH 0037(166)73 =
Station 163+15.42 NP 0037(63)74
MRM: 75.76+0.070



SECTION L: LIGHTING PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L2	L63

Plotting Date: 07/03/2025



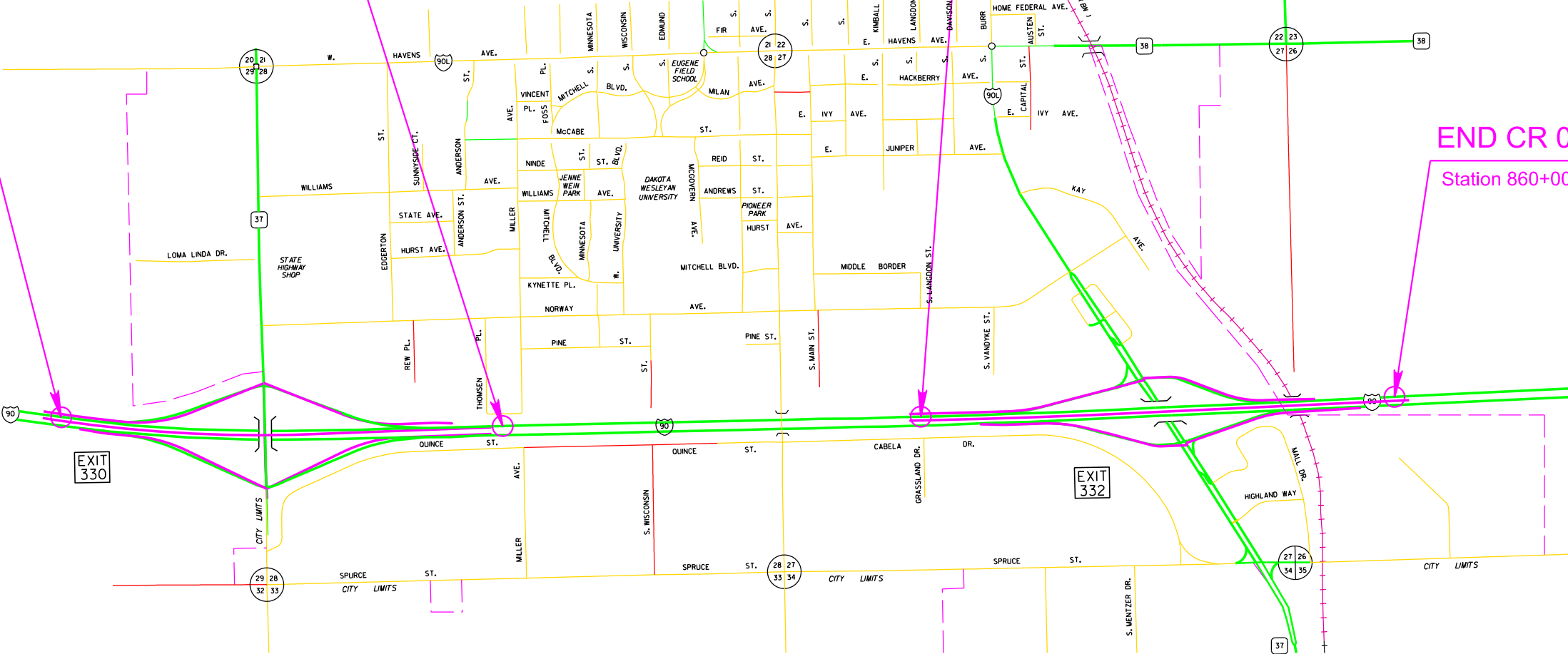
MITCHELL

BEGIN CR 0907(91)330
Station 773+00.00

BEGIN CR 0907(91)330
Station 820+00.00

END CR 0907(91)330
Station 730+00.00

END CR 0907(91)330
Station 860+00.00



SECTION L ESTIMATE OF QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L3	L63

Plotting Date: 7/7/2025 Revised 1/26/26 by KAM

PCN 06WT

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1530	Remove Signal Pole Footing	5	Each
110E5110	Salvage Signal Equipment	Lump Sum	LS
635E2065	Signal Pole with 65' Mast Arm	1	Each
635E2150	Signal Pole with 50' Mast Arm and Luminaire Arm	2	Each
635E2155	Signal Pole with 55' Mast Arm and Luminaire Arm	1	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	80	Each
635E4030	3 Section Vehicle Signal Head	12	Each
635E4090	4 Section Directional Vehicle Signal Head	8	Each
635E5030	3' Diameter Footing	49.0	Ft
635E5302	Type 2 Electrical Junction Box	4	Each
635E5304	Type 4 Electrical Junction Box	1	Each
635E5400	Electrical Service Cabinet	1	Each
635E5430	Traffic Signal Controller	1	Each
635E5515	Battery Backup System for Traffic Signal	1	Each
635E5520	Video Detection System	1	Each
635E5560	Emergency Vehicle Preemption Unit	1	Each
635E5570	Optical Detector	4	Each
635E5880	Accessible Pedestrian Signal	8	Each
635E5910	Pedestrian Push Button Pole	8	Each
635E5922	Pedestrian Signal Head with Countdown Timer	8	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E8110	1" Rigid Conduit, Schedule 40	155	Ft
635E8120	2" Rigid Conduit, Schedule 40	85	Ft
635E8130	3" Rigid Conduit, Schedule 40	85	Ft
635E8140	4" Rigid Conduit, Schedule 40	40	Ft
635E8230	3" Rigid Conduit, Schedule 80	470	Ft
635E9016	1/C #6 AWG Copper Wire	255	Ft
635E9018	1/C #8 AWG Copper Wire	1,905	Ft
635E9502	2/C #14 AWG Copper Tray Cable, K2	1,635	Ft
635E9503	3/C #14 AWG Copper Tray Cable, K2	120	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	540	Ft
635E9505	5/C #14 AWG Copper Tray Cable, K2	380	Ft
635E9512	12/C #14 AWG Copper Tray Cable, K2	780	Ft
635E9525	25/C #14 AWG Copper Tray Cable, K2	780	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	195	Ft

PCN 09HU

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3260	Miscellaneous Staking	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0100	Remove Concrete Footing(s)	Lump Sum	LS
110E1550	Remove Light Tower	7	Each
635E0050	Breakaway Base Luminaire Pole with Arm, 50' Mounting Height	73	Each
635E0150	Breakaway Base Luminaire Pole with Twin Arms, 50' Mounting Height	6	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	100	Each
635E5020	2' Diameter Footing	638.0	Ft
635E5301	Type 1 Electrical Junction Box	11	Each
635E5400	Electrical Service Cabinet	4	Each
635E8120	2" Rigid Conduit, Schedule 40	16,160	Ft
635E8220	2" Rigid Conduit, Schedule 80	330	Ft
635E9016	1/C #6 AWG Copper Wire	25,315	Ft
635E9018	1/C #8 AWG Copper Wire	26,445	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	5,135	Ft

SUPPLYING AS BUILT PLANS

If the traffic signal system or roadway lighting system 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. 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:

Stacy.Bartlett@state.sd.us
Joseph.Updike@state.sd.us
KristaM@infrastructuredg.com (for PCN 06WT)

ON-SITE INSPECTION

An on-site inspection of the traffic signal will be conducted before acceptance of the project once the traffic signal is completed and operational. The on-site inspection will be conducted by the Project Engineer or Region Traffic Engineer with the Contractor, City Traffic Division Supervisor, and the Traffic Design Engineer present.

REMOVE LIGHT TOWER

The Contractor will remove existing light tower poles ETL1-ETL7. All costs associated with the removal and disposal of the light tower poles will be incidental to the contract price per each for “Remove Light Tower”.

REMOVE CONCRETE FOOTING

The footings of existing luminaire tower poles ETL1-ETL7 will be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area will be to the satisfaction of the Engineer.

All costs for removing the footings of the existing luminaire poles will be incidental to the contract lump sum for “Remove Concrete Footing(s).”

REMOVE SIGNAL POLE FOOTING

The footings of existing signal poles ES1-ES4 will be removed by the Contractor to a minimum of 2 feet below the ground surface. Restoration of the disturbed area will be to the satisfaction of the Engineer.

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

SALVAGE SIGNAL EQUIPMENT

The existing signal equipment identified on the plans will be salvaged and delivered to the City of Mitchell by the Contractor. The Contractor will notify the Public Works Department 5 days before the delivery of the salvaged signal equipment to coordinate place and time of delivery. The City contact is Joshua Harvey at (605) 995-8408.

Any equipment damaged during salvaging or delivery will be repaired or replaced by the Contractor at no cost to the State.

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



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L4	L63

Plotting Date: 7/7/2025

LUMINAIRE HEADS FROM NORWAY AVENUE TO MINNESOTA AVENUE – PCN 06WT

The existing luminaire poles on SD37 from Norway Avenue to Minnesota Avenue, 56 single arm poles and 12 twin arm poles, will have the existing HPS heads removed and replaced with LED luminaires. All cost associated with the disconnecting and removal of the existing HPS luminaires, disposal of HPS luminaires, installing LED luminaires and making the LED luminaires operational will be incidental to the contract unit price per each for “Roadway Luminaire, LED with Photoelectric Cell”.

The lighting design used the parameters defined in Project Number 0037(00)73, PCN 5620 to provide 1.2 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles).

The following luminaires, or an approved equal, will be used for this project.

- a.) Cooper Lighting Solutions: ARCH-L-PA3-210-740-U-T2R-AP-PR7
- b.) Acuity Brands, Autobahn Series: ATB2-P603-MVOLT-R3-P7

LUMINAIRE HEADS FROM NORWAY AVENUE TO SPRUCE STREET – PCN 09HU

The existing luminaire poles on SD37 from Norway Avenue to Spruce Street, EL1-EL13, will have the existing HPS heads removed and replaced with LED luminaires. All cost associated with the disconnecting and removal of the existing HPS luminaires, disposal of HPS luminaires, installing LED luminaires and making the LED luminaires operational will be incidental to the contract unit price per each for “Roadway Luminaire, LED with Photoelectric Cell”.

The lighting design used the parameters defined in Project Number NH 0037(17)73, PCN 5622 to provide 1.2 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles).

The following luminaires meet the requirements for this design:

- a.) American Electric Lighting: ATB2-P603-MVOLT-R3-4K-P7-PCLL
- b.) Cooper Lighting: ARCH-L-PA3-210-740-U-T2R-PR7-LLPC

LUMINAIRE POLES

Luminaire Poles L4, L25, L34, L43, L52, L61 will have a mounting height of 50’ and twin 8’ arms.

The twin arms will be oriented to be perpendicular to the adjacent roadway as shown on the plan sheets. The twin arm luminaires will be manufactured with the arms having the following orientations according to the plan sheets:

- L4 – 170 degrees
- L25 – 165 degrees
- L34 – 165 degrees
- L43 – 165 degrees
- L52 – 165 degrees
- L61 – 165 degrees

Luminaire poles L1-L3, L5-L24, L26-L33, L35-L42, L44-L51, L53-L60, L62-L79 will have a mounting height of 50’ with 8’ arms.

The pole fabricator will be responsible for determining the diameter, length, and number of anchor bolts.

LUMINAIRES – PCN 09HU

The lighting design for L1-L3, L10-L24, L26-L33, L35-L42, L53-L60, L62-L72 used the following parameters to provide 1.1 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 6:1 (maximum to minimum maintained foot candles):

Pole Setback: 8 Ft.
Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 30 Ft.
Luminaire Cycle Length:220 Ft.
Configuration: One-Sided
Mounting Height: 50 Ft.
Arm Length 8 Ft.

The lighting design for L5-L9, L73-L79 used the following parameters to provide 1.1 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 6:1 (maximum to minimum maintained foot candles):

Pole Setback: 8 Ft.
Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 30 Ft.
Luminaire Cycle Length:200 Ft.
Configuration: One-Sided
Mounting Height: 50 Ft.
Arm Length 8 Ft.

LUMINAIRES – PCN 09HU (CONTINUED)

The lighting design for L44-L51 used the following parameters to provide 1.1 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 6:1 (maximum to minimum maintained foot candles):

Pole Setback: 8 Ft.
Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 30 Ft.
Luminaire Cycle Length:190 Ft.
Configuration: One-Sided
Mounting Height: 50 Ft.
Arm Length 8 Ft.

The lighting design for twin luminaires L4, L25, L34, L43, L52, L61 used the following parameters to provide 1.1 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 6:1 (maximum to minimum maintained foot candles):

Pole Setback: 12 Ft.
Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 30 Ft.
Luminaire Cycle Length:220 Ft.
Configuration: One-Sided
Mounting Height: 50 Ft.
Arm Length Twin 8 Ft. Arms

The following luminaires meet the requirements for this design:

- a.) American Electric Lighting: ATB0-P454-MVOLT-R2-4K-P7-PCLL
- b.) Cooper Lighting: VERD-M-CA3-160-740-U-T2R-PR7-LLPC

The replacement LED lighting design for existing snow gates ESG1-ESG3 used the following parameters to provide 1.2 and greater average maintained foot-candles and uniformity ratios of 3:1 (average maintained to minimum maintained foot-candles) and 6:1 (maximum to minimum maintained foot candles):

Pole Setback: 8 Ft.
Lamp Loss Factor (LLF): 0.8
Width of Lighted Area: 30 Ft.
Configuration: One-Sided
Mounting Height: 30 Ft.
Arm Length 6 Ft. Arms

The following luminaires meet the requirements for this design:

- a.) American Electric Lighting: ATB0-P202-MVOLT-R2-4K-P7-PCLL
- b.) Cooper Lighting: VERD-S-CA1-60-740-U-T2-PR7-LLPC

SOILS INFORMATION – PCN 06WT

Subsurface conditions at the intersection consist of variable thicknesses of brown sandy silt overlying brown silt clay. Groundwater was encountered at a depth of 7.9' below the surface in a boring at this location in November 2010.

During construction of the cylindrical footings, concrete placement operations should closely follow excavation procedures. The longer the excavations are left open, the more likely caving will occur.

Concrete will not be dropped through standing water. If water is present in the excavation it will be removed prior to concrete placement or the concrete will be tremied.

TABLE OF FOOTING DATA – PCN 06WT

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
S1, S3, S4	3' - 0"	12' - 0"	2' - 8"	120' - 9"	14-#8 x 11' -6"
S2	3' - 0"	13' - 0"	2' - 8"	129' - 3"	14-#8 x 12' -6"

* Footing depth will be below ground level.

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

TABLE OF FOOTING DATA – PCN 09HU

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
L1-L3, L5-L24, L26-L33, L35-L42, L44-L51, L53-L66, L68-L79	2' - 0"	8' - 0"	1' - 8"	54' - 9"	8-#7 x 7' - 6"
L4, L25, L34, L43, L52, L67	2' - 0"	9' - 0"	1' - 8"	60' - 0"	8-#7 x 8' - 6"

* Footing depth will be below ground level.

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

SUBSURFACE – PCN 09HU

At Exit 330, luminaires will be placed in soils ranging from in situ brown silt clay to existing fill sections. Borings conducted in April 1996 encountered groundwater 0.8 feet below I90 ditch grade elevation.

At Exit 332, luminaires will be placed in soils ranging from in situ brown clay sand to existing fill sections. Borings conducted in October 2013 encountered groundwater at 4.1 feet at the intersection of Burr St. and the I90 EBL ramps.

Concrete placement operations will immediately follow excavation procedures. The longer the excavations are left open, the more likely caving will occur. If caving soils are encountered, it may be necessary to use casing or drilling fluids to maintain an open excavation. Casing will be of sufficient strength to withstand handling and installation procedures. Casing material may consist of Sonotube, corrugated metal pipe, PVC, smooth metal pipe or any other material as approved by the Engineer. Drilling fluids can be water or other slurries as approved by the Engineer. Concrete placed through drilling fluids will be tremied.

ELECTRICAL SERVICE CABINET

The Contractor will coordinate with NorthWestern Energy to install the new services, connect to existing service cabinets, and activate the electric service a minimum two weeks prior to needing the power.

New electric services are Meter 1, Meter 2, Meter 4, Meter 6, and ES1(PCN 06WT) as shown on the plans.

Existing electric services are Meter 3 and Meter 5 as shown on the plans.

The contact for Northwestern Energy is Noah Kimuyukilonzo at (605) 668-4604. All costs associated with coordinating with NorthWestern Energy to install and activate the electric services will be incidental to the contract per each for "Electrical Service Cabinet".

WIRE SPlicing FOR LIGHTING

All wire splices for lighting will be made using TE Connectivity GTAP connectors, NSI Industries Polaris Blue connectors, or an approved equal.

JUNCTION BOX JL7

Junction box JL7 will intercept existing conduit between existing luminaire EL14 and existing junction box EJL6 to allow for installation of 3 #6 wires that provide power to L40-L47 from Existing Meter 2. JL7 will be placed adjacent to the sidewalk.

Wiring, junction boxes, or conduit damaged during installation or reusing existing conduit will be repaired or replaced by the contractor at no cost to the state.

All costs associated with intercepting, pulling, splicing, reusing existing conduit, and connecting to existing meter will be incidental to the per each price for "Type 1 Electrical Junction Box."

EXISTING JUNCTION BOX ELJ4

EJL4 is an existing junction box that is used to connect power from existing Meter 1 to drop arm road closure gate ESG1. A set of three new #6 wires will be connected to Meter 1 and pulled through the existing conduit and junction boxes EJL1 – EJL4 as shown on the plans. The three new #6 wires will be transferred from existing conduit to the new Schedule 40 conduit inside of existing junction box EJL4 to provide power to luminaires L1-L9.

EXISTING JUNCTION BOX ELJ9

EJL9 is an existing junction box that contains 3 #6 wires providing power to drop arm road closure gate, ESG4. The 3 #8 wires providing power to new luminaires L59-L62 will splice into the existing 3 #6 wires in existing junction box EJL9.

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L5	L63

Plotting Date: 7/7/2025

Revised 12/10/25 by KAM

PROJECT NUMBER IM 0907(90)332, PCN 091U CONTRACTOR COORDINATION

Project Number IM 0907(90)332, PCN 091U Approach Slabs, Joints, Berm Repair, Approach Pavement, Polymer Chip Seal, Guardrail and Acceleration Lane will be constructed at the same time as this project. The Contractor will coordinate removal of the existing light towers and installation of new roadway lighting at I90 Exit 332 with the Contractor of Project Number IM 0907(90)332, PCN 091U. The Contractor will obtain contact information for Contractor of Project Number IM 0907(90)332, PCN 091U from the Mitchell Area Office.

All costs associated with coordinating with the Contractor of Project Number IM 0907(90)332, PCN 091U will be incidental to the contract price per each for "Remove Light Tower".

SIGNAL POLES

Cantilever traffic signal supports, including anchor bolts, will be designed for fatigue in accordance with Fatigue Importance Category III without galloping and truck induced gusts.

The pole fabricator will be responsible for the determining the diameter, length, and number of anchor bolts.

Signal poles will have rotatable mast arms.

Luminaire extension(s) will have a 50 foot mounting height with 8 foot arm.



SIGNAL BACKPLATES

All new vehicle signal heads will have backplates with retroreflective border. The vehicle signal head backplates will have a factory applied 3 inch wide yellow retroreflective border. Sheeting for the border will be Type XI or Type IX in conformance with ASTM D4956. Backplates will be polycarbonate, aluminum, or aluminum-composite. Minimum material thicknesses are:

- Polycarbonate, 0.10-inch
- Aluminum, 0.06-inch
- Aluminum-Composite, 0.08-inch

Signal backplates will extend not less than 5 inches from the edge of the signal head at the top, bottom, and sides. The bottom of the backplate on Vehicle signal faces mounted directly above pedestrian signal indications will be sized to permit the separate adjustment of the vehicle and pedestrian signal indication and may be less than 4 inches.

All costs involved with furnishing and installing backplates with retroreflective border for the new vehicle signal heads will be incidental to the contract unit price per each for “3 Section Vehicle Signal Head” and “4 Section Directional Vehicle Signal Head”.

TRAFFIC SIGNAL CONTROLLER

The new Traffic Signal Controller must be fully compatible with all features and functionality of Econolite Centrac's Local Edition software.

The Contractor will work with the City of Mitchell to copy the existing timings to the new controller.

Controllers and flashers are not required to have dimming capability.

Anchor bolts for traffic signal cabinets may have hooked ends.

All costs for the detector units necessary to operate the signal as shown in these plans, constructing the concrete pad and footing, materials, labor, and furnishing and installing the controller cabinet will be incidental to the contract unit price per each for “Traffic Signal Controller”.

BATTERY BACKUP CABINET

The Contractor will supply cabinets with concrete pad and footing for housing the battery backup system for traffic signal systems at SD Hwy 37 and Havens Avenue intersection. The cabinets will be an aluminum NEMA 3R type. The cabinet will have a thermostatically controlled exhaust fan. The cabinet will be securely attached to the concrete pad with steel anchors and to the back wall of the controller cabinet using chase nipples as approved by the Engineer. Anchor bolts for battery backup cabinets may have hooked ends.

All costs for constructing the concrete pad and footing, materials, labor, and furnishing and installing the battery backup cabinet will be incidental to the contract unit price per each for “Battery Backup System for Traffic Signal.”

VIDEO DETECTION SYSTEM

The video detection system will be the following:

Product	Manufacturer
Autoscope AIS-IV	Econolite Anaheim, CA 92807 Phone: 1-714-630-3700 www.econolite.com

All cabling and hardware necessary to make the detection system operational will be incidental to the contract unit price per each for “Video Detection System”.

ACCESSIBLE PEDESTRIAN SIGNAL

The work will consist of furnishing and installing accessible pedestrian signals (APS). Each APS will consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a latching light emitting diode (LED) indicator light, a solid-state electronic control board, a power supply, wiring, and all necessary mounting hardware. The operation and performance of the APS units will meet the requirements of the current edition of the MUTCD and the applicable sections of NEMA Standards Publication TS-2.

The APS units will be capable of supporting a minimum of 16 push button stations.

The traffic signal cabinet must have four dedicated load switches for the pedestrian phases. If the traffic signal cabinet does not have four dedicated load switches for the pedestrian phases, then the Contractor will furnish and install the necessary number of load switches. All costs associated with furnishing and installing any additional load switches will be incidental to the contract unit price per each for “Accessible Pedestrian Signal”.

All mounting fasteners will be stainless steel; all threads will be coated with anti-seize compound meeting the requirements of USA Dept. of Defense specification MIL-PRF-907F.

The push button component of APS will meet the requirements of Section 985.1 S of the Specifications except that all housings and external hardware will be aluminum, powder coated yellow.

The APS control unit will include capability to monitor the push buttons and pedestrian signal head displays. Conflicts will cause the channel to be powered off.

The APS control unit will include capability to monitor communications with the push buttons. Communication faults will automatically reset the control unit.

Two licensed copies of any APS programming software will be furnished. All software programming, firmware updates, and audio message programming of the APS will be through USB port or Ethernet connection.

All costs for furnishing and installing the accessible pedestrian signal including labor, materials, and equipment, will be incidental to the contract unit price per each for “Accessible Pedestrian Signal”.

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PEDESTRIAN PUSH BUTTON POLE

Pedestrian push button poles will be aluminum and will conform to the following requirements:

Aluminum will conform to ASTM B221, Alloy 6061, and Temper T6.

Poles will be round with a minimum outside pole diameter of 4 inch, and the pole assembly will have a square, cast aluminum base with aluminum access door. The base will conform to the breakaway requirements of MASH.

The pole to base connection will be a threaded connection; threads will be 8 TPI, NPT. All bolt and connection threads will be coated with a commercially available anti-seize compound intended for use in aluminum-to-aluminum and steel-to-aluminum connections.

The pole finish will either be brushed satin or spun. The top of the pole will be sealed by an aluminum cap.

Anchor bolts for pedestrian push button poles may have hooked ends.

MISCELLANEOUS, ELECTRICAL – PCN 06WT

“Miscellaneous, Electrical” work includes, but is not limited to:

- Removal of existing lighting and traffic junction boxes at the intersection of SD Hwy 37 & W. Havens Ave
- Removal/abandonment of existing lighting and traffic conduits and cables at the intersection of SD Hwy 37 & W. Havens Ave

MULTICONDUCTOR CONTROL CABLE FOR SIGNAL CIRCUITS

The Conductor Jackets for the multiconductor control cables will be color coded in accordance with ICEA S-73-532 Table E2.

EVP CONFIRMATION LIGHT

The EVP confirmation light will be installed facing the intersection associated with the corresponding microphone. The confirmation light will be mounted as close to the last head on the mast arm as possible.

Electrical cable from the confirmation light to the controller cabinet will be a 16AWG (minimum) 2-conductor cable that meets the Specifications.



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Plotting Date: 7/7/2025		Revised 11/3/25 by KAM	

CONDUIT AND CABLE QUANTITIES - PCN 06WT																				
Location to Location		Rigid Conduit				Rigid Conduit	IMSA Copper Cable, K1						Copper Wire		Pole and Bracket Cable		Video Cable (Not a Bid Item)		Preemption Cable (Not a Bid Item)	
		Schedule 40				Schedule 80	#14 AWG						1/C 1/C #6 #8 AWG AWG		2/C #10 AWG					
		1"	2"	3"	4"	3"	2/C	3/C	4/C	5/C	12/C	25/C								
		Ft		Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft								
SD 37 & Havens Avenue																				
Power Source	CC1		85										255	255						
	CC1				20						80	80		60						
	CC1				20												80		160	
	TJB1			25			50				25	25					25		50	
	S1	25					25													
	S1	15					15													
	TJB1					110	220				110	110		330			110		220	
	TJB2			20			40				20	20		60			20		40	
	S2	10					10													
	S2	20					20													
	TJB1					145	580				290	290		435			290		580	
	TJB3					60	120				60	60		180			60		120	
	TJB4			20			40				20	20		60			20		40	
	S4	10					10													
	S4	25					25													
	TJB3					155	310				155	155		465			155		310	
	JTB5			20			40				20	20		60			20		40	
	S3	30					30													
	S3	20					20													
SIGNAL POLE	S1							30	155	105							75		85	
SIGNAL POLE	S2							30	135	95					65		60		70	
SIGNAL POLE	S3							30	125	90					65		60		70	
SIGNAL POLE	S4							30	125	90					65		60		70	
PED PB POLE	PB1						10													
PED PB POLE	PB2						10													
PED PB POLE	PB3						10													
PED PB POLE	PB4						10													
PED PB POLE	PB5						10													
PED PB POLE	PB6						10													
PED PB POLE	PB7						10													
PED PB POLE	PB8						10													
Total:		155	85	85	40	470	1,635	120	540	380	780	780	255	1,905	195		1,035		1,855	



FOR BIDDING PURPOSES ONLY

PCN 09HU

STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH	NH 0037(116)73	L8	L63
DAKOTA	CR 0907(91)330		

Plotting Date: 07/03/2025 Revised 11/3/25 by KAM

Location to Location		Rigid Conduit								Copper Wire Pole & Bracket Cable								
		Schedule 40				Schedule 80												
		2" SCH 40 Ft				2" SCH 80 Ft				1/C #8 AWG Ft	1/C #6 AWG Ft		2/C #10 AWG Ft					
EXIT 330 RAMP D & A																		
L1	L2		220'									680'						
L2	L3		220'									680'						
L3	JUNCTION BOX 1		220'									680'						
JUNCTION BOX 1	L4						45'					140'						
JUNCTION BOX 1	L5		190'								590'							
L5	L6		200'									620'						
L6	L7		200'									620'						
L7	L8		200'									620'						
L8	L9		200'									620'						
L9	EJL4		190'									590'						
EXT. JUNCT. BOX 4	EXT. JUNCT. BOX 3											190'						
EXT. JUNCT. BOX 3	EXT. JUNCT. BOX 2											295'						
EXT. JUNCT. BOX 2	EXT. JUNCT. BOX 1											375'						
EXT. JUNCT. BOX 1	SERVICE CABINET											65'						
EXT. JUNCT. BOX 1	JUNCTION BOX 2		60'									190'						
JUNCTION BOX 2	L10		220'									680'						
L10	L11		220'									680'						
L12	L13		220'									680'						
L13	L14		220'									680'						
L14	L15		220'									680'						
L15	L16		220'									680'						
L16	L17		220'									680'						
L17	L18		220'									680'						
L18	L19		220'									680'						
EXIT 330 - RAMP B																		
SERVICE CABINET	JUNCTION BOX 3		25'									155'						
JUNCTION BOX 3	L20		35'															
L20	L21		215'									665'						
L21	L22		220'									680'						
L22	L23		220'									680'						
L23	L24		220'									680'						
L24	JUNCTION BOX 4		220'									680'						
JUNCTION BOX 4	L25						45'					140'						
JUNCTION BOX 4	L26		220'									680'						
L26	L27		220'									680'						
L27	L28		220'									680'						
L28	L29		220'									680'						
L29	L30		220'									680'						
EXIT 330 - RAMP C																		
L31	L32		220'									680'						
L33	JUNCTION BOX 5		185'									575'						
JUNCTION BOX 5	L34						45'					140'						
JUNCTION BOX 5	L35		205'									635'						
L35	L36		220'									680'						
L36	L37		220'									680'						
L37	L38		220'									680'						
L38	L39		220'									680'						
L39	JUNCTION BOX 3		220'				60'					870'						
Subtotal:			7,845'				195'				7,520'	18,255'						

Plot Scale - 1:200

Plotted From - TRRC11715

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Plot Scale -

Plotted From - TRRC11715

CONDUIT AND CABLE QUANTITIES

PCN 09HU

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L9	L63
Plotting Date:		07/03/2025	Revised 11/3/25 by KAM

Location to Location		Rigid Conduit								Copper Wire Pole & Bracket Cable									
		Schedule 40				Schedule 80													
		2" SCH 40 Ft				2" SCH 80 Ft				1/C #8 AWG Ft	1/C #6 AWG Ft		2/C #10 AWG Ft						
EXIT 332 RAMP D & A																			
L40	L41	220'								680'									
L41	L42	220'								680'									
L42	JUNCTION BOX 6	220'								680'									
JUNCTION BOX 6	L43					45'				140'									
JUNCTION BOX 6	L44	180'								560'									
L44	L45	190'								590'									
L45	L46	190'								590'									
L46	L47	190'								590'									
L47	JUNCTION BOX 7	255'								790'									
JUNCTION BOX 7	EXT. JUNCT. BOX 6										340'								
EXT. JUNCT. BOX 6	EXT. JUNCT. BOX 5										295'								
EXT. JUNCT. BOX 5	SERVICE CABINET									80'	80'								
EXT. JUNCT. BOX 5	L48	220'								680'									
L48	L49	205'								635'									
L49	L50	190'								590'									
L50	L51	195'								605'									
L51	JUNCTION BOX 8	180'								560'									
JUNCTION BOX 8	L52					45'				140'									
JUNCTION BOX 8	L53	180'								560'									
L53	L54	180'								560'									
EAST OF BRIDGE, NORTH SIDE																			
L55	JUNCTION BOX 9	65'								205'									
JUNCTION BOX 9	SERVICE CABINET	40'								125'									
JUNCTION BOX 9	L56	160'								495'									
L56	L57	220'								680'									
L57	L58	220'								680'									
EXIT 332 - RAMP B																			
SERVICE CABINET	EXT. JUNCT. BOX 7	40'																	
EXT. JUNCT. BOX 7	EXT. JUNCT. BOX 8	130'																	
EXT. JUNCT. BOX 8	EXT. JUNCT. BOX 9	150'																	
EXT. JUNCT. BOX 9	L59	200'								620'									
L59	L60	220'								680'									
L60	JUNCTION BOX 10	210'								650'									
JUNCTION BOX 10	L64					45'				140'									
L61	L62	185'								575'									
L63	JUNCTION BOX 11	130'								405'									
JUNCTION BOX 11	SERVICE CABINET	90'								280'									
JUNCTION BOX 11	L64	90'								280'									
L64	L65	220'								680'									
L65	L66	220'								680'									
L66	L67	220'								680'									
L67	L68	220'								680'									
L68	L69	220'								680'									
EXIT 332 - RAMP C																			
L70	L71	220'									680'								
L71	L72	220'									680'								
L72	L73	220'									680'								
L73	L74	205'									635'								
L74	L75	205'									635'								
L75	L76	205'									635'								
L76	L77	205'									635'								
L77	L78	205'									635'								
Subtotal:		7,950'				135'				18,925'	5,930'								

Plot Scale - 1:200

Plotted From - TRRC11715

CONDUIT AND CABLE QUANTITIES

PCN 09HU

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73		
	CR 0907(91)330	L10	L63

Plotting Date: 07/03/2025 Revised 11/3/25 by KAM

Location to Location		Rigid Conduit								Copper Wire Pole & Bracket Cable							
		Schedule 40				Schedule 80				1/C		2/C					
		2" SCH 40 Ft				2" SCH 80 Ft				#8 AWG Ft	#6 AWG Ft	#10 AWG Ft					
EXIT 332 - RAMP C CONTINUED																	
L78	L79	205'								635'							
L79	EXT. JUNCT. BOX 7	160'								495'							
POLE AND BRACKET CABLE																	
L1												65'					
L2												65'					
L3												65'					
L4												65'					
L5												65'					
L6												65'					
L7												65'					
L8												65'					
L9												65'					
L10												65'					
L11												65'					
L12												65'					
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L39												65'					
L40												65'					
L41												65'					
L42												65'					
L43												65'					
L44												65'					
L45												65'					
L46												65'					
L47												65'					
L48												65'					
L49												65'					
Subtotal:		365'								1,130'		3,185'					

FOR BIDDING PURPOSES ONLY

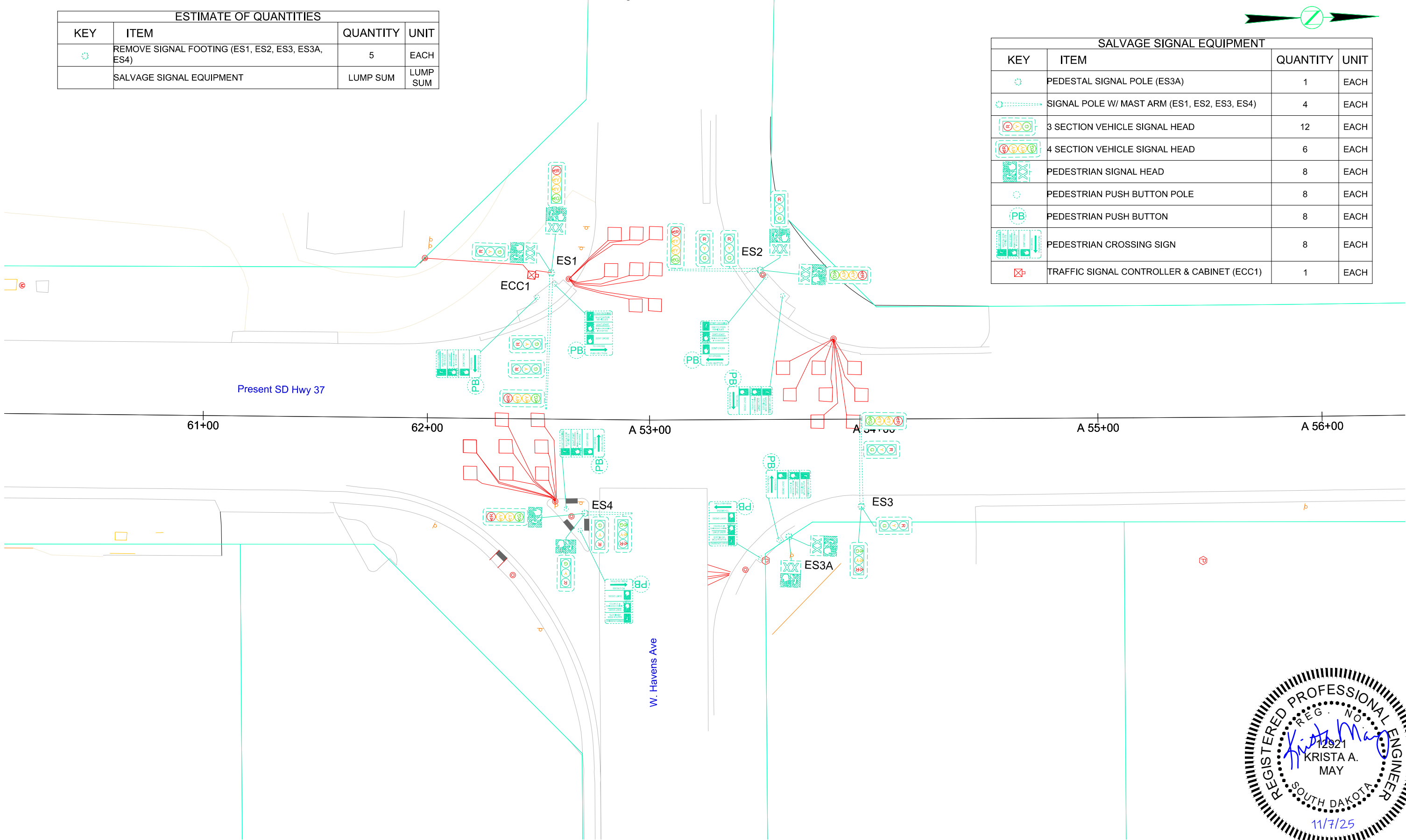
PCN 09HU

Plotting Date: 07/03/2025 Revised 11/3/25 by KAM[illegible]

EXISTING SIGNAL LAYOUT FOR BIDDING PURPOSES ONLY
SD Hwy 37 & W. Havens Ave

ESTIMATE OF QUANTITIES			
KEY	ITEM	QUANTITY	UNIT
	REMOVE SIGNAL FOOTING (ES1, ES2, ES3, ES3A, ES4)	5	EACH
	SALVAGE SIGNAL EQUIPMENT	LUMP SUM	LUMP SUM

SALVAGE SIGNAL EQUIPMENT			
KEY	ITEM	QUANTITY	UNIT
	PEDESTAL SIGNAL POLE (ES3A)	1	EACH
	SIGNAL POLE W/ MAST ARM (ES1, ES2, ES3, ES4)	4	EACH
	3 SECTION VEHICLE SIGNAL HEAD	12	EACH
	4 SECTION VEHICLE SIGNAL HEAD	6	EACH
	PEDESTRIAN SIGNAL HEAD	8	EACH
	PEDESTRIAN PUSH BUTTON POLE	8	EACH
	PEDESTRIAN PUSH BUTTON	8	EACH
	PEDESTRIAN CROSSING SIGN	8	EACH
	TRAFFIC SIGNAL CONTROLLER & CABINET (ECC1)	1	EACH

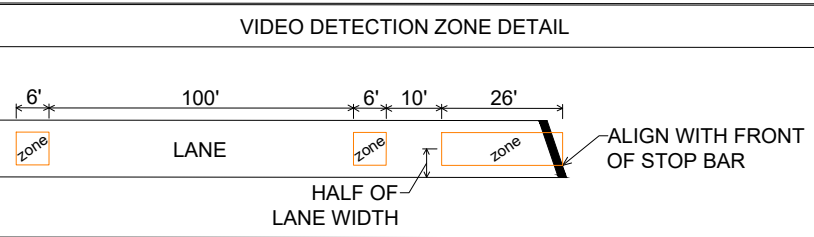


SIGNAL LAYOUT
SD Hwy 37 & W. Havens Ave.

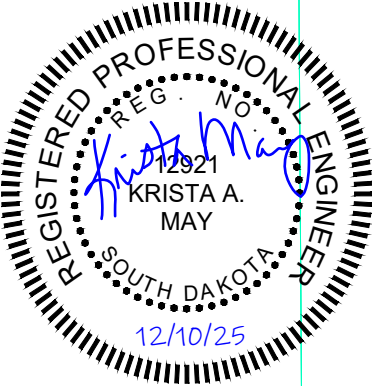
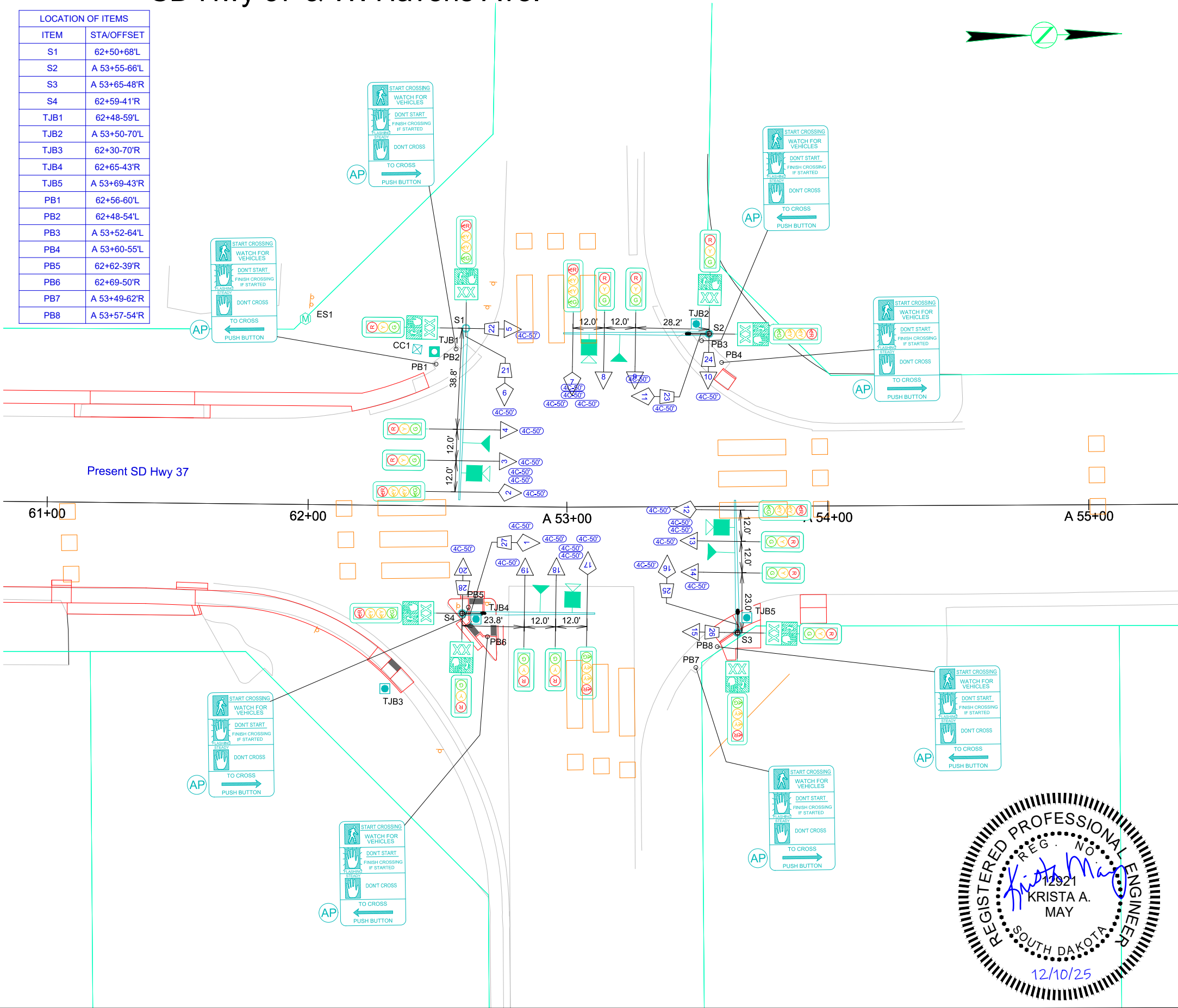
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L13	L63
Plotting Date: 5/28/2025		Revised 12/10/25 by KAM	

ESTIMATE OF QUANTITIES			
KEY	ITEM	QUANTITY	UNIT
	SIGNAL POLE W/ 50' MAST ARM & 8' LUMIN ARM, 50' MT HT (S3, S4)	2	EACH
	SIGNAL POLE W/ 55' MAST ARM & 8' LUMIN ARM, 50' MT HT (S2)	1	EACH
	SIGNAL POLE W/ 65' MAST ARM (S1)	1	EACH
	3 SECTION VEHICLE SIGNAL HEAD (3,4,8-10,13-15,18-20)	12	EACH
	4 SECTION VEHICLE SIGNAL HEAD (1,2,6,7,11,12,16,17)	8	EACH
	3' DIAMETER FOOTING	49.0	FT
	EMERGENCY VEHICLE PREEMPTION UNIT (4-CHANNEL)	1	EACH
	OPTICAL DETECTOR	4	EACH
	VIDEO DETECTION SYSTEM (PAID PER INTERSECTION)	1	EACH
	VIDEO DETECTION CAMERA (MOUNTED ON MAST ARM OF SIGNAL POLE & POSITIONED TO DETECT ZONES SHOWN)	4*	EACH
	TRAFFIC SIGNAL CONTROLLER	1	EACH
	BATTERY BACKUP SYSTEM	1	EACH
	ACCESSIBLE PEDESTRIAN SIGNAL (W/ SIGN)	8	EACH
	PEDESTRIAN PUSH BUTTON POLE	8	EACH
	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER (21-28)	8	EACH
	ELECTRICAL SERVICE CABINET	1	EACH
*INCIDENTAL TO VIDEO DETECTION SYSTEM			



LOCATION OF ITEMS	
ITEM	STA/OFFSET
S1	62+50+68'L
S2	A 53+55-66'L
S3	A 53+65-48'R
S4	62+59-41'R
TJB1	62+48-59'L
TJB2	A 53+50-70'L
TJB3	62+30-70'R
TJB4	62+65-43'R
TJB5	A 53+69-43'R
PB1	62+56-60'L
PB2	62+48-54'L
PB3	A 53+52-64'L
PB4	A 53+60-55'L
PB5	62+62-39'R
PB6	62+69-50'R
PB7	A 53+49-62'R
PB8	A 53+57-54'R



FOR BIDDING PURPOSES ONLY

Plotting Date: 5/28/2025

KEY	ITEM	QUANTITY	UNIT
2C	2/C #14 AWG COPPER TRAY CABLE, K2 (TO PED. PUSH BUTTONS)	1635	FT
3C	3/C #14 AWG COPPER TRAY CABLE, K2 (TO PED SIGNAL HEADS)	120	FT
4C	4/C #14 AWG COPPER TRAY CABLE, K2 (TO 3 SECTION SIGNAL HEADS)	540	FT
5C	5/C #14 AWG COPPER TRAY CABLE, K2 (TO 4 SECTION SIGNAL HEADS)	380	FT
12C	12/C #14 AWG COPPER TRAY CABLE, K2	780	FT
25C	25/C #14 AWG COPPER TRAY CABLE, K2	780	FT
PC	PREEMPTION CABLE (TO OPTICAL DETECTORS) (1 PC FOR THE PREEMPTION UNIT, 1 PC FOR THE CONFIRMATION LIGHT) (NOT A BID ITEM)	1855	FT
CAT5	OUTDOOR RATED CAT5 CABLE (TO VIDEO DETECTION SYSTEM) (NOT A BID ITEM) (INCIDENTAL TO VIDEO DETECTION SYSTEM)	1035	FT
#6	1/C #6 AWG COPPER WIRE	255	FT
#8	1/C #8 AWG COPPER WIRE	1905	FT
	2/C #10 AWG COPPER POLE & BRACKET CABLE	195	FT



SIGNAL TIMING

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L15	L63

Plotting Date: 5/28/2025

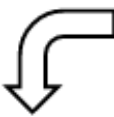
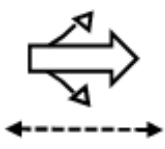
PREEMPTION				
Plan	3	4	5	6
Calls Ø	3&8	4&7	2&5	1&6
Output	CH13R	CH14R	CH15R	CH16R

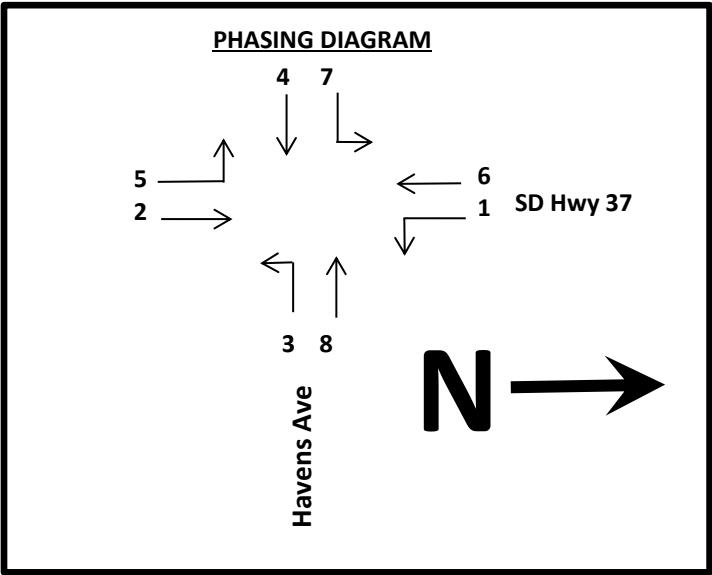
DETECTOR TABLE															
Phase Called (Call/Call Locking/Extend)															
Detector Label	Detector Type													Controller Settings	
		1	2	3	4	5	6	7	8	9	10	11	12	Extend	Delay
NB Thru, NB Right	Video		C/E												
NB Left	Video					C/E									
EB Thru, EB Right	Video				C/E										
EB Left	Video							C/E							
SB Thru, SB Right	Video						C/E								
SB Left	Video	C/E													
WB Thru, WB Right	Video								C/E						
WB Left	Video			C/E											

THE CONTRACTOR WILL WORK WITH THE DOT TO COPY THE EXISTING TIMINGS TO THE NEW CONTROLLER.

THE 4 SECTION VEHICLE SIGNAL HEADS WILL OPERATE IN THE FOLLOWING SEQUENCE:

- 1. SOLID RED
- 2. SOLID GREEN
- 3. SOLID YELLOW
- 4. SOLID RED
- 5. FLASHING YELLOW

Ring and Barrier Design			
Ø1	Ø2	Ø3	Ø4
			
Ø5	Ø6	Ø7	Ø8
			

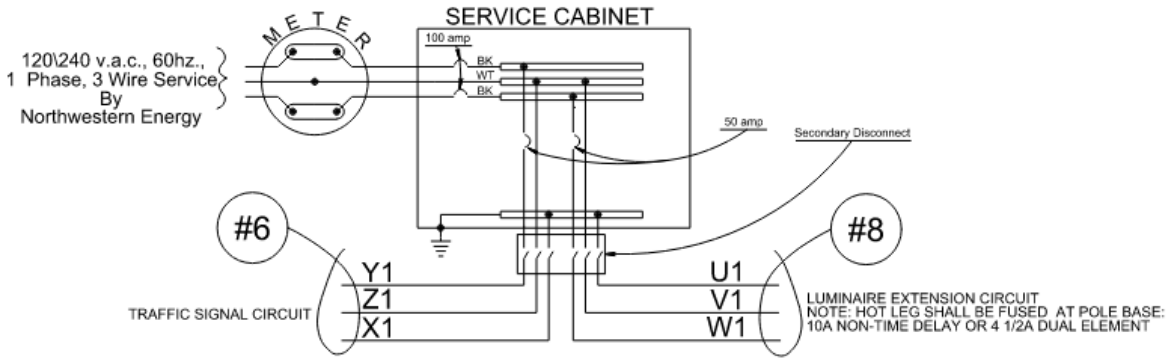


SIGNAL WIRING TABLES FOR BIDDING PURPOSES ONLY

Plotting Date: 5/28/2025

POLE: S1 CABLE SIZE: 25/C						POLE: S2 CABLE SIZE: 25/C						POLE: S3 CABLE SIZE: 25/C						POLE: S4 CABLE SIZE: 25/C					
CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø	CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø	CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø	CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø
1R	Black		R	2	1	3R	Black		R	7	3	5R	Black		R	12	5	7R	Black		R	17	7
1Y	Red		Y	2	1	3Y	Red		Y	7	3	5Y	Red		Y	12	5	7Y	Red		Y	17	7
1G	Blue		G	2	1	3G	Blue		G	7	3	5G	Blue		G	12	5	7G	Blue		G	17	7
10Y	Orange		FYA	2	1	12Y	Orange		FYA	7	3	9Y	Orange		FYA	12	5	11Y	Orange		FYA	17	7
N	Yellow		N	2	1	N	Yellow		N	7	3	N	Yellow		N	12	5	N	Yellow		N	17	7
6R	Brown		R	3	6	8R	Brown		R	8	8	2R	Brown		R	13	2	4R	Brown		R	18	4
6Y	Red/Black		Y	3	6	8Y	Red/Black		Y	8	8	2Y	Red/Black		Y	13	2	4Y	Red/Black		Y	18	4
6G	Blue/Black		G	3	6	8G	Blue/Black		G	8	8	2G	Blue/Black		G	13	2	4G	Blue/Black		G	18	4
N	Orange/Black		N	3	6	N	Orange/Black		N	8	8	N	Orange/Black		N	13	2	N	Orange/Black		N	18	4
6R	Yellow/Black		R	4	6	8R	Yellow/Black		R	9	8	2R	Yellow/Black		R	14	2	4R	Yellow/Black		R	19	4
6Y	Brown/Black		Y	4	6	8Y	Brown/Black		Y	9	8	2Y	Brown/Black		Y	14	2	4Y	Brown/Black		Y	19	4
6G	Black/Red		G	4	6	8G	Black/Red		G	9	8	2G	Black/Red		G	14	2	4G	Black/Red		G	19	4
N	Blue/Red		N	4	6	N	Blue/Red		N	9	8	N	Blue/Red		N	14	2	N	Blue/Red		N	19	4
6R	Orange/Red		R	5	6	8R	Orange/Red		R	10	8	2R	Orange/Red		R	15	2	4R	Orange/Red		R	20	4
6Y	Yellow/Red		Y	5	6	8Y	Yellow/Red		Y	10	8	2Y	Yellow/Red		Y	15	2	4Y	Yellow/Red		Y	20	4
6G	Brown/Red		G	5	6	8G	Brown/Red		G	10	8	2G	Brown/Red		G	15	2	4G	Brown/Red		G	20	4
N	Black/Blue		N	5	6	N	Black/Blue		N	10	8	N	Black/Blue		N	15	2	N	Black/Blue		N	20	4
3R	Red/Blue		R	6	3	5R	Red/Blue		R	11	5	7R	Red/Blue		R	16	7	1R	Red/Blue		R	1	1
3Y	Orange/Blue		Y	6	3	5Y	Orange/Blue		Y	11	5	7Y	Orange/Blue		Y	16	7	1Y	Orange/Blue		Y	1	1
3G	Yellow/Blue		G	6	3	5G	Yellow/Blue		G	11	5	7G	Yellow/Blue		G	16	7	1G	Yellow/Blue		G	1	1
11Y	Brown/Blue		FYA	6	3	9Y	Brown/Blue		FYA	11	5	12Y	Brown/Blue		FYA	16	7	10Y	Brown/Blue		FYA	1	1
N	Black/Orange		N	6	3	N	Black/Orange		N	11	5	N	Black/Orange		N	16	7	N	Black/Orange		N	1	1
	Red/Orange						Red/Orange						Red/Orange						Red/Orange				
	Blue/Orange						Blue/Orange						Blue/Orange						Blue/Orange				
	Yellow/Orange						Yellow/Orange						Yellow/Orange						Yellow/Orange				
	Brown/Orange						Brown/Orange						Brown/Orange						Brown/Orange				

POLE: S1 CABLE SIZE: 12/C						POLE: S2 CABLE SIZE: 12/C						POLE: S3 CABLE SIZE: 12/C						POLE: S4 CABLE SIZE: 12/C					
CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø	CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø	CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø	CABINET TERM.	CABLE CONDUCTOR COLOR	POLE COND. COLOR	HEAD TERM.	HEAD NO.	Ø
11R	Black	R	DW	21	4P	9R	Black	R	DW	23	6P	12R	Black	R	DW	25	8P	10R	Black	R	DW	27	2P
11G	Red	BL	W	21	4P	9G	Red	BL	W	23	6P	12G	Red	BL	W	25	8P	10G	Red	BL	W	27	2P
N	Blue	BK	N	21	4P	N	Blue	BK	N	23	6P	N	Blue	BK	N	25	8P	N	Blue	BK	N	27	2P
9R	Orange	R	DW	22	6P	12R	Orange	R	DW	24	8P	10R	Orange	R	DW	26	2P	11R	Orange	R	DW	28	4P
9G	Yellow	BL	W	22	6P	12G	Yellow	BL	W	24	8P	10G	Yellow	BL	W	26	2P	11G	Yellow	BL	W	28	4P
N	Brown	BK	N	22	6P	N	Brown	BK	N	24	8P	N	Brown	BK	N	26	2P	N	Brown	BK	N	28	4P
	Red/Black						Red/Black						Red/Black						Red/Black				
	Blue/Black						Blue/Black						Blue/Black						Blue/Black				
	Orange/Black						Orange/Black						Orange/Black						Orange/Black				
	Yellow/Black						Yellow/Black						Yellow/Black						Yellow/Black				
	Brown/Black						Brown/Black						Brown/Black						Brown/Black				
	Black/Red						Black/Red						Black/Red						Black/Red				



Plot Scale - 1:350

Plotted From - TRRC11715

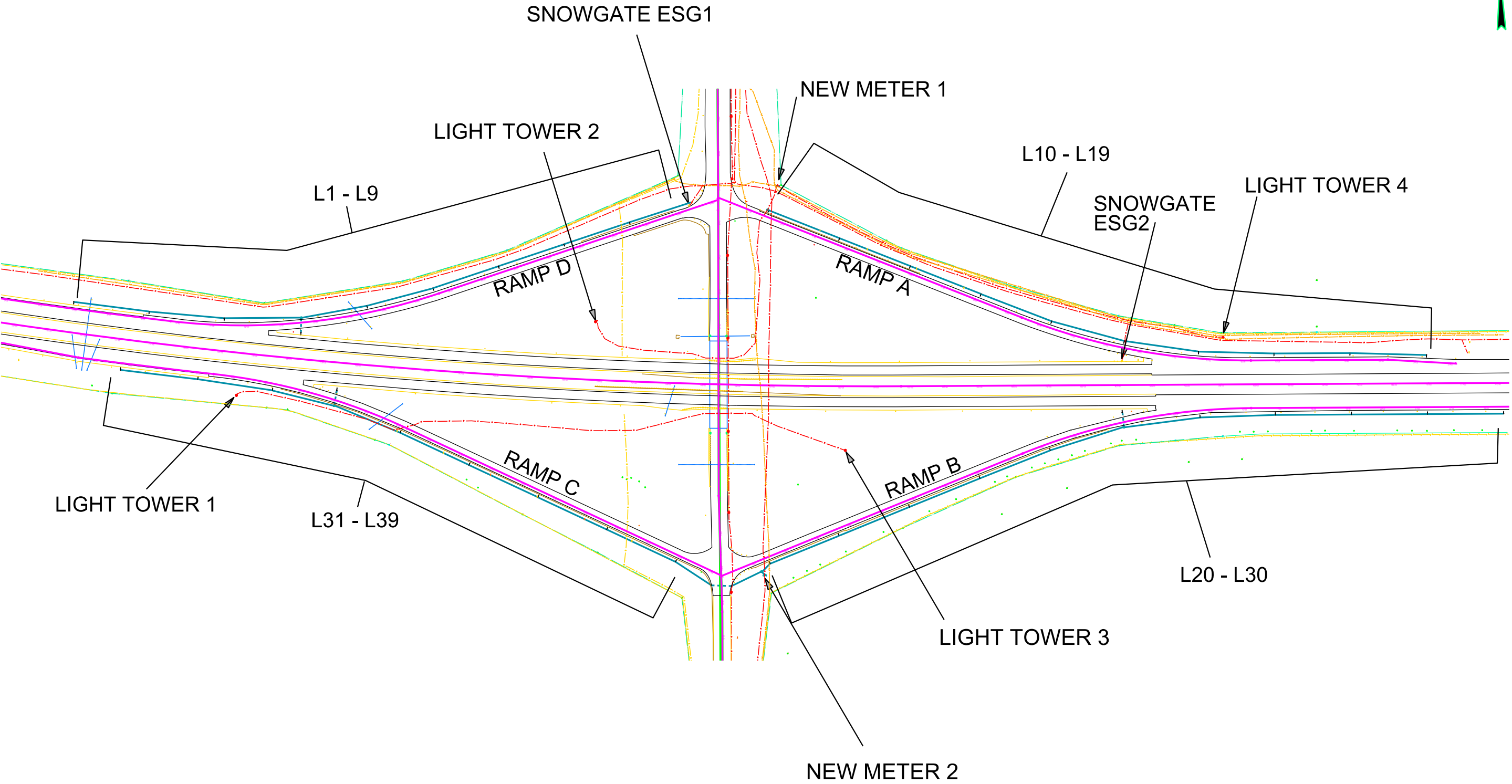
OVERVIEW

I90 - EXIT 330

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73	L17	L63
	CR 0907(91)330		

Revised Date: 12/09/2025 - JU



CONDUIT LAYOUT EXIT 330, RAMP D & C

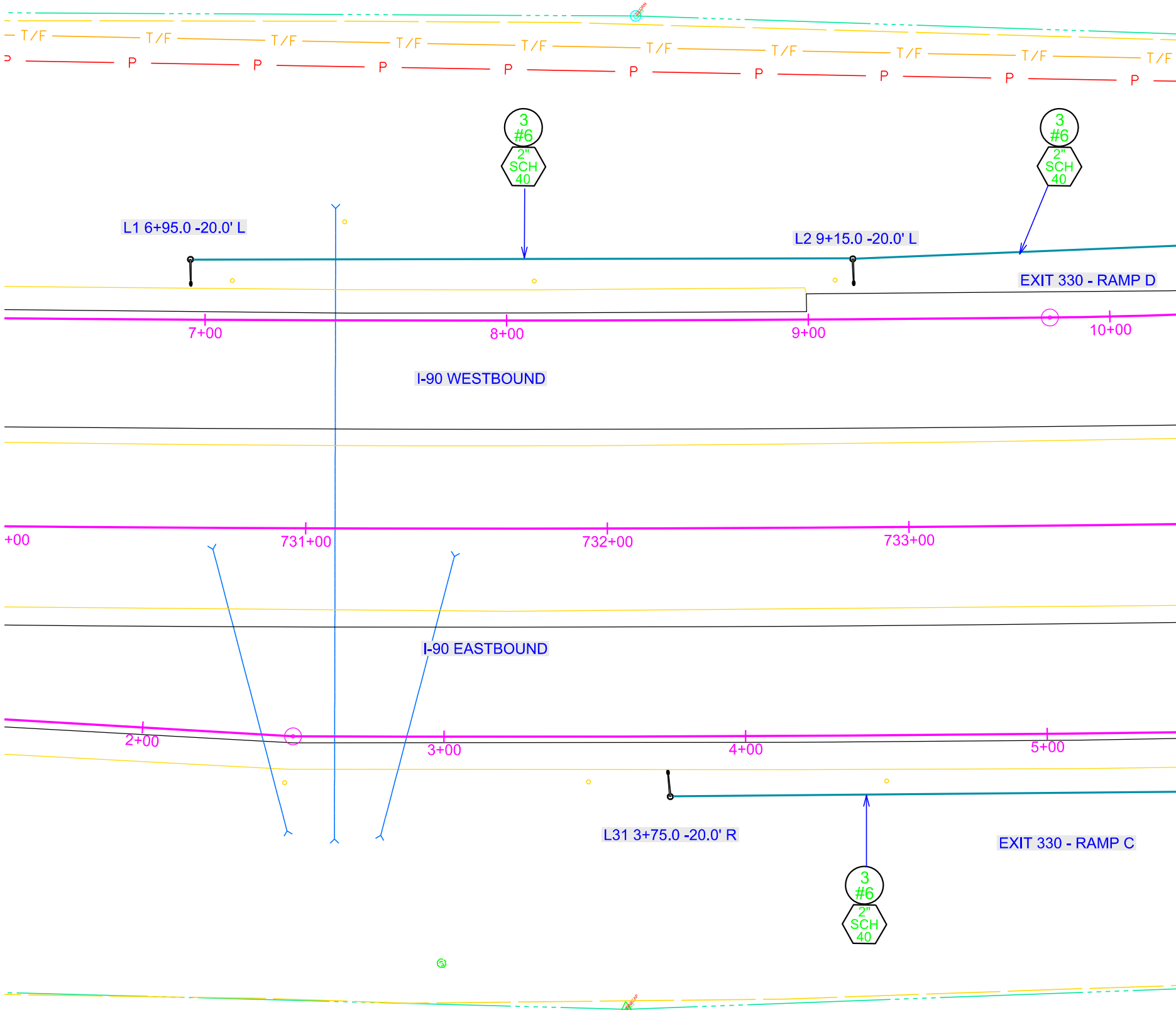
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L18	L63

Revised Date: 12/09/2025 - JU

ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
	Remove Concrete Footings (ETL1-ETL7)	LS	EACH
✦	Remove Light Tower (ETL1-ETL7)	7	EACH
—●—	Breakaway Base Luminaire Pole w/8' Arm 50' Mount Height (L1-L3, L5-L24, L26-L33, L35-L42, L44-L51, L53-L60, L62-L79)	73	EACH
—●—	Breakaway Base Twin Luminaire Pole w/8' Arm 50' Mount Height (L4, L25, L34, L43, L52, L61)	6	EACH
●	Roadway Luminaire, LED with P.E. (L1-L79, ESG1-ESG3, EL1-EL13)	100	EACH
○	2' Diameter Footing (L1-L79)	638	FT
□	Type 1 Electrical Junction Box (JL1-JL11)	11	EACH
▲	Electrical Service Cabinet	4	EACH
∅	Galvanized Steel Utility Pole Not a Bid Item	4	EACH
M	Meter Socket Not a Bid Item	4	EACH
2" SCH 40	2" Rigid Conduit, Schedule 40	16,160	FT
2" SCH 80	2" Rigid Conduit, Schedule 80	330	FT
#6	1/C #6 AWG Copper Wire	25,315	FT
#8	1/C #8 AWG Copper Wire	26,445	FT
	2/C #10 AWG Copper Pole & Bracket Cable	5,135	FT

EXISTING ITEMS	
KEY	ITEM
✦	Existing Luminaire (EL1-EL18)
⚙	Existing Signal Pole (ES1-ES8)
⊙	Existing Junction Box (EJL1-EJL9)
⚡	Existing Snowgate (ESG1-ESG4)



CONDUIT LAYOUT EXIT 330, RAMP D & C

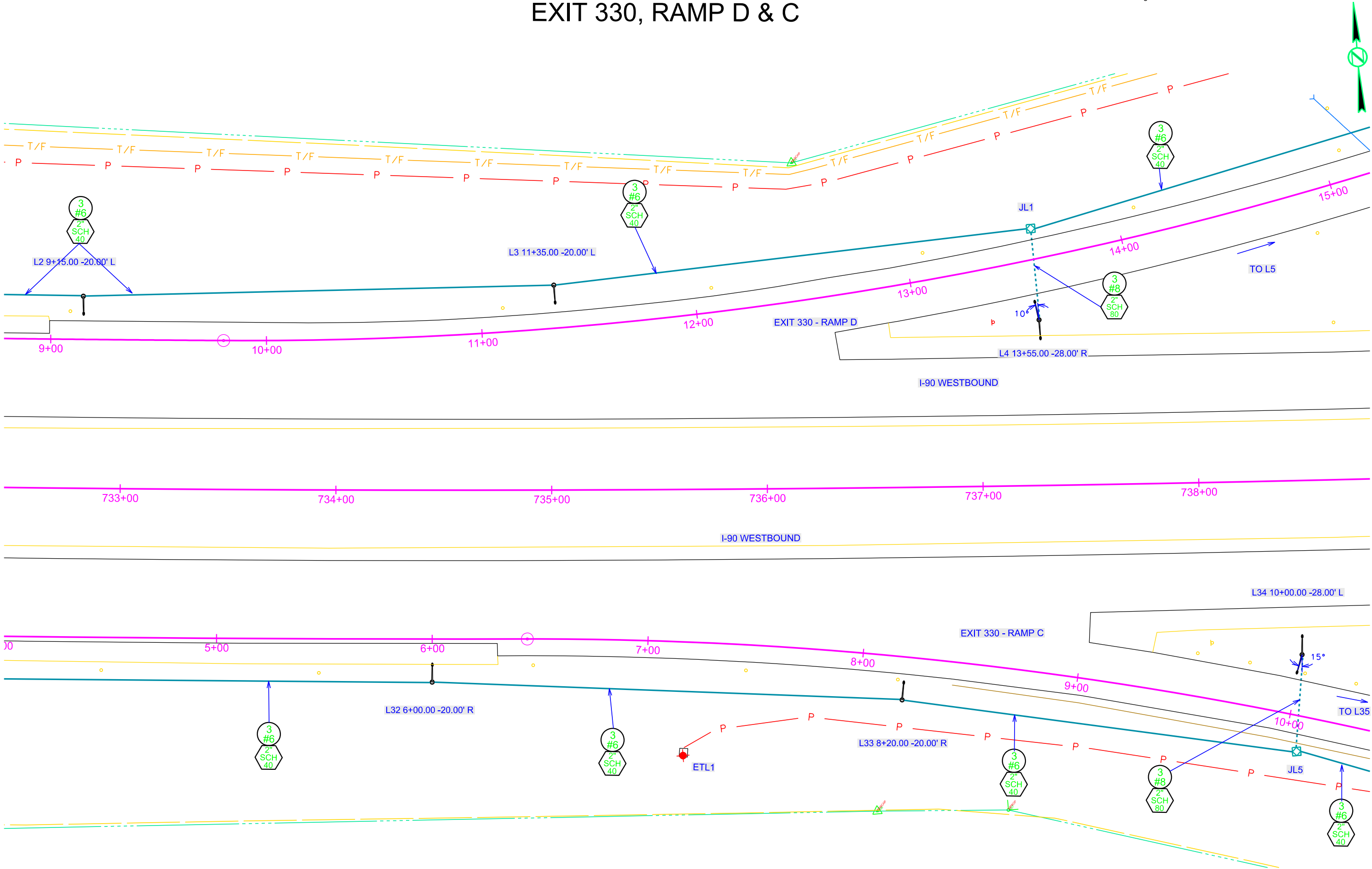
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L19	L63

Plotting Date: 07/03/2025

Plot Scale - 1:200

Plotted From - TRR01715



CONDUIT LAYOUT EXIT 330, RAMP D

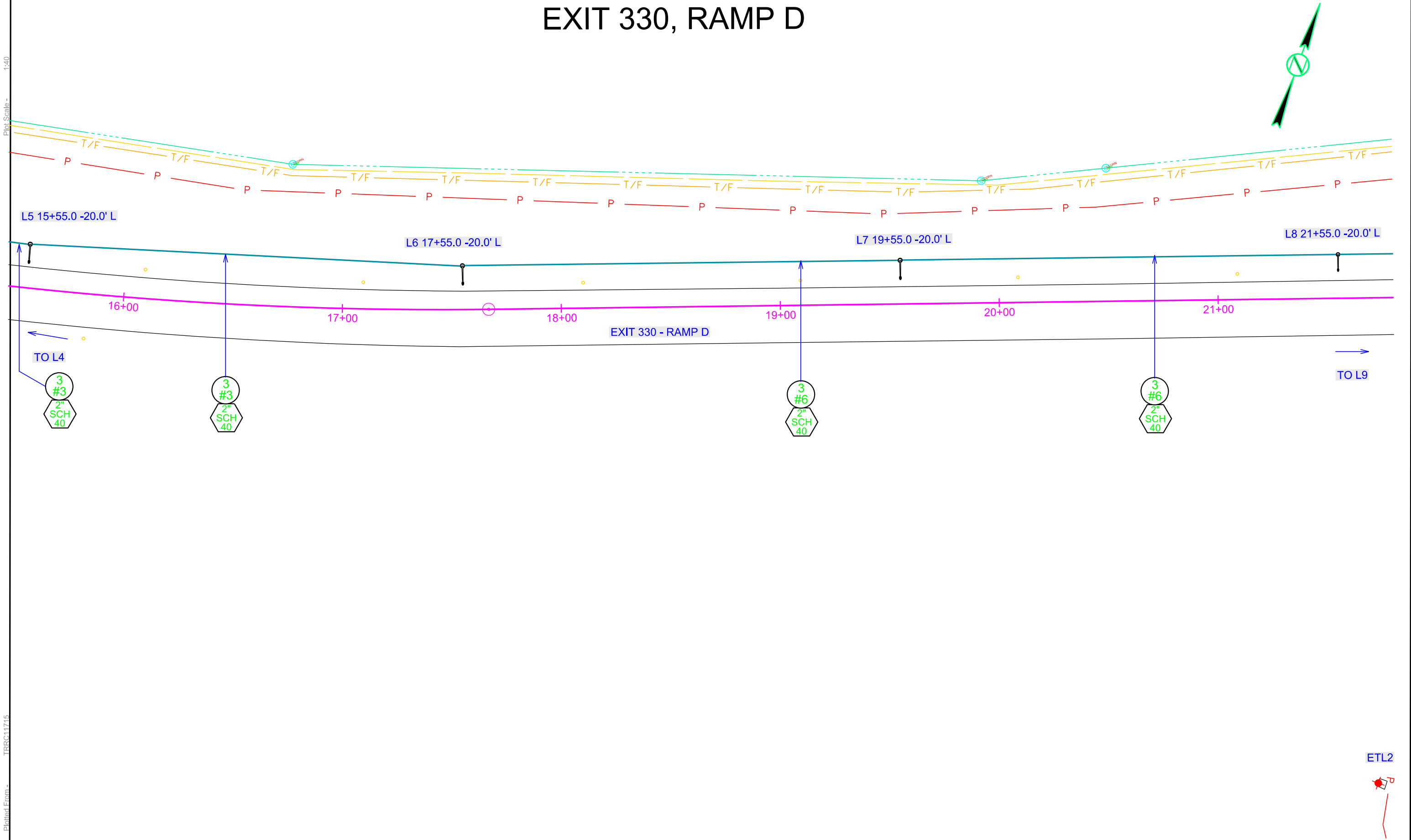
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L20	L63

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRRC17/15



CONDUIT LAYOUT EXIT 330, NORTH TERMINAL

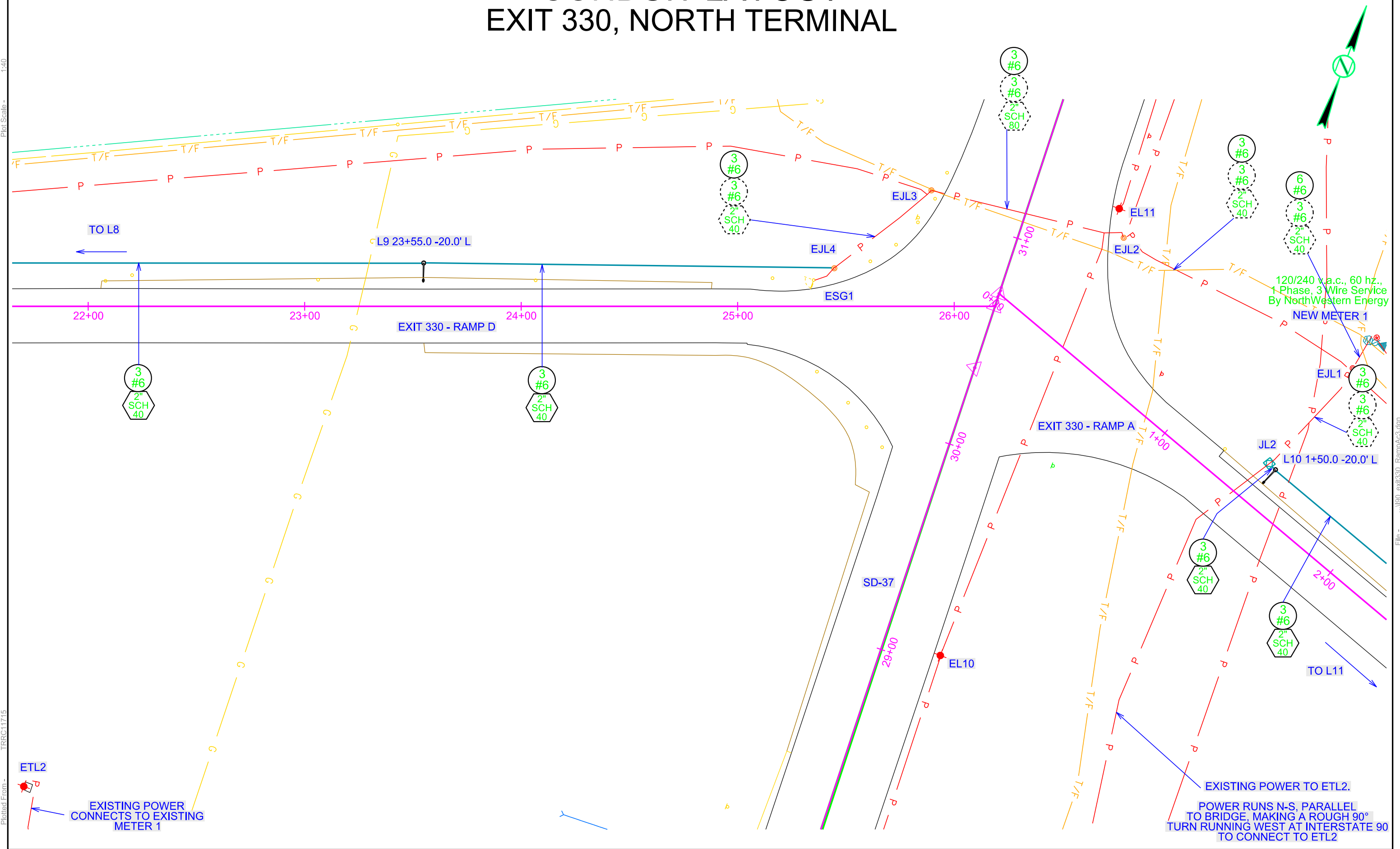
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L21	L63

Revised Date: 12/09/2025 - JU

Plot Scale - 1"=40'

Plotted From - TRR011715



File - ...190_exit330_RampA3.dgn

CONDUIT LAYOUT EXIT 330, RAMP C

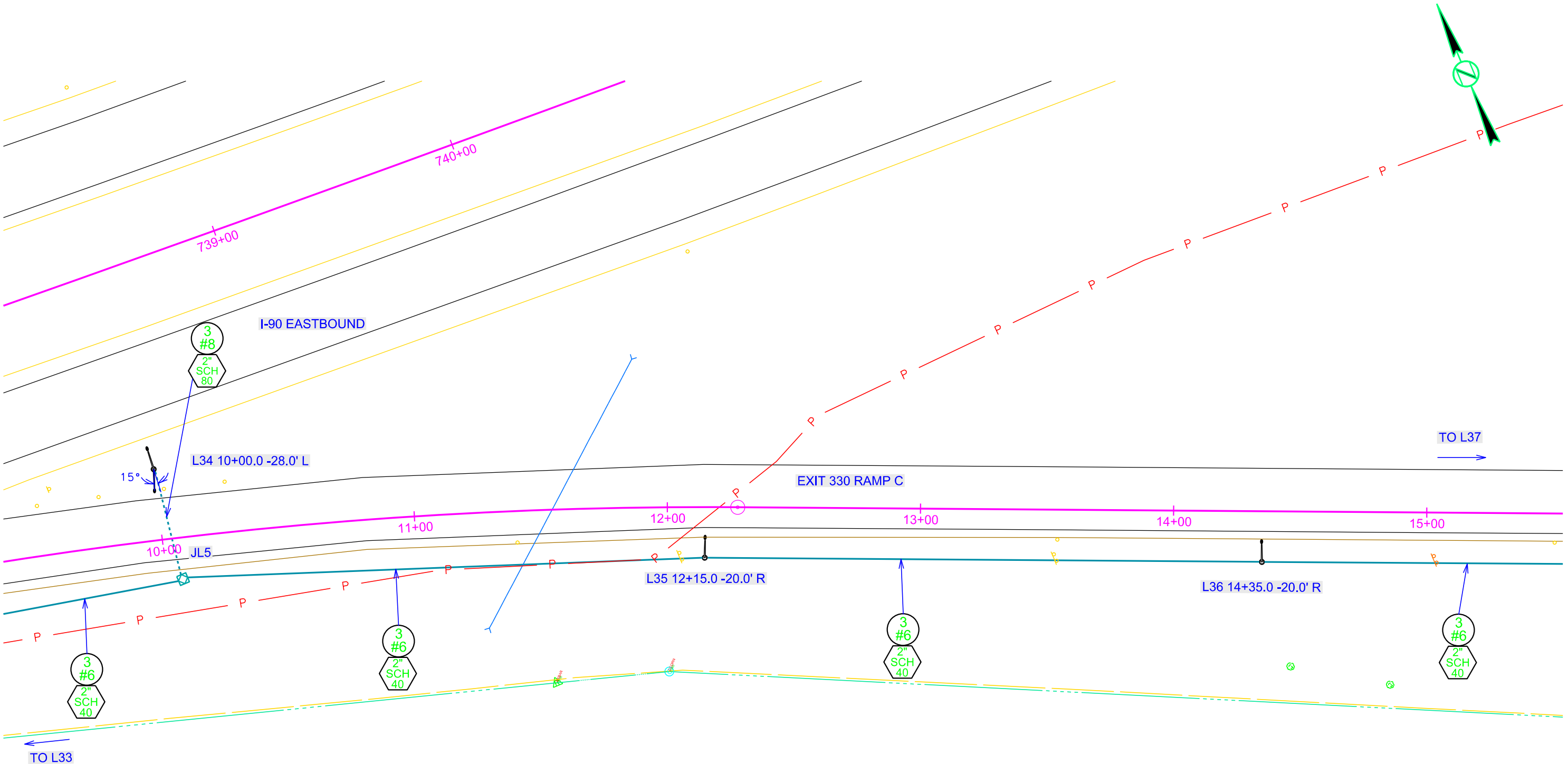
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L22	L63

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRR011715



Plot Scale - 1:40

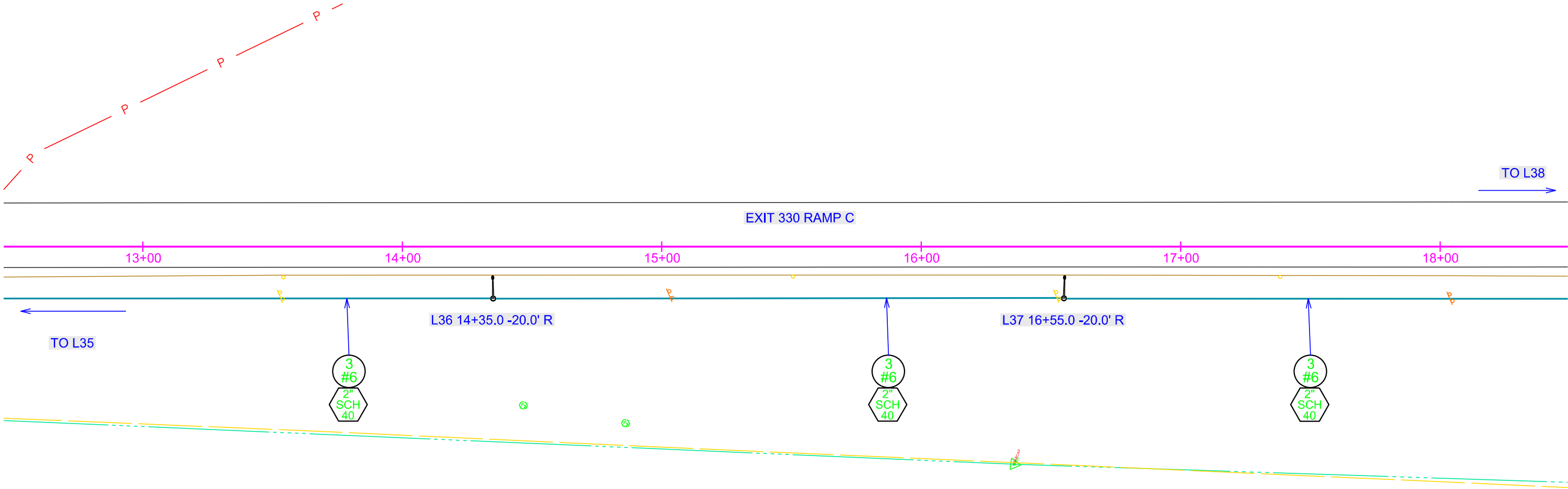
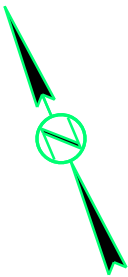
Plotted From - TRR017715

CONDUIT LAYOUT EXIT 330, RAMP C

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



CONDUIT LAYOUT EXIT 330, SOUTH TERMINAL

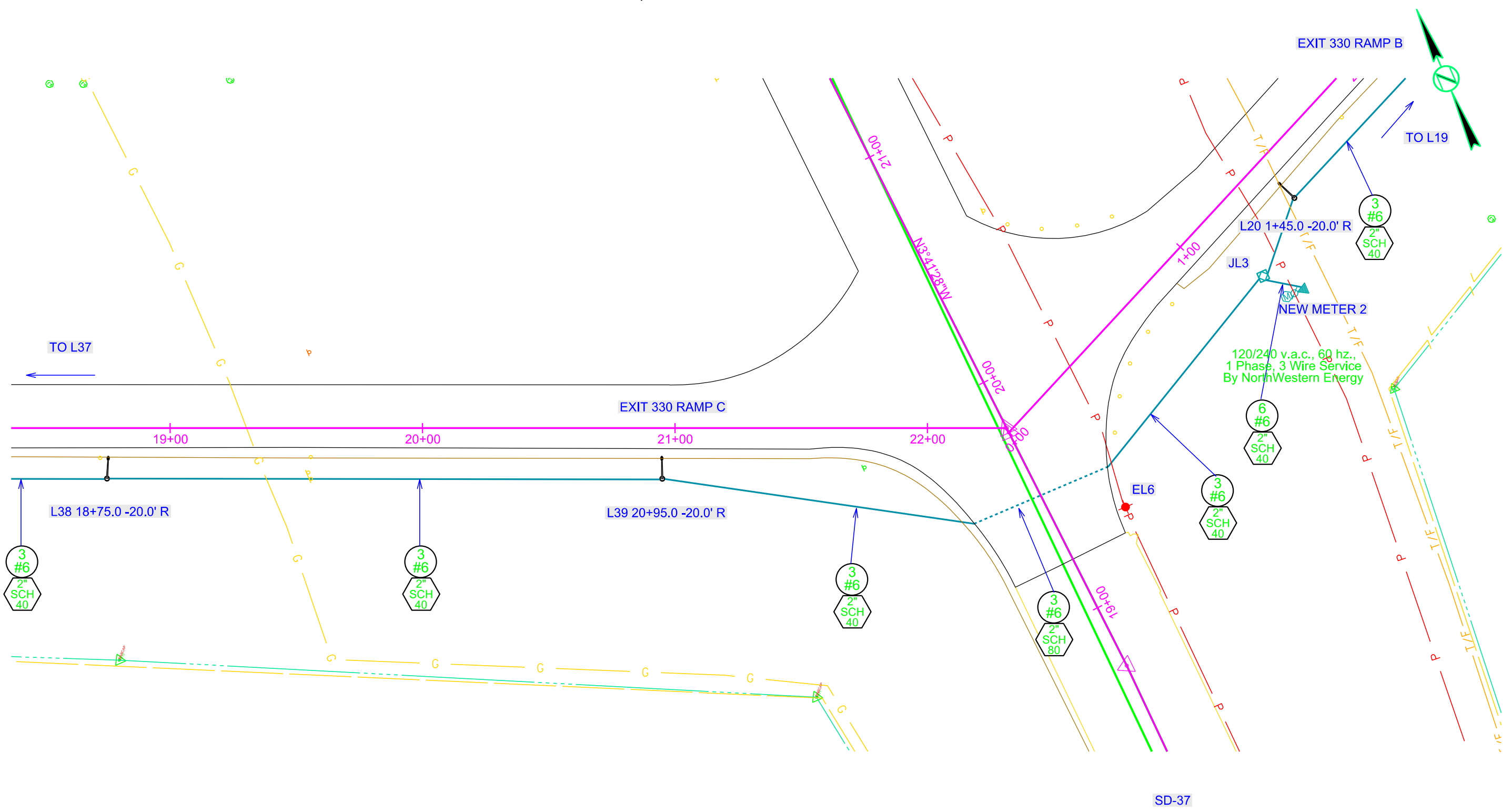
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L24	L63

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRR011715



CONDUIT LAYOUT EXIT 330, RAMP A

FOR BIDDING PURPOSES ONLY

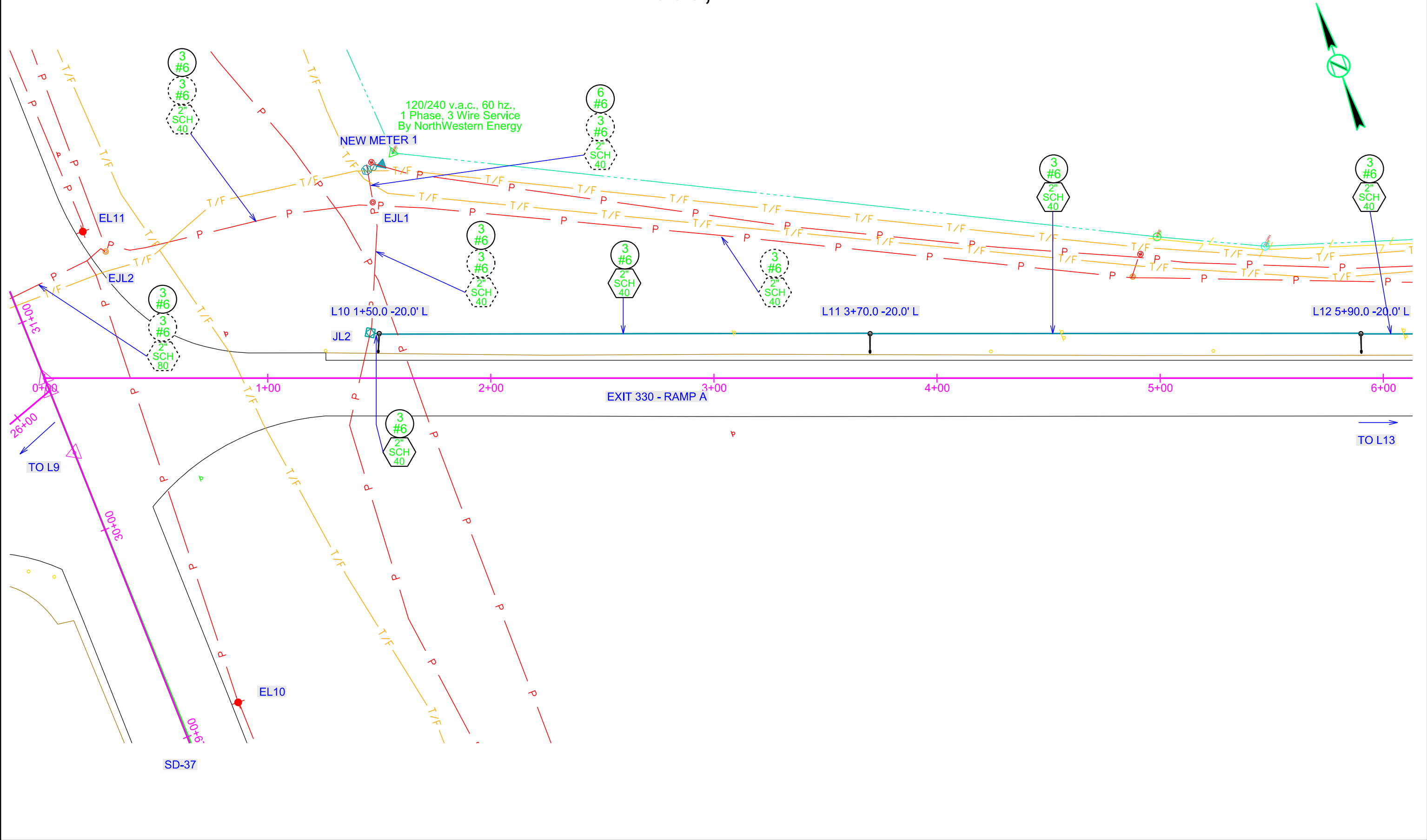
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L25	L63

Revised Date: 12/09/2025 - JU

Plot Scale - 1:40

Plotted From - TRRC11715

Plot Scale - 1:40



File - ...190_exit330_RampBct.dgn

Plot Scale - 1:40

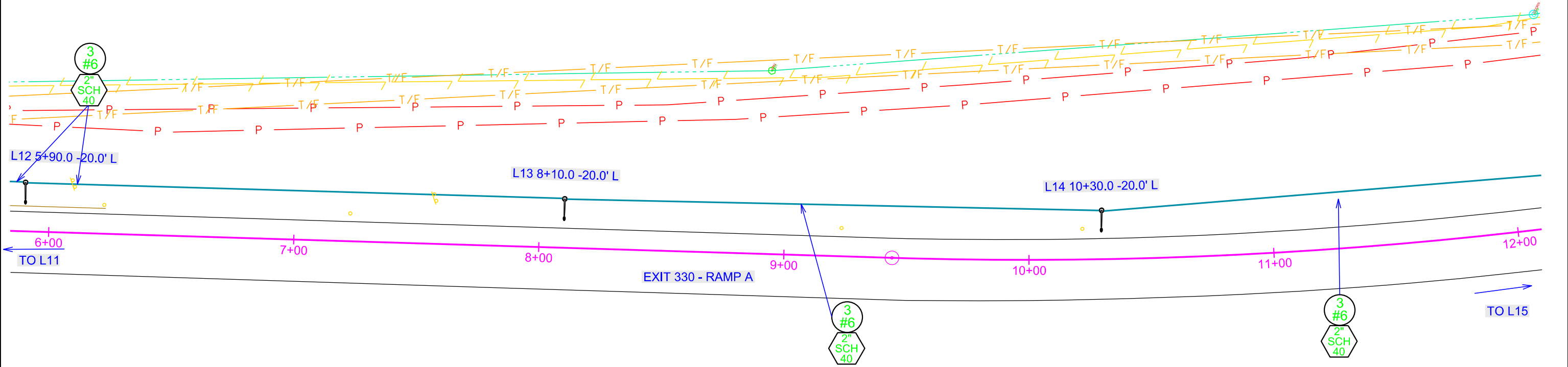
Plotted From - TRR011715

CONDUIT LAYOUT EXIT 330, RAMP A

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



CONDUIT LAYOUT EXIT 330, RAMP B

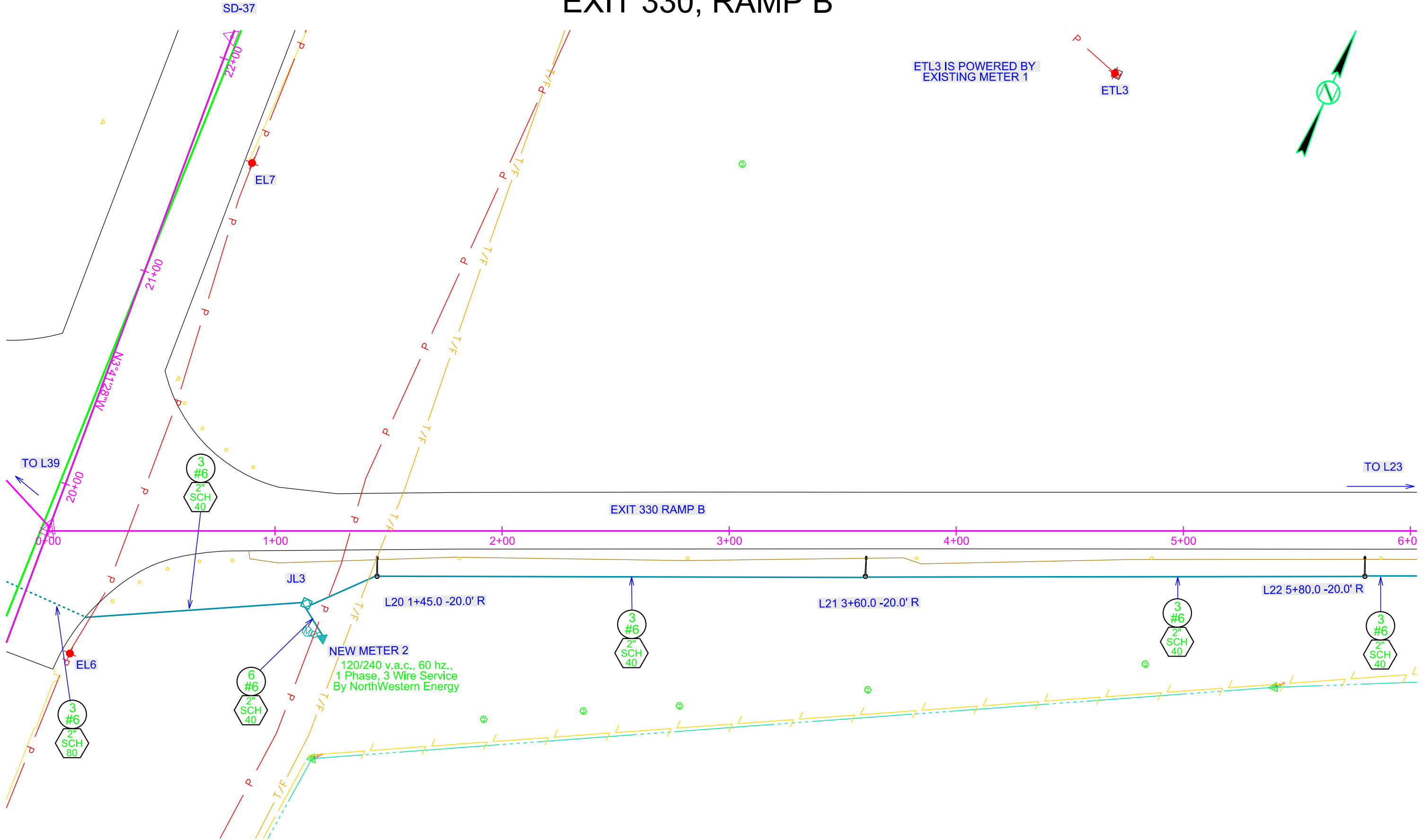
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L27	L63

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRR011715



Plot Scale - 1:40

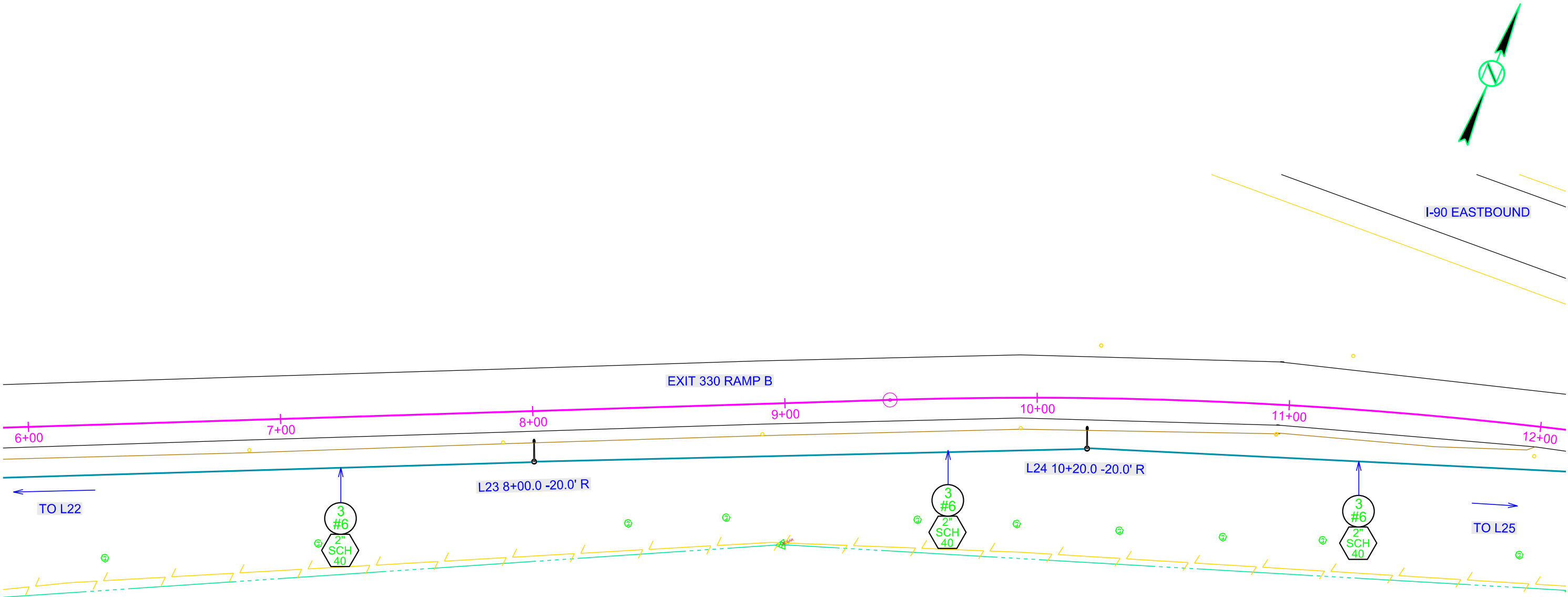
Plotted From - TRRC1715

CONDUIT LAYOUT EXIT 330, RAMP B

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L28	L63

Plotting Date: 07/03/2025



File - ...190_exit330_RampC2.dgn

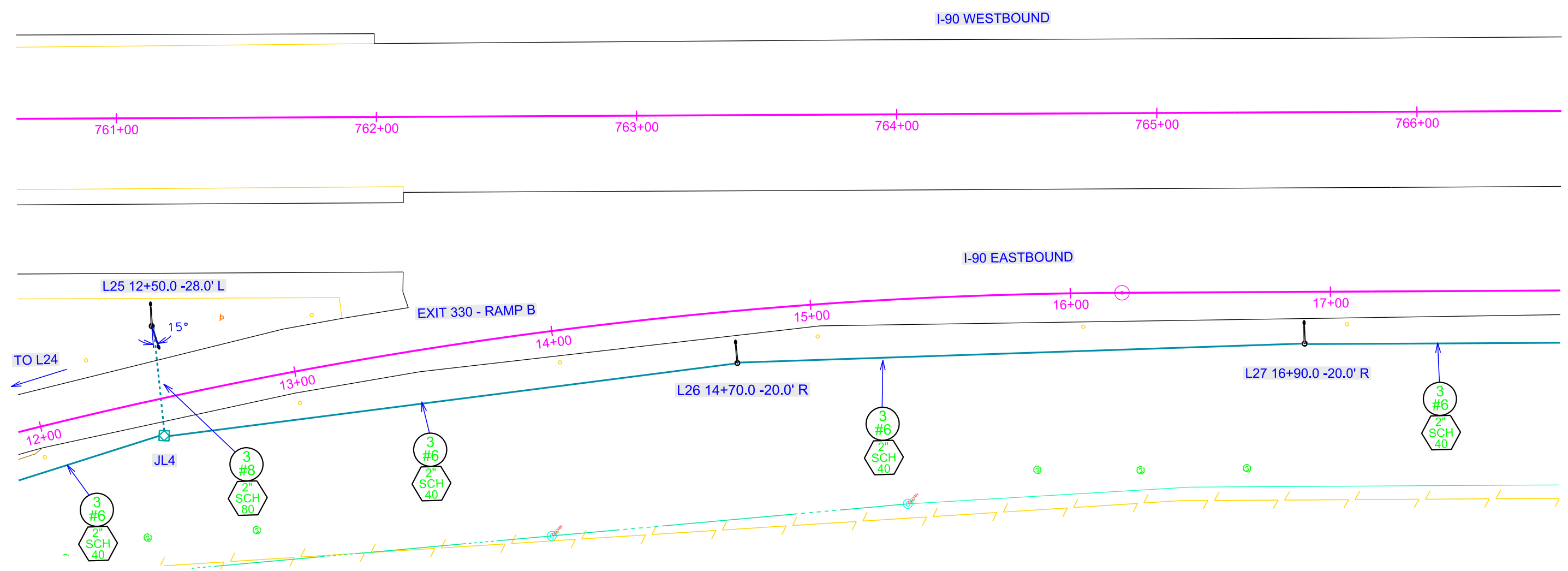
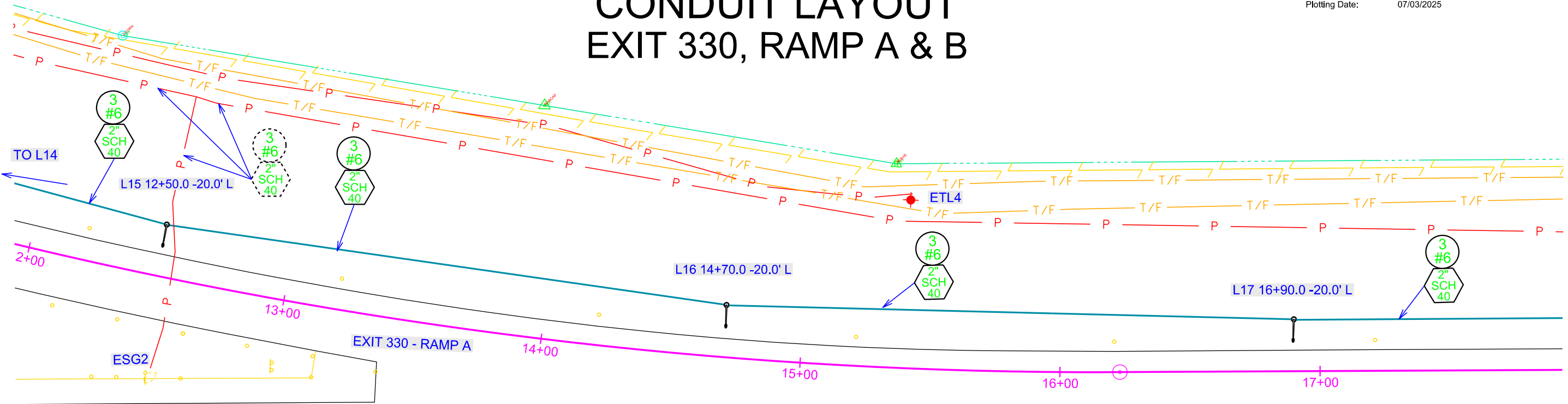
Plot Scale - 1:200

Plotted From - TRR017715

CONDUIT LAYOUT EXIT 330, RAMP A & B

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
Plotting Date: 07/03/2025		L29	L63



CONDUIT LAYOUT EXIT 330, RAMP A & B

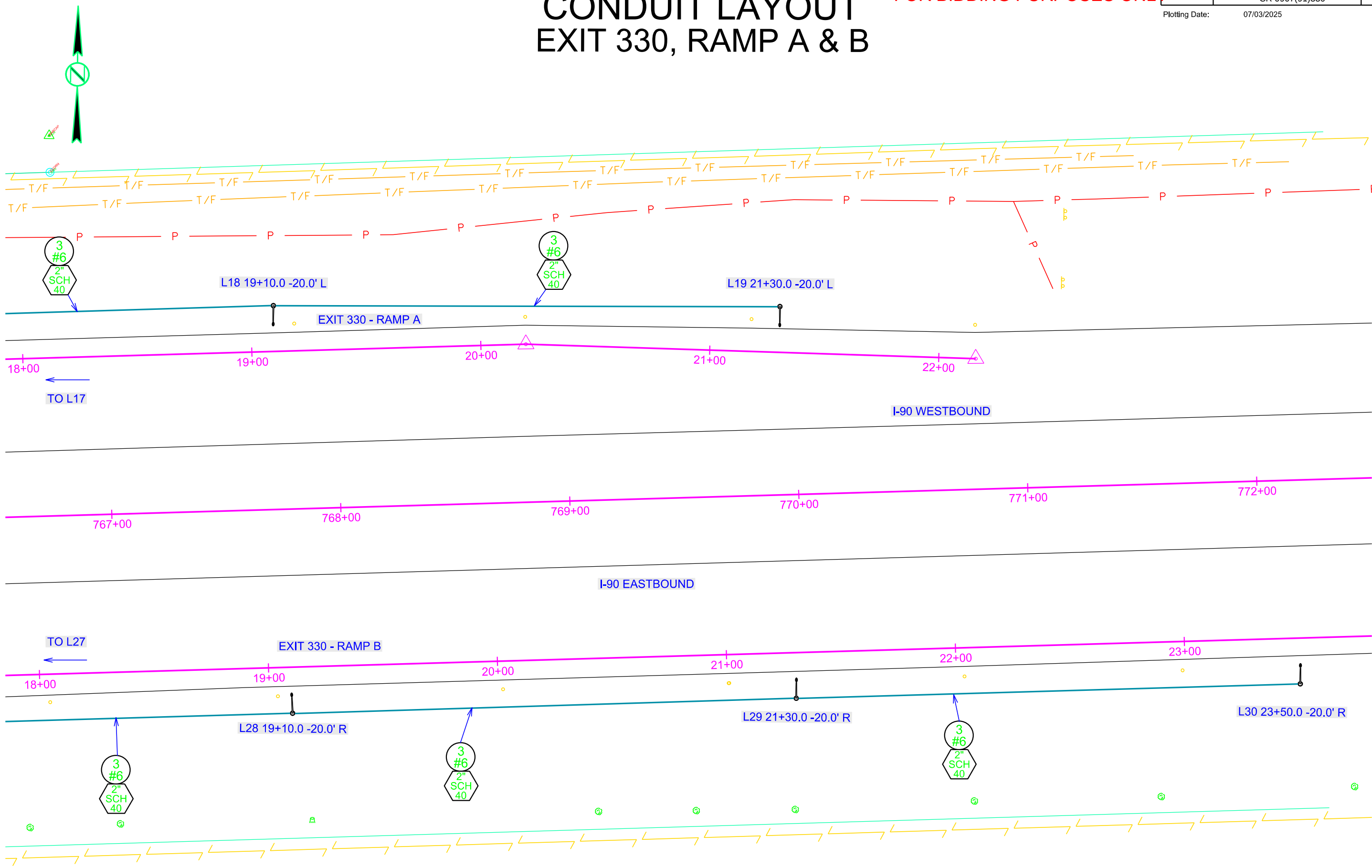
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRRC11715



Plot Scale - 1:200

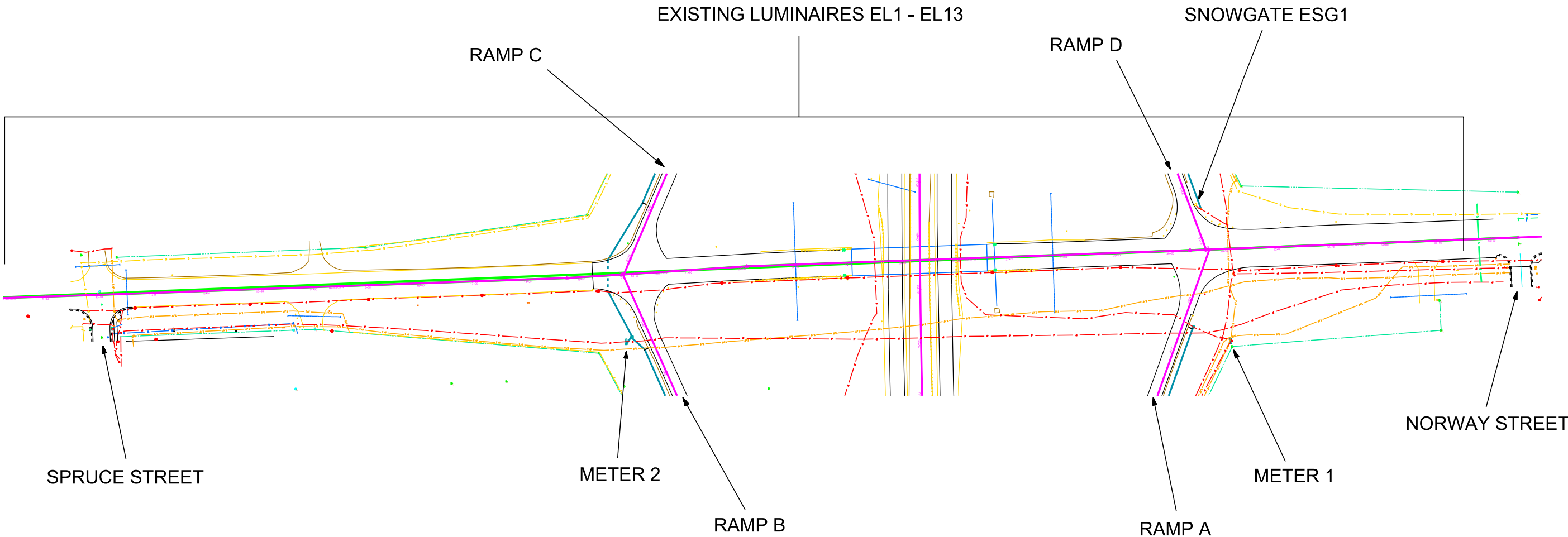
Plotted From - TRRC1715

OVERVIEW

I90 - EXIT 330 SD HWY 37

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
Plotting Date: 07/03/2025		L31	L63



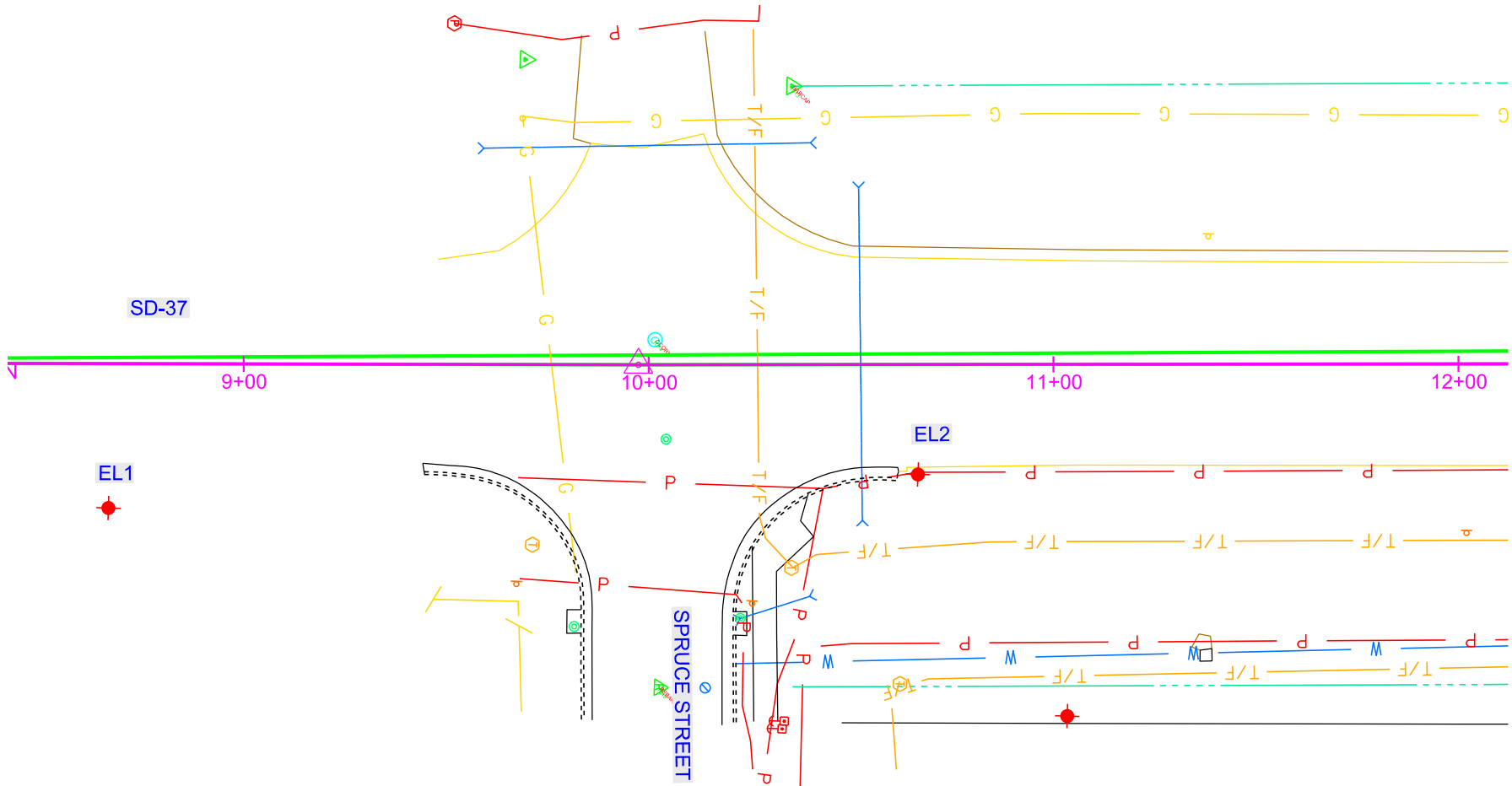
CONDUIT LAYOUT

SD HWY 37

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L32	L63

Plotting Date: 07/03/2025



Plot Scale - 1:40

Plotted From - TRR011715

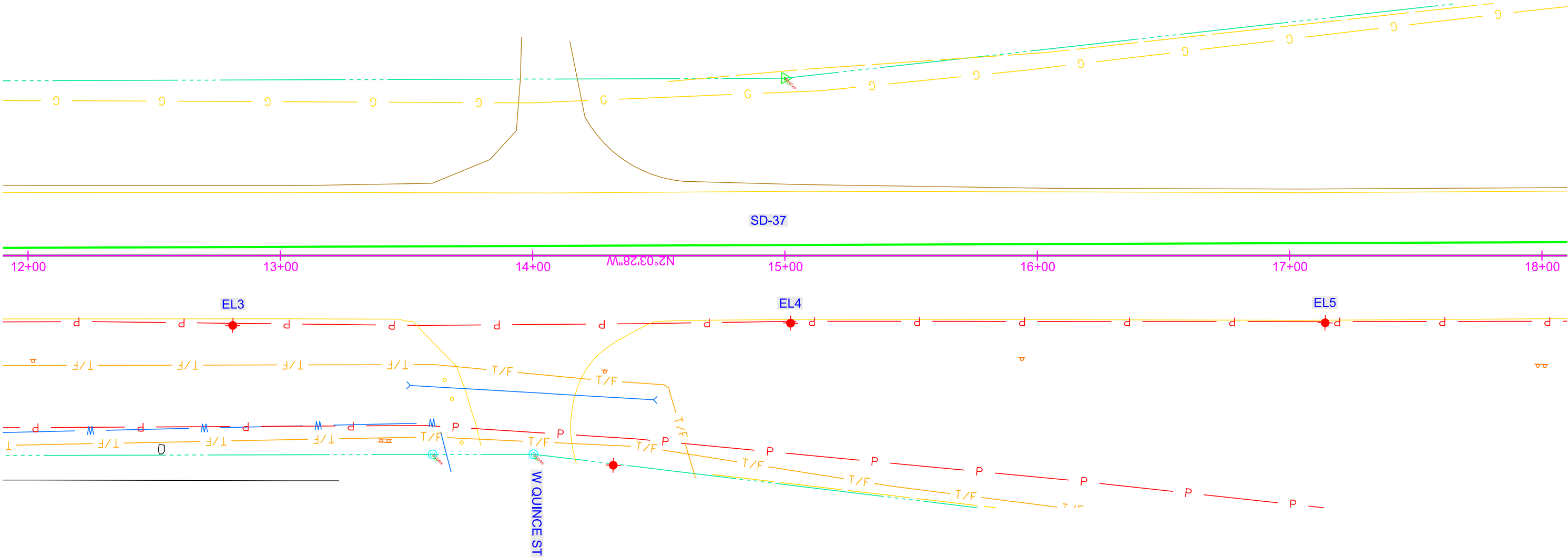
CONDUIT LAYOUT

SD HWY 37

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET L33	TOTAL SHEETS L63
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



Plot Scale - 1:40

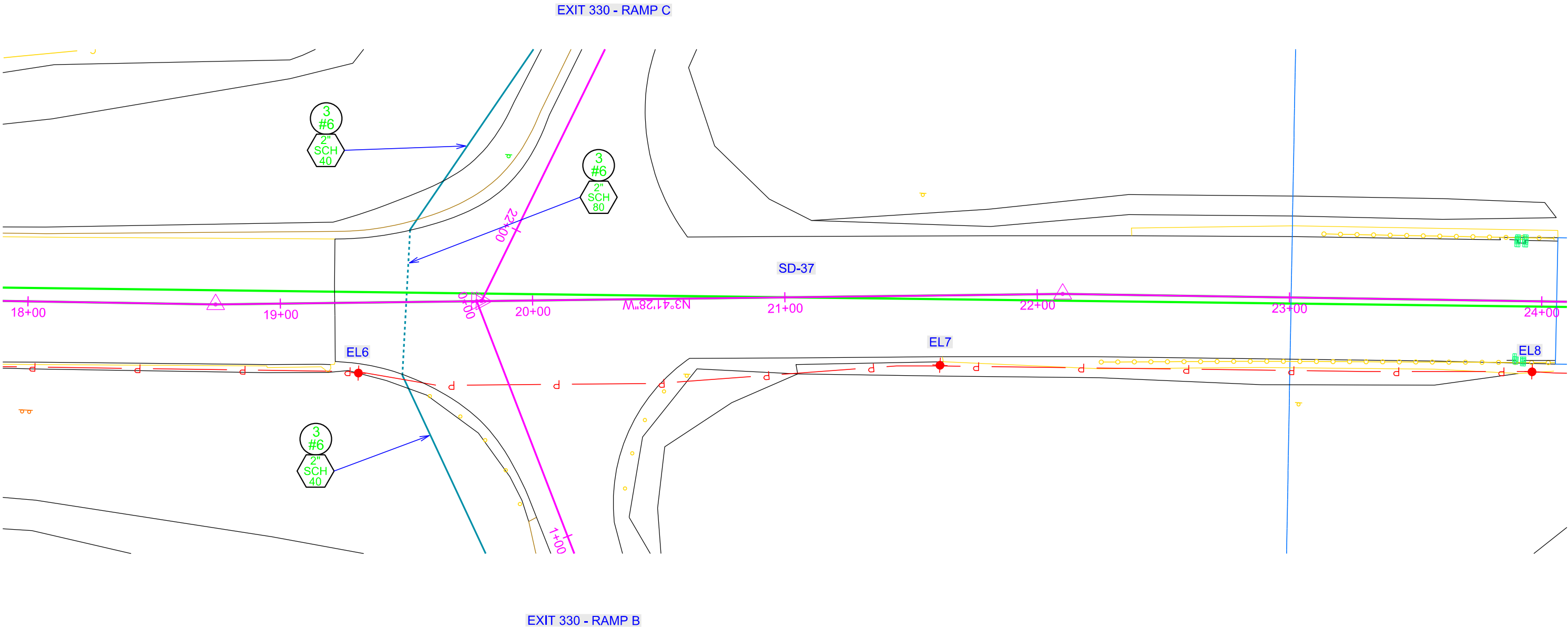
Plotted From - TRR011715

CONDUIT LAYOUT SD HWY 37

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET L34	TOTAL SHEETS L63
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



Plot Scale - 1:40

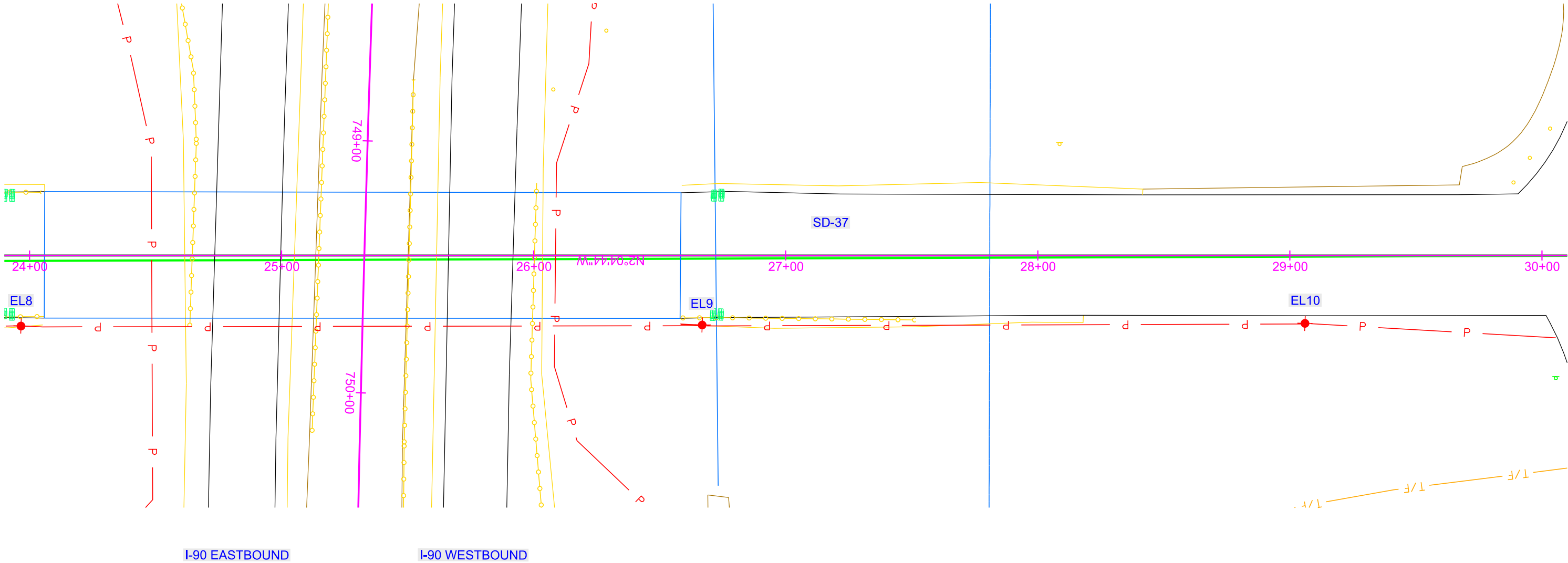
Plotted From - TRR011715

CONDUIT LAYOUT SD HWY 37

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L35	L63

Plotting Date: 07/03/2025



CONDUIT LAYOUT SD HWY 37

FOR BIDDING PURPOSES ONLY

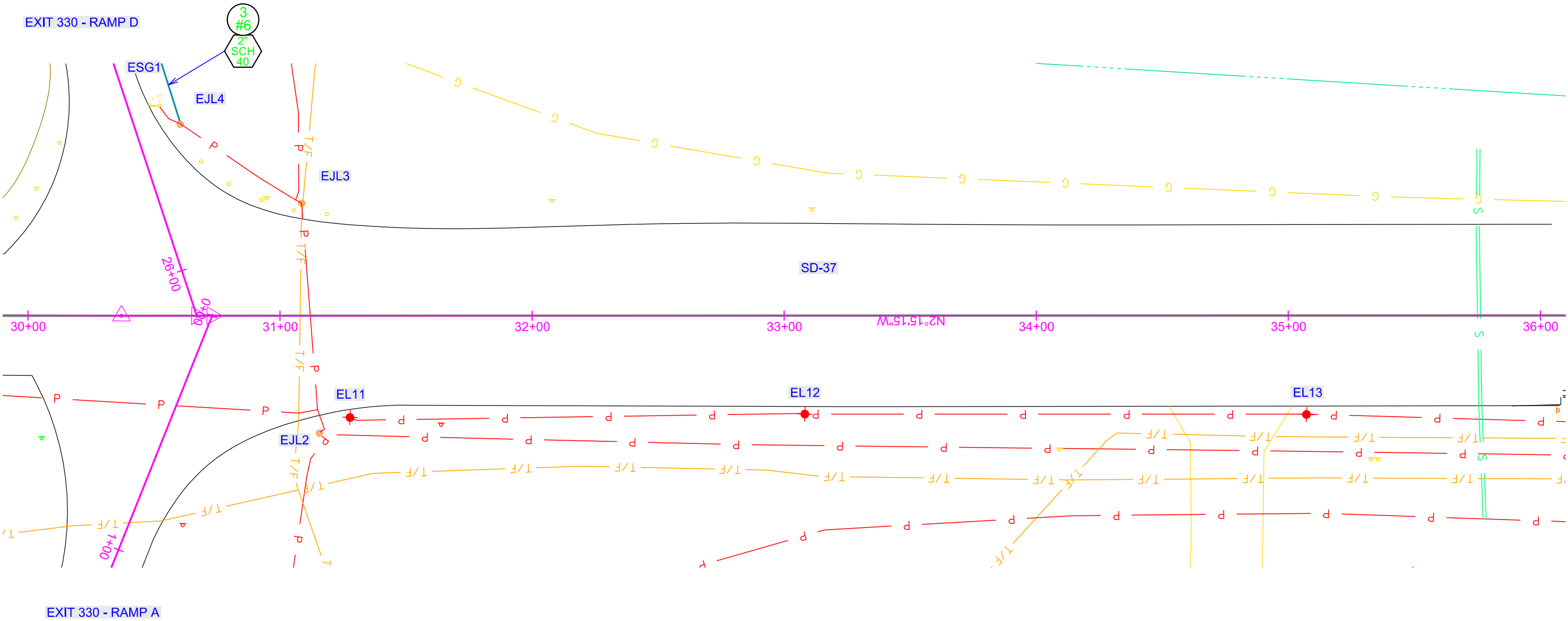
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



Plot Scale - 1:40

Plotted From - TRR01715



Plot Scale - 1:350

Plotted From - TRRC11715

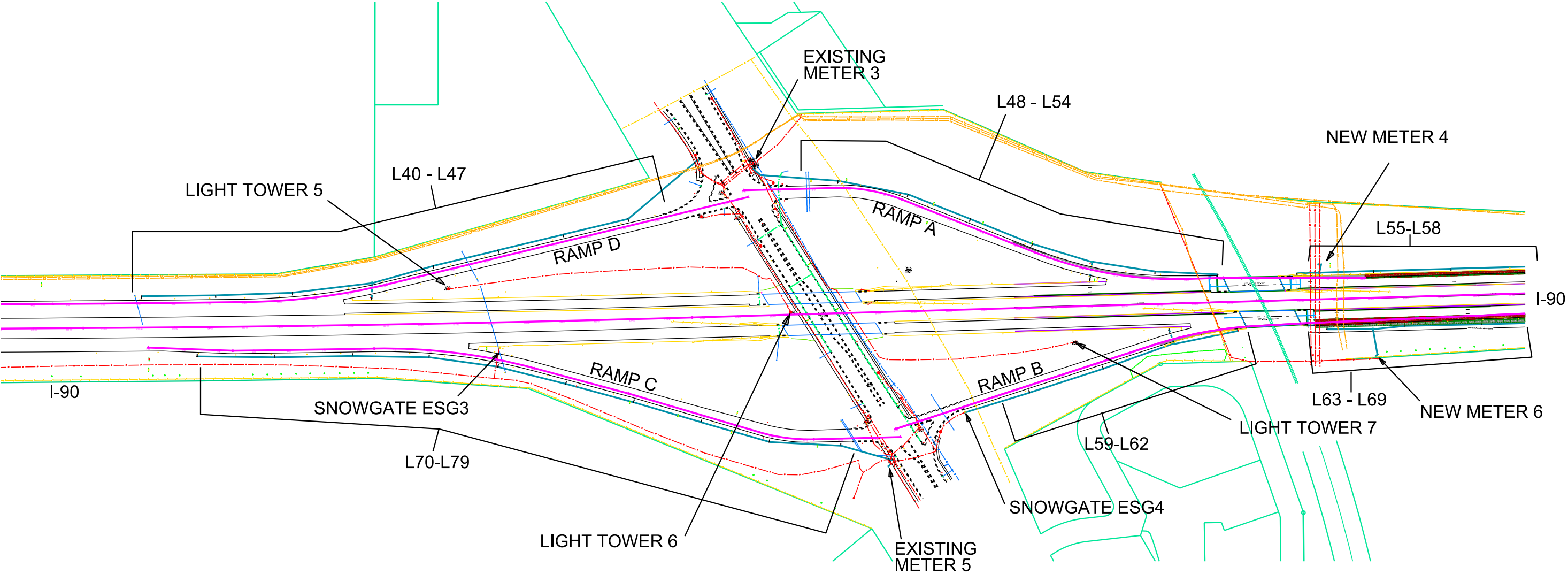
OVERVIEW

I90 - EXIT 332

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L37	L63

Plotting Date: 07/03/2025



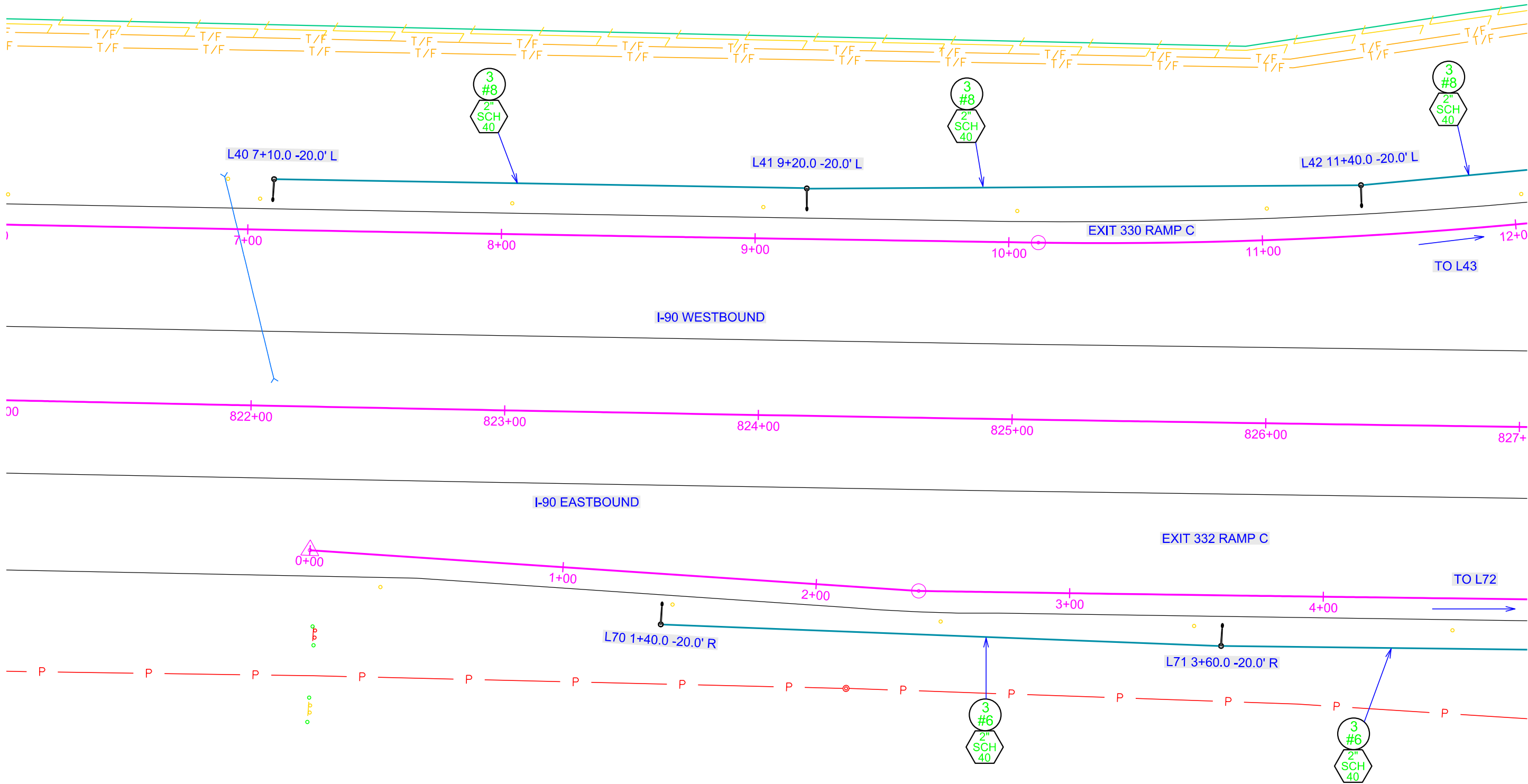
Plot Scale - 1:40

Plotted From - TRR01715

CONDUIT LAYOUT EXIT 332, RAMP D & C

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L38	L63
Plotting Date: 07/03/2025			



CONDUIT LAYOUT EXIT 332, RAMP D & C

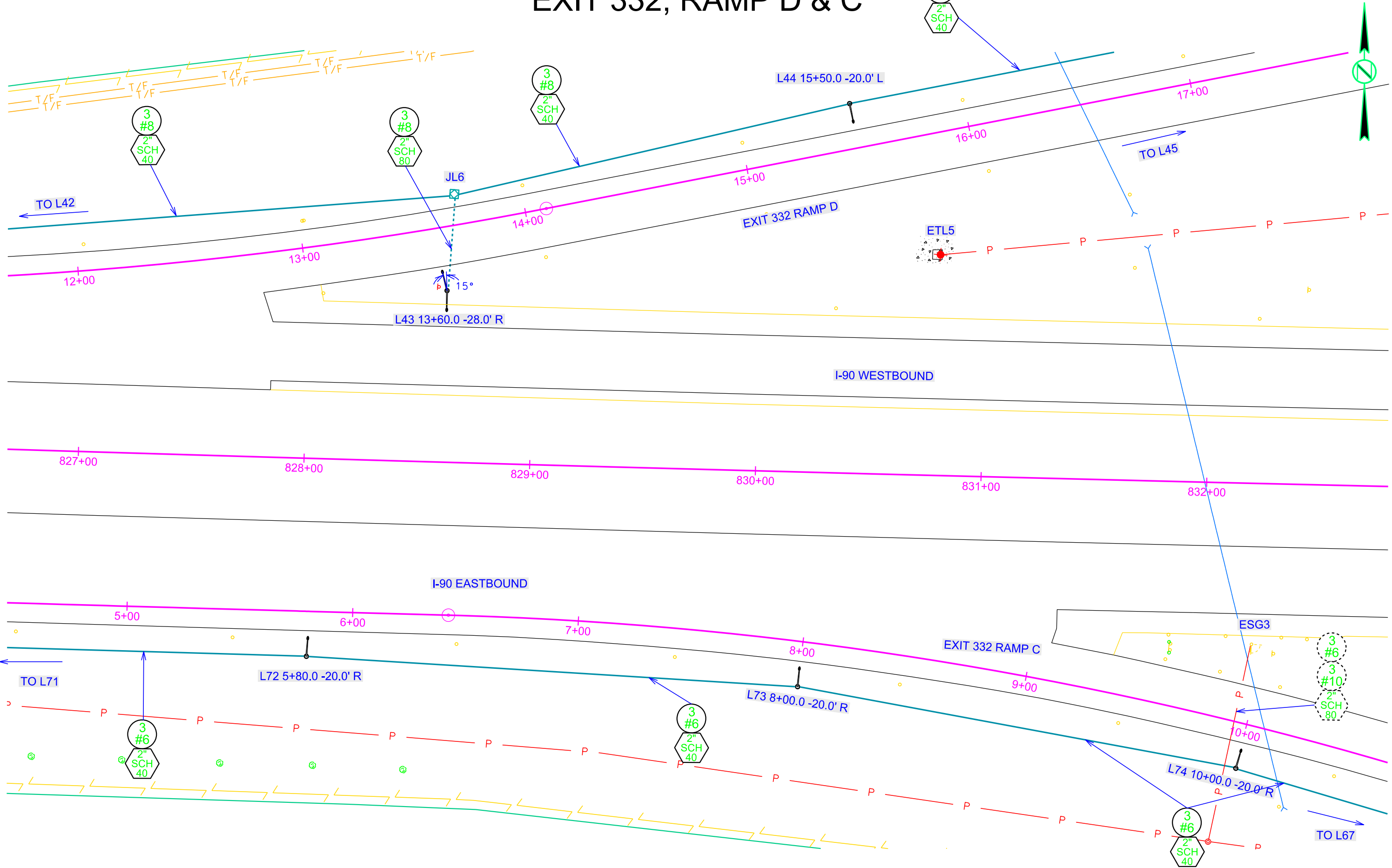
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L39	L63

Plotting Date: 07/03/2025

Plot Scale - 1:200

Plotted From - TRR01715



CONDUIT LAYOUT EXIT 332, CENTER

FOR BIDDING PURPOSES ONLY

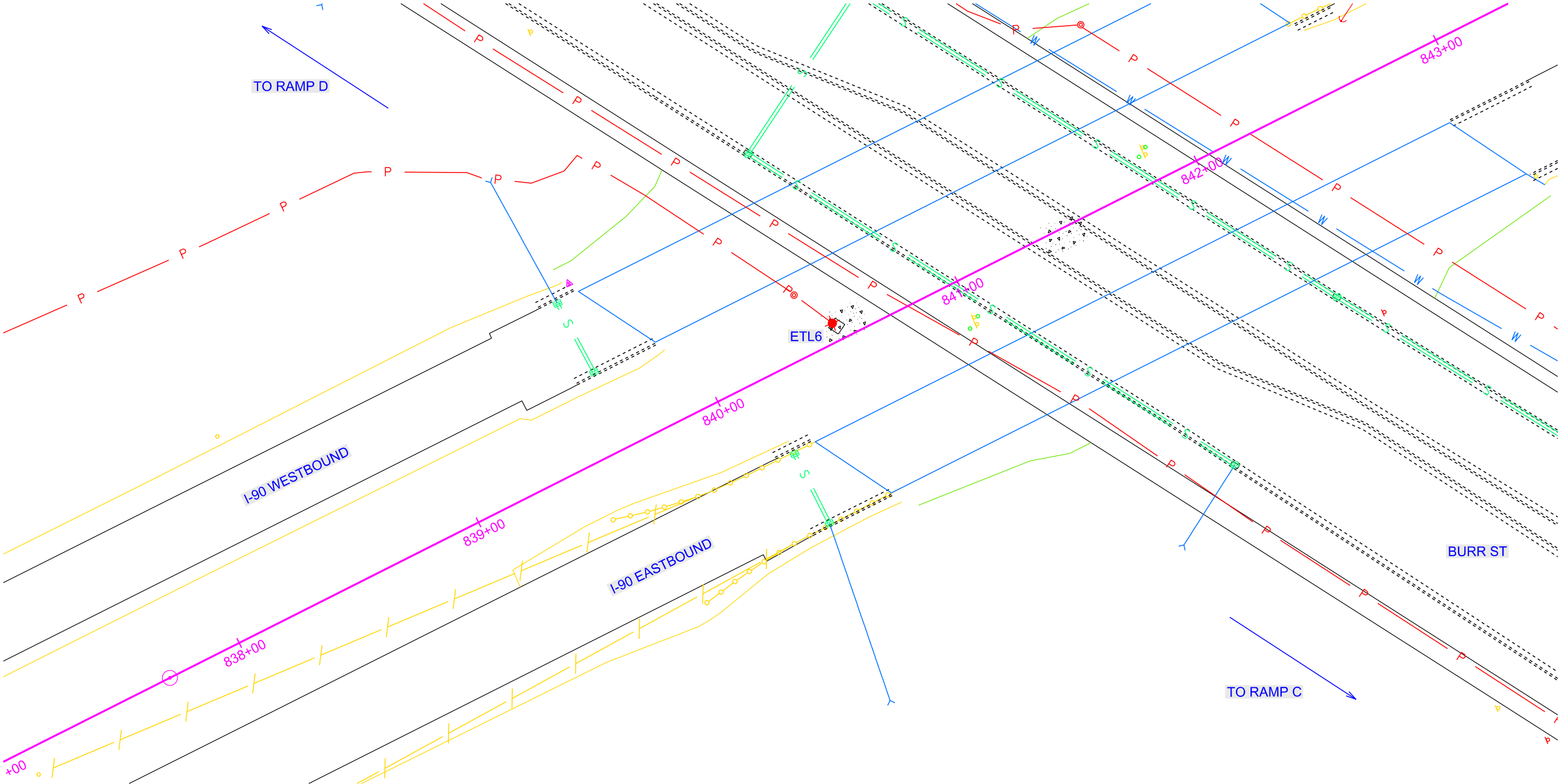
STATE OF SOUTH DAKOTA	PROJECT	SHEET L40	TOTAL SHEETS L63
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



Plot Scale - 1:40

Plotted From - TRR011715



Plot Scale - 1:40

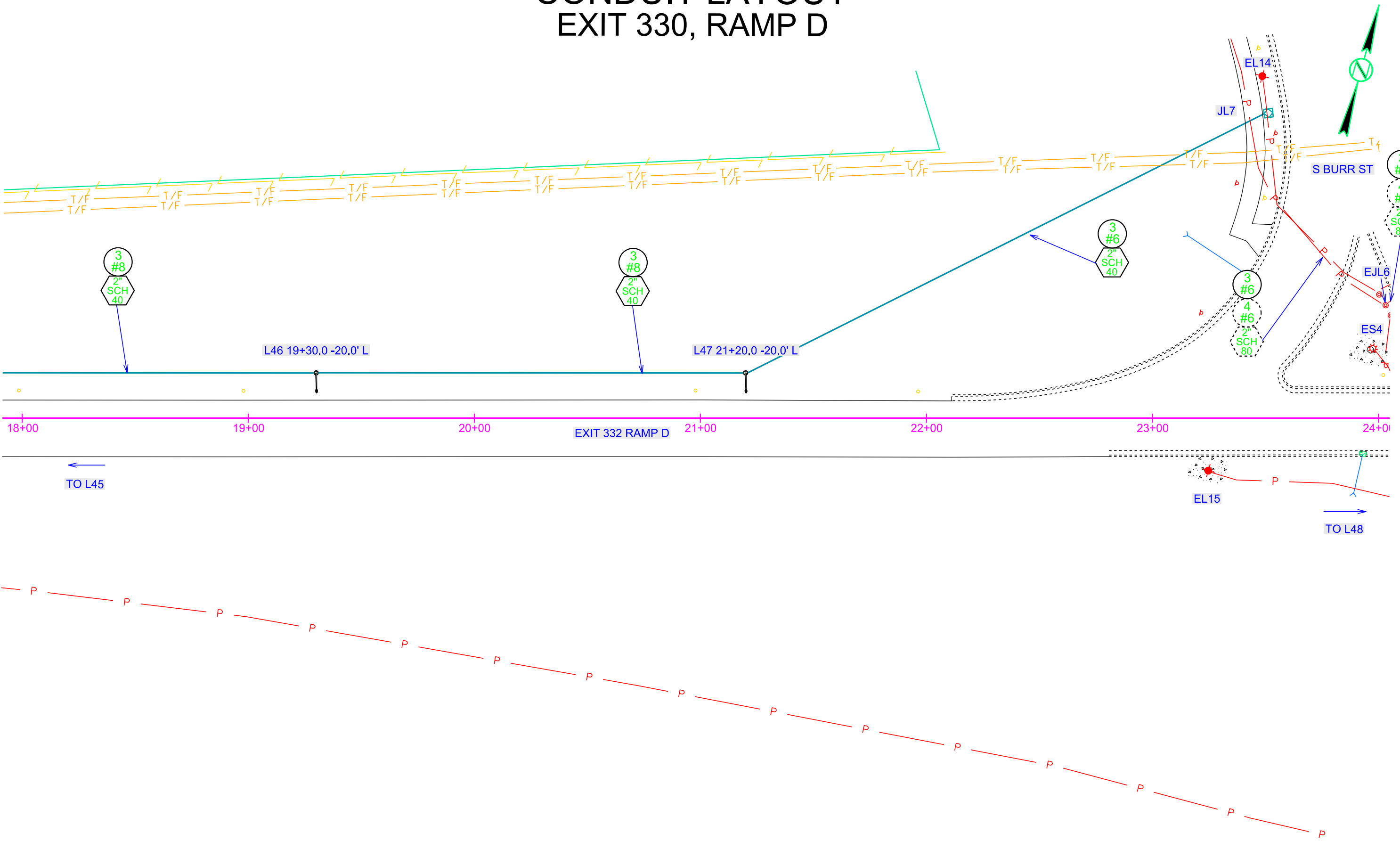
Plotted From - TRR017715

CONDUIT LAYOUT EXIT 330, RAMP D

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L41	L63

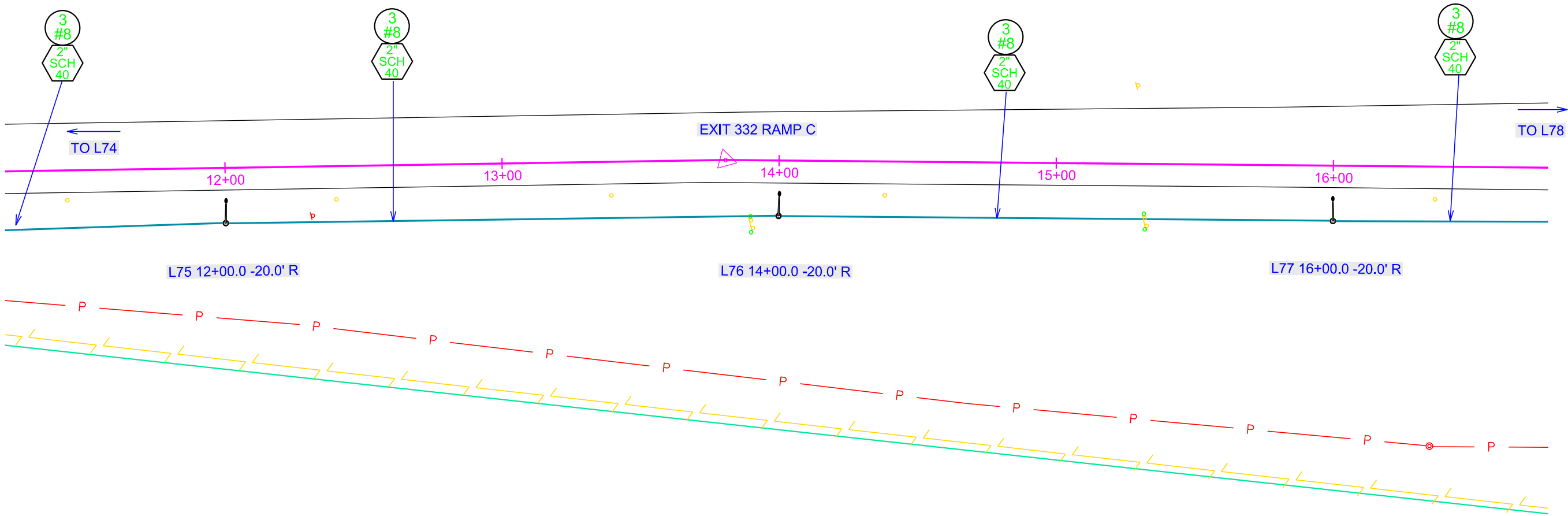
Plotting Date: 07/03/2025



CONDUIT LAYOUT EXIT 332, RAMP C

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
Plotting Date: 07/03/2025		L42	L63



CONDUIT LAYOUT EXIT 332, SOUTH TERMINAL

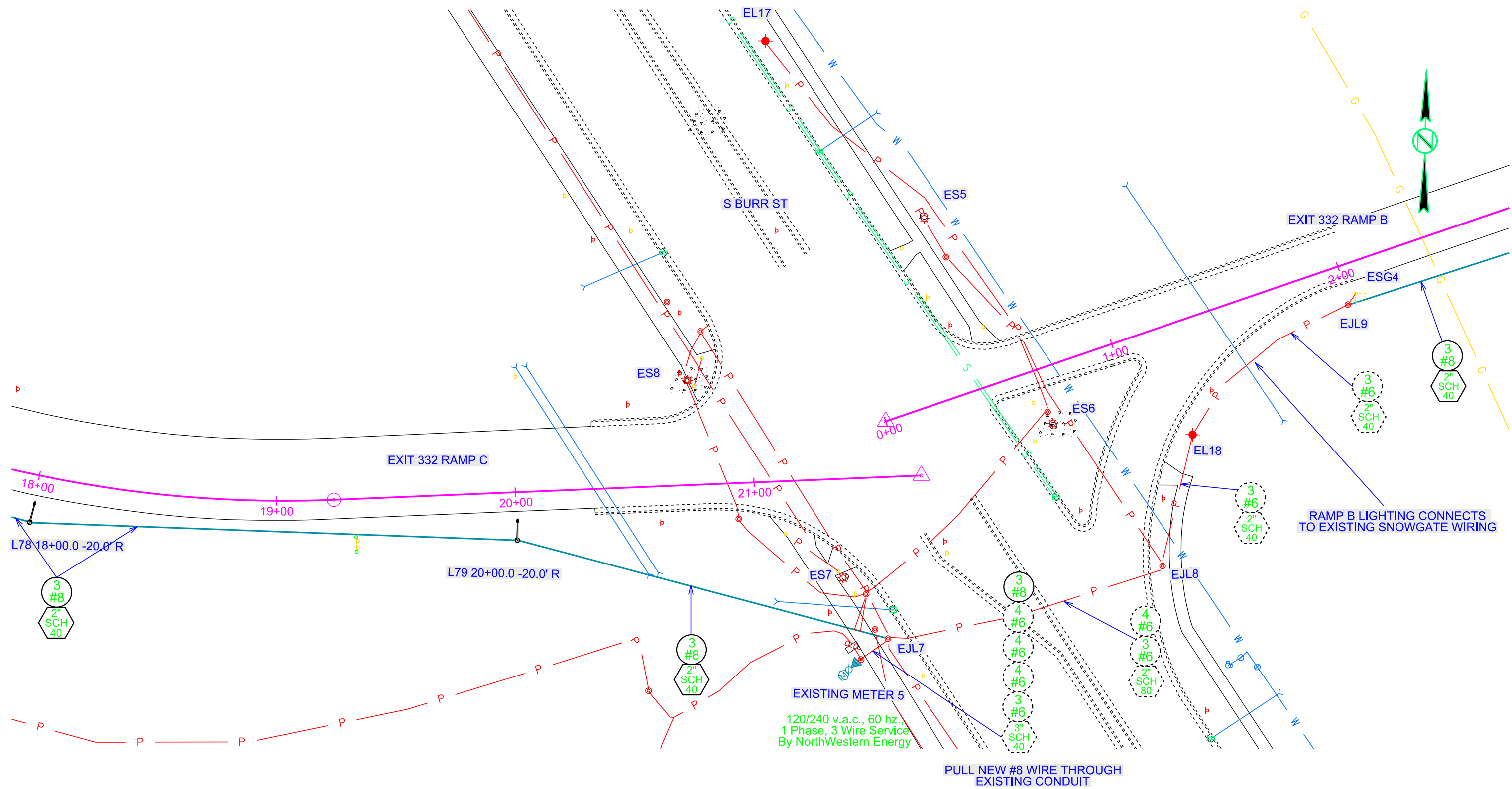
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
Plotting Date: 07/03/2025		L43	L63

Plot Scale - 1"=40'

Plotted From - TRR011715

File - ...190_exit332_RampD04.dgn



CONDUIT LAYOUT EXIT 332, NORTH TERMINAL

FOR BIDDING PURPOSES ONLY

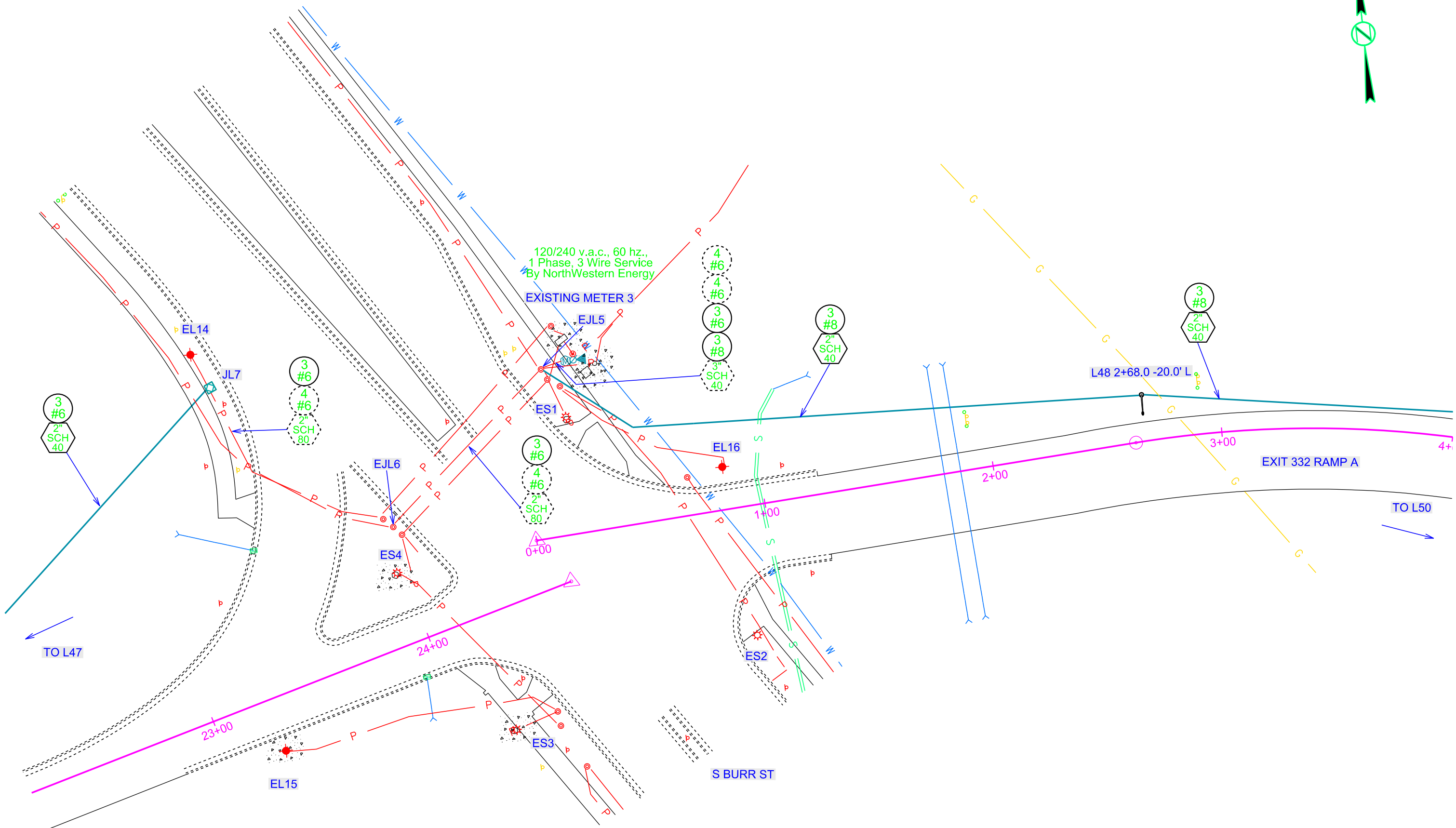
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L44	L63

Plotting Date: 07/03/2025



Plot Scale - 1:40

Plotted From - TRR011715



CONDUIT LAYOUT

EXIT 332, SOUTH TERMINAL

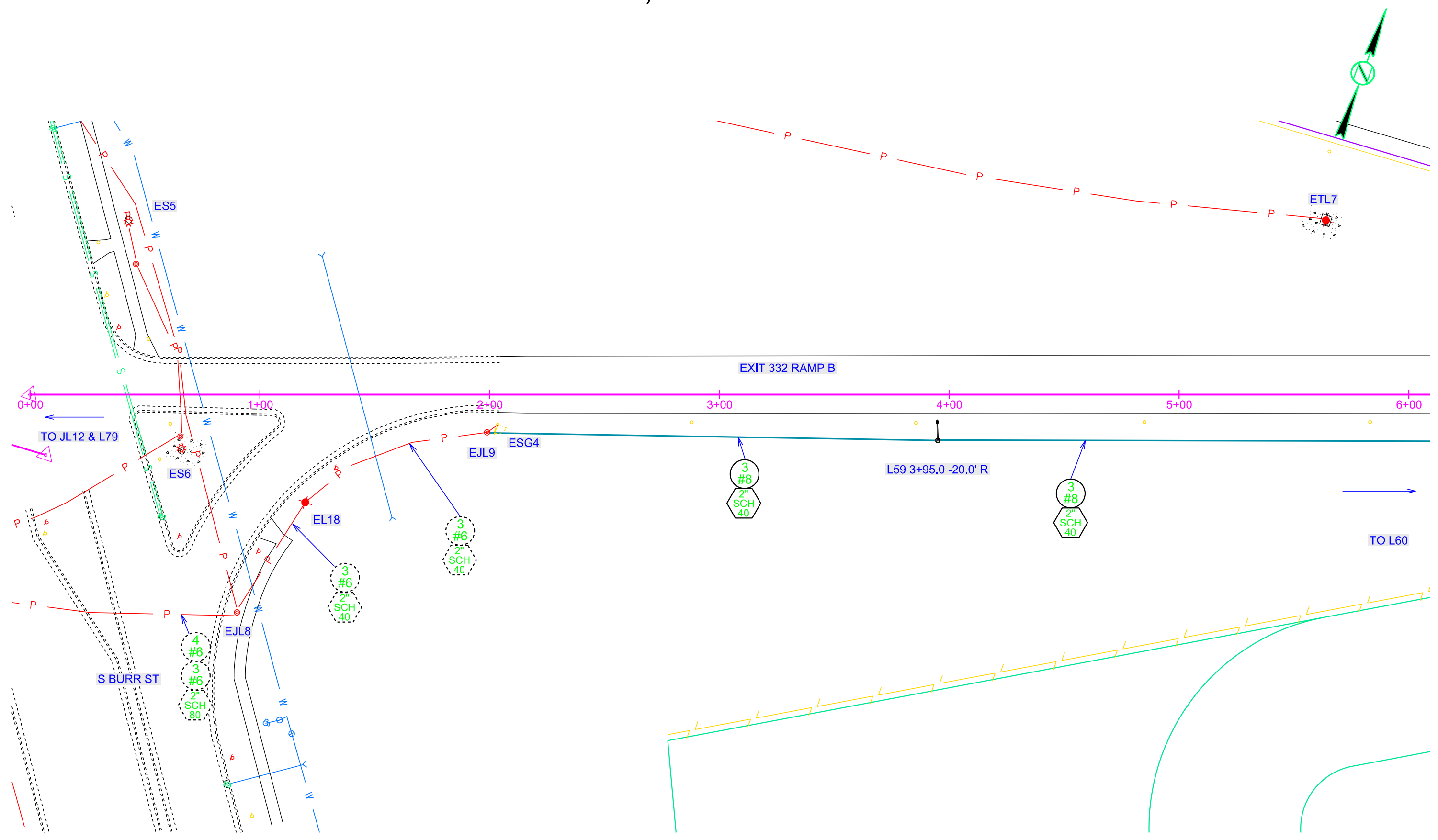
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L45	L63

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRR014715



File - ...190_exit332_RampCct.dgn

CONDUIT LAYOUT EXIT 332, RAMP B

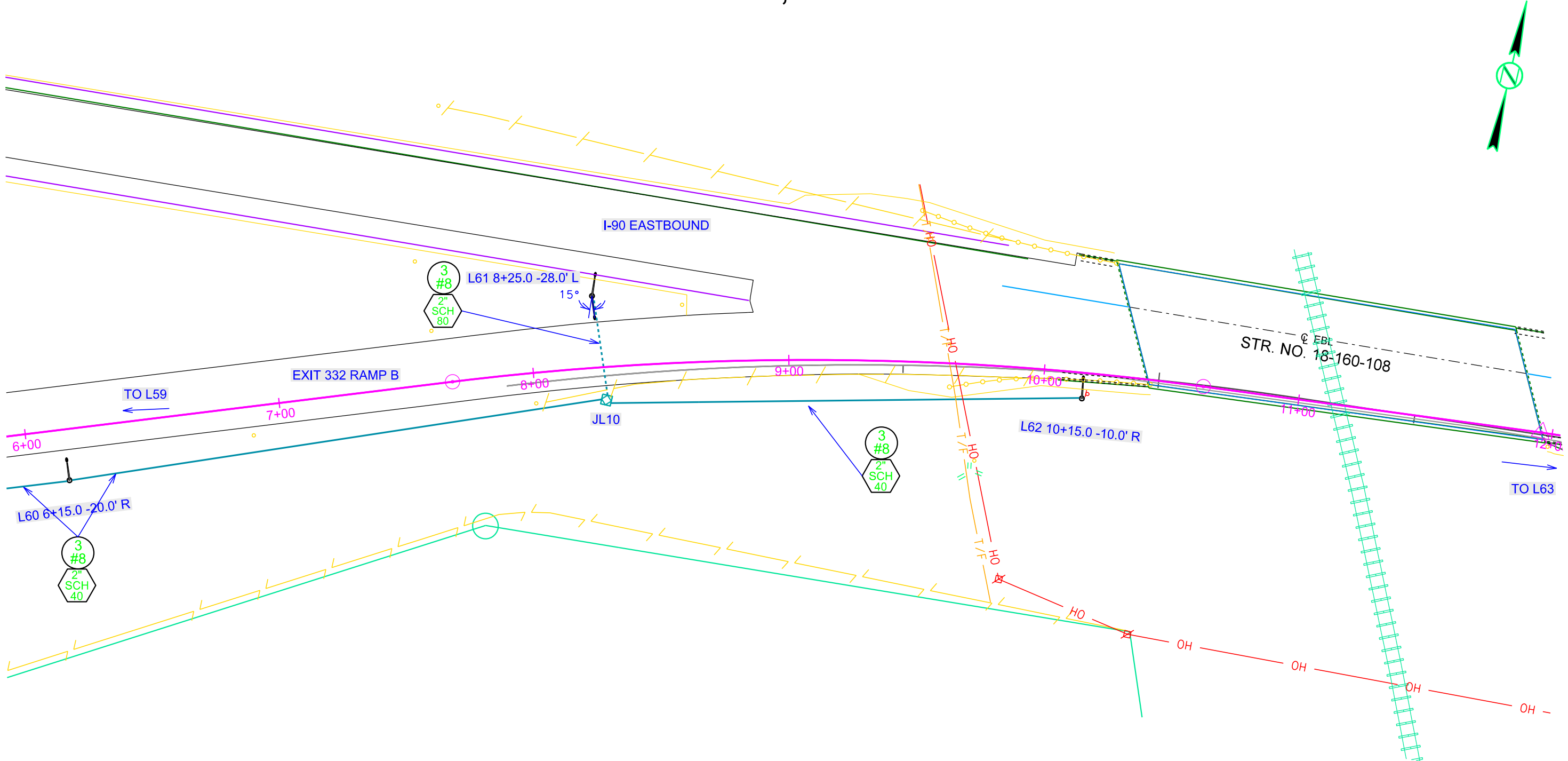
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L46	L63

Plotting Date: 07/03/2025

Plot Scale - 1:40

Plotted From - TRR011715



Plot Scale - 1:40

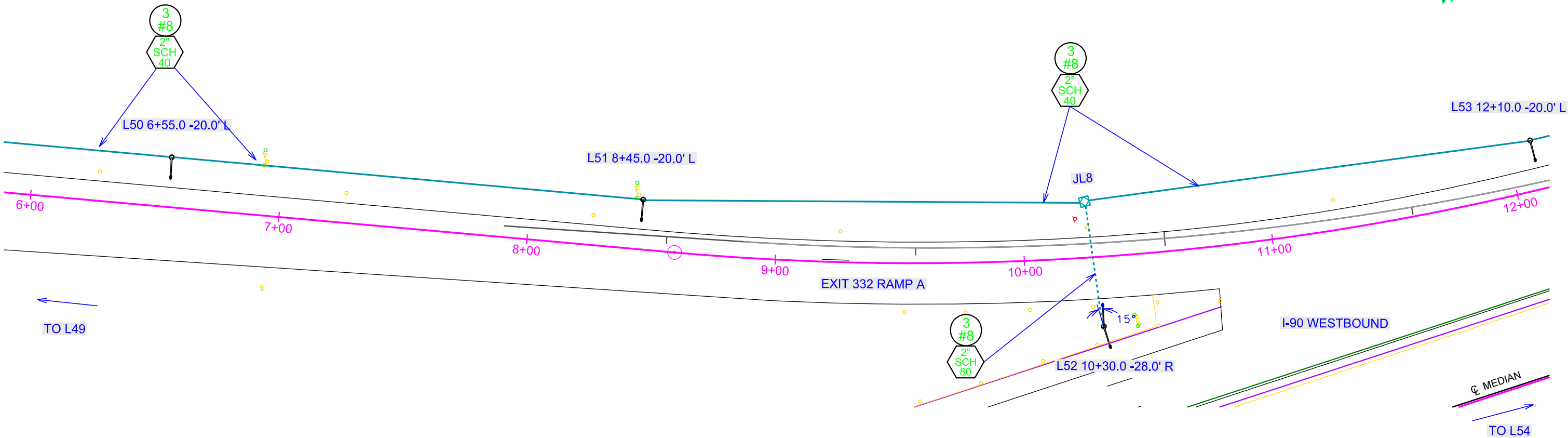
Plotted From - TRR017715

CONDUIT LAYOUT EXIT 332, RAMP A

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



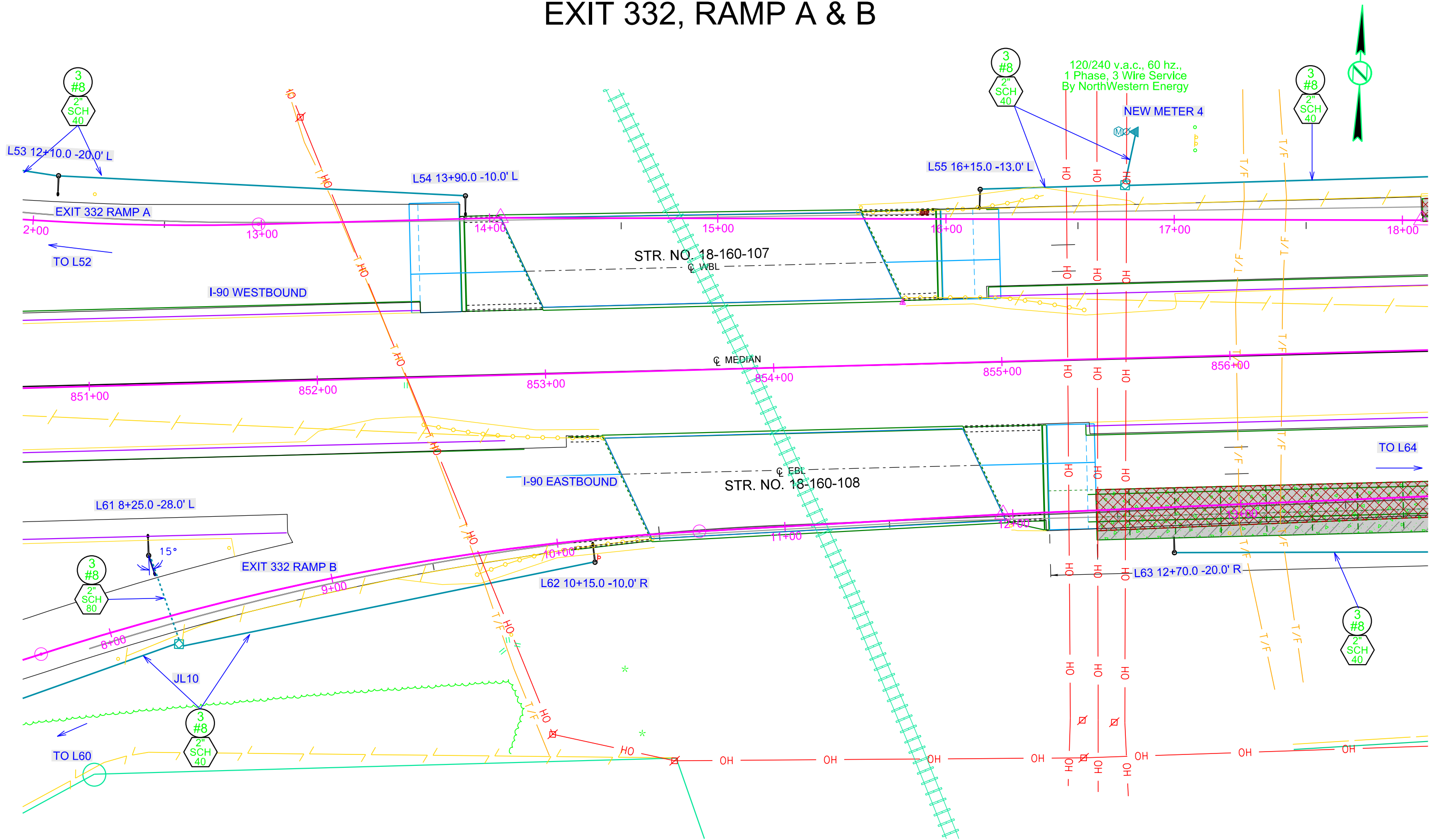
CONDUIT LAYOUT EXIT 332, RAMP A & B

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
Plotting Date: 07/03/2025		L48	L63

Plot Scale - 1"=40'

Plotted From - TRR014715



File - ...190_exit332_RampB.dgn

CONDUIT LAYOUT EXIT 332, RAMP A & B

FOR BIDDING PURPOSES ONLY

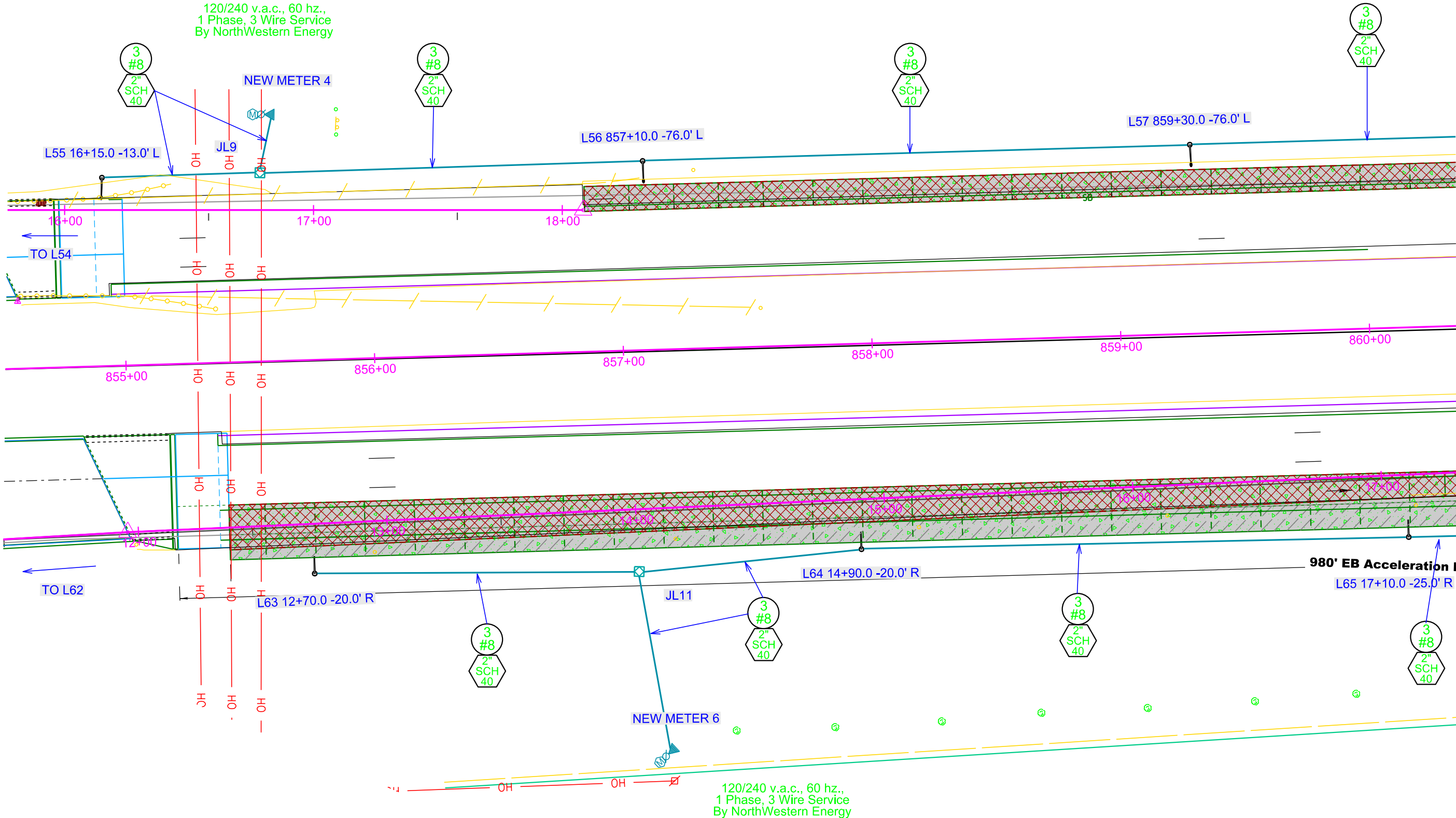
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L49	L63

Plotting Date: 07/03/2025



Plot Scale - 1:40

Plotted From - TRR011715

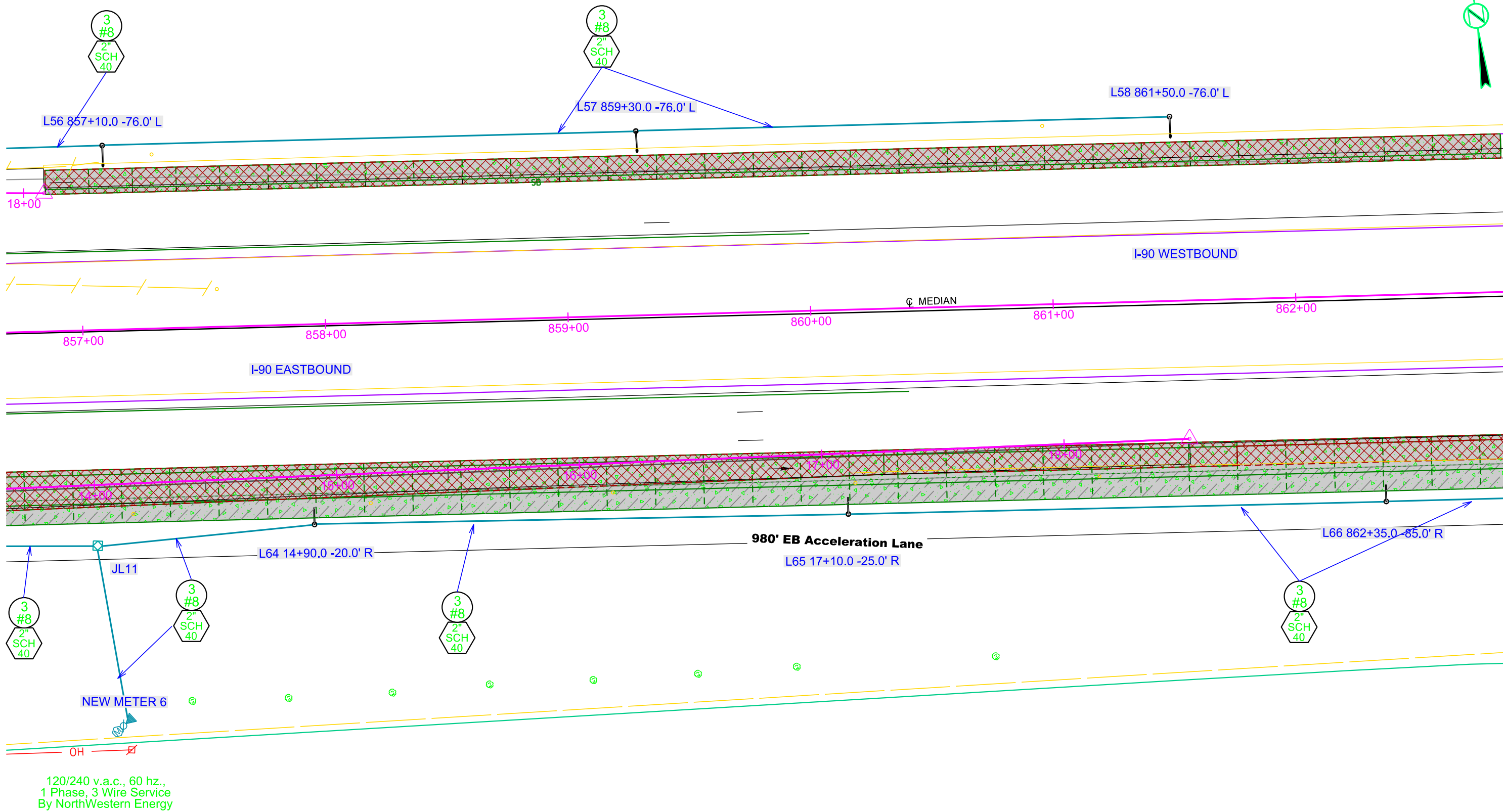


CONDUIT LAYOUT EXIT 332, RAMP A & B

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L50	L63

Plotting Date: 07/03/2025



120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By NorthWestern Energy

Plot Scale - 1:40

Plotted From - TRR017/15

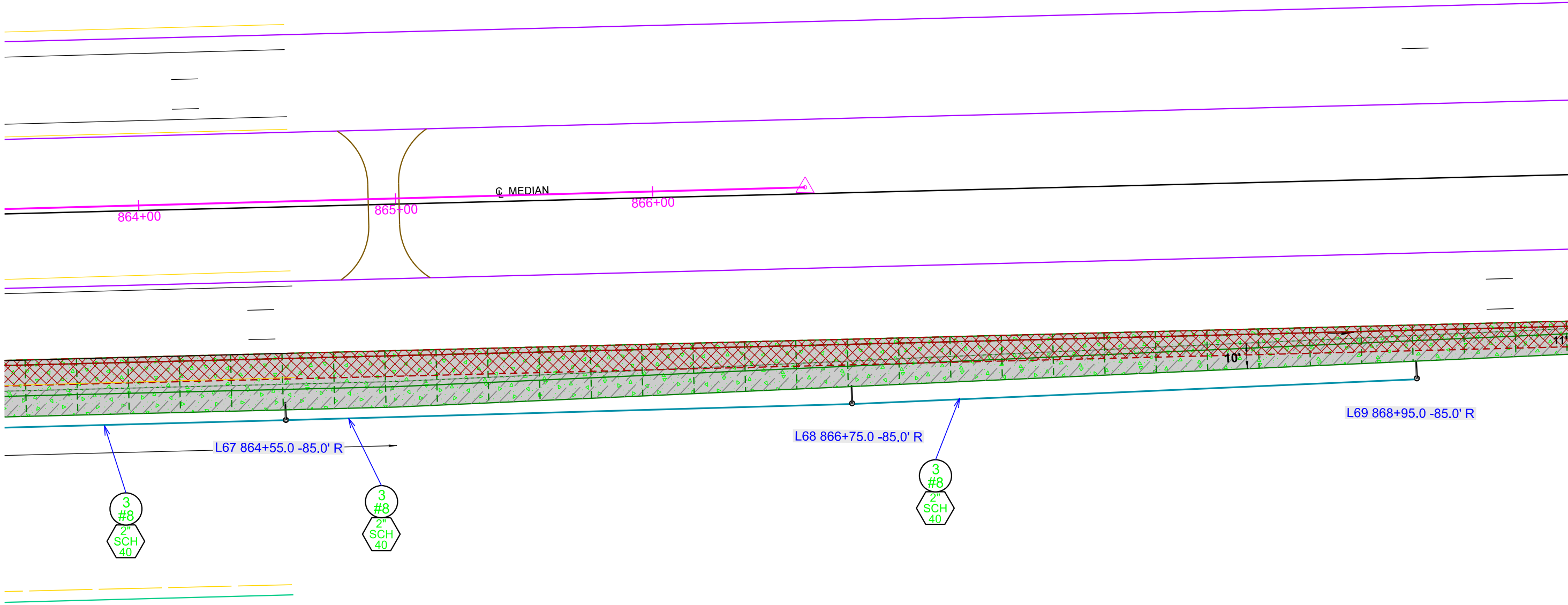
File - ...190_exit332_RampAB.dgn

CONDUIT LAYOUT EXIT 332, RAMP A & B

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET L51	TOTAL SHEETS L63
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



Plot Scale - 1:40

Plotted From - TRRC1715

File - ...190_exit332_RampAB1.dgn

WIRING DIAGRAM

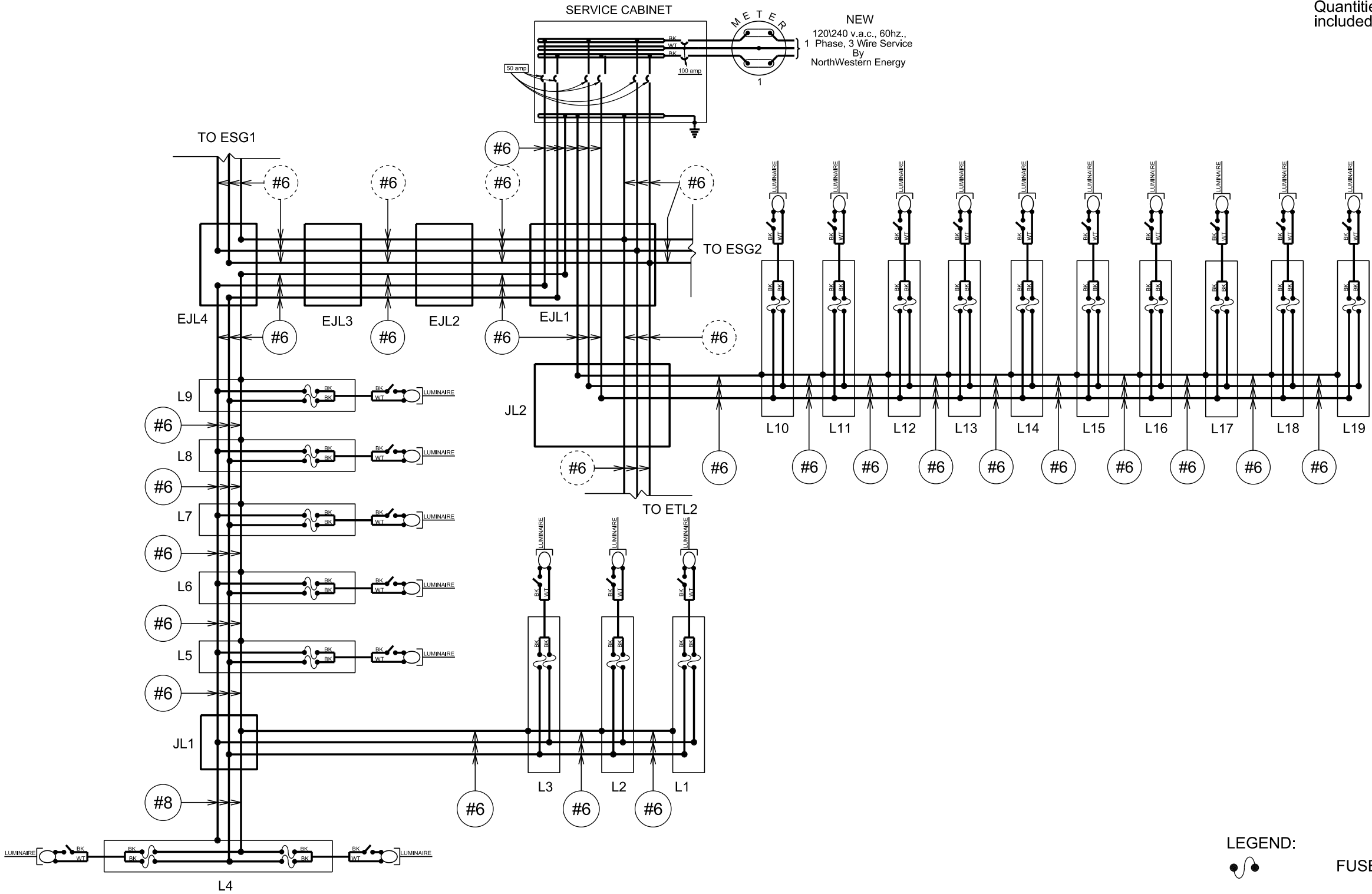
EXIT 330 NORTH

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
		L52	L63

Plotting Date: 12/09/2025

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



LEGEND:

- FUSE: 10 amp.
- LUMINAIRE: LED
- PHOTOCELL (TYPICAL OF ALL)

Plotted From: - TRRC-17/15 Plot Scale - 1:40

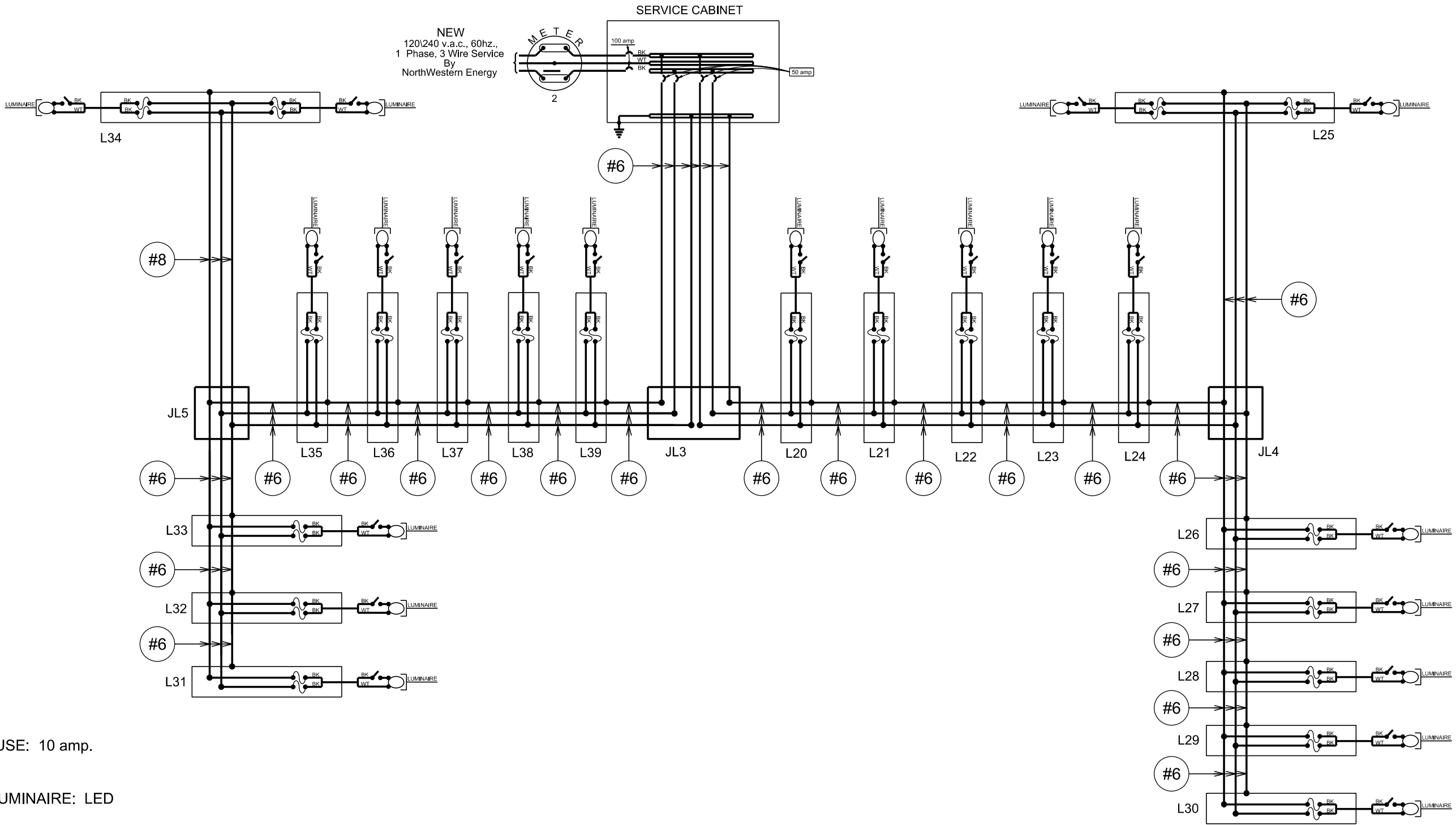
NOTE:
All circuits shall be bonded in accordance with the NATIONAL ELECTRICAL CODE.
Quantities for bonding conductors are not included in these plans.

WIRING DIAGRAM

EXIT 330 SOUTH

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330		
Plotting Date: 07/03/2025		L53	L63



LEGEND:

FUSE: 10 amp.

LUMINAIRE: LED

PHOTOCELL (TYPICAL OF ALL)

Plot Scale - 1:40

Plotted From - TRRC-17/15

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

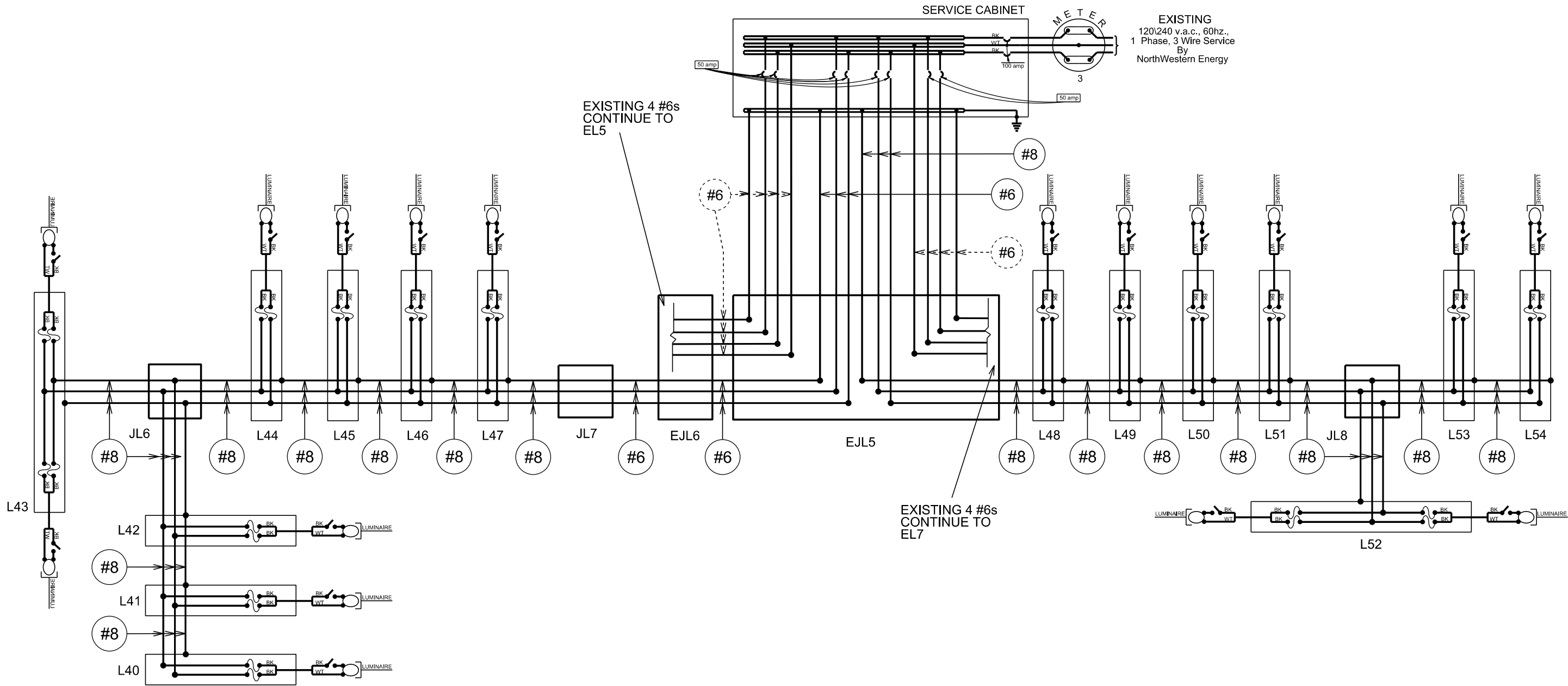
WIRING DIAGRAM

EXIT 332 NORTH

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0037(116)73 CR 0907(91)330	SHEET L54	TOTAL SHEETS L63
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Plotting Date: 07/03/2025



LEGEND:



FUSE: 10 amp.



LUMINAIRE: LED



PHOTOCELL (TYPICAL OF ALL)

Plot Scale - 1:40

Plotted From - TRRC-17/15

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

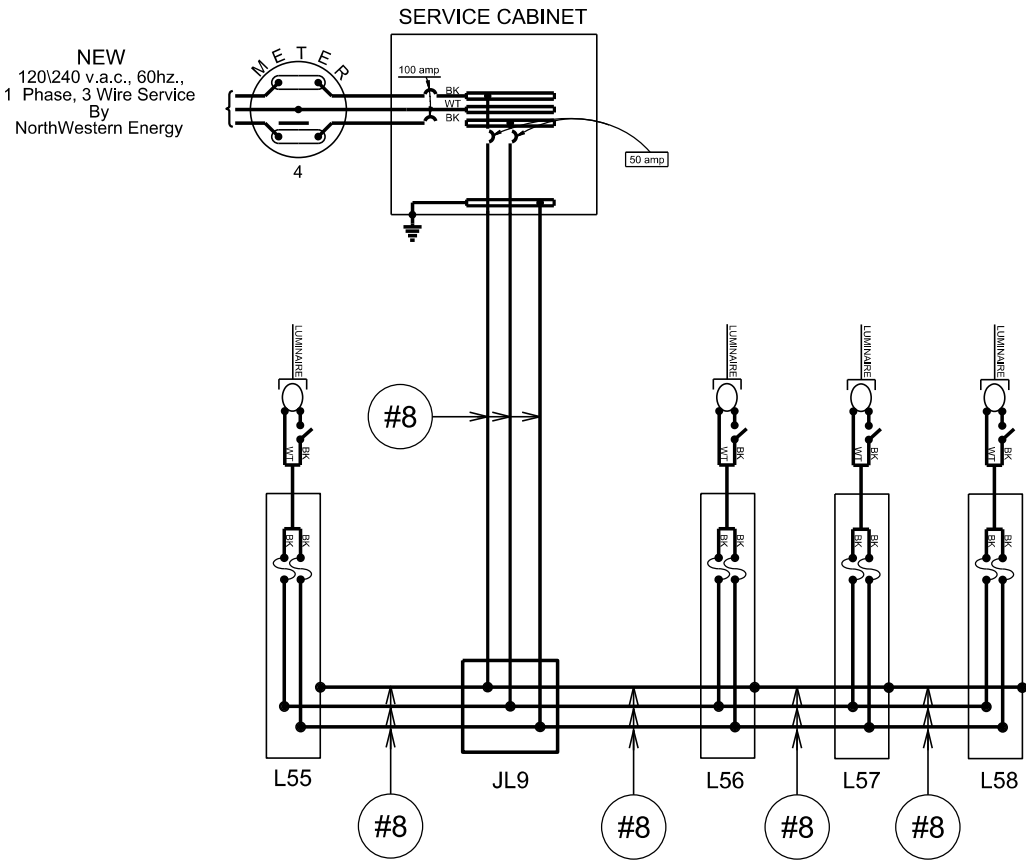
WIRING DIAGRAM

EXIT 332 EAST - NORTH OF I-90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L55	L63

Plotting Date: 07/03/2025



- LEGEND:
- FUSE: 10 amp.
 - LUMINAIRE: LED
 - PHOTOCELL (TYPICAL OF ALL)

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

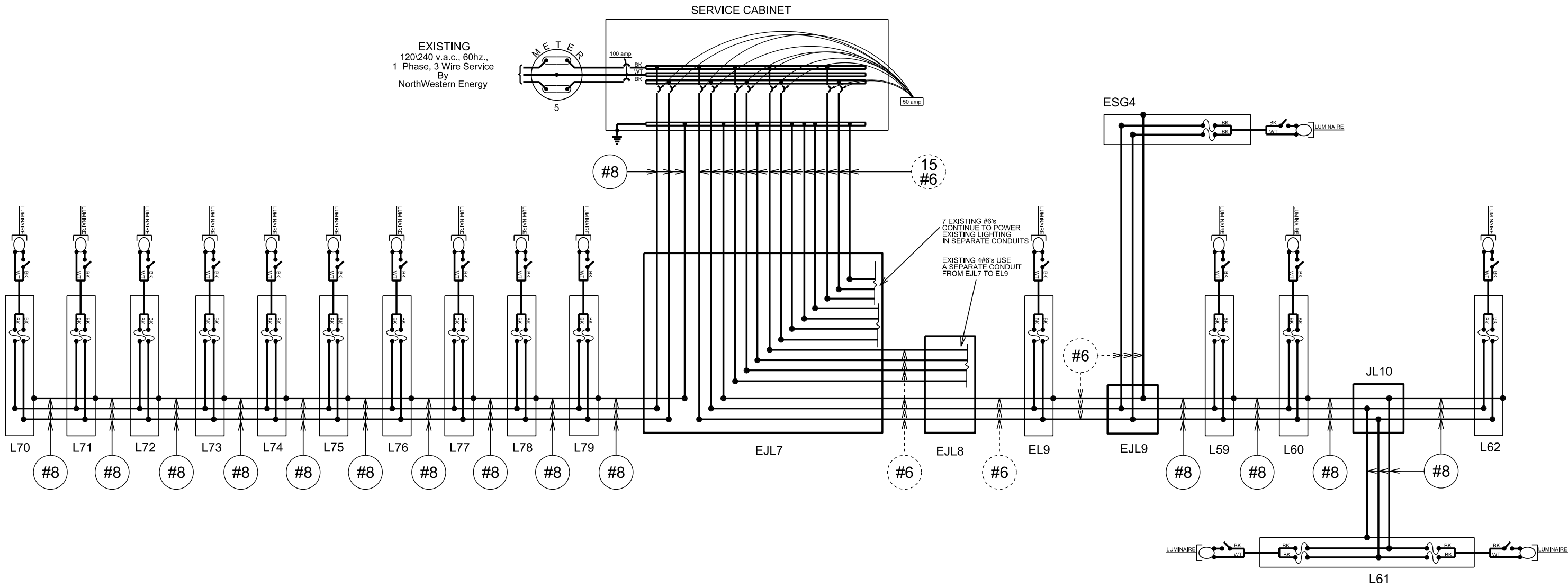
WIRING DIAGRAM

EXIT 332 SOUTH

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L56	L63

Plotting Date: 07/03/2025



LEGEND:



FUSE: 10 amp.



LUMINAIRE: LED



PHOTOCELL (TYPICAL OF ALL)

Plot Scale - 1:40

Plotted From - TRRC-17/15

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

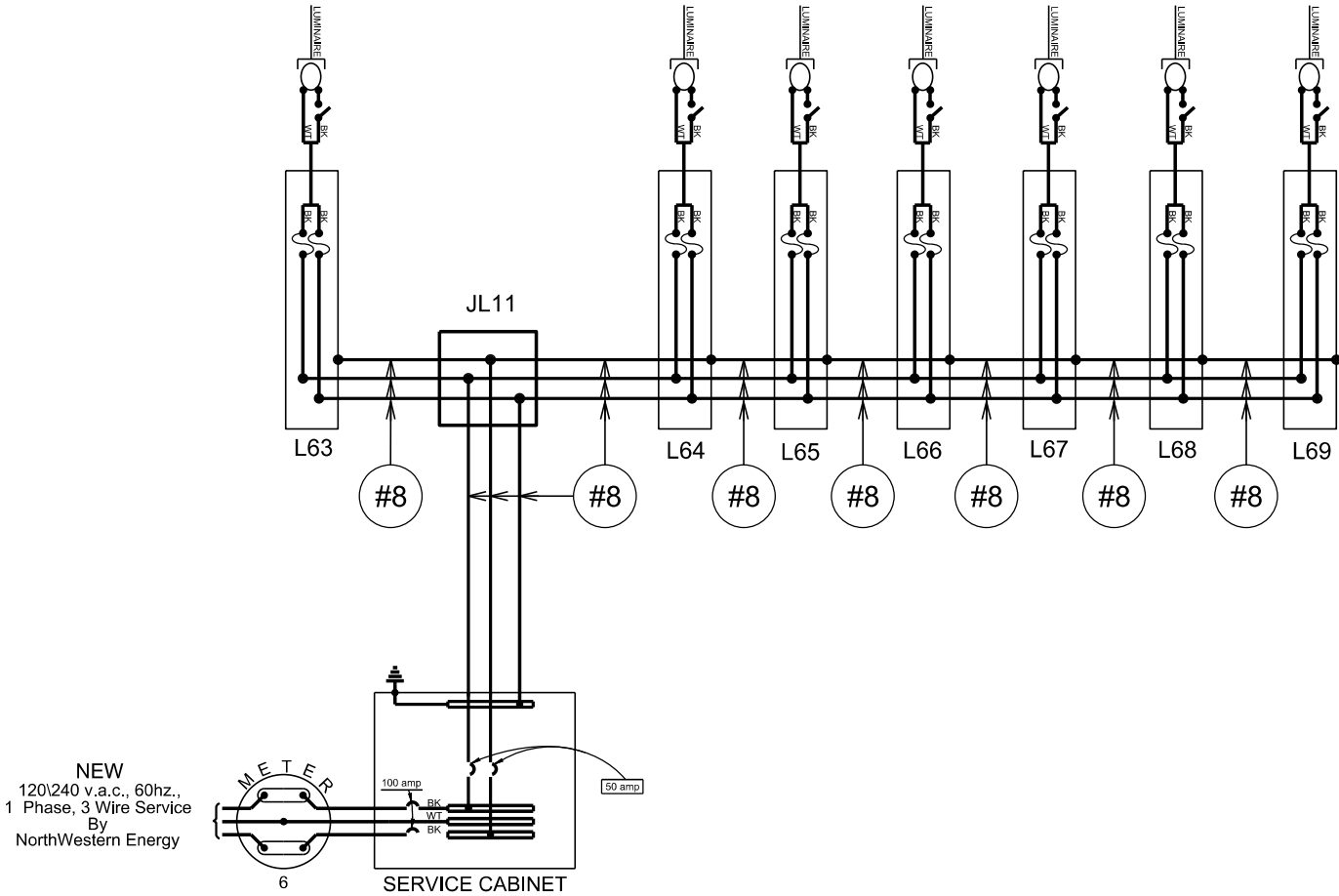
WIRING DIAGRAM

EXIT 332 EAST - SOUTH OF I-90

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET L57	TOTAL SHEETS L63
	NH 0037(116)73 CR 0907(91)330		

Plotting Date: 07/03/2025



LEGEND:



FUSE: 10 amp.



LUMINAIRE: LED



PHOTOCELL (TYPICAL OF ALL)

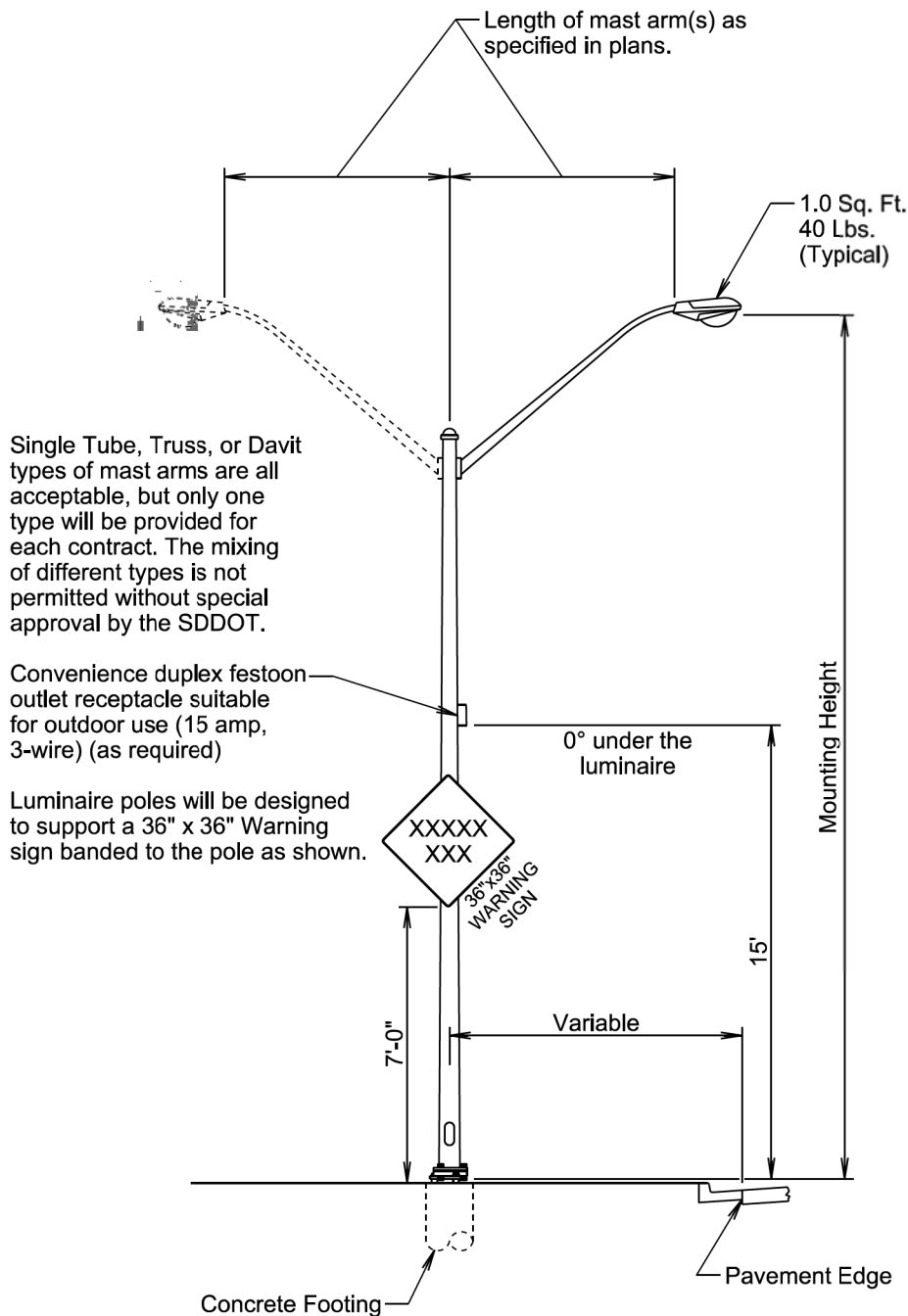
Plot Scale - 1:200

Plotted From - TRRC11715

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0037(116)73 CR 0907(91)330	L58	L63

Plotting Date: 07/03/2025



Single Tube, Truss, or Davit types of mast arms are all acceptable, but only one type will be provided for each contract. The mixing of different types is not permitted without special approval by the SDDOT.

Convenience duplex festoon outlet receptacle suitable for outdoor use (15 amp, 3-wire) (as required)

Luminaire poles will be designed to support a 36" x 36" Warning sign banded to the pole as shown.

XXXXXX
XXX
36" x 36"
WARNING
SIGN

November 19, 2022

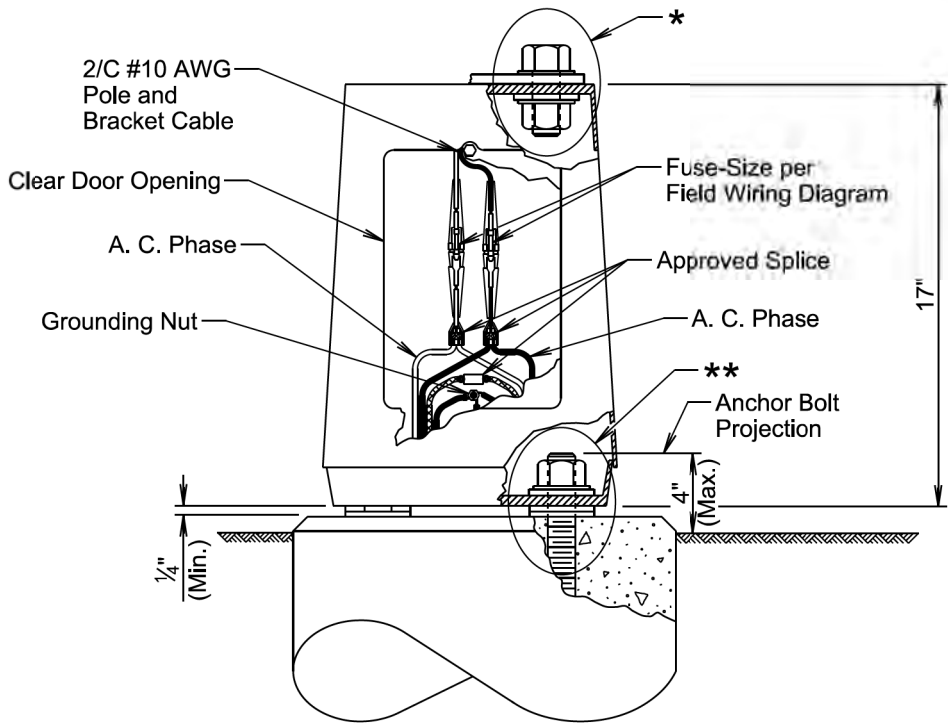
Published Date: 2026

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STEEL ROADWAY LUMINAIRE POLE
WITH MAST ARM(S)

PLATE NUMBER
635.01

Sheet 1 of 1



GENERAL NOTES:

Base details are provided for example only and are not intended to be a complete design.

Fused connectors will be breakaway type.

* Hardware connecting the pole to the base will be installed in accordance with the manufacturer's recommendation.

** Hardware connecting the base to the footing will be installed in accordance with the manufacturer's recommendation. The Contractor will install leveling devices in accordance with the manufacturer's recommendation if shimming is necessary to install the light poles plumb and level. The washers and shims will be installed around the anchor bolts.

November 19, 2022

Published Date: 2026

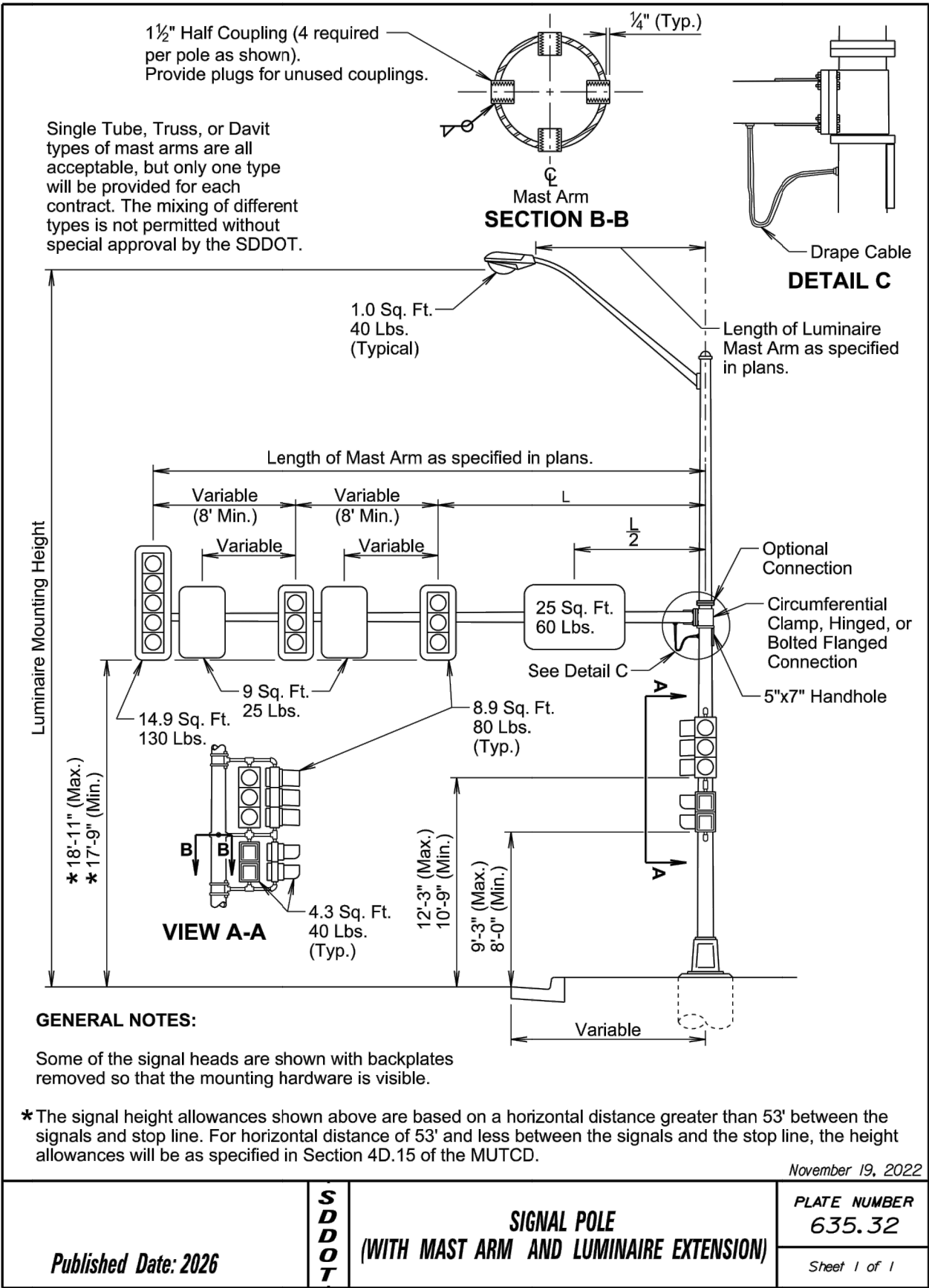
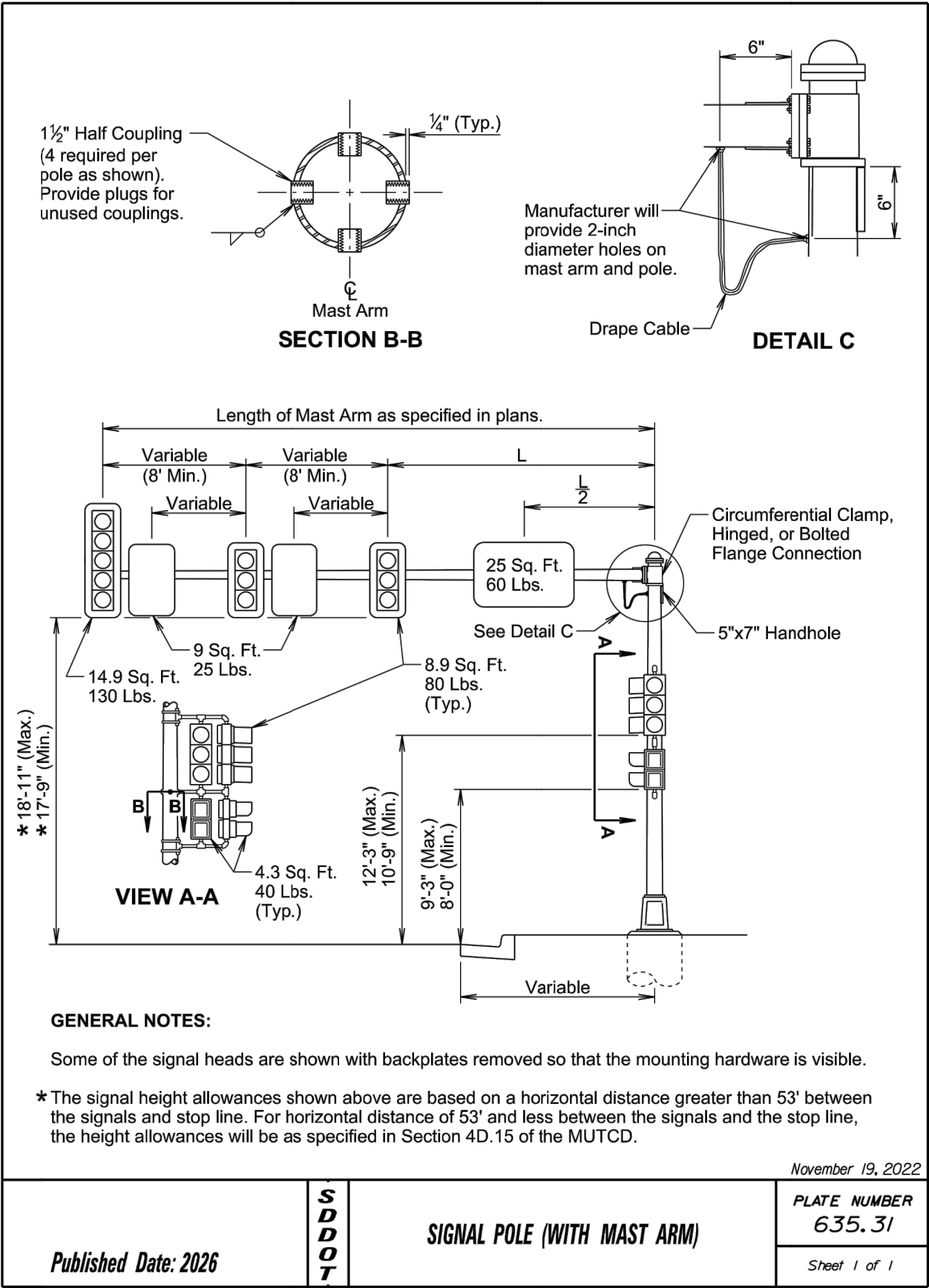
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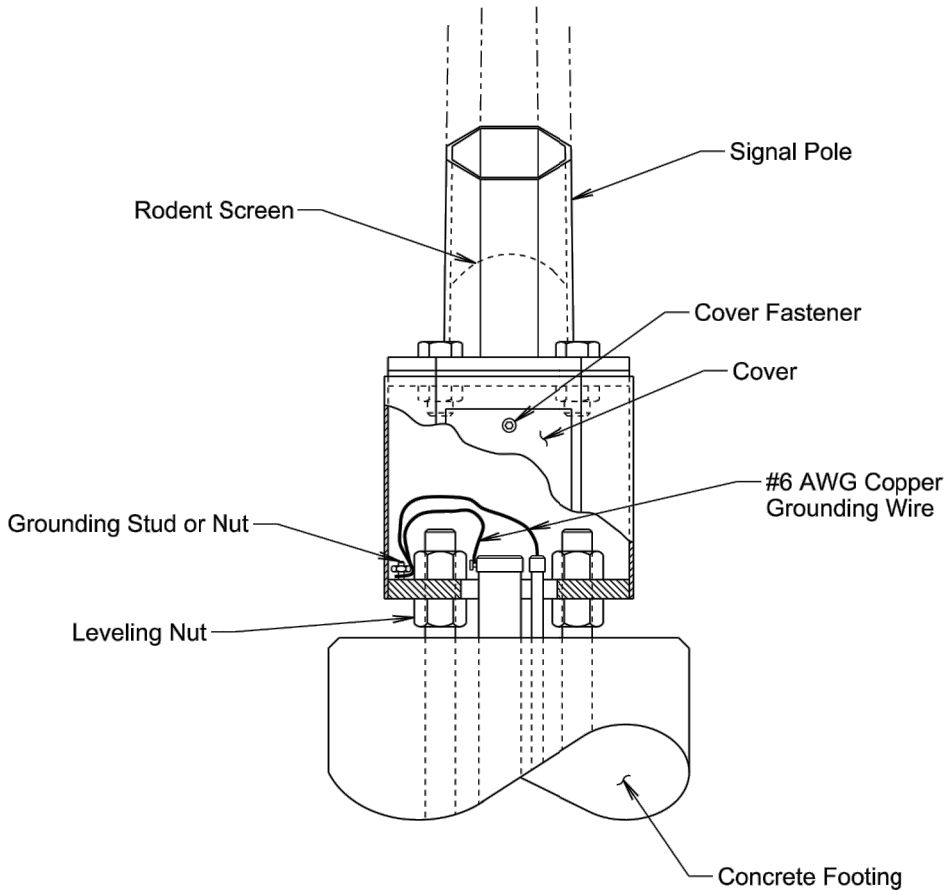
ROADWAY LUMINAIRE POLE
BREAKAWAY TRANSFORMER BASE

PLATE NUMBER
635.21

Sheet 1 of 1

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GENERAL NOTES:

Base details are provided for example only and are not intended to be a complete design.

The Contractor will furnish and install a rodent screen in the signal pole above the tranformer base. The rodent screen will be a galvanized steel mesh with a maximum opening size of ¼ inch. The rodent screen will be friction fitted or installed by other methods approved by the Engineer.

All costs for furnishing and installing the rodent screen including labor, equipment, and materials will be incidental to the contract unit price per each for the corresponding signal pole contract item.

February 14, 2020

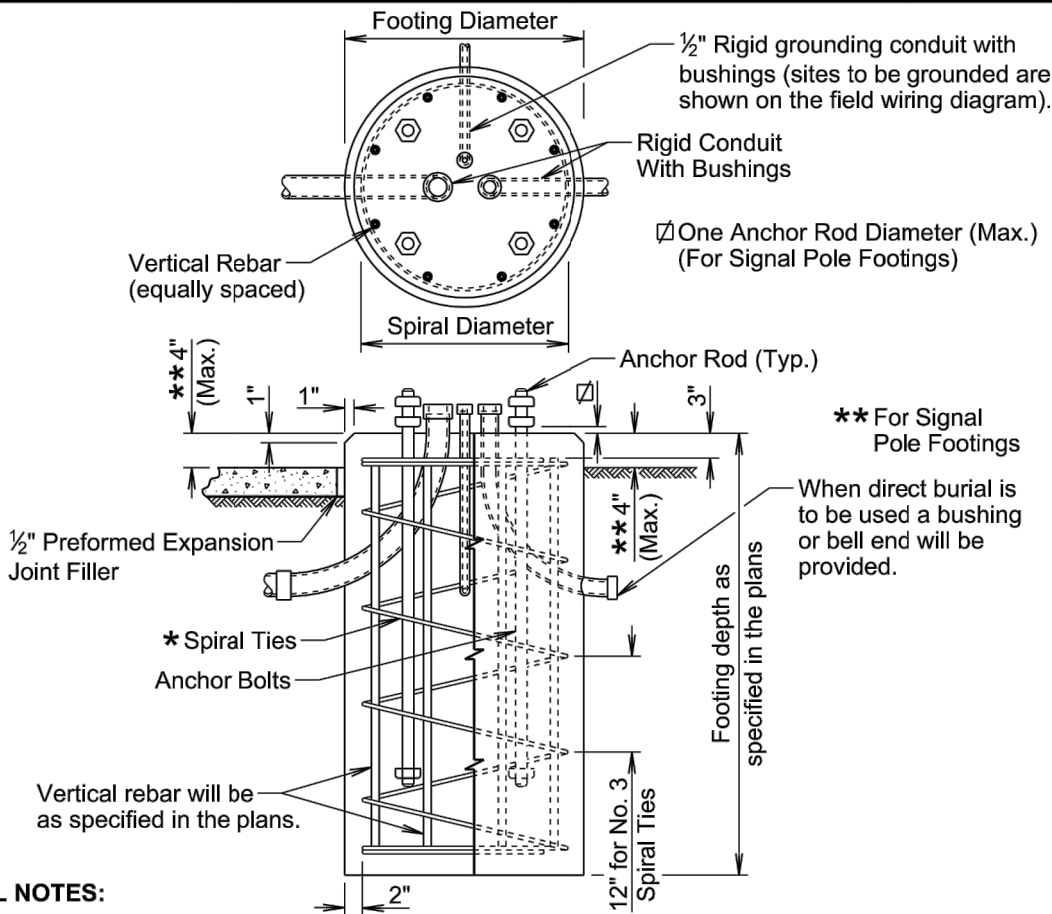
Published Date: 2026

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TRANSFORMER SIGNAL POLE BASE

PLATE NUMBER
635.50

Sheet 1 of 1



GENERAL NOTES:

* Circular ties may be used in lieu of the spiral ties. The No. 3 ties will be spaced 12 inches apart except for the top two which will be spaced 6 inches apart. The ties will be lapped 18 inches and the laps will be staggered around the cage.

Spiral ties will have 1-1/2 extra turns at each end.

See Section 985 of the Specifications for footing materials.

Conduits and bushings may project 2½ inches to 6 inches above footing for fixed base poles but will not project above the slip plane or fracture plane for breakaway poles.

Conduits will be sealed water-tight during all phases of construction until poles are in place.

The anchor rods will fit inside the reinforcing steel cage. If the anchor rods designed by the Pole Manufacturer do not fit, contact the Office of Bridge Design for footing redesign. No additional payment will be made for the redesigned footing.

Costs of conduit and conduit bushings shown on footing detail will be incidental to the footing bid item(s).

The pole will not be installed until the concrete has attained design strength (4000 psi).

The contour of the area surrounding the breakaway pole will be flat, though not necessarily level for a distance of 5 feet in all directions. The Contractor may be required to provide finish grading at some breakaway pole locations.

November 19, 2022

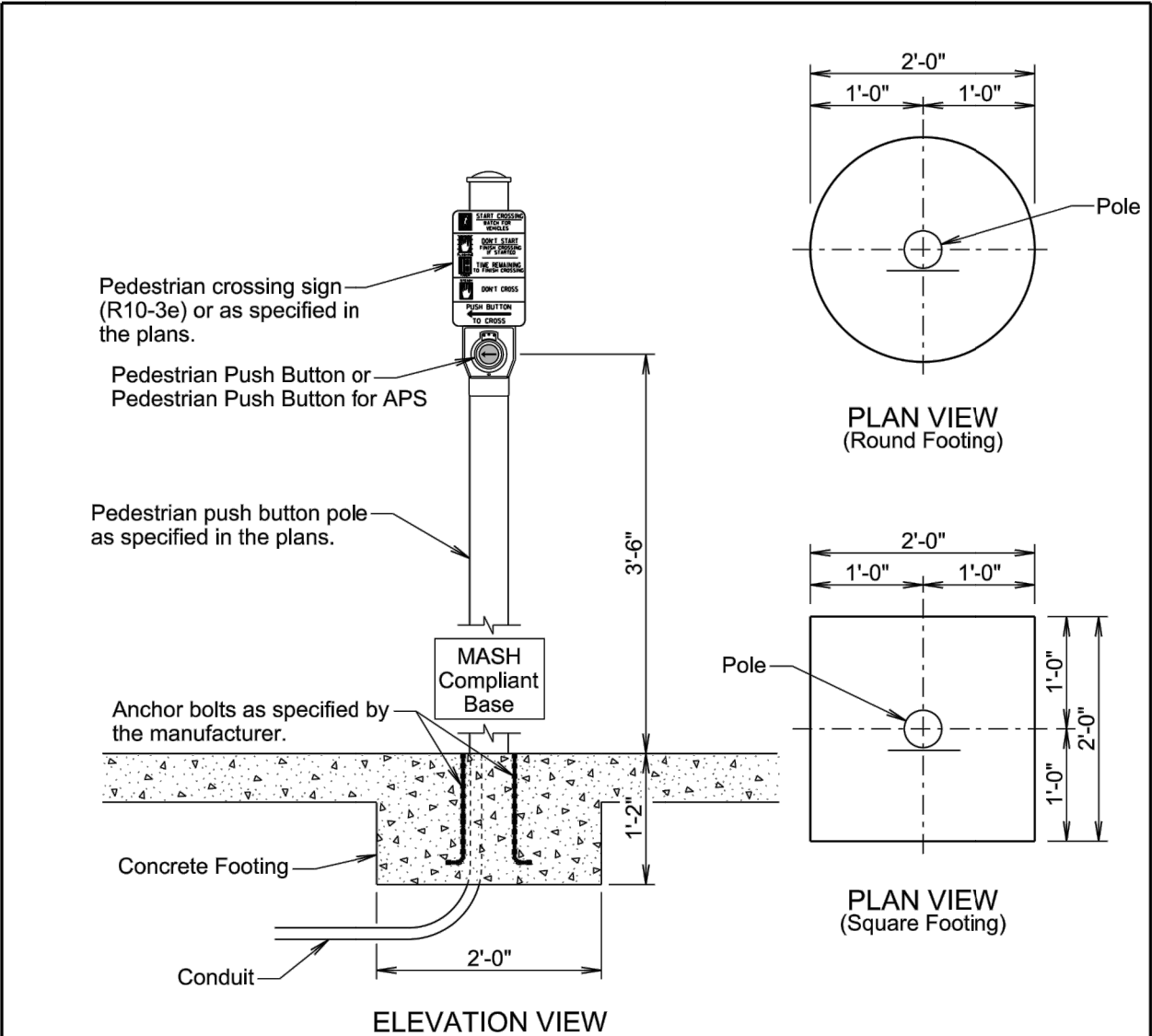
Published Date: 2026

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POLE FOOTING

PLATE NUMBER
635.55

Sheet 1 of 1

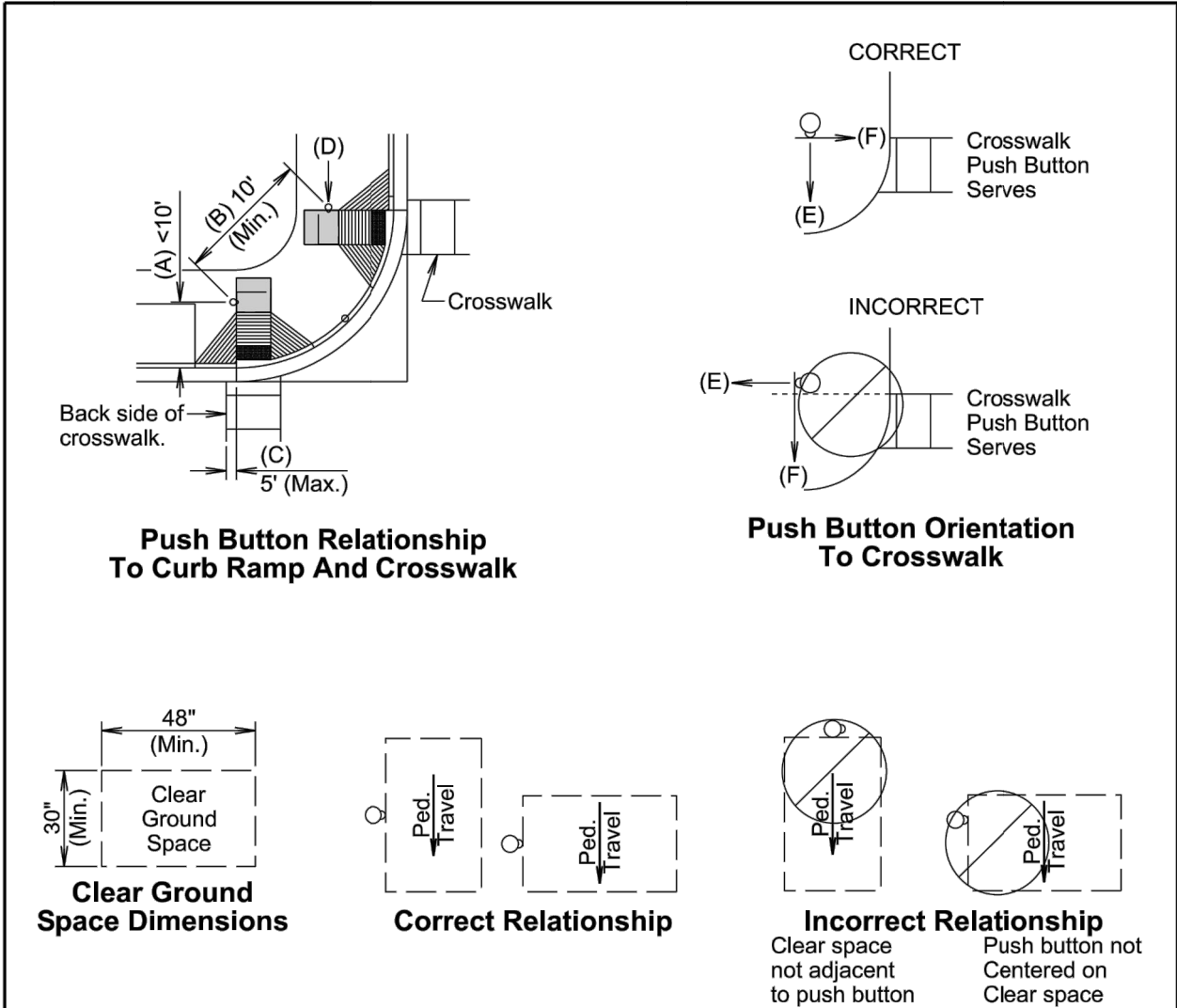


GENERAL NOTES:

- The pedestrian push button pole will be as specified in the plans.
- The Contractor will install either the round or the square concrete footing. For informational purpose, the quantity of concrete for one footing is 0.14 cubic yards for the round footing and 0.17 cubic yards for the square footing.
- The concrete for the footing will be class M6 concrete.
- All costs for furnishing and installing the concrete footing will be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.
- All costs for furnishing and installing the pedestrian push button pole including labor, equipment, and materials including the pole, cap, and the conduit in the footing will be incidental to the contract unit price per each for "Pedestrian Push Button Pole".

April 8, 2025

Published Date: 2026	S D D O T	PEDESTRIAN PUSH BUTTON POLE	PLATE NUMBER 635.57
			Sheet 1 of 2



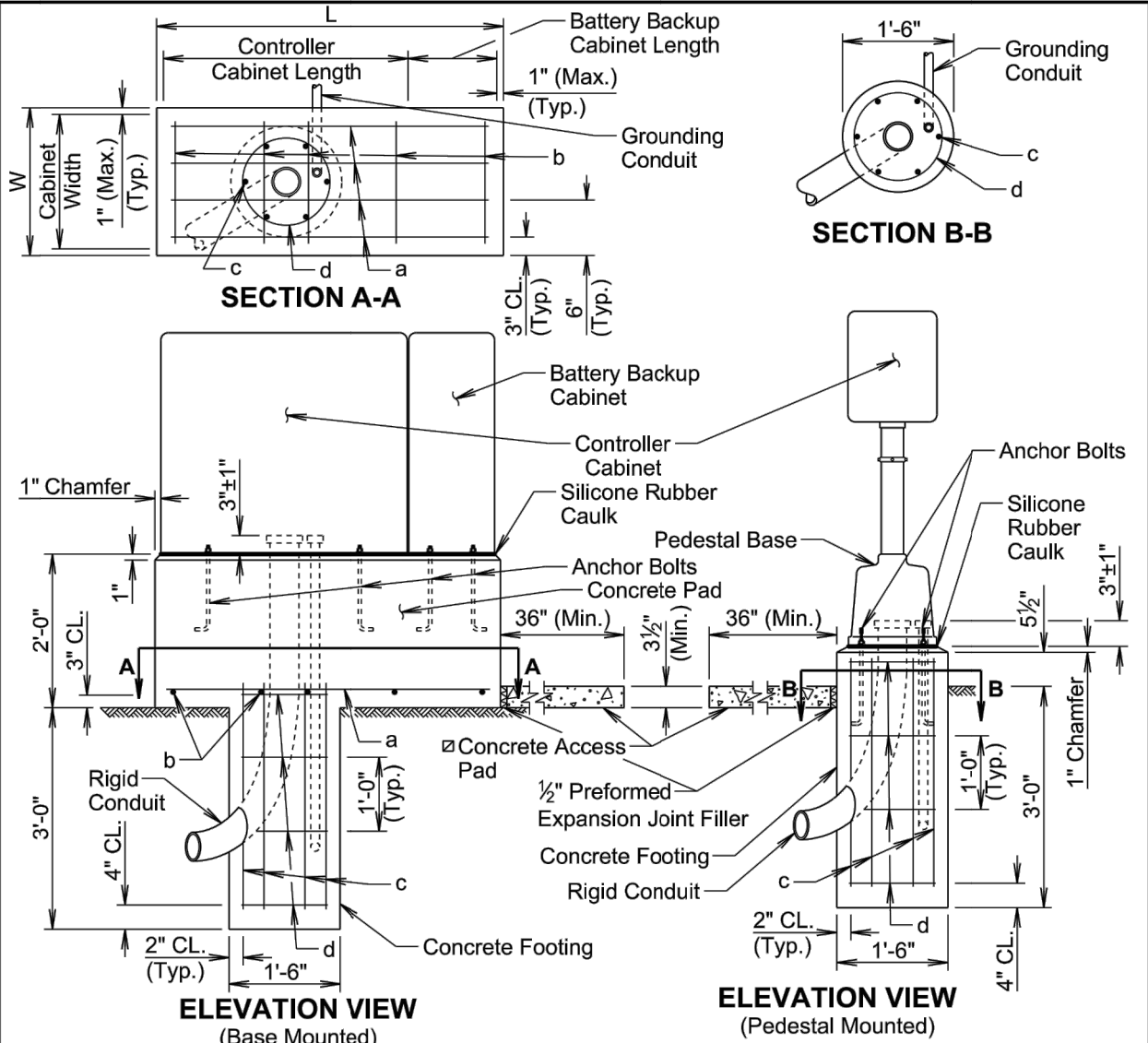
General Notes:

- Pedestrian Push Buttons Location and Orientation Requirements:
- (A) Within 10 feet from the front face of curb.
 - (B) Where two push buttons are provided, the push buttons should have at least 10 feet of separation from each other.
 - (C) If two curb ramps are used, the push button should be within 5 feet of the backside of the crosswalk.
 - (D) The push button should be mounted adjacent to a clear ground space (within 10 inches maximum reach). The clear ground space will be a least 30 inches x 48 inches and will slope no more than 2.1% in any direction. The push button will be centered on either side of the clear ground space (either the 30 inch or 48 inch side). The 30 inch x 48 inch clear ground space shouldn't touch the detectable warning panel.
 - (E) The push button should face the edge of roadway.
 - (F) The push button face should be parallel to the crosswalk being used.

The push button poles will not interfere with the minimum clear width of the Pedestrian Access Route.

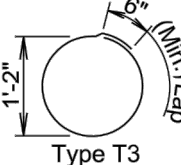
April 8, 2025

Published Date: 2026	S D D O T	PEDESTRIAN PUSH BUTTON POLE	PLATE NUMBER 635.57
			Sheet 2 of 2



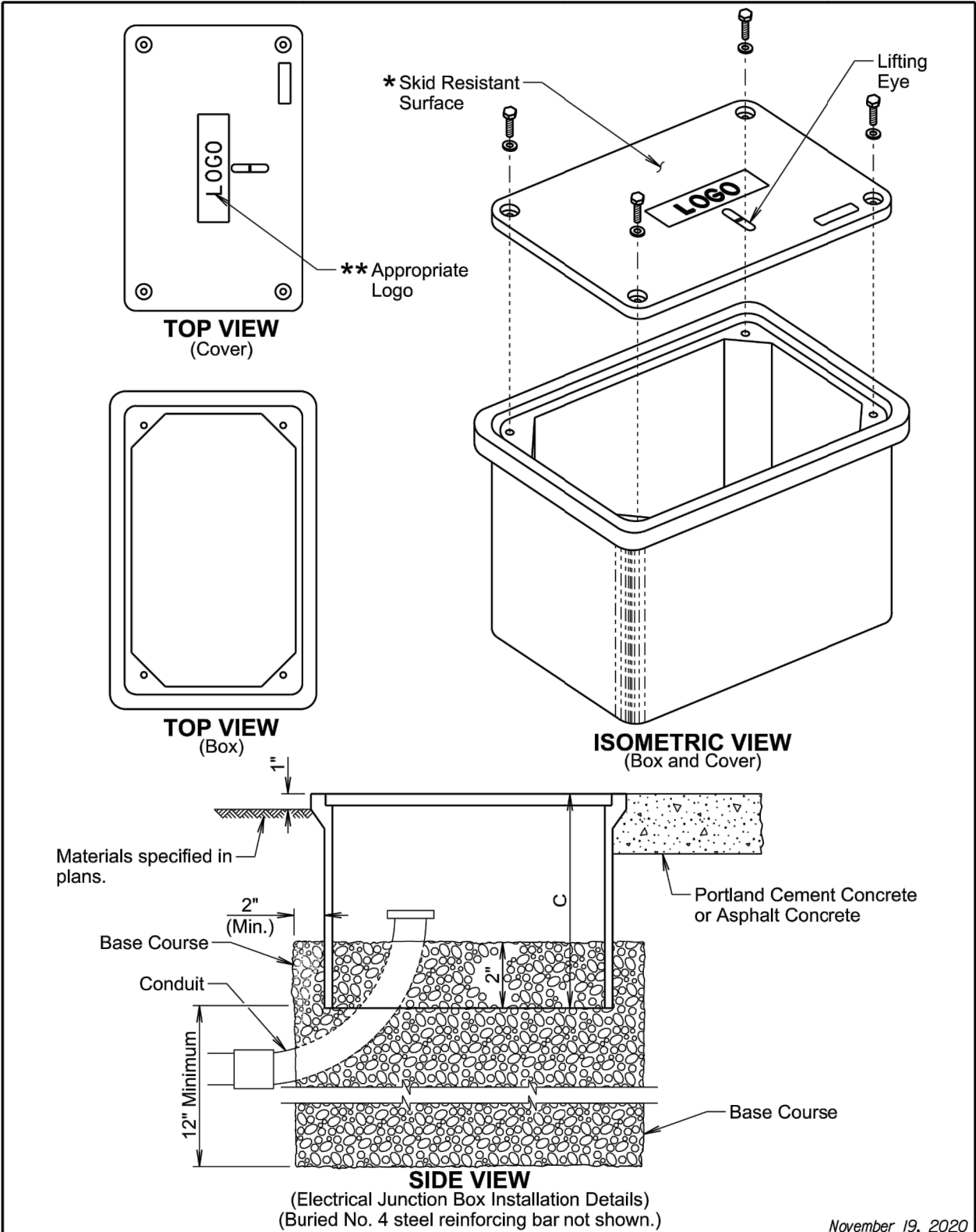
GENERAL NOTES:

- The concrete pad will conform to the base of the controller and battery backup cabinets to the satisfaction of the Engineer.
- Conduits will be sealed water-tight until the conductor cables are installed.
- ☑ If the controller and battery backup concrete pad and footing is not located within or adjacent to an existing sidewalk, the Contractor will provide a concrete access pad as directed by the Engineer.
- Anchor bolts and related hardware will conform to the controller and battery backup cabinets manufacturer's specifications.
- A continuous bead of silicone rubber caulk will provide a weather-tight seal between the concrete pad or footing, and the cabinet or base.

REINFORCING SCHEDULE (for one footing)					
Mk.	No.	Size	Length	Type	Bending Detail
a	*	3	L-4"	Str.	
b	*	3	W-4"	Str.	
c	6	6	3'-0"	Str.	
d	4	3	4'-0"	T3	
Note: Dimensions are out to out of bar * Vary number of bars as required by footing size.					

November 19, 2022

Published Date: 2026	S D D O T	CONTROLLER CABINET AND FOOTING	PLATE NUMBER 635.60
			Sheet 1 of 1



November 19, 2020

Published Date: 2026	S D D O T	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
			Sheet 1 of 2

ELECTRICAL JUNCTION BOX			
TYPE	DESCRIPTION	APPROXIMATE COVER SIZE	MINIMUM DEPTH (C)
1	Open Bottom with Gasket	11"x18"	18"
2	Open Bottom with Gasket	13"x24"	18"
3	Open Bottom with Gasket	17"x30"	18"
3A	Open Bottom with Gasket	24"x36"***	24"
4	Open Bottom with Gasket	30"x48"***	24"

GENERAL NOTES:

The cover will be gasketed with a minimum of two stainless steel bolts and washers.

The cover will have a lifting eye.

★ The surface of the cover will have a minimum wet and dry coefficient of friction value of 0.5 as determined by ASTM F609.

★★ The cover of the junction box will have the appropriate logo in one inch size letters and will be recessed. When the junction box contains cables or wires for a traffic signal then the logo will be "Signal". When the junction box contains lighting conductors then the logo will be "Lighting".

*** Two piece covers will be used for Type 3A and Type 4 junction boxes.

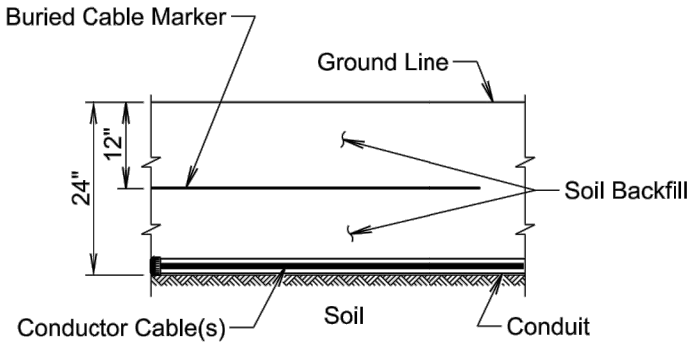
The electrical junction boxes will comply with the American National Standards Institute (ANSI)/Society of Cable Telecommunications Engineers (SCTE) 77 2007 Specification for Underground Enclosure Integrity. The loading requirement for all electrical junction boxes and covers will be Tier 22 of ANSI/SCTE 77 2007.

The electrical junction boxes will be UL listed.

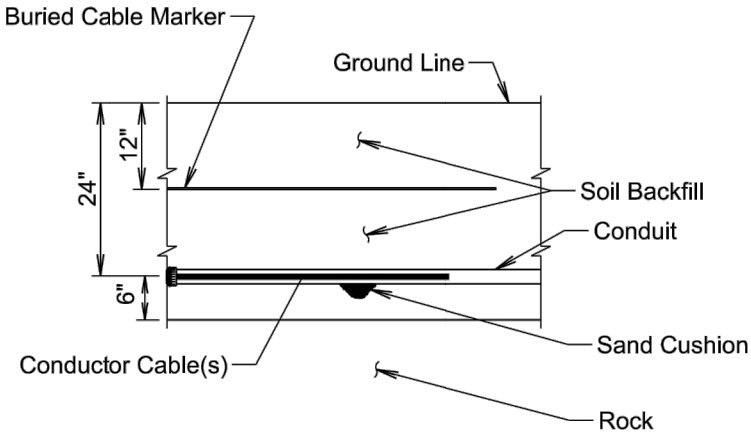
For junction boxes located outside of pavement, a No. 4 steel reinforcing bar with a minimum length of 18" will be buried adjacent to the long side of the junction box. All costs associated with furnishing and placing the steel reinforcing bar will be incidental to the contract unit price per each for "Type _ Electrical Junction Box".

November 19, 2020

Published Date: 2026	S D D O T	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
			Sheet 2 of 2



SECTION VIEW



SECTION VIEW

GENERAL NOTE:

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

November 19, 2022

Published Date: 2026	S D D O T	CONDUIT INSTALLATION	PLATE NUMBER 635.76
			Sheet 1 of 1