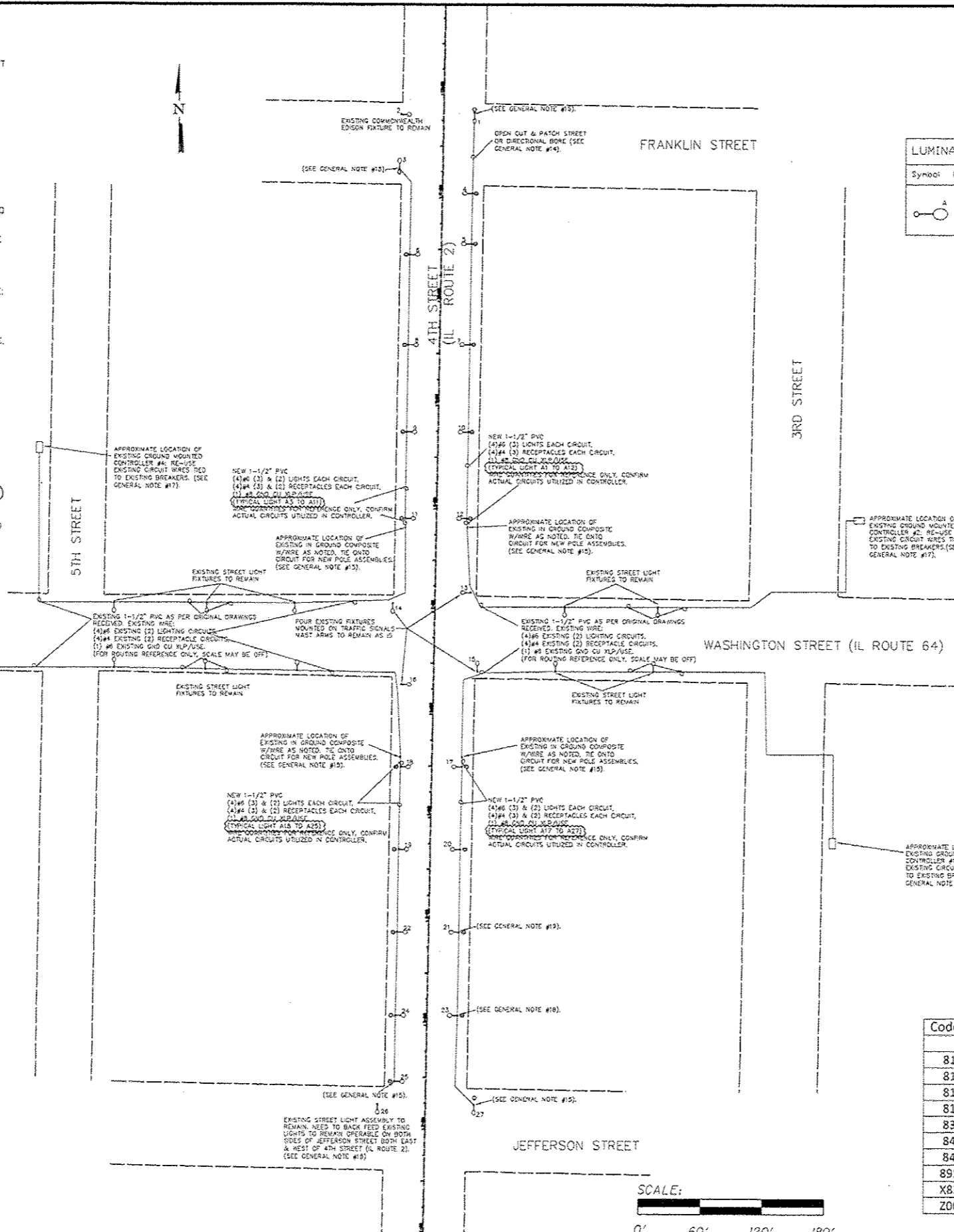


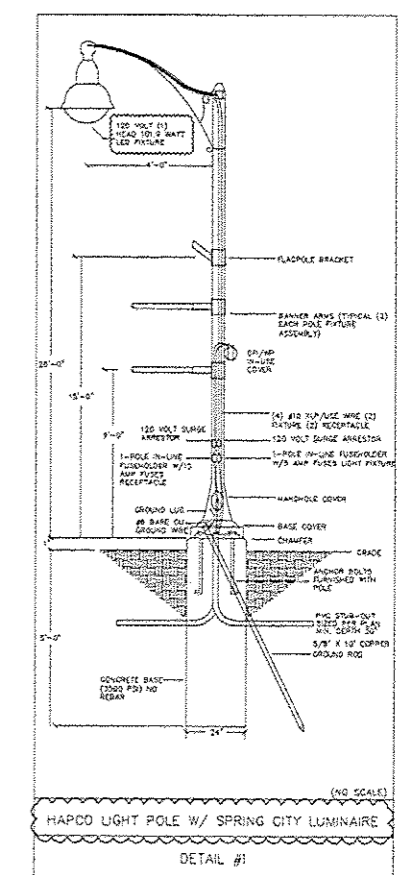
**GENERAL NOTES:**

- ALL WORK SHALL CONFORM TO 2014 N.E.C.
- ALL WIRE SHALL BE COPPER XLP/USE AS PER PLAN.
- ALL TRENCHES TO BE MINIMUM 30" BELOW GRADE. IF TRENCHED SOIL IS SUITABLE IT MAY BE USED FOR BACKFILL IN TRENCH AREAS. TRENCHED AREAS UNDER ROADS AND SIDEWALKS SHALL HAVE C&G BACKFILL.
- THREE FOOT OF WIRE SLACK FIGURED AT EACH JUNCTION BOXES FOR EACH WIRE SIZE.
- HANGING BRACKETS AND HARDWARE TO BE INCIDENTAL TO TYPE A FIXTURE.
- REQUIRED WIRE & MISCELLANEOUS MATERIAL FOR POLE INSTALLATION IS INCIDENTAL TO LIGHT POLE (SPECIAL) PAY ITEM.
- FIVE FOOT OF CONDUIT HAS BEEN ADDED TO PAY ITEM FOOTAGE AT EACH CONCRETE BASE.
- REQUIRED GROUNDING AND MISCELLANEOUS MATERIAL IS INCIDENTAL TO THE POLE CONCRETE FOUNDATION PAY ITEM.
- SIX FOOT OF WIRE SLACK FIGURED AT EACH CONCRETE BASE FOR EACH WIRE SIZE.
- PERFORM JULIE AS REQUIRED FOR EXISTING UTILITIES. COORDINATE WITH CITY OF OREGON AND ANY PROPERTY OWNER'S FOR POSSIBLE OWNER OWNED UNDERGROUND ITEMS THAT WILL NOT BE MARKED BY JULIE. OWNER OWNED UNDERGROUND ITEMS TO BE LOCATED BY ELECTRICAL CONTRACTOR FOR THEIR SCOPE OF WORK AND IS INCIDENTAL TO UNDERGROUND CONDUIT, PVC, 1 1/2".
- ALL REQUIRED REMOVAL OF EXISTING CURBS, SIDEWALKS, ASPHALT TO BE BY PRIME CONTRACTOR.
- ELECTRICAL CONTRACTOR TO BE PAID FOR ACTUAL UNITS & FOOTAGES INSTALLED.
- AS-BUILD UNDERGROUND CONDUIT ROUTINGS & FOOTAGES WILL BE REQUIRED.
- SCOPE OF WORK IS INCIDENTAL TO UNDERGROUND CONDUIT, PVC, 1 1/2".
- EXISTING COMPOSITE HANDHOLE CONNECTIONS & STUB (1) 1-1/2" PVC FOR FUTURE; TO BE INCIDENTAL TO UNDERGROUND CONDUIT, PVC, 1 1/2".
- RECONNECTION OF EXISTING LIGHTS AS NOTED; TO BE PAID AS MAINTAIN EXISTING LIGHTING.
- ANY WORK TO BE AS PER PAYMENT ITEM; MODIFY EXISTING CONTROLLER.
- ANY WORK TO BE AS PER PAYMENT ITEM; REMOVAL OF LIGHTING UNIT, NO SALVAGE. COMPLETE ASSEMBLY TO BE LEGALLY DISPOSED OF.
- ANY WORK TO BE AS PER PAYMENT ITEM; REMOVAL OF POLE FOUNDATION. TO BE REMOVED ONE FOOT BELOW FINISH GRADE, COMPLETELY REMOVED FROM THE SITE, AND LEGALLY DISPOSED OF.
- TRENCH AND BACKFILL FOR ELECTRICAL WORK SHALL BE INCIDENTAL TO UNDERGROUND CONDUIT, PVC, 1 1/2".
- ALL HARDWARE SHALL BE STAINLESS STEEL AND COATED WITH ANTI-SEIZE COMPOUND.
- POLE SHALL HAVE FACTORY INSTALLED INTERNAL DAMPENER.
- PROVIDE FHWA APPROVED BREAKAWAY SYSTEM IF APPLICABLE. EXISTING BREAKAWAY COUPLINGS SHALL NOT BE RE-USED.
- PROVIDE MANUFACTURER I.D. TAG WITH LOT NUMBER AND DATE OF MANUFACTURE PERMANENTLY STAMPED ON THE TOP OF THE BASE PLATE.
- PROVIDE MANUFACTURER I.D. TAG WITH LOT NUMBER AND DATE OF MANUFACTURE PERMANENTLY STAMPED ON THE TOP OF THE BASE PLATE.
- UNITS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE WEST STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS CURRENT AT THE TIME THE PROJECT IS ADVERTISED. DESIGN WIND VELOCITY SHALL BE 80 MPH WITH A MINIMUM DESIGN LIFE OF 50 YEARS. IN ADDITION TO THE AASHTO CRITERIA, THE POLES SHALL BE DESIGNED FOR THE WORST CASE LOADING CONDITION SET FORTH IN R. D.O.T. SPECIFICATION 1066.01(6) FOR A DESIGN LUMINAIRE HAVING AN EPA OF 1.0 SD FT AND MAXIMUM WEIGHT OF 75 LBS.
- CIRCUIT NUMBERS SHOWN FOR REFERENCE ONLY. CONFIRM ACTUAL CIRCUITS UTILIZED IN CONTROLLER.
- VERIFY THAT CONDUIT MEETS NEC CONDUIT FILL REQUIREMENTS.



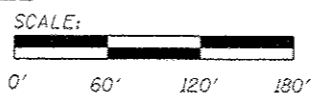
**LUMINAIRE SCHEDULE**

Symbol	Label	Qty	MANUFACTURER	Catalog Number	Description	Lamp
	21		SPRING CITY ELECTRICAL MFG. CO.	#ALMEXT-LE100-EVX-X2-30-CR4-GFLO/26\"/>		



Lum. #	Station	Offset (FT)	Notes:
#1	11+82.09	RT 30.00'	
#2	11+81.43	LT 40.89'	EXISTING
#3	11+27.29	LT 41.72'	
#4	11+04.54	RT 29.50'	
#5	10+55.92	RT 29.45'	
#6	10+44.74	LT 30.27'	
#7	9+59.03	RT 29.47'	
#8	8+57.87	LT 30.23'	
#9	8+73.87	LT 30.32'	
#10	8+74.78	RT 29.48'	
#11	7+90.39	LT 30.23'	
#12	7+91.20	RT 29.56'	
#13	7+19.39	RT 34.85'	EXISTING
#14	7+07.74	LT 40.67'	EXISTING
#15	6+42.26	RT 42.49'	EXISTING
#16	6+28.79	LT 31.09'	EXISTING
#17	5+49.89	RT 29.41'	
#18	5+48.97	LT 30.31'	
#19	4+68.95	LT 30.32'	
#20	4+69.88	RT 29.40'	
#21	3+89.88	RT 29.76'	
#22	3+88.96	LT 30.21'	
#23	3+09.66	RT 29.72'	
#24	3+08.93	LT 30.30'	
#25	2+45.49	LT 30.30'	
#26	2+23.44	LT 44.12'	EXISTING
#27	2+25.13	RT 42.95'	

Code	Item	Unit	Quantity
81023840	Underground Conduit, PVC, 1 1/2"	Foot	1511
81702120	Electric Cable in Conduit, 600 V (XLP-Type Use) 1/C No. 8	Foot	1640
81702130	Electric Cable in Conduit, 600 V (XLP-Type Use) 1/C No. 6	Foot	6560
81702140	Electric Cable in Conduit, 600 V (XLP-Type Use) 1/C No. 4	Foot	6560
83600200	Light Pole Foundation, 24" Diameter	Foot	105
84200600	Removal of Lighting Unit, No Salvage	Each	18
84200804	Removal of Pole Foundation	Each	18
89502200*	Modify Existing Controller	Each	4
X8300001*	Light Pole Special	Each	21
Z0033024*	Maintain Existing Lighting	L Sum	1



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REVISION	DATE	BY	REMARKS	DRAWN

**CITY OF OREGON**  
**HISTORIC DISTRICT IMPROVEMENTS**  
 2014



**ELECTRICAL PLAN**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RT. 2	13-00045-00-SW	OGLE	30	20

WHA\* 1003R13 PROJECT NO. TE - 0002 (156)  
 DATE: 11-12-14 PROJECT: ROUTE 2 ITDP HISTORIC DISTRICT IMPROVEMENTS

PANEL NAME: EXISTING LIGHT PANEL #1 (1P-1)		PROJECT NAME: CITY OF OREGON STREET LIGHTING									
PANEL LOCATION: EXISTING CONTROL CABINET #1		FEEDER: EXISTING									
BUSING AMP: EXISTING		VOLTAGE: 120/240									
MOUNTING: EXISTING		1PH AIC RATING: 10,000									
BUS: EXISTING		WIRING: 100A MAIN 3W									
		TYPE: EXISTING N1									
CCT	CB	NUM	DESCRIPTION	AMPS	AG VA	BD VA	CCT	CB	NUM	DESCRIPTION	
1	20	1	LIGHT CIR #1111 2RT64 BTWN 2ND & 3RD	3	360.00		2	20	1	CONTROL CIRCUIT	
2	20	1	LIGHT CIR #1112 2RT64 BTWN 2ND & 3RD	3	360.00		4	20	1	4.5	LIGHT CIR #A12-A14 2ND BTWN WASH & JEFF
3	20	1	LIGHT CIR #1113 2RT64 BTWN 2ND & 3RD	3	360.00		6	20	1	2	LIGHT CIR #A15-A18 2ND BTWN WASH & JEFF
4	20	1	LIGHT CIR #1114 2RT64 BTWN 2ND & 3RD	3	360.00		8	20	1	0	SPACE
5	20	1	LIGHT CIR #1115 2RT64 BTWN 2ND & 3RD	3	360.00		10	20	1	0	SPACE
6	20	1	LIGHT CIR #1116 2RT64 BTWN 2ND & 3RD	3	360.00		12	20	1	0	SPACE
7	20	1	LIGHT CIR #1117 2RT64 BTWN 2ND & 3RD	3	360.00		14	20	1	0	SPACE
8	20	1	LIGHT CIR #1118 2RT64 BTWN 2ND & 3RD	3	360.00		16	20	1	4.5	RECEPT CIR #A19-A18 2ND BTWN WASH & JEFF
9	20	1	LIGHT CIR #1119 2RT64 BTWN 2ND & 3RD	3	360.00		18	20	1	3	RECEPT CIR #A15-A16 2ND BTWN WASH & JEFF
10	20	1	LIGHT CIR #1120 2RT64 BTWN 2ND & 3RD	3	360.00		20	20	1	0	SPACE
11	20	1	LIGHT CIR #1121 2RT64 BTWN 2ND & 3RD	3	360.00		22	20	1	0	SPACE
12	20	1	LIGHT CIR #1122 2RT64 BTWN 2ND & 3RD	3	360.00		24	20	1	0	SPACE
13	20	1	LIGHT CIR #1123 2RT64 BTWN 2ND & 3RD	3	360.00		26	20	1	0	SPACE
14	20	1	LIGHT CIR #1124 2RT64 BTWN 2ND & 3RD	3	360.00		28	20	1	0	SPACE
15	20	1	LIGHT CIR #1125 2RT64 BTWN 2ND & 3RD	3	360.00		30	20	1	0	SPACE
TOTAL VOLT/AMPS / PER PHASE:				5,160.00	5,880.00						
AMPERAGE PER PHASE:				43.00	49.00						
AVERAGE AMPERAGE:				45.00							
(DUTY CYCLE) TOTAL LOAD IS 80% OVERALL:				32.20							

PANEL NAME: EXISTING LIGHT PANEL #2 (1P-2)		PROJECT NAME: CITY OF OREGON STREET LIGHTING									
PANEL LOCATION: EXISTING CONTROL CABINET #2		FEEDER: EXISTING									
BUSING AMP: EXISTING		VOLTAGE: 120/240									
MOUNTING: EXISTING		1PH AIC RATING: 10,000									
BUS: EXISTING		WIRING: 100A MAIN 3W									
		TYPE: EXISTING N1									
CCT	CB	NUM	DESCRIPTION	AMPS	AG VA	BD VA	CCT	CB	NUM	DESCRIPTION	
1	20	1	LIGHT CIR #1126 2RT64 BTWN 2ND & 3RD	3	360.00		2	20	1	CONTROL CIRCUIT	
2	20	1	LIGHT CIR #1127 2RT64 BTWN 2ND & 3RD	3	360.00		4	20	1	4.5	LIGHT CIR #A12-A14 2ND BTWN WASH & JEFF
3	20	1	LIGHT CIR #1128 2RT64 BTWN 2ND & 3RD	3	360.00		6	20	1	2	LIGHT CIR #A15-A18 2ND BTWN WASH & JEFF
4	20	1	LIGHT CIR #1129 2RT64 BTWN 2ND & 3RD	3	360.00		8	20	1	0	SPACE
5	20	1	LIGHT CIR #1130 2RT64 BTWN 2ND & 3RD	3	360.00		10	20	1	0	SPACE
6	20	1	LIGHT CIR #1131 2RT64 BTWN 2ND & 3RD	3	360.00		12	20	1	0	SPACE
7	20	1	LIGHT CIR #1132 2RT64 BTWN 2ND & 3RD	3	360.00		14	20	1	0	SPACE
8	20	1	LIGHT CIR #1133 2RT64 BTWN 2ND & 3RD	3	360.00		16	20	1	4.5	RECEPT CIR #A19-A18 2ND BTWN WASH & JEFF
9	20	1	LIGHT CIR #1134 2RT64 BTWN 2ND & 3RD	3	360.00		18	20	1	3	RECEPT CIR #A15-A16 2ND BTWN WASH & JEFF
10	20	1	LIGHT CIR #1135 2RT64 BTWN 2ND & 3RD	3	360.00		20	20	1	0	SPACE
11	20	1	LIGHT CIR #1136 2RT64 BTWN 2ND & 3RD	3	360.00		22	20	1	0	SPACE
12	20	1	LIGHT CIR #1137 2RT64 BTWN 2ND & 3RD	3	360.00		24	20	1	0	SPACE
13	20	1	LIGHT CIR #1138 2RT64 BTWN 2ND & 3RD	3	360.00		26	20	1	0	SPACE
14	20	1	LIGHT CIR #1139 2RT64 BTWN 2ND & 3RD	3	360.00		28	20	1	0	SPACE
15	20	1	LIGHT CIR #1140 2RT64 BTWN 2ND & 3RD	3	360.00		30	20	1	0	SPACE
TOTAL VOLT/AMPS / PER PHASE:				4,800.00	5,160.00						
AMPERAGE PER PHASE:				40.00	43.00						
AVERAGE AMPERAGE:				41.50							
(DUTY CYCLE) TOTAL LOAD IS 80% OVERALL:				28.05							

PANEL NAME: EXISTING LIGHT PANEL #3 (1P-3)		PROJECT NAME: CITY OF OREGON STREET LIGHTING									
PANEL LOCATION: EXISTING CONTROL CABINET #3		FEEDER: EXISTING									
BUSING AMP: EXISTING		VOLTAGE: 120/240									
MOUNTING: EXISTING		1PH AIC RATING: 10,000									
BUS: EXISTING		WIRING: 100A MAIN 3W									
		TYPE: EXISTING N1									
CCT	CB	NUM	DESCRIPTION	AMPS	AG VA	BD VA	CCT	CB	NUM	DESCRIPTION	
1	20	1	LIGHT CIR #1141 2RT64 BTWN 2ND & 3RD	3	360.00		2	20	1	CONTROL CIRCUIT	
2	20	1	LIGHT CIR #1142 2RT64 BTWN 2ND & 3RD	3	360.00		4	20	1	4.5	LIGHT CIR #A12-A14 2ND BTWN WASH & JEFF
3	20	1	LIGHT CIR #1143 2RT64 BTWN 2ND & 3RD	3	360.00		6	20	1	2	LIGHT CIR #A15-A18 2ND BTWN WASH & JEFF
4	20	1	LIGHT CIR #1144 2RT64 BTWN 2ND & 3RD	3	360.00		8	20	1	0	SPACE
5	20	1	LIGHT CIR #1145 2RT64 BTWN 2ND & 3RD	3	360.00		10	20	1	0	SPACE
6	20	1	LIGHT CIR #1146 2RT64 BTWN 2ND & 3RD	3	360.00		12	20	1	0	SPACE
7	20	1	LIGHT CIR #1147 2RT64 BTWN 2ND & 3RD	3	360.00		14	20	1	0	SPACE
8	20	1	LIGHT CIR #1148 2RT64 BTWN 2ND & 3RD	3	360.00		16	20	1	4.5	RECEPT CIR #A19-A18 2ND BTWN WASH & JEFF
9	20	1	LIGHT CIR #1149 2RT64 BTWN 2ND & 3RD	3	360.00		18	20	1	3	RECEPT CIR #A15-A16 2ND BTWN WASH & JEFF
10	20	1	LIGHT CIR #1150 2RT64 BTWN 2ND & 3RD	3	360.00		20	20	1	0	SPACE
11	20	1	LIGHT CIR #1151 2RT64 BTWN 2ND & 3RD	3	360.00		22	20	1	0	SPACE
12	20	1	LIGHT CIR #1152 2RT64 BTWN 2ND & 3RD	3	360.00		24	20	1	0	SPACE
13	20	1	LIGHT CIR #1153 2RT64 BTWN 2ND & 3RD	3	360.00		26	20	1	0	SPACE
14	20	1	LIGHT CIR #1154 2RT64 BTWN 2ND & 3RD	3	360.00		28	20	1	0	SPACE
15	20	1	LIGHT CIR #1155 2RT64 BTWN 2ND & 3RD	3	360.00		30	20	1	0	SPACE
TOTAL VOLT/AMPS / PER PHASE:				4,420.00	5,260.00						
AMPERAGE PER PHASE:				53.50	58.00						
AVERAGE AMPERAGE:				55.75							
(DUTY CYCLE) TOTAL LOAD IS 80% OVERALL:				39.03							

PANEL NAME: EXISTING LIGHT PANEL #4 (1P-4)		PROJECT NAME: CITY OF OREGON STREET LIGHTING									
PANEL LOCATION: EXISTING CONTROL CABINET #4		FEEDER: EXISTING									
BUSING AMP: EXISTING		VOLTAGE: 120/240									
MOUNTING: EXISTING		1PH AIC RATING: 10,000									
BUS: EXISTING		WIRING: 100A MAIN 3W									
		TYPE: EXISTING N1									
CCT	CB	NUM	DESCRIPTION	AMPS	AG VA	BD VA	CCT	CB	NUM	DESCRIPTION	
1	20	1	LIGHT CIR #1156 2RT64 BTWN 2ND & 3RD	3	360.00		2	20	1	CONTROL CIRCUIT	
2	20	1	LIGHT CIR #1157 2RT64 BTWN 2ND & 3RD	3	360.00		4	20	1	4.5	LIGHT CIR #A12-A14 2ND BTWN WASH & JEFF
3	20	1	LIGHT CIR #1158 2RT64 BTWN 2ND & 3RD	3	360.00		6	20	1	2	LIGHT CIR #A15-A18 2ND BTWN WASH & JEFF
4	20	1	LIGHT CIR #1159 2RT64 BTWN 2ND & 3RD	3	360.00		8	20	1	0	SPACE
5	20	1	LIGHT CIR #1160 2RT64 BTWN 2ND & 3RD	3	360.00		10	20	1	0	SPACE
6	20	1	LIGHT CIR #1161 2RT64 BTWN 2ND & 3RD	3	360.00		12	20	1	0	SPACE
7	20	1	LIGHT CIR #1162 2RT64 BTWN 2ND & 3RD	3	360.00		14	20	1	0	SPACE
8	20	1	LIGHT CIR #1163 2RT64 BTWN 2ND & 3RD	3	360.00		16	20	1	4.5	RECEPT CIR #A19-A18 2ND BTWN WASH & JEFF
9	20	1	LIGHT CIR #1164 2RT64 BTWN 2ND & 3RD	3	360.00		18	20	1	3	RECEPT CIR #A15-A16 2ND BTWN WASH & JEFF
10	20	1	LIGHT CIR #1165 2RT64 BTWN 2ND & 3RD	3	360.00		20	20	1	0	SPACE
11	20	1	LIGHT CIR #1166 2RT64 BTWN 2ND & 3RD	3	360.00		22	20	1	0	SPACE
12	20	1	LIGHT CIR #1167 2RT64 BTWN 2ND & 3RD	3	360.00		24	20	1	0	SPACE
13	20	1	LIGHT CIR #1168 2RT64 BTWN 2ND & 3RD	3	360.00		26	20	1	0	SPACE
14	20	1	LIGHT CIR #1169 2RT64 BTWN 2ND & 3RD	3	360.00		28	20	1	0	SPACE
15	20	1	LIGHT CIR #1170 2RT64 BTWN 2ND & 3RD	3	360.00		30	20	1	0	SPACE
TOTAL VOLT/AMPS / PER PHASE:				3,840.00	4,280.00						
AMPERAGE PER PHASE:				32.00	41.50						
AVERAGE AMPERAGE:				34.75							
(DUTY CYCLE) TOTAL LOAD IS 80% OVERALL:				25.73							

ELECTRICAL SPECIFICATIONS:

- 1.01. WORK INCLUDES
  - A. Light Fixtures.
  - B. Trench & backfill.
  - C. Raceways.
  - D. Wires and necessary terminating materials.
- 1.02. REGULATORY REQUIREMENTS
  - A. National Electrical Code, (NEC (2014))
    - 1. Comply with NEC/ANSI/NFPA-70E, for construction and installation of basic materials.
    - 2. NEC 300-21: Wiring Methods: Spread of Fire or Products of Combustion.
    - 3. Building code for the city of Rockford.
  - B. Underwriter's Laboratories, UL
    - 1. All basic materials listed and labeled by UL.
- 1.03. REFERENCED
  - A. American National Standards Institute, ANSI:
    - 1. C80.3: Specification for Electrical Metallic Tubing, Zinc Coated.
  - B. National Electrical Manufacturer's Association, NEMA:
    - 1. Enclosures, Publication 250.
      - a. Type 1: Indoor use, atmospheric conditions normal.
  - C. Underwriter's Laboratories, UL
- 1.04. REQUIRED SUBMITTALS
  - A. Shop Drawings:
    - 1. Submit drawings for:
      - a. Lighting fixtures.
      - b. Poles
- 1.05. PROJECT RECORD DOCUMENTS
  - A. Accurately record on drawings actual locations and wiring methods and "As-built" record documents. Submit for Architect's review.
- 1.06. DRAWINGS AND SPECIFICATIONS
  - A. Any required utility will be arranged and paid for by the Owner.
  - B. Work is to be completed as per the Illinois Standard Specifications for Road and Bridge Construction; adopted January 1, 2012.
  - C. Material shall be new. Seconds or damaged materials will be rejected by Owner, who reserves the right to disapprove and reject any materials, proposed or installed which, in their opinion, fail to meet quality standards specified. Contractor shall, at his
- 2. PRODUCTS
  - 2.01. RACEWAYS
    - A. Conduit Materials, Components:
      - 1. Conduit & Fittings:
        - a. (RMC) Rigid Metal Conduit; as per the Illinois Standard Specifications for Road and Bridge Construction; adopted January 1, 2012; section 811.
        - b. (PVC) Rigid Polyvinyl Chloride Conduit, Schedule 40 exterior underground only, Minimum depth 30" under roadway or vehicular traffic, as per the Illinois Standard Specifications for Road and Bridge Construction; adopted January 1, 2012; section 810.
  - 2.02. WIRES AND CABLES
    - A. All wire to be copper XLP/USE; as per the Illinois Standard Specifications for Road and Bridge Construction; adopted January 1, 2012; section 817.
- 2.03. WIRING SYSTEM IDENTIFICATION
  - A. Wire Insulation Color:
    - 120/240 v., 1 phase, 3 wire
      - 1. Phase A Black
      - 2. Phase B Red
      - 3. Neutral White
      - 4. Ground Green
- 2.04. BOXES
  - A. All boxes to be stainless steel; as per the Illinois Standard Specifications for Road and Bridge Construction; adopted January 1, 2012; section 813.
- 2.05. SUPPORTING DEVICES
  - A. Conduit Supports:
    - 1. Single Runs: Galvanized conduit straps or ring bolt type hangers with specialty spring clips.
    - 2. Vertical Runs: Channel support with conduit fittings.
  - B. Anchors
    - 1. Hollow Masonry: Toggle bolts or spider type expansion anchors.
    - 2. Solid Masonry: Lead expansion anchors or preset inserts
    - 3. Metal Surfaces: Machine screws, bolts, or welded studs.
    - 4. Wood Surfaces: Wood screws.
    - 5. Concrete Surfaces: Self-drilling anchors or power-driven studs.
- 2.06. FIRE AND SMOKE PENETRATION SEALANT
  - A. NEC 300-21: UL rated flexible sealant.
- 2.07. CORROSION PREVENTION
  - A. Protect all metallic materials against corrosion.
    - 1. All equipment enclosures given rust-inhibiting treatment and standard finish by manufacturer.
    - 2. Ferrous Metal Parts: Hot dip galvanized, ASTM A123 or ASTM A153.
      - a. Includes anchors, bolts, braces, boxes, bodies, clamps, fittings, guards, nuts, pins, rods, shims, thimbles, washers, and miscellaneous parts; other than stainless steel or non-ferrous materials.
  - B. Isolation of Dissimilar Metals: Separate dissimilar metals with NEC approved material.
- 2.08. PANELBOARD
  - A. Square D NQOD Style, Copper buss, Nema-1, surface mounted, hinged cover. (or equal GE, Siemens, Cutler-Hammer)
  - B. BREAKERS
    - 1. Square D QOB type. (or equal GE, Siemens, Cutler-Hammer)
- 2.09. LUMINAIRES
  - A. Manufacturer: See lighting fixture schedule on plans.
- 3. EXECUTION
  - 3.01. INSTALLATION
    - A. Drawings are diagrammatic and are intended to convey scope of work and indicate general arrangement of conduit, boxes, equipment, fixtures and other work included in contract.
  - 3.02. RACEWAYS
    - A. Installation of Conduit:
      - 1. Install conduit and tubing products indicated, in accordance with manufacturer's written instructions and requirements of NEC and NFPA, Standard of Installation.
      - 2. Attach conduit with clamps that meet the application.
      - 3. Coordinate installation of conduit with prime contractor.
      - 4. Install conduit free from dents and bruises.
      - 5. Plug conduit ends to prevent entry of dirt or moisture.
      - 6. Clean out conduit before installation of conductor(s).
      - 7. Alter conduit routing to avoid structural obstructions, minimize cross-overs; and where possible, install raceways above water and steam piping.
      - 8. Allow minimum 6 inch clearance at flues, steam pipes, and heat sources.
      - 9. Route oil exposed conduits parallel or perpendicular to building lines.
      - 10. Fire rated walls, partitions,