



PREPARED BY:
SUNRISE ENGINEERING, INC.
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TEL. (435) 743-6151
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PROJECT NAME:

**SNOW COLLEGE
RICHFIELD
PARKING
IMPROVEMENTS**

ENGINEER'S STAMP



MARK	DATE	DESCRIPTION
ISSUE TYPE: 100%		

ISSUE DATE: March 10, 2008

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DRAWING TITLE

**LIGHTING SHEET -
ELECTRICAL INDEX**

DRAWING NUMBER

E-1

ELECTRICAL STANDARDS LEGEND

GENERAL ELECTRICAL REQUIREMENTS

- THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE ORDINANCES AND REGULATIONS. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE, FINISHED AND SAFE MANNER, ACCORDING TO THE LATEST PUBLISHED N.E.C.A. STANDARDS OF INSTALLATION, UNDER COMPETENT SUPERVISION. INSTALL GROUNDING AND ALL ELECTRICAL WORK AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ANY OTHER APPLICABLE CODES.
- CONTRACTOR SHALL COMPLY WITH THE LATEST VERSION OF THE UTILITY ELECTRIC SERVICE REQUIREMENTS (ESR) OF PACIFIC POWER, ROCKY MOUNTAIN POWER OR THE POWER COMPANY SERVING THE PROJECT.
- MATERIAL, EQUIPMENT AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE SECTION 16000 & 17000 PROJECT SPECIFICATIONS WHICH ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT.
- VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ALL OTHER FACTORS WHICH MAY AFFECT THE EXECUTION OF THIS WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
- ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, U.L. OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURER'S NAMES, MODELS AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS AND BID PRICE. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING AND APPROVED BY THE ENGINEER BEFORE ORDERING.
- PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED UNDER THIS DIVISION AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITIONS WILL BE REJECTED AS DEFECTIVE.
- LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK.
- ALL CONDUCTORS SHALL BE THHN/THWN COPPER 90° C, STRANDED RATED AT 600 VOLTS UNLESS OTHERWISE NOTED. ALUMINUM WIRE WILL NOT BE ALLOWED.
- ALL UNDERGROUND CONDUIT TO BE SCHEDULE 40 PVC. MINIMUM DEPTH 30", MINIMUM SIZE 3/4". ALL UNDERGROUND ELBOWS SHALL BE RIGID LONG SWEEP WRAPPED WITH 3M-50 10 MIL PIPE WRAP OR APPROVED EQUAL EXCEPT FOR COMMUNICATIONS CABLE AND CONDUIT WHEN SPECIFIED DIFFERENTLY ON THE DETAILED ELECTRICAL DRAWINGS.
- ALL EXPOSED CONDUIT SHALL BE IMC OR RIGID STEEL CONDUIT, WITH A MINIMUM SIZE OF 3/4" EXCEPT FOR COMMUNICATIONS CABLE CONDUIT WHEN SPECIFIED DIFFERENTLY ON THE DETAILED ELECTRICAL DRAWINGS.
- ALL SAFETY SWITCHES AND OTHER DISTRIBUTION AND CONTROL ELECTRICAL EQUIPMENT SHALL BE RATED FOR HEAVY DUTY SERVICE.
- ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE GROUNDED BODY TYPE DEVICES.
- THE CONTRACTOR SHALL INSTALL ALL INSTRUMENTS AND CONTROLS, INCLUDING HVAC AND CONTROL PANELS. THE CONTRACTOR SHALL OBTAIN AND REVIEW ALL INSTRUMENT, CONTROL AND HVAC DRAWINGS FOR TOTAL SCOPE OF WORK.
- ALL PANELS, DISCONNECTS AND SWITCH GEAR ON THE OUTSIDE OF THE BUILDING SHALL BE NEMA 3R TYPE ENCLOSURES. CT CABINET AND METER BASE SHALL BE OUTSIDE THE BUILDING.
- SURGE SUPPRESSOR SHALL BE SIZED FOR 160KA AMPS UNLESS OTHERWISE NOTED.
- ALL CONDUIT FOR ALL EQUIPMENT, INCLUDING EQUIPMENT FURNISHED BY OTHERS, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- ALL CONDUIT, WHERE LEAVING ELECTRICAL EQUIPMENT TO GO UNDERGROUND, MUST BE ANCHORED TO THE FOUNDATION W/6" STAND-OFF BRACKETS TO ALLOW FOR CLEARANCE FOR FOOTING AND WALL STUDS ON THE WALLS IN THE BUILDING. ALL RGS CONDUIT AND ELBOWS USED UNDERGROUND WILL BE WRAPPED WITH AN APPROVED PIPE WRAP. (TYP. FOR ALL BUILDINGS)



GENERAL ELECTRICAL ABBREVIATIONS

MCP MOTOR CIRCUIT PROTECTOR	C CONDUIT	ACB AIR CIRCUIT BREAKER	SPIC SPARE INSTRUMENT CONDUIT
NC NORMALLY CLOSED	CB CIRCUIT BREAKER	AFF ABOVE FINISHED FLOOR	WP WEATHERPROOF
NO NORMALLY OPEN	CNTL CONTROL	AFG ABOVE FINISHED GRADE	OL MOTOR OVERLOAD
SPC SPARE CONDUIT	IC INSTRUMENTATION CONDUIT	EMH ELECTRICAL MANHOLE	LP LIGHTING PANEL
PLC PROGRAMMABLE LOGIC CONTROLLER	INST INSTRUMENT	MTU MASTER TERMINAL UNIT	RTU REMOTE TERMINAL UNIT
ATS AUTOMATIC TRANSFER SWITCH	HMI HUMAN MACHINE INTERFACE	TSP TWISTED SHIELDED PAIRS	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
LCP LOCAL CONTROL PANEL	RVSS REDUCED VOLTAGE SOLID STATE	PP POWER PANEL	



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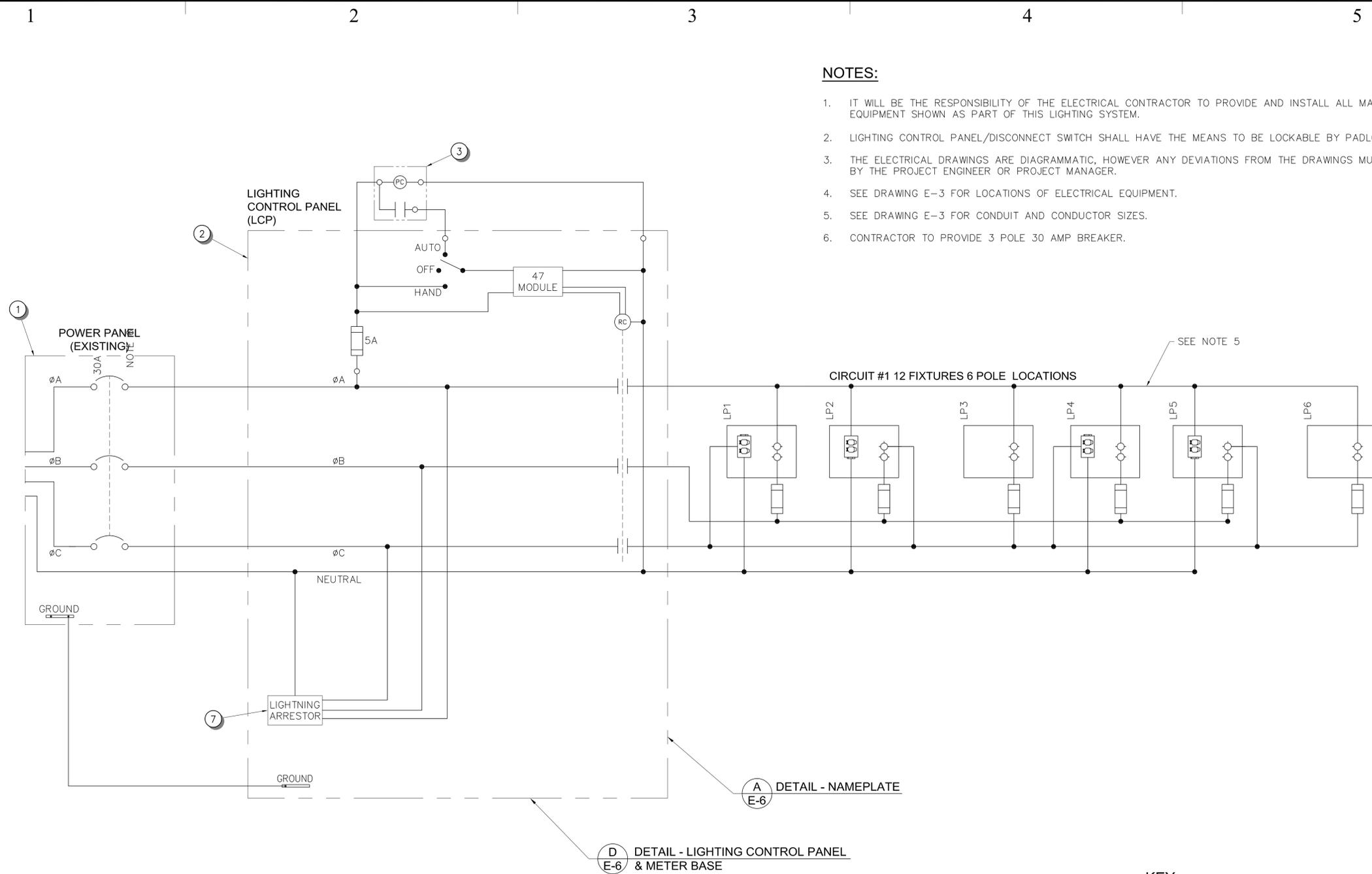
LIGHTING SHEET -
SCHEMATIC/EQUIPMENT
SCHEDULE

DRAWING NUMBER

E-2

NOTES:

- IT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL ALL MATERIALS AND EQUIPMENT SHOWN AS PART OF THIS LIGHTING SYSTEM.
- LIGHTING CONTROL PANEL/DISCONNECT SWITCH SHALL HAVE THE MEANS TO BE LOCKABLE BY PADLOCK.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC, HOWEVER ANY DEVIATIONS FROM THE DRAWINGS MUST BE APPROVED BY THE PROJECT ENGINEER OR PROJECT MANAGER.
- SEE DRAWING E-3 FOR LOCATIONS OF ELECTRICAL EQUIPMENT.
- SEE DRAWING E-3 FOR CONDUIT AND CONDUCTOR SIZES.
- CONTRACTOR TO PROVIDE 3 POLE 30 AMP BREAKER.



A
E-6
DETAIL - NAMEPLATE

D
E-6
DETAIL - LIGHTING CONTROL PANEL
& METER BASE

KEY:

- ⊕ 250W METAL HALIDE LIGHT/POLE FIXTURE
- ⊞ FESTOON RECEPTACLE

ELECTRICAL EQUIPMENT SCHEDULE

Item #	Description	Quantity	Model #	Manufacturer	Comments
1	POWER PANEL (EXISTING)	1	.	.	.
2	LIGHTING CONTROL PANEL NEMA 3R LOCKABLE	1	6418S12CD	ASCO	PROVIDE WITH NEMA 3R ENCLOSURE
3	PHOTOCELL	1	K4423M	INTERMATIC	OR APPROVED EQUAL
4	250W METAL HALIDE LIGHT FIXTURE	12	EH19-2-3-250MH-208-BRA-LF	GARDCO	OR APPROVED EQUAL
5	4" STRAIGHT SQUARE STEEL	6	SSS-20-4-7-D2-BRP-FES	GARDCO	OR APPROVED EQUAL
6	CONCRETE PULL BOX	4	C9E W/C9T LID	BES CONCRETE PRODUCTS	OR APPROVED EQUAL
7	LIGHTNING ARRESSTOR	1	SDSA3650	SQUARE D	OR APPROVED EQUAL

LIGHTING SCHEMATIC DIAGRAM/ELECTRICAL EQUIPMENT SCHEDULE



SNOW COLLEGE
RICHFIELD
PARKING
IMPROVEMENTS



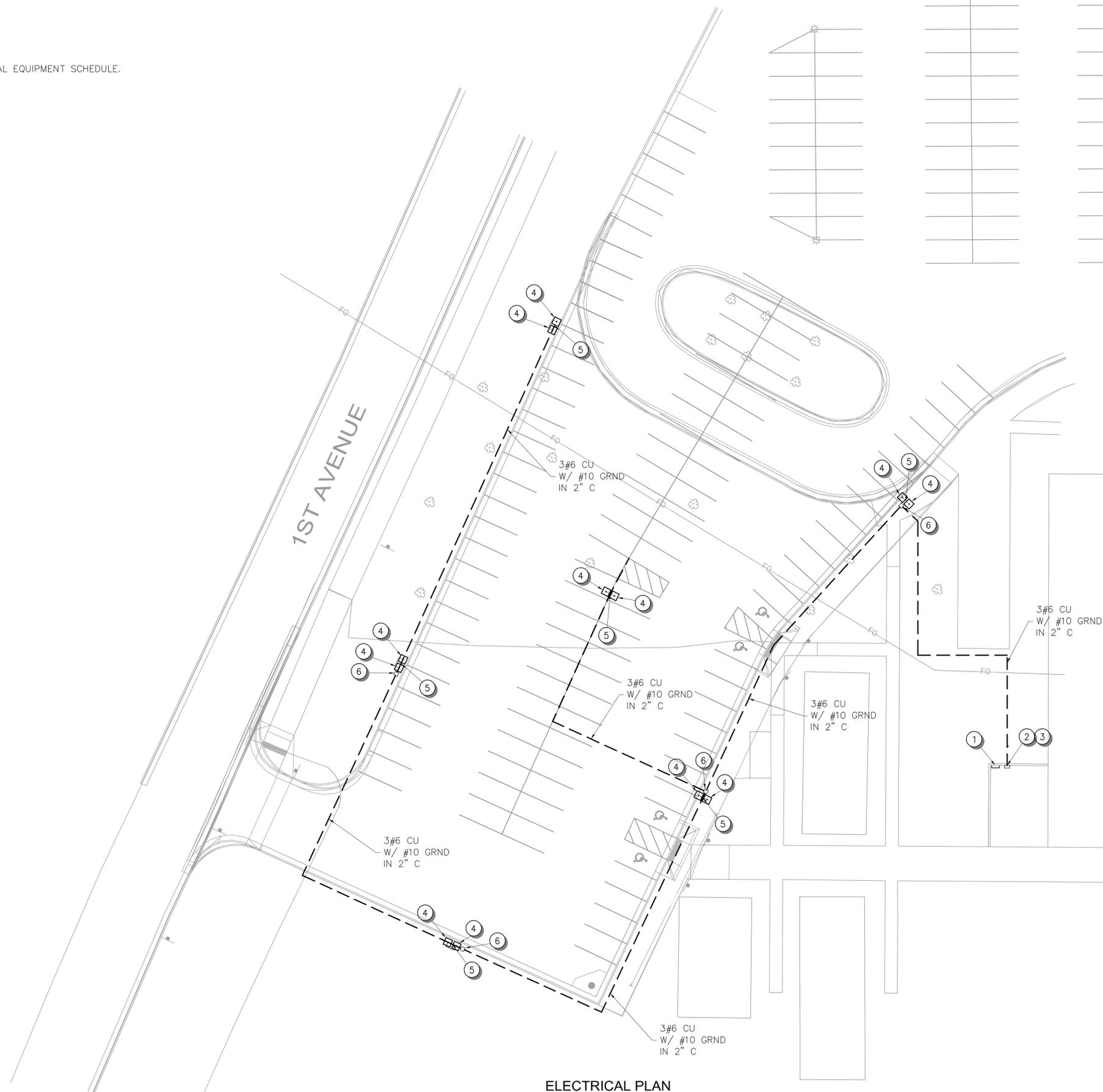
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LIGHTING SHEET - ELECTRICAL PLAN		
DRAWING NUMBER		
E-3		
SHEET 13 OF 16		

NOTES:

- SEE DRAWING E-2 FOR ELECTRICAL EQUIPMENT SCHEDULE.



SCALE
HORIZ: 1" = 20'



ELECTRICAL PLAN



SCALE
 20 0 20
 HORIZ: 1" = 20'

State of Utah
 Department of Administrative Services
 Division of Facilities
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PROJECT NAME:

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**LIGHTING SHEET -
 LIGHTING LUMEN LEVELS**

DRAWING NUMBER

E-4

SHEET 14 OF 16

LIGHTING LUMEN LEVELS

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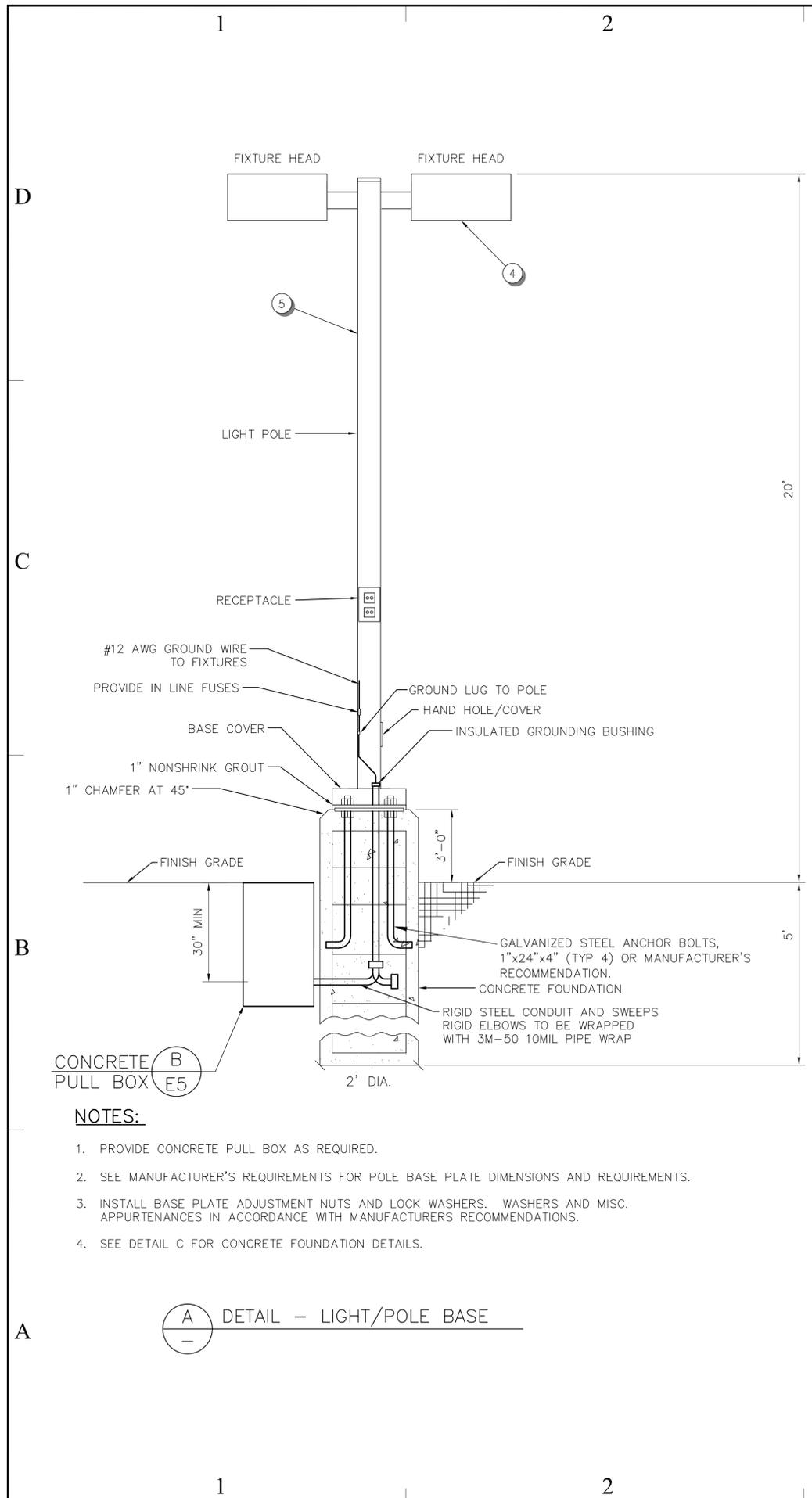
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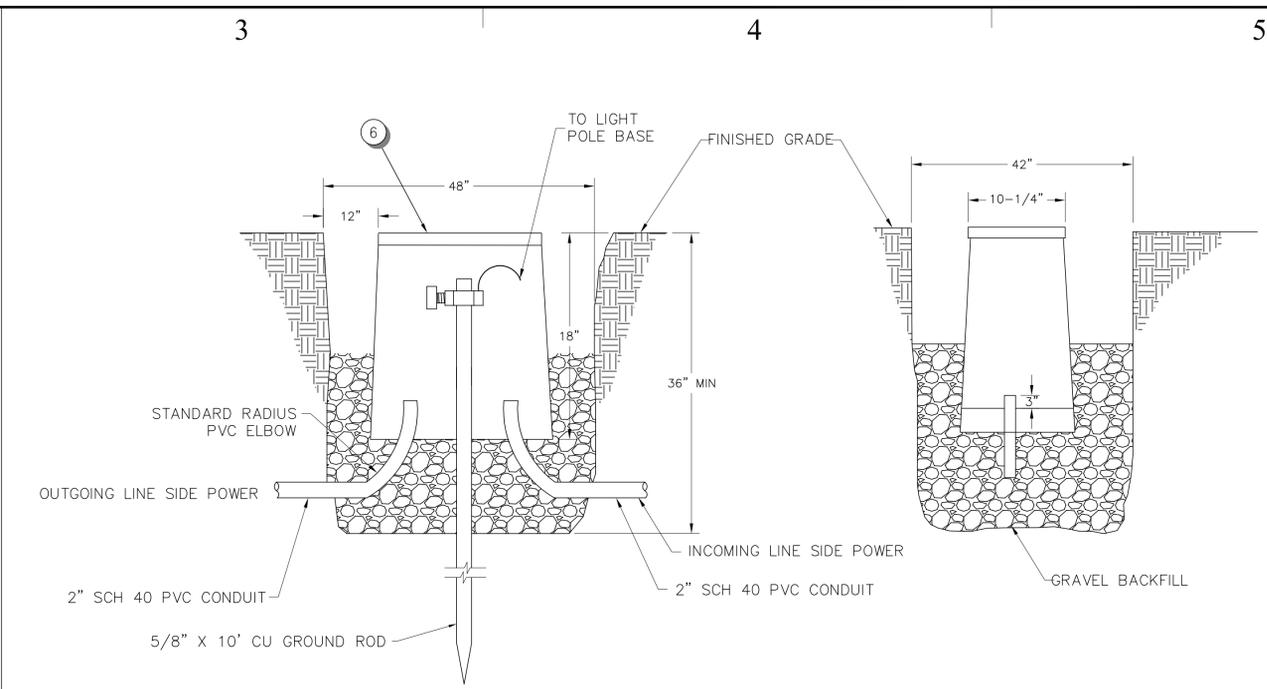
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LIGHTING SHEET- ELECTRICAL DETAILS		
DRAWING NUMBER		
E-5		
SHEET 15 OF 16		



NOTES:

1. PROVIDE CONCRETE PULL BOX AS REQUIRED.
2. SEE MANUFACTURER'S REQUIREMENTS FOR POLE BASE PLATE DIMENSIONS AND REQUIREMENTS.
3. INSTALL BASE PLATE ADJUSTMENT NUTS AND LOCK WASHERS. WASHERS AND MISC. APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. SEE DETAIL C FOR CONCRETE FOUNDATION DETAILS.

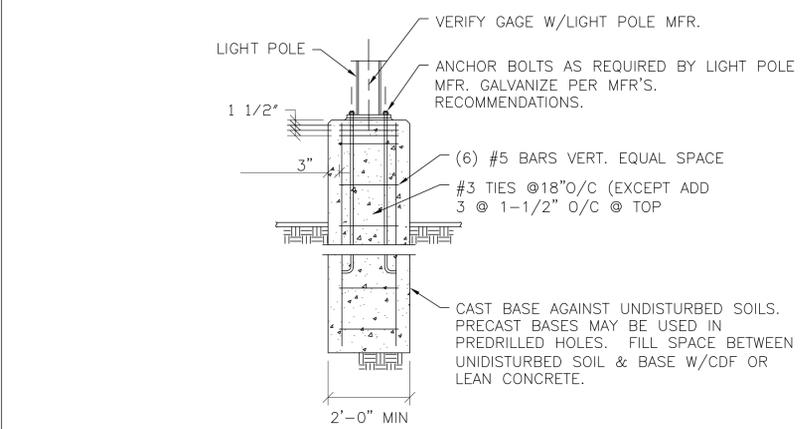
(A) DETAIL - LIGHT/POLE BASE



NOTES:

1. BACKFILL WITH GRAVEL TO WITHIN 24" OF FINISHED GRADE.
2. INSTALL BOX AND BACKFILL TO WITHIN 12" OF FINISHED GRADE WITH GRAVEL.
3. BACKFILL INSIDE BOX WITHIN 3" OF THE TOP OF THE CONDUIT WITH GRAVEL.
4. FINISHED GRADE MUST BE FLUSH WITH THE TOP OF THE PULL BOX.
5. PULL BOX TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
6. SCHEDULE INSPECTION OF PULL BOX INSTALLATION WITH LOCAL JURISDICTION.

(B) DETAIL - CONCRETE PULL BOX



(C) DETAIL - POLE BASE

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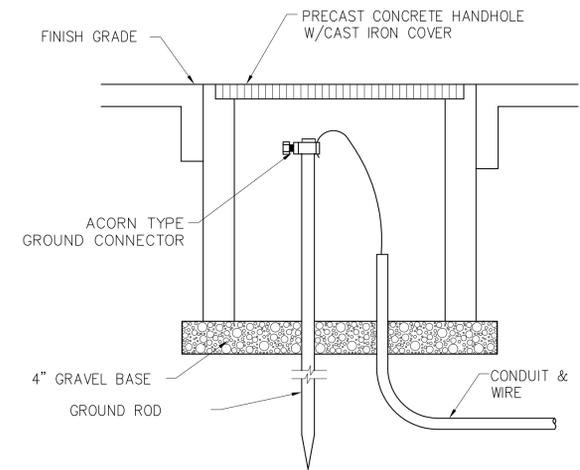
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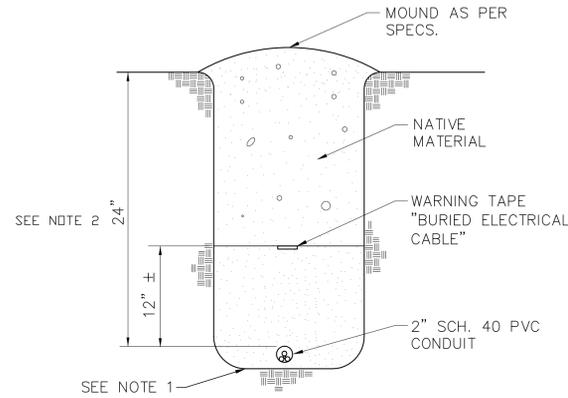
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LIGHTING SHEET - ELECTRICAL DETAILS		
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E-6		
SHEET 16 OF 16		

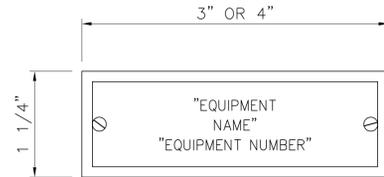


C DETAIL -- GROUND WELL



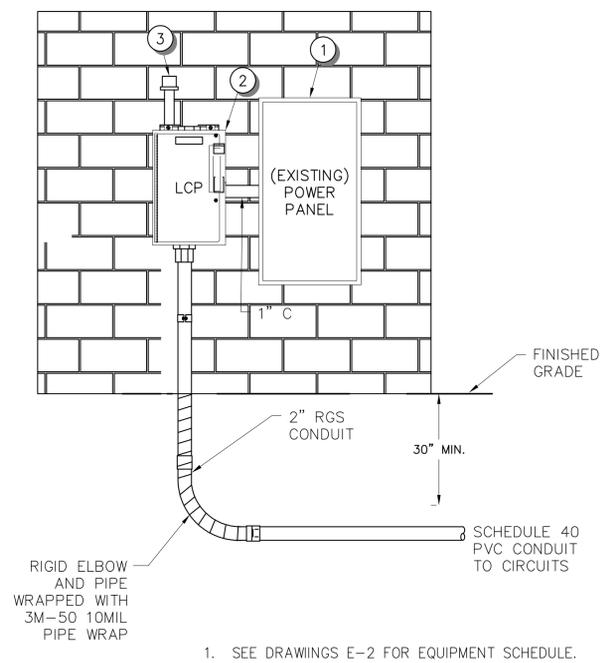
- NOTES:
- TRENCH BOTTOMS SHALL BE SMOOTH AND FREE OF ROCKS AND ALL CONSTRUCTION DEBRIS.
 - BURIAL DEPTH PER TABLE 353-1 OF NESC LATEST REVISION.
 - THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS BEFORE ANY TRENCHING IS PERFORMED.

B DETAIL -- UNDERGROUND CONDUIT POWER CABLE TRENCH



- ALL LETTERS TO BE 1/4" UNLESS NOTED OTHERWISE
- ALL NAMEPLATES TO BE MOUNTED ON THE VERTICAL CENTER LINE OF THE CUBICAL OR DEVICE
- ATTACH ALL NAMEPLATES WITH STAINLESS STEEL SCREWS
- PROVIDE BLANK NAMEPLATES FOR ALL SPARE AND FUTURE DEVICES

A DETAIL -- NAMEPLATE



D DETAIL -- LIGHTING CONTROL PANEL

D

C

B

A

D

C

B

A

1

2

3

4

5

1

2

3

4

5