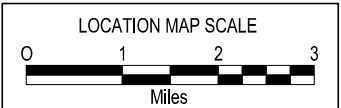
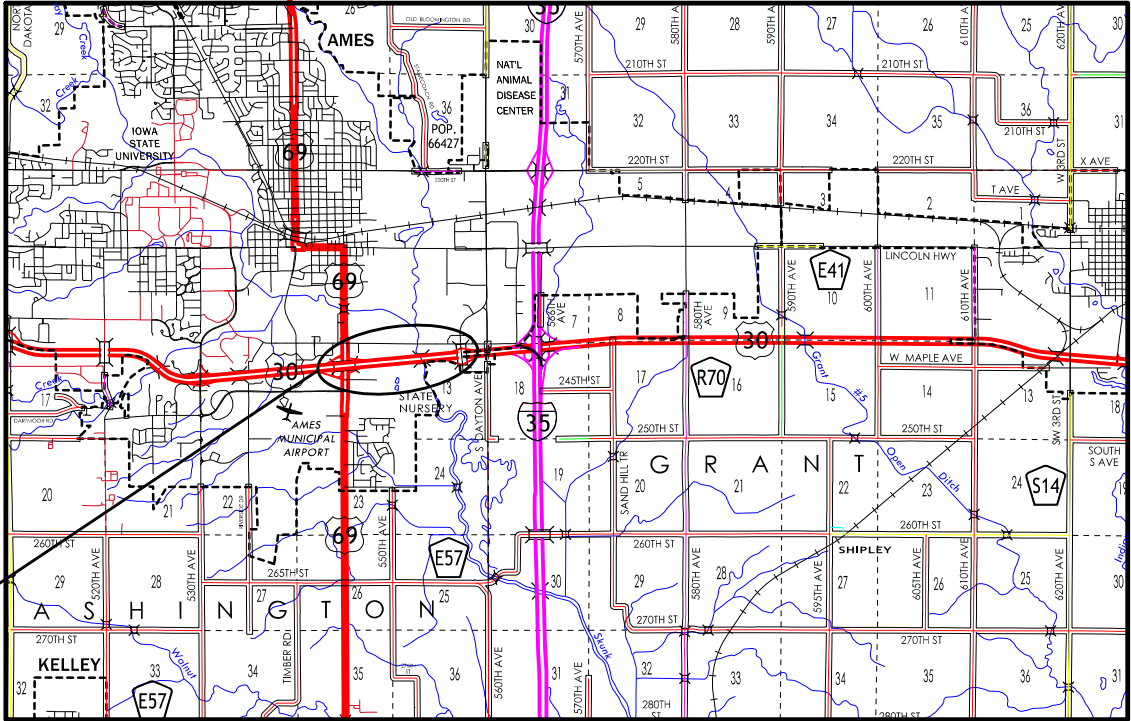


PROJECT LOCATION



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
STORY COUNTY
LIGHTING
S Duff Ave to S Dayton Ave in Ames (WB)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



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.

Yaad Rahman 08-04-2026
YAAD KAIZER RAHMAN, P.E. DATE
License Number: P29250
My license renewal date is December 31, 2027.
Pages or sheets covered by this seal:
A.1, C.1-4, P.1

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
P Sheets	Lighting Layout Sheets
* P.1	Lighting Layout
P.2	Dayton Rd Interchange As-Built (For Information Only)
	* Color Plan Sheets

REVISIONS

TOTAL	7
PROJECT IDENTIFICATION NUMBER	
10-85-030-020	
PROJECT NUMBER	
NHSX-030-5(315)--3H-85	
R.O.W. PROJECT NUMBER	

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Lighting Items : Lighting Items
Division 2 : Division 2

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Lighting Items	Division 2	Total	
1	2401-6745356	REMOVAL OF CONCRETE FOOTINGS OF LIGHT POLES	EACH	10		10	A. Remove existing tower structures concrete foundation to 2'-0" below adjacent grade. Including anchor bolts. Anchor bolts can be torched to facilitate the towers removal. Miscellaneous debris to be removed by contractor and landscape returned to previous conditions. B. Remove tower foundation as specified. C. Method of Measurement and Basis of Payment per tower structure and luminaires removed.
2	2401-6745765	REMOVAL OF LIGHT POLES	EACH	10		10	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	10		10	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	3,480		3,480	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	2		2	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. C. 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	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1		1	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. Locate and stake each new pole assembly location. D. Basis of Payment: Payment is full compensation for furnishing all materials, equipment, and labor required to locate and stake each light pole assembly.

Item no.	Item Code	Item	Unit	Quantities			Estimate Reference Notes
				Estimated			
				Lighting Items	Division 2	Total	
7	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	3		3	Refer to: A. 4188.06 TEMPORARY LED FLOODLIGHTING LUMINAIRES. B. Standard Specification LI130.
8	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.
9	2533-4980005	MOBILIZATION	LS	1		1	- -
10	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."
11	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 and conductors, and removal of conductors from conduits as called out on P Sheets. Salvage of removed materials is to the contractor for recycling / 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 lighting at the South Duff Ave interchange with US Highway 30 system interchange and the Dayton Ave interchange with US Highway 30 system interchange located in Story County.
The Iowa DOT is revising the geometrics at these interchanges.

The project generally consists of the following new work:
(10) New IADOT conventional lighting pole assemblies and associated circuitry, associated conduit, and wire.
(10) Existing lighting poles and foundations that will be removed and the pole bases demolished to 2'-0" below adjacent grade and backfill as required.
(10) Existing IADOT poles, arms and luminaires will be salvaged to owner.

The lighting portion of this project will have as a deliverable the following of Developmental Specification: DEVELOPMENTAL SPECIFICATIONS FOR GEOSPATIAL MAPPING OF SUB-SURFACE AND UNDERGROUND UTILITIES' as well as all other referenced or associated specifications.

Electrical Service: No changes planned

The intent is to remove the existing poles, install the new poles in locations shown and reuse the existing circuit that previously fed the removed poles.

Obtain One-Call services and verify the location of existing underground utilities and lighting circuits prior to proceeding with lighting/electrical installations.

Light Poles: All Light Poles shall be Transformer Base type, per Standard Road Plan LI-210, Standard Specifications, sized/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. LED luminaires shall be:
Cooper Lighting - Archeon Model:
ARCH-M-PA2-110-740-U-T2R-AP-10K-PR7-PSC for Type II distribution.

or
American Electric Lighting - Autobahn Model:
ATB0-P304-MVOLT-R2-P7-SH for Type II distribution.

or
Signify Lumec - RoadFocus Model:
RFM-135W40LED-4K-G2-R2M-UNV-DMG-PH9-RCD7-GY3 for Type II 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-130	10-17-17	Temporary Floodlighting Luminaires
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-402	04-18-23	Work Within 15 ft of Traveled Way
TC-416	10-15-19	Partial Lane Closure on Ramps

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1. To the extent practicable, perform lighting installations in coordination with traffic control measures associated with 19-85-030-020.

2. For lighting installations performed on roadways otherwise open to traffic, contractor shall maintain traffic on surface 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 of the Standard Specifications. 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.

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
ITS-030-5(320)--25-85	ITS Infrastructure
ITS-030-5(319)--25-85	ITS Integration
NHSX-030-5(313)--3H-85	RCB Culvert New - Triple Box
NHSX-030-5(312)--3H-85	RCB Culvert New - Triple Box
BRF-030-5(311)--38-85	Bridge Replacement-PPCB
NHSX-030-5(310)--3H-85	Unknown Pavement - Grade/New
NHSX-030-5(308)--3H-85	Traffic Signs
NHSX-030-5(307)--3H-85	RCB Culvert New - Triple Box
NHSX-030-5(306)--3H-85	RCB Culvert New - Triple Box
BRF-030-5(305)--38-85	Bridge Replacement-PPCB
NHSX-030-5(304)--3H-85	Unknown Pavement - Grade/New
NHSX-030-5(303)--3H-85	Traffic Signs
NHSX-030-5(302)--3H-85	Unknown Pavement - Grade/New
NHSN-030-5(272)--2R-85	Right Of Way
BRF-030-5(271)--38-85	Bridge-Unspecified

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.

WASTE
Modified

WASTE

It shall be the contractor's responsibility to provide waste areas (including haul roads) selected for waste or disposal not impact broken concrete) which is not desirable 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.

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.

108-27
10-17-17

TEMPORARY FLOODLIGHTING LUMINAIRES

Possible Standard: LI-130

No.	Location Station	Offset	Number Lumin.	Remarks
1	TBD	15 ft	1	SEE BELOW NOTES
2	TBD	15 ft	2	SEE BELOW NOTES
3	TBD	15 ft	3	SEE BELOW NOTES
				NOTES:
				Locate temporary flood lighting units as required.
				15-foot offset from edge of travel lane or behind barrier

FILE NO.

ENGLISH

DESIGN TEAM Hermann\ HR Green

STORY COUNTY

PROJECT NUMBER NHSX-030-5(315) -- 3H-85

SHEET NUMBER C.3

108-2
08-01-08

ELECTRICAL DUCTS

Location	Conduit Type	Dia. IN	Length FT	Remarks
"LC-A"				Existing Pad Mounted Cabinet
A-1	PLASTIC	2.0	2200.0	
		Total:	2200.0	
"LC-B"				Existing Pole Mounted Cabinet
B-1	PLASTIC	2.0	1200.0	
	SCH 80 PVC	2.0	80.0	Road Crossing (HH1)
		Total:	1280.0	
	GRAND TOTAL		3480.0	

108-1
10-21-14

LIGHTING INSTALLATIONS

Location		LI-101			LI-201	Remarks
		Type	A	E FT	Type	
No.	Station					
A101	STA 3515+51	1	6	6.0	A	
A102	STA 3512+50	1	6	6.0	A	
A103	STA 3509+49	1	6	6.0	A	
A104	STA 3506+47	1	6	6.0	A	
A105	STA 1302+97	1	6	6.0	A	
B101	STA 5270+47	1	6	6.0	A	
B102	STA 5272+44	1	6	6.0	A	
B103	STA 5274+48	1	6	6.0	A	
B104	STA 5276+47	1	6	6.0	A	
B105	STA 5278+53	1	6	6.0	A	

110-13
04-20-10

DELIVERY AND STOCKPILING

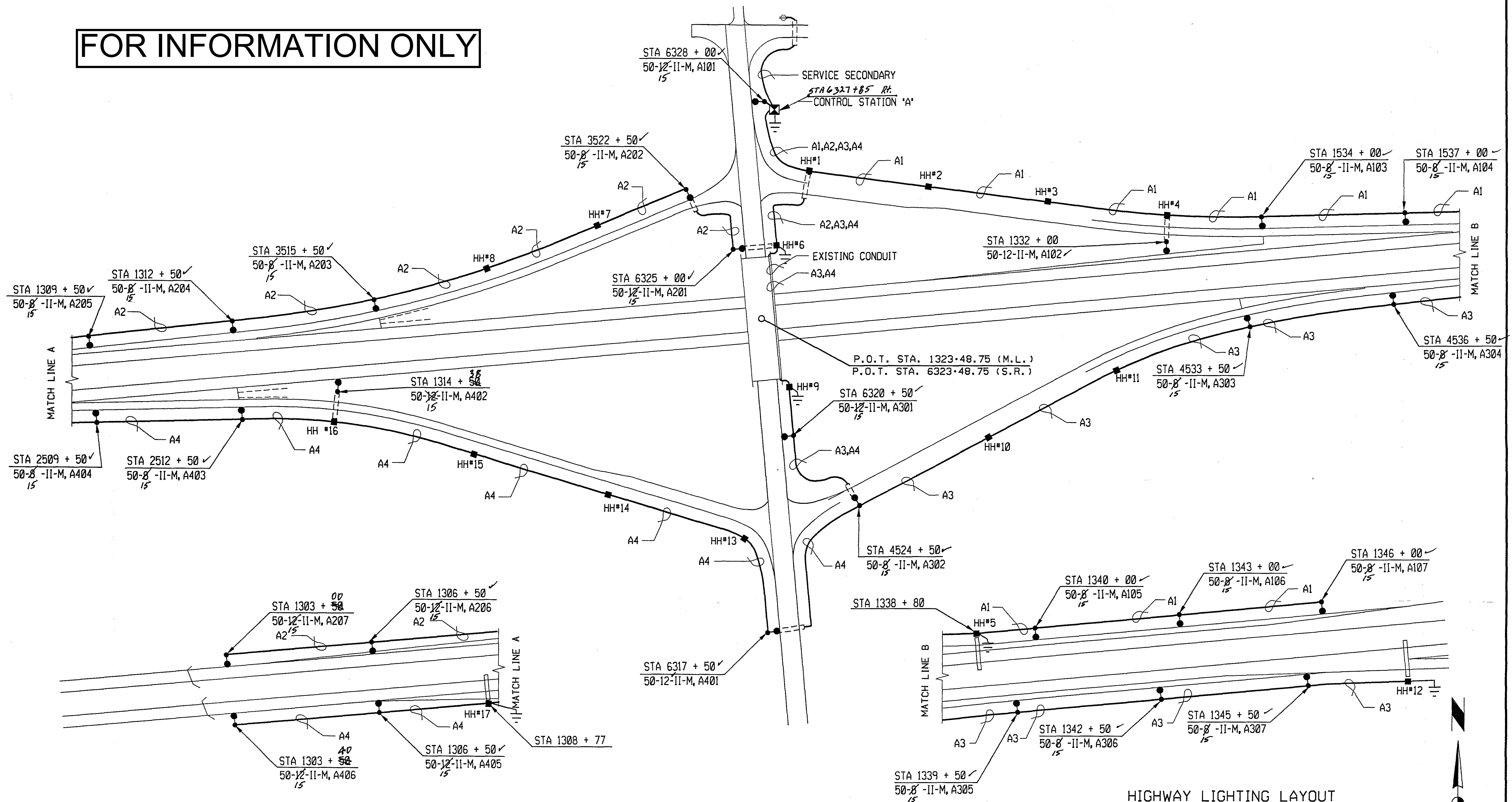
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Light Pole Structre (pole and mast arm)	10	EACH	Ames Maintanance Facility 57073 US Hwy 30 Ames, IA 50010	Scott Robinson (515) 663-6367	Ames Maintanance
LED Luminaire	10	EACH	Ames Maintanance Facility 57073 US Hwy 30 Ames, IA 50010	Scott Robinson (515) 663-6367	Ames Maintanance

108-12
10-21-14

WIRE, CABLE AND CONNECTORS

Circuit Number	Connectors								Phase Lines								Ground		Remarks
	Type	Quan.	Type	Quan.	Type	Quan.	Type	Quan.	Size	Quan.	Size	Quan.	Size	Quan.	Size	Quan.	Size	Quan.	
		No.		No.		No.		No.	A.W.G.	LF	A.W.G.	LF	A.W.G.	LF	A.W.G.	LF	A.W.G.	LF	
Existing "LC-A"																			
A-1			Y-1	10			Y-3	2					#6	4800			#6	2400	Circuit run conductors
A-1															#10	1000	#8	500	Light pole riser conductors, Ground conductor, [1]
																			[1] Provide one 5A time delay fuse in each Y-1 connector.
Existing "LC-B"																			
B-1			Y-1	10									#6	2800			#6	1400	Circuit run conductors
B-1							Y-3	2							#10	1000	#8	500	Light pole riser conductors, Ground conductor, [1]
																			[1] Provide one 5A time delay fuse in each Y-1 connector.

FOR INFORMATION ONLY



HIGHWAY LIGHTING LAYOUT

P.O.T. STA. 1323 + 48 + .75

115-30 AND DAYTON ROAD

0' 100' 200'

SCAI R