

Project No.		Drawing No.

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DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.

2. FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, BEING PROVIDED BY THE MANUFACTURER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.

3. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROLS, INTERLOCKS, ACCESSORIES, ETC., IN MOTOR CONTROL STARTERS AS REQUIRED BY THE TEMPERATURE CONTROL CONTRACTOR. STARTERS SHALL CONTAIN 120V CONTROL TRANSFORMER, PILOT LIGHT, AND FUSIBLEBURNERS OR SELECTOR SWITCH AS REQUIRED, IN ADDITION TO OTHER ITEMS (AUXILIARY CONTACTS, DOOR SWITCHES, RELAYS, ETC.) REQUIRED. SUBMIT ELEMENTARY CONTROL DIAGRAMS FOR APPROVAL. SUBMITTALS SHALL INCLUDE INDICATION OF PRIOR REVIEW AND ACCEPTANCE BY TEMPERATURE CONTROL CONTRACTOR. REFER TO DIV. 15 DRAWINGS AND TEMPERATURE CONTROL DIAGRAMS FOR ADDITIONAL CONDUIT, WIRE, RELAYS, TRANSFORMERS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

4. ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A #12 PULLWIRE OR EQUAL AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.

5. FIXTURES INDICATED AS BEING ON EMERGENCY OR NIGHT LIGHT CIRCUITS SHALL BE PROVIDED WITH SELF-CONTAINED BATTERY POWERED INVERTER UNIT FOR DIRECT MOUNTING IN FIXTURE. PROVIDE UNIT WITH FULLY AUTOMATIC TWO RATE CHARGER, NICKEL CADMIUM BATTERY, AC 90W PILOT LIGHT, AND TEST SWITCH. DESIGN AND WIRE UNIT TO AUTOMATICALLY TRANSFER TO BATTERY SUPPLY ON LOSS OF NORMAL AC POWER AND TO OPERATE F40 FLUORESCENT LAMP WITH MINIMUM OUTPUT OF 600 LUMENS FOR MINIMUM 1-1/2 HOURS.

6. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO VERBALLY APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.

7. EXAMINATION OF BIDDING DOCUMENTS.

A. EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND, NOT LATER THAN SEVEN DAYS PRIOR TO THE DATE OF RECEIPT OF BIDS, SHALL MAKE A WRITTEN REQUEST TO THE ARCHITECT FOR INTERPRETATION OR CORRECTION OF ANY DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR THEREIN WHICH HE MAY DISCOVER. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED AS AN ADDENDUM BY THE ARCHITECT. ONLY A WRITTEN INTERPRETATION OR CORRECTION BY ADDENDUM SHALL BE BINDING. NO BIDDER SHALL RELY UPON INTERPRETATIONS OR CORRECTIONS GIVEN BY ANY OTHER METHOD. IF DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR ARE NOT COVERED BY ADDENDUM OR WRITTEN DIRECTIVE, CONTRACTOR SHALL INCLUDE IN HIS BID, LABOR, MATERIALS AND METHODS OF CONSTRUCTION RESULTING IN HIGHER COSTS THAN OTHER BIDDERS. NO ALLOWANCE OR EXTRA COMPENSATION WILL BE MADE IN BEHALF OF THE CONTRACTOR DUE TO HIS FAILURE TO MAKE THE WRITTEN REQUESTS AS DESCRIBED ABOVE.

B. THE PERSON SUBMITTING THE REQUEST WILL BE RESPONSIBLE FOR ITS PROMPT DELIVERY. FAILURE TO SO REQUEST CLARIFICATION OR ANY INADEQUACY, OMISSION OR CONFLICT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY. THE SIGNING OF THE CONTRACT WILL BE CONSIDERED AS IMPLICITLY DENOTING THAT THE CONTRACTOR HAS A THOROUGH UNDERSTANDING OF THE FULL INTENT AND SCOPE OF THE WORKING DRAWINGS AND SPECIFICATIONS.

8. CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND SHALL PROVIDE LIGHTS, SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, EQUIPMENT CONNECTIONS, ETC., AND ASSOCIATED CIRCUITING IN NEW AND REMODEL AREAS, EVEN IF SUCH AREAS ARE NOT SHOWN ON ELECTRICAL DRAWINGS. LAYOUTS, FIXTURE TYPES, QUANTITIES AND SPACINGS SHALL BE IN ACCORDANCE WITH SIMILAR AREAS ON THIS PROJECT. CONTRACTOR SHALL INCLUDE COSTS FOR THE ABOVE IN HIS BID. IN ADDITION, CONTRACTOR SHALL PROVIDE LAYOUT DRAWINGS FOR WORK IN SUCH AREAS AND SUBMIT FOR APPROVAL PRIOR TO ROUGH-IN.

9. CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID.

10. CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL INCLUDE IN HIS BID, COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.

11. PROPOSED SUBSTITUTIONS OF ELECTRICAL EQUIPMENT OR REQUEST FOR "OR EQUAL" OR "APPROVED EQUAL" LISTING SHALL BE SUBMITTED TO ARCHITECT NOT LESS THAN TEN (10) WORKING DAYS PRIOR TO BID. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

12. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.

13. WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE OF NEVADA AND NATIONAL CODES AND ORDINANCES.

14. PROVIDE PERMITS AND INSPECTIONS REQUIRED.

15. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.

16. PROVIDE RECORD DRAWINGS TO ARCHITECT. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.

17. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.

18. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.

19. PROVIDE ELECTRICAL DEMOLITION REQUIRED. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR LOCATION AND EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXTENT OF WORK INVOLVED. PROVIDE LABOR AND MATERIALS AS REQUIRED TO MAINTAIN AND/OR RESTORE CONTINUITY OF SERVICE TO EXISTING CIRCUITS.

20. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY EXISTING EQUIPMENT OR CIRCUITS THAT ARE REMAINING TO BE RECONNECTED TO NEW OR EXISTING SWITCHBOARDS/PANELBOARDS. PROVIDE SWITCHES, RECEPTACLES, CONDUIT, WIRE, ETC., AS REQUIRED TO RESTORE CONTINUITY OF CIRCUIT(S).

21. CONTRACTOR SHALL PROVIDE ALL NECESSARY DEMOLITION TO REMOVE EXISTING UNUSED CONDUIT, WIRE, CABLE, J-BOXES, RECEPTACLES, SWITCHES, LIGHTS, FIRE ALARM DEVICES, ETC., COMPLETE WITH ASSOCIATED CIRCUITING TO SOURCE. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, WIRE REMOVED, AND BLANK COVER PLATES PROVIDED.

22. SYSTEM OUTAGES SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER, IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE (BEYOND BRANCH CIRCUITS) SHALL BE PERFORMED WITH THE OWNER'S MAINTENANCE PERSONNEL ADVISED OF SUCH WORK.

23. WIRE SHALL BE COPPER, 75°C RATED FOR GENERAL USE. FOR WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER, MINIMUM 90°C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30°C AMBIENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS. 600 VOLT ALUMINUM WIRE AND CABLE IN SIZES 1/0 AND LARGER MAY BE SUBSTITUTED FOR COPPER ON SERVICES AND FEEDERS IF AMPACITY IS EQUAL TO OR GREATER THAN COPPER AND VOLTAGE DROP IS EQUAL TO OR LESS THAN COPPER AND SHALL BE TERMINATED AT SWITCHES, LUGS, CIRCUIT BREAKERS, ETC., WITH MAC-ADAPT SERIES "M2T" MACHINE CONNECTION ADAPTERS OR EQUAL.

24. SPLICES IN EXTERIOR PULLBOXES AND MANHOLES SHALL BE MADE WATERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.

25. PRESENT SHOP DRAWING SUBMITTAL DATA AT ONE TIME, BOUND IN THREE-RING BINDERS, INDEXED IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO: LIGHTING FIXTURES, SWITCHGEAR, PANELBOARDS, WIRING DEVICES, SAFETY SWITCHES, FUSES, MOTOR STARTERS, LAMPS, CONDUIT, CONDUIT FITTINGS AND TRANSFORMERS.

26. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.

27. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.

28. SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC., SHALL BE CONNECTED AND OPERABLE.

29. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SANCUTTING AND PATCHING, CONCRETE/PAVING, ETC., REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS.

30. WIRING DEVICES SHALL BE SPECIFICATION GRADE AND RATED AT 20 AMPERES FOR LIGHT SWITCHES AND 15 AMPERES FOR DUPLEX RECEPTACLES. THE COLOR OF THE DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY ARCHITECT.

31. PULLBOXES, CABINETS, ETC., MOUNTED ON THE EXTERIOR AT GRADE LEVEL, SHALL BE WEATHERPROOF TYPE WITH HINGED LOCKABLE COVERS SECURED WITH TAMPER-PROOF SCREWS.

32. NOT USED

33. BOXES FOR TELEPHONE, T.V., COMPUTER, WIRING DEVICES, ETC., SHALL BE MINIMUM 4" SQUARE.

34. SECURITY. CONTRACTOR SHALL PROVIDE ALL CONDUIT, J-BOXES (MINIMUM 2-GANG) AND CABINETS FOR A COMPLETE RACEWAY SYSTEM. CONDUIT SHALL BE A MINIMUM OF 3/4" UNLESS NOTED. OWNER WILL INSTALL SECURITY PANELS, CAMERAS, WIRE, SECURITY DEVICES, ETC., AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM UNDER SEPARATE CONTRACT.

35. RECESSED LIGHT FIXTURES INSTALLED IN GYP. BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.

36. RECESSED FIXTURES INSTALLED INDOORS SHALL BE THERMALLY PROTECTED.

37. FIXTURES RECESSED IN "T-BAR" CEILING SHALL BE SUPPORTED INDEPENDENTLY OF CEILING SYSTEM, WITH FOUR #12 HANGER WIRES UP TO STRUCTURE. SECURE HANGER WIRES TO CORNERS OF FIXTURE. CLIP FIXTURE TO GRID ON TWO SIDES WITH FACTORY-FURNISHED CLIPS. FINAL CONNECTION TO FIXTURE SHALL BE MADE WITH A FLEXIBLE U.L. APPROVED ASSEMBLY.

38. SEE DIVISION 15 DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED.

39. EXISTING LIGHT FIXTURES, SWITCHGEAR, ELECTRICAL EQUIPMENT, ETC., BEING REMOVED SHALL BE RETURNED TO THE OWNER, EXCEPT FOR THOSE ITEMS BEING RELOCATED.

40. CONTRACTOR SHALL PROVIDE NEW UPDATED PANELBOARD DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF PROJECT.

41. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. EMT FITTINGS SHALL BE MALLEABLE IRON OR STEEL. CONNECTORS SHALL BE INSULATED THROAT TYPE.

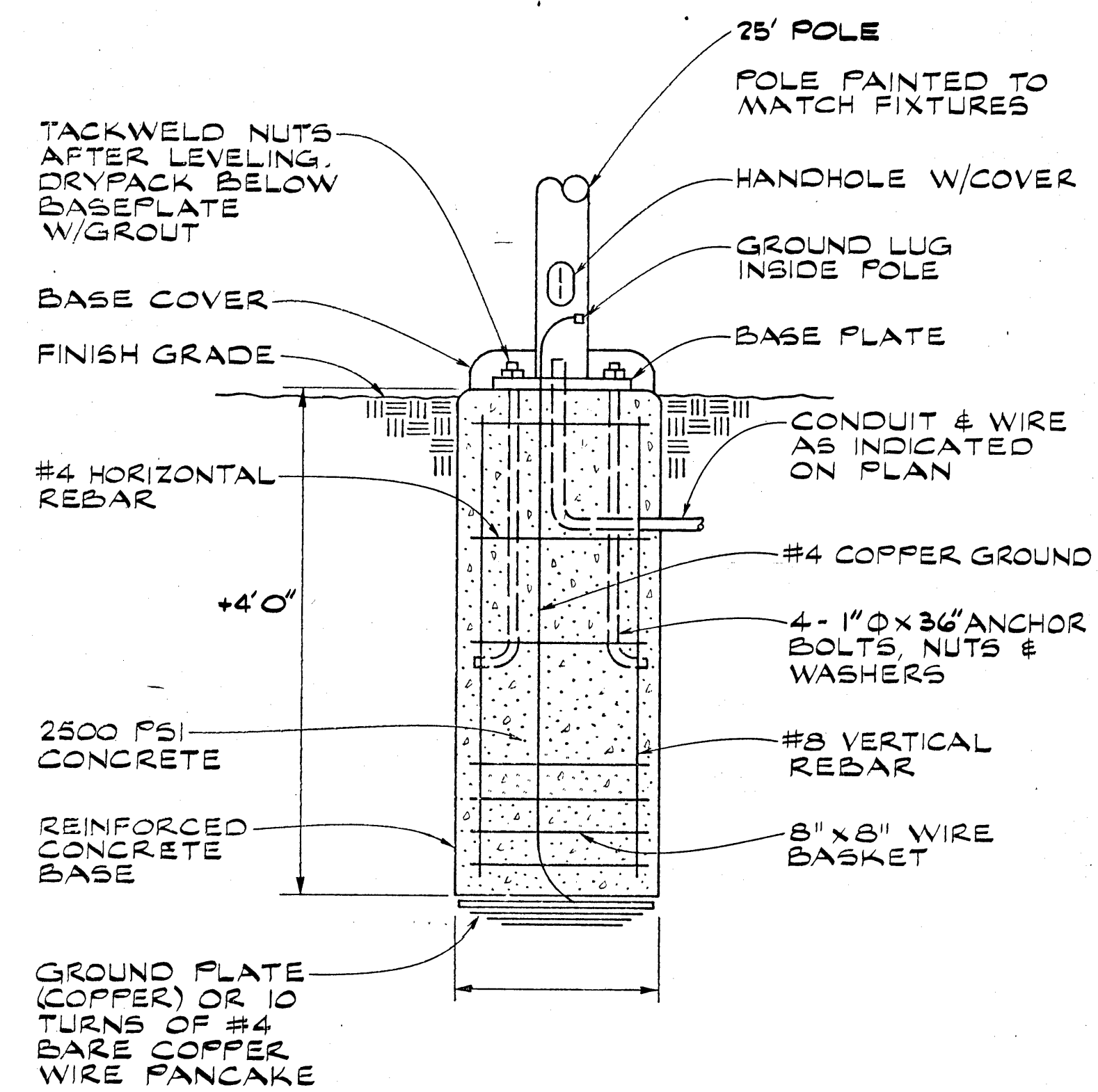
42. NON-METALLIC AND FLEXIBLE METAL CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.

43. CONDUITS PENETRATING THRU ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.

44. FINAL CONNECTIONS TO MOTORS, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT SHALL BE WITH SEAL TIE FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.

FIXTURE TYPE	MANUFACTURER		VOLT AMPS	MOUNTING	LAMP TYPE	REMARKS	VOLT.
	NAME	CAT. NO.					
A	METALUX	2GS340A12-125LE3	110	RECESS	3-F40LM/RS/WMII TROFFER	2'x4' 3 LAMP FLOURESCENT GRID TROFFER	120
B	METALUX	2FS340A12-125LE3	110	RECESS	3-F40LM/RS/WMII	SAME AS ABOVE EXCEPT FOR FLANGE MTG.	120
C	METALUX	WB1-2401MA LE3	80	SURFACE	2-F40LM/RS/WMII	4' 2 LAMP ACRYLIC WRAPROUND FIXT.	120
D	METALUX	B1-240 LE3	80	WALL	2-F40LM/RS/WMII	4' 2 LAMP WALL MOUNT W/ ACRYLIC DIFFUSER	120
E	HALO	H500CF/1503C	30	RECESS	1-F13T7/27K	FLOURESCENT DOWNLIGHT	120
AA	GARDCO	EH1913-120-250HPS BLA	310	25' POLE	1-LU250	POLE MTD. HPS LUMINAIRE	↓
⊗	LITHONIA	XEW-1L-XCK-FSW	40	WALL ABV DOOR	2-FURN. W/ UNIT	EXIT LT. W/ 90 MINUTE BATTERY STANDBY	

① REFER TO ARCHITECTURAL SITE PLAN FOR LOCATION AND REQ'TS



POLE BASE DIAGRAM



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The Contractor shall check and verify all dimensions and report all errors and omissions to this office prior to commencing work. These drawings are not to be scaled.

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Revisions		
No.	Date	Description

15-105

ate 12/18/89

rawn J.Y.L.H.

checked **D.O.B.**

Project No. _____

88237

Project

WELFARE SERVICES
FACILITY

for
CITY OF LAS VEGAS

NUCLEUS PLAZA, NEVADA

Drawing Title
**ELECTRICAL
SYMBOL LIST,
GENERAL NOTES,
FIXTURE SCHEDULE**

Drawing No.

E1.0

As Bu# 3306 513-57A