LIGHTING

IM-035-4(308)97--13-77

LETTING DATE Jan 21, 2026

POLK COUNTY

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	**Title Sheets**
A.1	Title Sheet
C Sheets	**Quantities and General Information**
C.1 - 4	Estimated Project Quantities and Reference Notes
P Sheets	**Lighting Layout Sheets**
P.1 - 4	Lighting Layout Sheets

IOWA | DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
POLK COUNTY
LIGHTING

Co Rd F22 Interchange
NB I-35 Rest Area

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

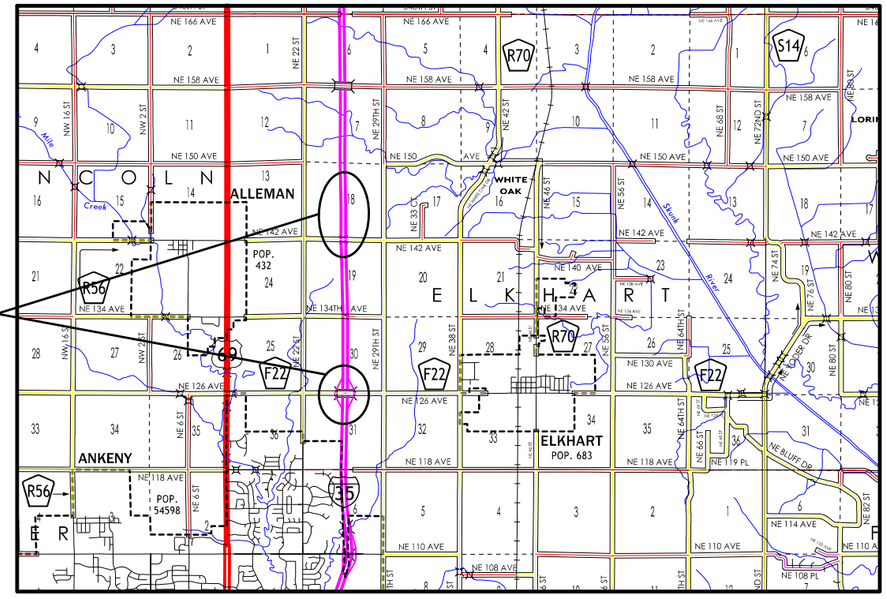
Value Engineering Saves. Refer to Article 1105.14 of the Specifications.

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

	TOTAL
	9
PROJECT IDENTIFICATION NUMBER	
15-77-035-040-01	
PROJECT NUMBER	
IM-035-4(308)97--13-77	
R.O.W. PROJECT NUMBER	

PROJECT LOCATIONS



LOCATION MAP SCALE
0 1 2 3
Miles

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

LICENSED PROFESSIONAL ENGINEER
YAAD KAIZER RAHMAN
P29250
IOWA

YAAD KAIZER RAHMAN, P.E. — 10-3-2025 DATE
License Number: P29250
My license renewal date is December 31, 2025.
Pages or sheets covered by this seal:
A.1, C.1-4, P.1-4

FILE NO.	ENGLISH	DESIGN TEAM HERMANN / HR GREEN	POLK COUNTY	PROJECT NUMBER IM-035-4(308)97--13-77	SHEET NUMBER A.1

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Lighting Items : Lighting Items

DELIVER AND STOCKPILE SALVAGED MATERIALS :

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Lighting Items	DELIVER AND STOCKPILE SALVAGED MATERIALS	Total	
1	2401-6745359	REMOVAL OF CONCRETE FOUNDATIONS OF LIGHT POLES	EACH	8		8	A. Refer to P Sheets for locations and details. B. This item includes the demolition and disposal of each light pole concrete footing per the plans. C. Method of Measurement: By count of each light pole concrete footing removed. D. Basis of Payment: The contractor will be paid the contract unit price for each light pole concrete footing removed. Payment is full compensation for furnishing all materials, equipment, and labor required to remove each light pole footing and any associated access handhole including waste disposal, backfill of the void, compaction to finished grade, and surface restoration. Protection, splicing, decommissioning, and removal of electric conductors and portions of conduit associated with the footing shall be incidental to the cost of the footing removal.
2	2401-6745765	REMOVAL OF LIGHT POLES	EACH	8		8	A. Refer to the P Sheets for locations and details. B. This item includes the protection and removal of the roadway light pole assembly for salvage to the owner. C. Method of Measurement: By count of each light pole structure removed. D. Basis of Payment: The contractor will be paid the contract unit price for each light pole structure removed. Payment is full compensation for furnishing all materials, equipment, and labor required to protect and remove each light pole assembly for salvage to the owner.
3	2523-0000100	LIGHTING POLES	EACH	20		20	A. Refer to the P Sheets for locations and details. B. Refer to Tab. 108-1 and Tab. 108-11A in the C Sheets. C. Provide and install each light pole assembly per Iowa DOT Standard Specifications and Standard Road Plans LI-101 and LI-201. D. Method of Measurement: By count of each light pole assembly installed. E. Basis of Payment: The contractor will be paid the contract unit price for each light pole assembly installed. Payment is full compensation for furnishing all materials, equipment, and labor required to install each light pole assembly including luminaire, pole, footing, grounding, and associated riser conductors in pole.
4	2523-0000200	ELECTRICAL CIRCUITS	LF	7,700		7,700	A. Refer to the P Sheets for locations and details. B. Refer to Tab. 108-2 and Tab. 108-12 in the C Sheets. C. Provide and install Electrical Circuits per Iowa DOT Standard Specifications and Standard Road Plan LI-141. D. Method of Measurement: By count of each lineal foot of electrical circuit installed. E. Basis of Payment: The contractor will be paid the contract unit price for each lineal foot of electrical circuit installed. Payment is full compensation for furnishing all materials, equipment, and labor required to install conduit, fittings, conductors, and splice connectors/terminations including excavation, backfill, and compaction.
5	2523-0000310	HANDHOLES AND JUNCTION BOXES	EACH	6		6	A. Refer to the P Sheets for locations and details. B. Provide and install Handholes/Junction Boxes per Iowa DOT Standard Specifications and Standard Road Plan LI-103.C. Handholes shall be Type I per Standard Road Plan LI-103 unless noted otherwise. D. Basis of Payment: The contractor will be paid the contract unit price for each handhole installed. Payment is full compensation for furnishing all materials, equipment, and labor required to install each handhole including excavation, backfill, compaction, ground rod, and bonding conductors.
6	2528-8445110	TRAFFIC CONTROL	LS	1		1	A. Includes all traffic control devices and equipment necessary to maintain traffic in accordance with the current Standard Specifications. Refer to Tab 108-23A for additional information.
7	2533-4980005	MOBILIZATION	LS	1		1	- -

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Lighting Items	DELIVER AND STOCKPILE SALVAGED MATERIALS	Total	
8	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS		1	1	A. Refer to Tab. 110-13 in C Sheets. B. Method of Measurement: By lump sum. C. Basis of Payment: The contractor will be paid the contract lump sum price for transport and delivery of the identified materials/equipment to the designated stockpile location. This shall be considered full compensation for furnishing all labor, equipment, and materials required to coordinate delivery with contact person, load a materials/equipment at the project site, transport, and unload identified materials/equipment at the delivery site.
9	2599-9999010	('LUMP SUM' ITEM) DEMOLITION OF ELECTRIC CIRCUITS	LS	1		1	A. Refer to the P Sheets for locations and details. B. This item includes the removal of unused existing handholes, cutting back of unused existing conduits/conductors, and removal of conductors from conduits as called out on P Sheets. Salvage of removed materials is to the contractor for recycle/disposal. C. Method of Measurement: By lump sum. D. Basis of Payment: The contractor will be paid the contract lump sum price for the removal of unused existing electrical circuits. Payment includes furnishing all materials, equipment, and labor to remove the electrical circuits. Incidental to and included with the removal of the electrical circuits is waste disposal, backfill of voids, compaction to finished grade, and surface restoration.

108-11A
08-01-08

HIGHWAY LIGHTING DATA

The Iowa DOT is revising the geometrics at the Elkhart/County Road 22 interchange and the NB rest Area ramps located in Polk County. The project generally consists of the following new work:
(20) New IADOT conventional lighting poles.
(8) Existing IADOT poles, arms and luminaires to be removed, stored and transported to the IADOT Ames IA Maintenance Garage.

Electrical Service: Consumers Energy is the electric utility serving power to the F22 interchange lighting. The secondary electrical service is 240/120 volts, single-phase, routed from a pad-mounted utility transformer. The contractor will be responsible for coordination of service disconnect/reconnect with the utility to fully remove the existing service drop and pole-mounted lighting controller, and re-energize the proposed lighting system. Refer to the P-Sheets for additional information.
Utility Contact: Kevin Peterson, Phone: (641) 754-1647,
E-mail: kpeterson@consumersenergy.net onecall@consumersenergy.net

Obtain One-Call services and verify the location of existing underground utilities, lighting circuits and lighting/electrical installations.

Light Poles: All Light Poles shall be Transformer Base type, per Standard Road Plan LI-210, Standard Specifications, and prior to proceeding withsized/dimensioned per the Layout Plans.

Roadway Luminaires: Contractor shall be responsible for suppling and installing solid state light emitting diode (LED) cobrahead style luminaires as described for the new luminaire locations. All Luminaires to have NEMA Label. LED luminaires shall be:
Cooper Lighting - Archeon Model:
ARCH-M-PA2-110-740-U-T2R-AP-10K-PR7-PSC for Type II distribution.
ARCH-M-PA2-110-740-U-T3-AP-10K-PR7-PSC for Type III distribution.
or
American Electric Lighting - Autobahn Model:
ATB0-P304-MVOLT-R2-P7-SH for Type II distribution.
ATB0-P304-MVOLT-R3-P7-SH for Type III distribution.
or
Signify Lumec - RoadFocus Model:
RFM-135W40LED-4K-G2-R2M-UNV-DMG-PH9-RCD7-GY3 for Type II distribution.
RFM-135W40LED-4K-G2-R3-UNV-DMG-PH9-RCD7-GY3 for Type III distribution.

No substitutes will be allowed. All luminaires shall be rated for and connected for operation at 240 Volts.

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
LI-101	10-21-14	Light Pole Location
LI-103	04-19-22	Conduit and Precast Handholes
LI-141	10-21-14	Electrical Installation (Roadway Ducts)
LI-142	04-21-15	Electrical Installation (Bases)
LI-201	04-18-17	Light Pole Foundation
LI-210	10-21-14	Transformer Base (Cast Aluminum)
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-402	04-18-23	Work Within 15 ft of Traveled Way

108-2
08-01-08

ELECTRICAL DUCTS

Location	Conduit Type	Dia. IN	Length FT	Remarks
LC A				Existing Lighting Cabinet at F22
A-4	PLASTIC	2.0	3500.0	
N-1	PLASTIC	2.0	2200.0	Connected to Existing Circuit
N-2	PLASTIC	2.0	2000.0	Connected to Existing Circuit
		Total:	7700.0	
	GRAND TOTAL		7700.0	

108-1
10-21-14

LIGHTING INSTALLATIONS

Location No.	Location Station	LI-101 Type	LI-101 A	LI-101 E FT	LI-201 Type	Remarks
A401	STA. 1773+79	1	6	6.0	A	
A402	STA. 1771+00	1	6	6.0	A	
A403	STA. 1768+20	1	6	6.0	A	
A404	STA. 1765+40	1	6	6.0	A	
A405	STA. 1762+60	1	6	6.0	A	
A406	STA. 1759+80	1	6	6.0	A	
N101	STA. 1512+23	1	6	6.0	A	
N102	STA. 1509+67	1	6	6.0	A	
N103	STA. 1506+97	1	6	6.0	A	
N104	STA. 1504+16	1	6	6.0	A	
N105	STA. 1501+36	1	6	6.0	A	
N106	STA. 1498+56	1	6	6.0	A	
N107	STA. 1495+76	1	6	6.0	A	
N201	STA. 3548+76	1	6	6.0	A	
N202	STA. 3551+56	1	6	6.0	A	
N203	STA. 3554+38	1	6	6.0	A	
N204	STA. 3557+20	1	6	6.0	A	
N205	STA. 3560+00	1	6	6.0	A	
N206	STA. 3562+80	1	6	6.0	A	
N207	STA. 3565+60	1	6	6.0	A	

108-12
10-21-14

WIRE, CABLE AND CONNECTORS

Circuit Number	Connectors								Phase Lines								Ground		Remarks
	Type	Quan. No.	Type	Quan. No.	Type	Quan. No.	Type	Quan. No.	Size A.W.G.	Quan. LF	Size A.W.G.	Quan. LF	Size A.W.G.	Quan. LF	Size A.W.G.	Quan. LF	Size A.W.G.	Quan. LF	
LC-A																			Existing Lighting Control Cabinet at F22
A-4			Y-1	12									#4	7400			#4	3700	Circuit run conductors
A-4															#10	1200	#10	600	Light pole riser conductors, Ground conductor, [1]
																			Rest Area - NB Ramps
N-1			Y-1	14									#2	4800			#2	2400	Circuit run conductors
N-1															#10	1400	#10	700	Light pole riser conductors, Ground conductor, [1]
N-2			Y-1	14									#2	4400			#2	2200	Circuit run conductors
N-2															#10	1400	#10	700	Light pole riser conductors, Ground conductor, [1]
																			[1] Provide one 5A time delay fuse in each Y-1 connector.

UTILITY
Modified

UTILITY NOTES

Lighting Contractor shall check for locations of utilities, drainage structures or other facilities in the construction area. Any damage to such facilities due to the contractor's carelessness shall be corrected at the contractor's expense.

IADOT New Utility Service Agreement Contact
Billing Counties: Linn
5455 Kirkwood Blvd, SW, Cedar Rapids Iowa, 52404
319-364-0235
TIN: 42-6004226
AP.D6office@iowadot.us

WASTE
Modified

WASTE

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess materials (excavated material or broken concrete) which is not desireable to be incorporated into the work involved on this projects.

It shall be the contractor's responsibility to ensure that areas (including haul roads) selected for waste or disposal not impact 1) culturally sensitive sites or graves or 2) wetlands or "Waters of the U.S.", including streams or stream banks below the "ordinary high water mark", without an approved U.S. Army Corps of Engineers Section 404 Permit.

No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans.

110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Light Pole Structre (pole and mast arm)	8	EACH	Ames Maintenance Garage 57073 US Hwy 30 Ames, IA 50010	Scott Robinson (515) 663-6367	
LED Luminaire	8	EACH	Ames Maintenance Garage 57073 US Hwy 30 Ames, IA 50010	Scott Robinson (515) 663-6367	

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. To the extent practicable, perform lighting installations in coordination with traffic control measures associated with Project
2. For lighting installations performed on roadways otherwise open to traffic, contractor shall maintain traffic on such roadways at all times.
3. Traffic control on this project shall be in accordance with the TC series of Standard Road Plans listed on Tab. 105-4.

All traffic control devices and equipment necessary to maintain traffic in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) and the current Standard Specifications.

232-3A
10-19-21

EROSION CONTROL (RURAL SEEDING)

Area to be seeded is estimated to be less than 1 acre. If the contractor determines the area exceeds 2 acres, notify the Engineer. Approved quantity in excess of 2 acres will be paid for as extra work according to Article 1109.03,B of the Standard Specifications.

Following the completion of work in a disturbed area and according to the seeding dates in Section 2601 of the Standard Specifications, place seed, fertilizer, and mulch on the disturbed area lying 8 feet adjacent to shoulder and median as follows:

Place seed and fertilize according to the requirements of Article 2601.03,C,3 and Section 4169 of the Standard Specifications.

Place mulch according to the requirements of Articles 2601.03,E,2,a and 4169.07,A of the Standard Specifications.

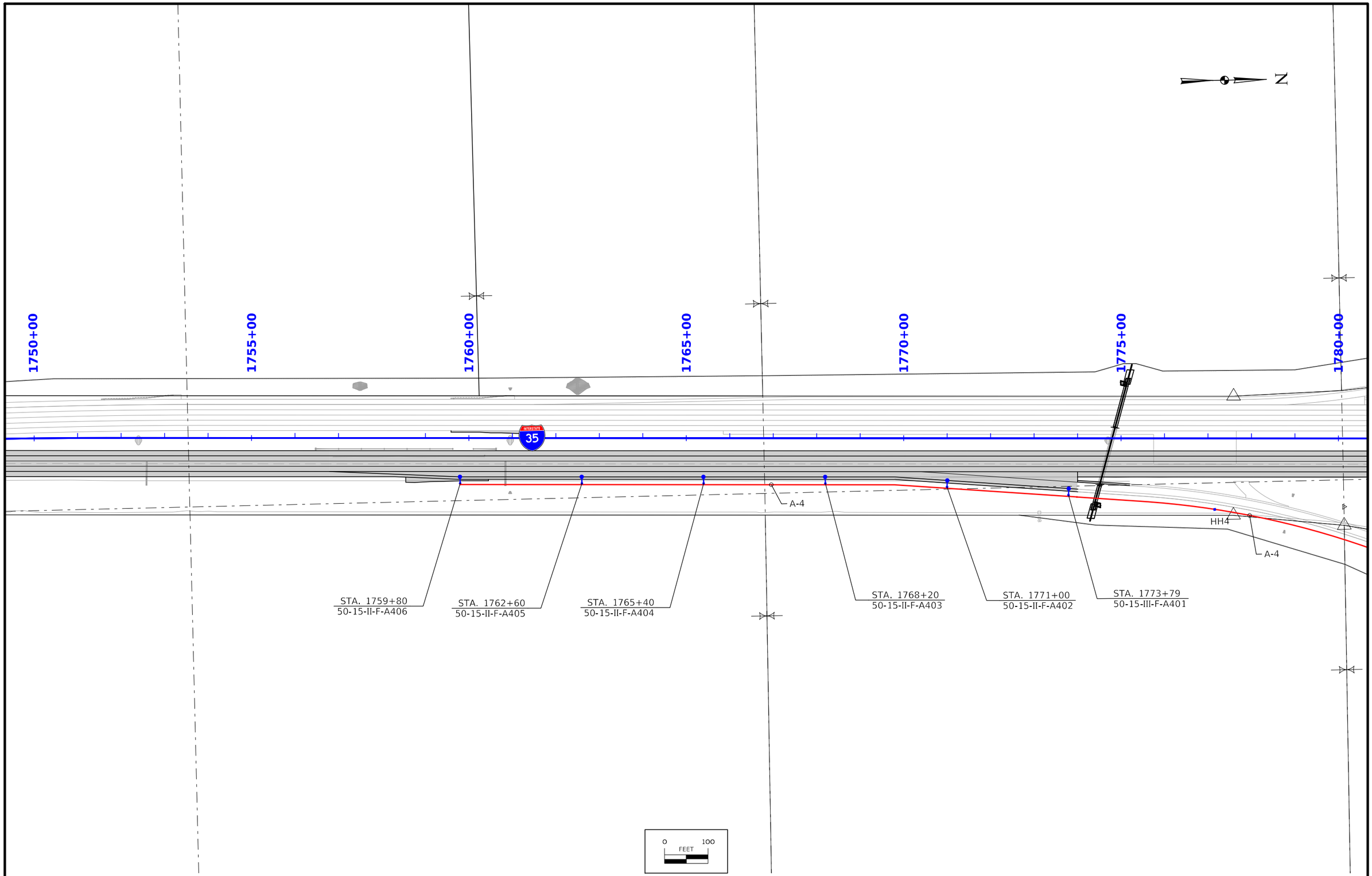
Preparing the seedbed, furnishing and applying seed, fertilizer, and mulch are all incidental to mobilization and will not be paid for separately.

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
IM-035-4(348)100--13-77	Traffic Signs
IM-035-4(347)100--13-77	PCC Pavement - Grade and New
ITS-035-4(324)95--25-77	ITS Integration
IM-NHS-035-4(314)95--03-77	RCB Culvert Extension Single Box



FILE NO.	ENGLISH	DESIGN TEAM HERMANN / HR GREEN	POLK COUNTY	PROJECT NUMBER IM-035-4(308)97--13-77	SHEET NUMBER P.1

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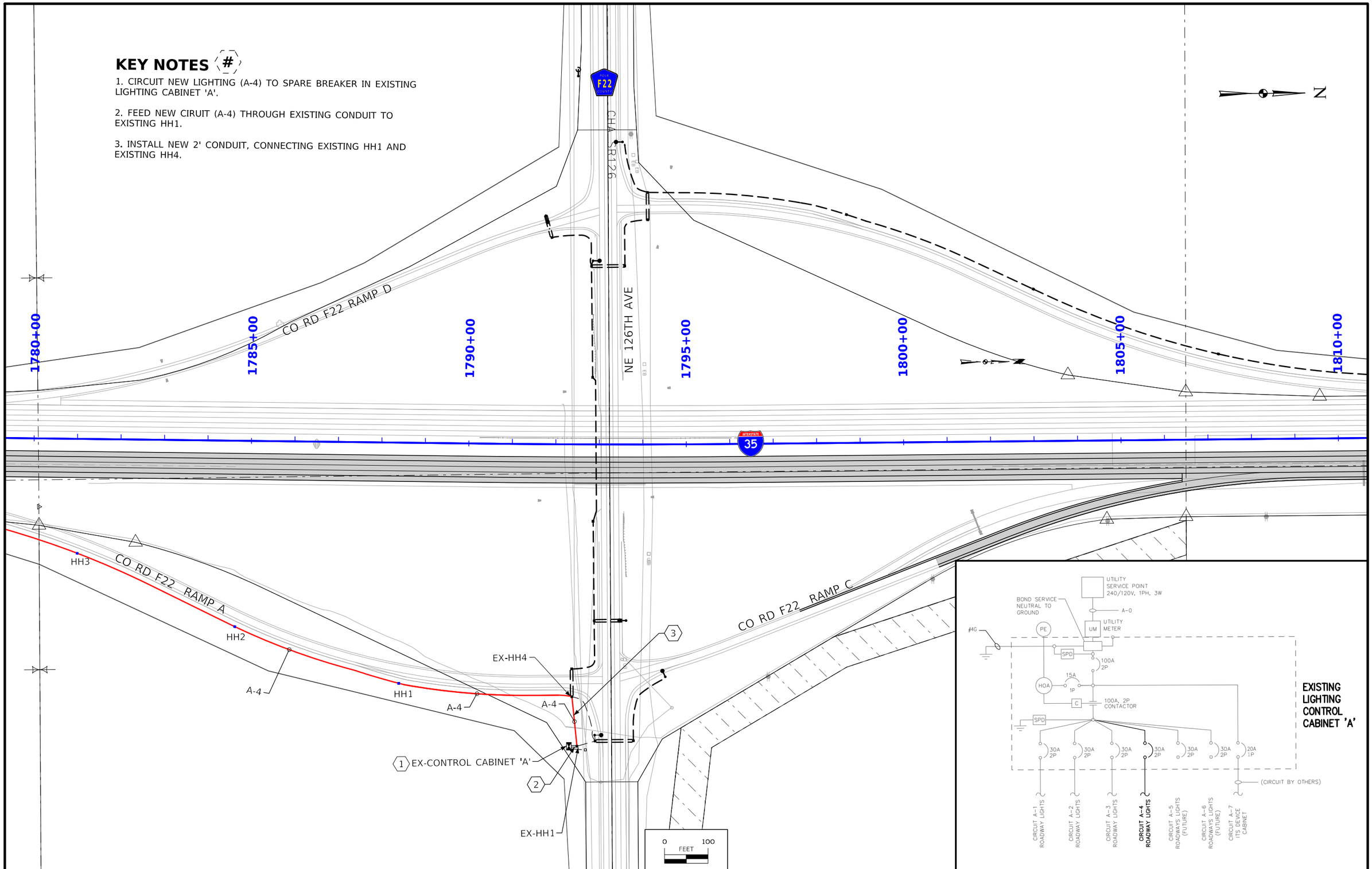
KEY NOTES (#)

1. CIRCUIT NEW LIGHTING (A-4) TO SPARE BREAKER IN EXISTING LIGHTING CABINET 'A'.

2. FEED NEW CIRUIT (A-4) THROUGH EXISTING CONDUIT TO EXISTING HH1.

3. INSTALL NEW 2' CONDUIT, CONNECTING EXISTING HH1 AND EXISTING HH4.



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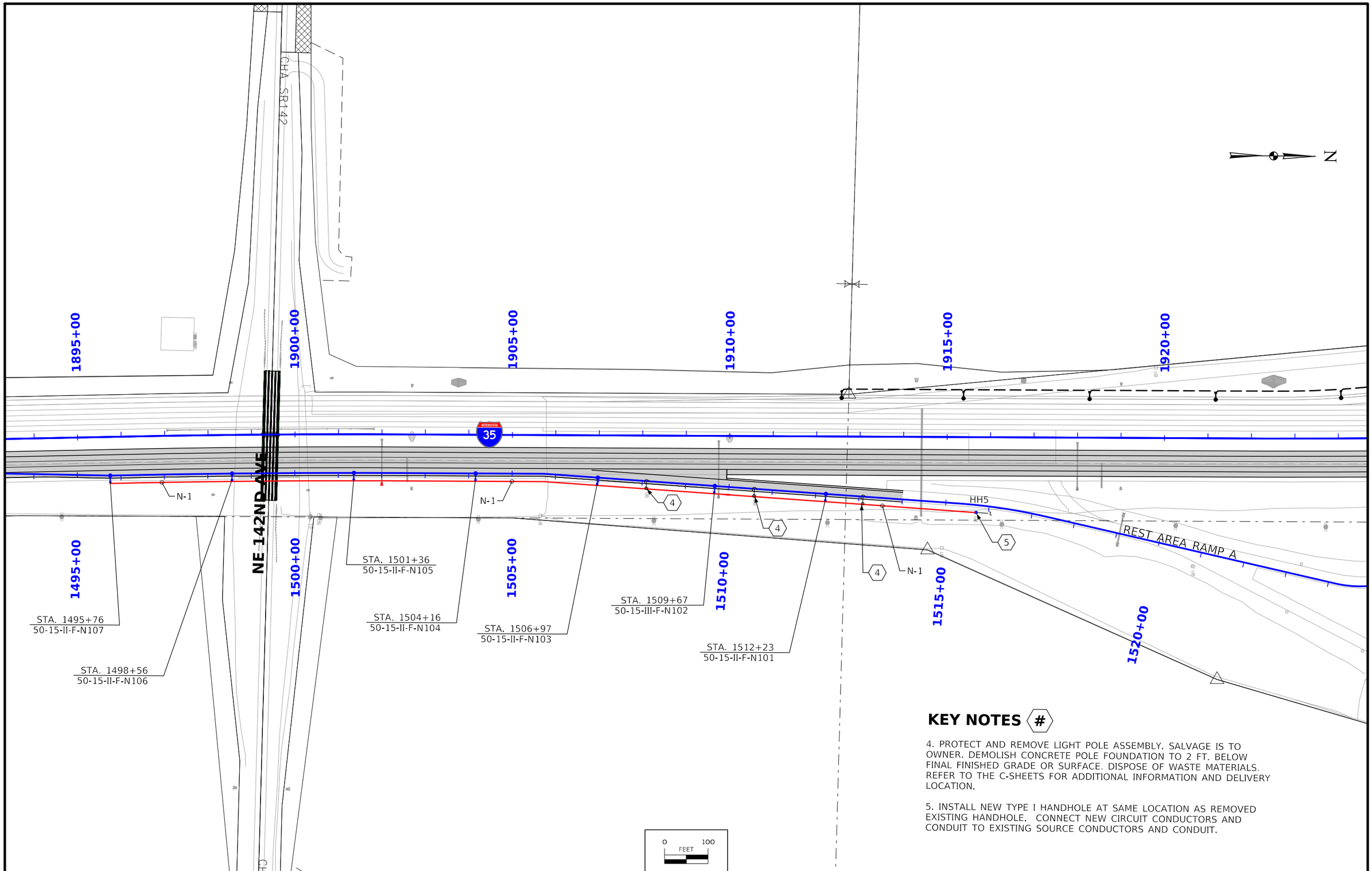
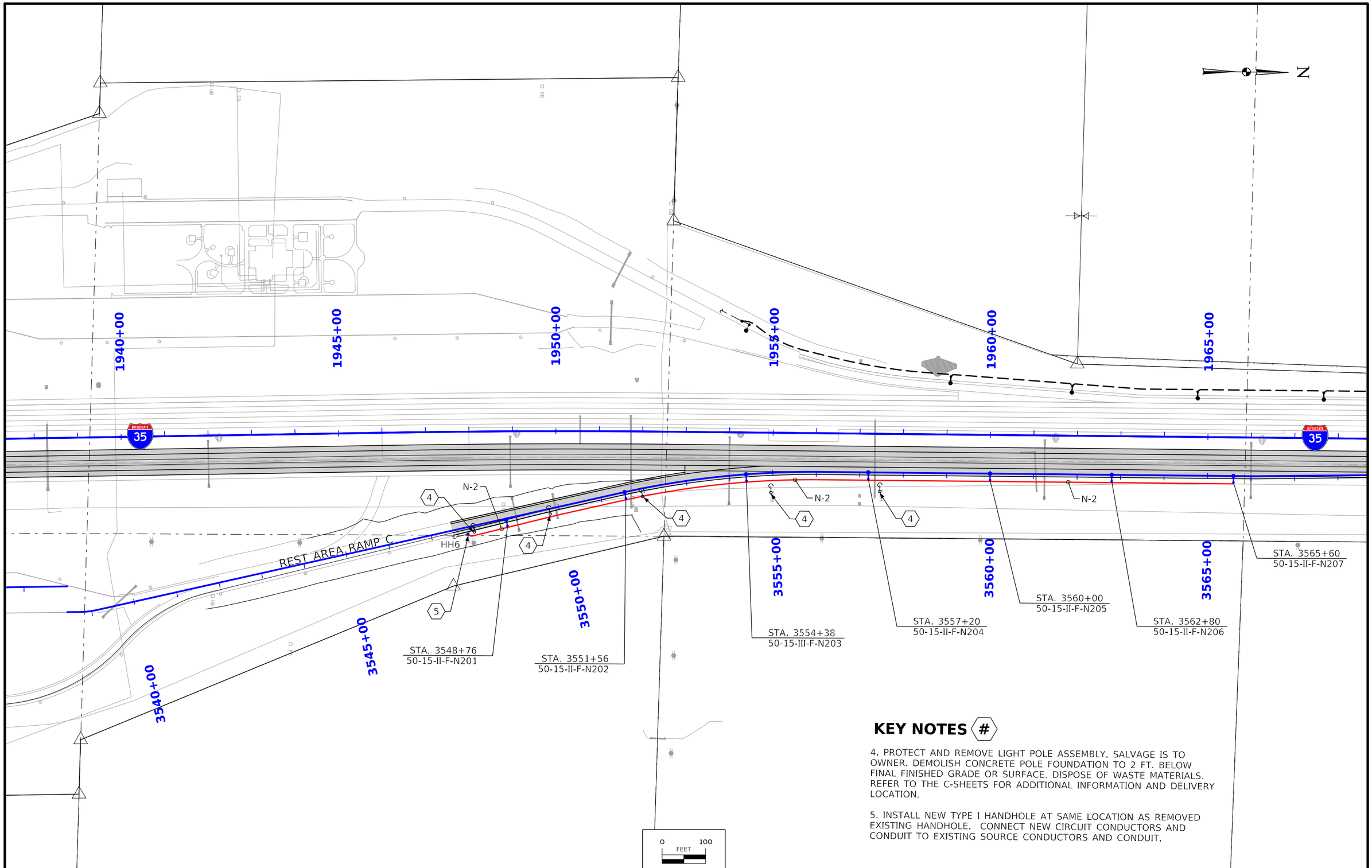


KEY NOTES (#)

4. PROTECT AND REMOVE LIGHT POLE ASSEMBLY. SALVAGE IS TO OWNER. DEMOLISH CONCRETE POLE FOUNDATION TO 2 FT. BELOW FINAL FINISHED GRADE OR SURFACE. DISPOSE OF WASTE MATERIALS. REFER TO THE C-SHEETS FOR ADDITIONAL INFORMATION AND DELIVERY LOCATION.

5. INSTALL NEW TYPE I HANDHOLE AT SAME LOCATION AS REMOVED EXISTING HANDHOLE. CONNECT NEW CIRCUIT CONDUCTORS AND CONDUIT TO EXISTING SOURCE CONDUCTORS AND CONDUIT.



KEY NOTES

4. PROTECT AND REMOVE LIGHT POLE ASSEMBLY. SALVAGE IS TO OWNER. DEMOLISH CONCRETE POLE FOUNDATION TO 2 FT. BELOW FINAL FINISHED GRADE OR SURFACE. DISPOSE OF WASTE MATERIALS. REFER TO THE C-SHEETS FOR ADDITIONAL INFORMATION AND DELIVERY LOCATION.

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