

GENERAL NOTES:

1. THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND THE SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS, AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION, OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING THEIR BID PRICE SO A CHANGE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIERS SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS INCLUSIVE OF THE ORIGINAL BID. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM ITS PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE PRIOR TO PROJECT CLOSEOUT.

2. THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS ANY ELECTRICAL ITEMS THEY MAY CONTAIN. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURE TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.

3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS, AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS - ARCHITECTURAL, MECHANICAL, ETC.

4. THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MOST RECENT LOCAL, STATE, AND NATIONAL CODES. IF AT ANY TIME DURING OR AFTER CONSTRUCTION SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THESE CODES LISTED ABOVE, IT SHALL BE CORRECTED BY THE CONTRACTOR.

5. WHERE A RACEWAY ENTERS A BUILDING OR STRUCTURE FROM THE OUTSIDE, IT SHALL BE SEALED AS PER NEC 225.27.

6. ALL ELECTRICAL EQUIPMENT THAT IS LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD OR FACTORY LABELED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS PER NEC 110.16. THE LABEL SHALL ALSO CONTAIN THE MAXIMUM AVAILABLE FAULT CURRENT AND THE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED AS PER NEC 110.24.

7. EACH DISCONNECTING MEANS SHALL BE LEGIBLY MARKED TO INDICATE ITS PURPOSE AND TO IDENTIFY THE CIRCUIT SOURCE THAT SUPPLIES THE DISCONNECTING MEANS PER NEC 110.22.

8. ALL EQUIPMENT PROVIDED BY THE EC SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, AND BE PROPERLY INSTALLED FOR THE CONDITIONS AND SPACE THAT EQUIPMENT IS BEING INSTALLED WITHIN.

9. THE EC SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE EC SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.

10. CONDUIT LAYOUTS SHOWN ON THE PLANS ARE DIAGRAMMATIC, NOT INDICATING THE ROUTING REQUIRED. THE EC SHALL ROUTE THE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION AND SHALL COORDINATE WITH DUCTWORK, PIPING, EQUIPMENT, BUILDING STRUCTURE, AND OTHER POTENTIAL OBSTRUCTIONS.

11. THE CONTRACTOR SHALL ALLOW THE MOVEMENT, BEFORE ROUGH-IN, OF ANY ELECTRICAL PANEL, DEVICE, LUMINAIRE, ETC. A DISTANCE OF 10 FEET WITHOUT REQUIRING ADDITIONAL COST TO THE PROJECT.

12. THE EC SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES. TO ASSURE ALL DEVICES ARE RIGIDLY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVICE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION.

13. MINIMUM SIZE CONDUIT SHALL BE 3/4" UNO. CONDUIT INSTALLED WITHIN THE BUILDING IN DRY LOCATIONS WITHIN WALL, CEILINGS, OR EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE SHALL BE EMT WITH STEEL SET SCREW FITTINGS. IN EXTERIOR LOCATIONS (EXCEPT FOR THE SERVICE ENTRANCE) THE CONDUIT SHALL BE EMT WITH COMPRESSION GLAND TYPE FITTINGS. UNDERGROUND CONDUIT SHALL BE PVC (SCH. 40) WITH GRC ELBOWS AND RISERS WRAPPED IN CORROSION RESISTANT MATERIALS WHERE IN DIRECT CONTACT WITH THE SOIL.

14. FLEXIBLE CONDUIT SHALL BE LIMITED TO CONNECTIONS TO LIGHT FIXTURES AND FINAL CONNECTIONS TO MOTORS OR OTHER EQUIPMENT SUBJECT TO VIBRATION. LENGTHS OF FLEXIBLE OR SEAL-TITE CONDUIT SHALL NOT BE GREATER THAN 72 INCHES.

15. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EMPTY CONDUITS WITH 200LB RATED NYLON PULL CORD.

16. BEFORE ANY ELECTRICAL CONDUIT, BOXES, ETC. ARE COVERED (FLOOR, CEILINGS, WALLS, ETC.), THEY SHALL BE APPROVED BY THE INSPECTING OFFICER (INSPECTOR).

17. WHERE WIRE SIZE IS NOT SHOWN ON THE DRAWINGS FOR 20A, 120VAC BRANCH CIRCUITS, THE CIRCUIT SHALL CONSIST OF 2#12 (CU,THHN) + 1#12 (CU,THHN) GND IN 3/4" EMT CONDUIT. THIS WIRE SIZE SHALL BE INCREASED TO #10 (CU,THHN) FOR BRANCH CIRCUITS WITH OVERALL LENGTHS EXCEEDING 125' TO ACCOMMODATE FOR VOLTAGE DROP. REFER TO EQUIPMENT SCHEDULES, FEEDER SCHEDULES, AND NOTES ON DRAWINGS FOR ALL OTHER BRANCH CIRCUIT AND FEEDER WIRE/CONDUIT SIZING.

18. CONDUCTORS SHALL BE COPPER, 600VAC RATED, TYPE THHN/THWN-2 UNO. CONDUCTORS UP TO #10AWG SHALL BE SOLID AND CONDUCTORS #11AWG OR LARGER SHALL BE STRANDED.

19. METAL CLAD CABLING MAY BE USED BETWEEN DEVICES SUCH AS LIGHTING, RECEPTACLES, SWITCHES, ETC. UNLESS OTHERWISE REQUIRED BY THE NEC. HOME RUNS SHALL BE INSTALLED IN CONDUIT. MC CABLE SHALL NOT BE INSTALLED EXPOSED.

20. EC SHALL CLEAN THE ENTIRE ELECTRICAL SYSTEM AFTER COMPLETION OF THE INSTALLATION. REMOVE ALL FINGER PRINTS, FOREIGN MATTER, PAINT, DIRT, GREASE, AND UN-NEEDED LABELS OR STICKERS FROM FIXTURES AND EQUIPMENT. REMOVE ALL RUBBISH AND DEBRIS ACCUMULATED DURING INSTALLATION FROM THE PREMISES.

21. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS FOR ALL DEVICES TO BE FLUSH MOUNTED AND CONDUIT/CABLING INSTALLED CONCEALED WITHIN WALLS/CEILINGS. IN AREAS WHERE CONDUIT MUST BE INSTALLED EXPOSED IT SHALL BE COORDINATED WITH THE ARCHITECT AND/OR ENGINEER. ALL EFFORTS SHALL BE MADE TO CONCEAL WIRING METHODS.

22. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH FIRE STOPPING, IE. 3M BRAND CAULK, PUTTY, STRIP AND SHEET FORMS, DOW CORNING 3-6548 SILICONE RTV FOAM.

23. COORDINATE LOCATION OF WALL MOUNTED DEVICES WITH CABINETRY AND OTHER WALL OBSTRUCTIONS. COORDINATE CEILING MOUNTED DEVICES WITH CEILING OBSTRUCTIONS. ANY DEVICES THAT NEED TO BE RELOCATED MUST BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER PRIOR TO ROUGH-IN FOR NEW LOCATION.

24. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE PLACEMENT OF ALL DEVICES INSTALLED WITHIN THE CEILING SUCH AS LIGHTING, SPEAKERS, FIRE SPRINKLERS, SMOKE/HEAT DETECTORS, ETC. ANY EXISTING DEVICES THAT NEED TO BE RELOCATED IN ORDER TO ACCOMMODATE NEW CONSTRUCTION/REMODEL, MUST BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER PRIOR TO ROUGH-IN FOR RESOLUTION AND FURTHER DIRECTION.

25. WHERE THE PREMISES WIRING SYSTEM HAS BRANCH CIRCUITS SUPPLIED FROM MORE THAN ONE NOMINAL VOLTAGE, EACH UNGROUNDED CONDUCTOR OF A BRANCH CIRCUIT SHALL BE IDENTIFIED BY PHASE OR LINE AND BY SYSTEM VOLTAGE CLASS AT ALL TERMINATION, CONNECTION, AND SPLICE POINTS. IDENTIFICATION MEANS SHALL BE POSTED AT EACH BRANCH CIRCUIT PANELBOARD.

ALL CONDUCTORS SHALL BE COLOR-CODED AS FOLLOWS:

PHASE

240/120

PHASE A

BLACK

PHASE B

RED

NEUTRAL

WHITE

GROUND

GREEN

REMODEL NOTES:

26. THE EC SHALL COORDINATE AND CONFIRM THE EXACT LOCATION OF THE EXISTING POWER PANELS FROM WHICH NEW CIRCUITS ARE BEING FED. VERIFY EXISTING BRANCH CIRCUIT BREAKERS AND PROVIDE NEW BRANCH CIRCUIT BREAKERS AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

27. THE EC SHALL MAINTAIN ELECTRICAL CONTINUITY TO REMAINING EQUIPMENT WHEN ANY EXISTING ELECTRICAL EQUIPMENT IS REMOVED.

28. ALL DEVICES NOT SHOWN ON PLANS ARE EXISTING TO REMAIN IN PLACE AND FUNCTIONAL. IN THE EVENT THAT WIRING TO AN EXISTING DEVICE IS DAMAGED, WIRING MUST BE REPLACED AND DEVICE BROUGHT BACK TO FULL OPERATION.

SITE NOTES:

29. PRIOR TO TRENCHING IN ANY AREA, THE CONTRACTOR SHALL COORDINATE WITH COMMUNICATIONS/DATA, CABLE TV, GAS, AND WATER UTILITY PROVIDERS (BLUE STAKES), AND HAVE ALL UTILITIES IN THE AREA IDENTIFIED. IN ADDITION, THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A SUBCONTRACTOR SPECIALIZING IN THE LOCATION OF UNDERGROUND STRUCTURES TO IDENTIFY ANY OBSTACLES IN THE PATH OF TRENCHING PRIOR TO COMMENCING WORK. DAMAGE TO ANY UNDERGROUND STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR.

LIGHTING NOTES:

30. ALL BATTERY POWERED OR CONTINUOUS BURN LUMINAIRES SHOWN ON THE PLANS, SUCH AS EXIT LIGHTS, NIGHT LIGHTS, OR EMERGENCY LIGHTS, SHALL BE CONNECTED TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT FEEDING THAT AREA.

31. LUMINAIRES INSTALLED IN THE MECHANICAL ROOM SHALL BE PLACED SO THAT ALL EQUIPMENT IS ADEQUATELY ILLUMINATED AFTER THE MECHANICAL EQUIPMENT IS IN PLACE.

32. ALL LUMINAIRES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND NOT THE CEILING GRID OR OTHER NONSTRUCTURAL MEMBERS.

33. TO MAINTAIN CONSISTENT LIGHT QUALITY, FOR ANY ONE LAMP TYPE SUPPLIED, LAMPS SHALL BE OF THE SAME MANUFACTURER, SURFACE TEMPERATURE, COLOR RENDERING INDEX, LAMP EFFICACY, LUMEN OUTPUT, AND STARTING CHARACTERISTICS FOR ALL INSTALLED.

34. LIGHT FIXTURES INSTALLED IN DAMP OR WET LOCATIONS SHALL BE UL LISTED FOR INSTALLATION IN THE PROPER ENVIRONMENT. CARE SHOULD BE TAKEN TO ENSURE THAT DIFFUSERS AND LENSES ARE APPROPRIATE FOR THEIR INSTALLED USE AND PREMATURE DISCOLORATION WILL NOT RESULT DUE TO EXPOSURE TO UV LIGHT, CHEMICALS, OR OTHER CONDITIONS.

35. ELECTRICAL CONTRACTOR SHALL PROVIDE LIGHTING CONTROL SHOP DRAWINGS WITH ELECTRICAL SUBMITTAL FOR REVIEW.

POWER NOTES:

36. ALL PANELBOARDS AND SWITCHBOARDS SHALL BE PERMANENTLY MARKED TO INDICATE EACH DEVICE OR EQUIPMENT WHERE THEIR POWER ORIGINATES AS PER NEC 408.4B.

37. ELECTRICAL CONTRACTOR SHALL CONFIRM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS OR CABINETS AND SHALL MOVE THE PANELS IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.

38. WIRING DEVICES SHALL HAVE A STAINLESS STEEL COVER PLATE. COLOR SHALL BE COORDINATED WITH ARCHITECT. EXTERIOR OUTLETS SHALL HAVE CAST COVERS WITH FLIP TYPE LIDS UNO.

39. EC SHALL COORDINATE WITH EQUIPMENT SUPPLIERS ON THE EXACT LOCATIONS OF ALL EQUIPMENT AND ELECTRICAL CONNECTIONS PRIOR TO ROUGH-IN. THE EC SHALL MAKE THE FINAL CONNECTION TO ALL EQUIPMENT UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT SUPPLIER. OBTAIN FROM SUPPLIERS ALL WIRING DIAGRAMS FOR EQUIPMENT PRIOR TO ANY ROUGH-IN. TO ASSURE THAT PROPER CHARACTERISTICS ARE PROVIDED, ANY INCORRECT WIRING OR DEVICES INSTALLED BY THE EC WITHOUT THE WIRING DIAGRAM SHALL BE CORRECTED AT THE EC'S EXPENSE. PROVIDE COPIES OF WIRING DIAGRAMS WITHIN EACH PIECE OF EQUIPMENT AND ADDITIONAL COPIES WITH THE OPERATION AND MAINTENANCE MANUALS.

40. EC SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE CONDUIT AND DEVICE MOUNTING BOXES FOR THERMOSTATS AND OTHER MECHANICAL CONTROLS. REFER TO MECHANICAL DRAWINGS FOR THE LOCATION OF THERMOSTATS.

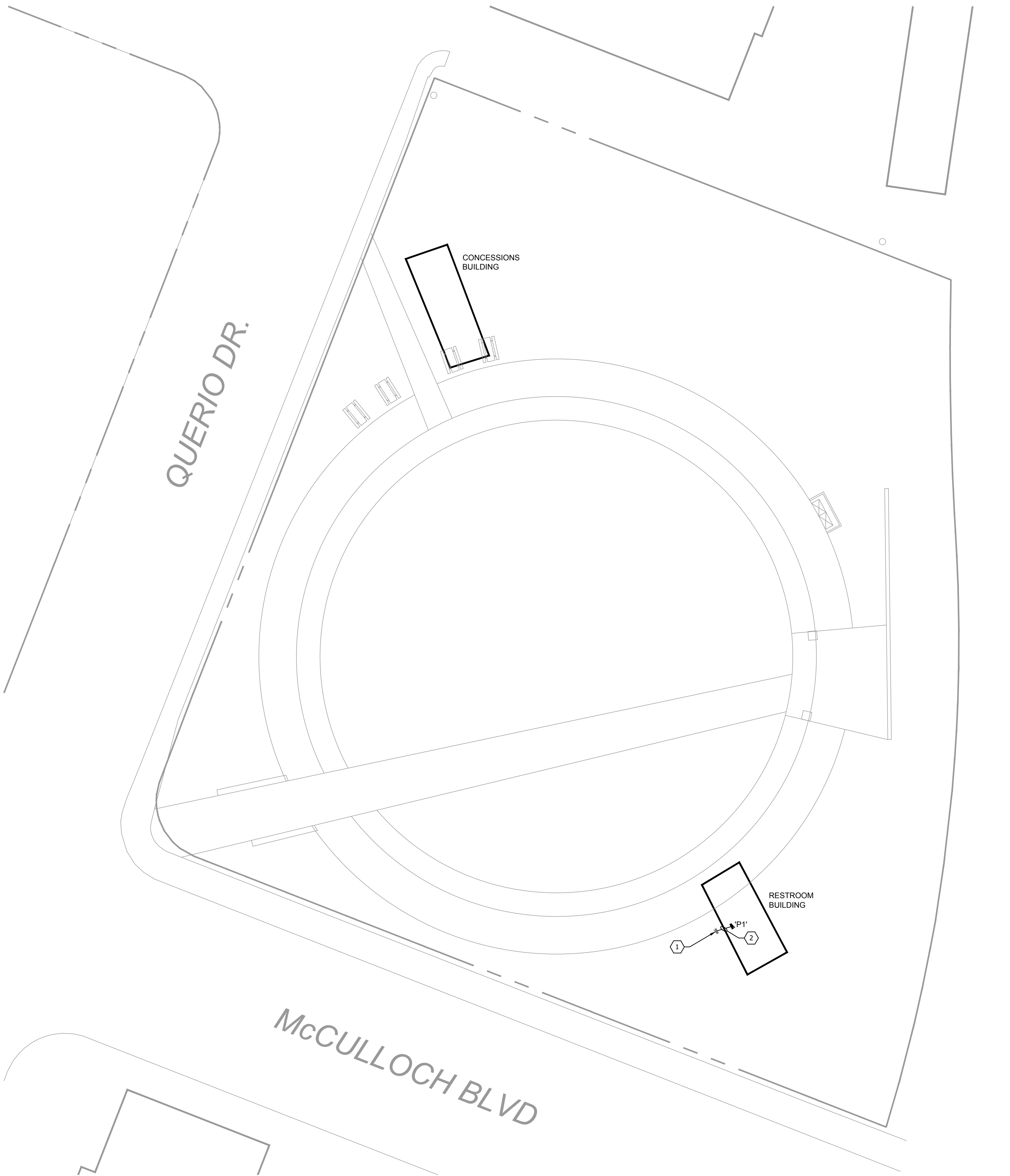
41. EC SHALL PROVIDE A 20AMP, 120VAC RECEPTACLE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HEATING, AIR CONDITIONING, AND REFRIGERATION EQUIPMENT PER NEC 210.63. RECEPTACLE SHALL BE OF THE GROUND FAULT CIRCUIT INTERRUPTING TYPE, INSTALLED WITHIN A CAST METAL BOX, AND WITHIN 25' OF ALL REQUIRED EQUIPMENT.

ROOF NOTES:

42. ELECTRICAL CONTRACTOR TO INSTALL A ROOF JACK (BOOT) FOR ALL CONDUIT PENETRATIONS THROUGH THE ROOF. ALL ROOF PENETRATION SEALS SHALL BE IN ACCORDANCE WITH THE ROOF WARRANTY AND BE COMPLETELY SEALED WITH ROOF ADHESIVE. UTILIZE PROPER CLAMPING METHODS TO SEAL BOOT AROUND CONDUIT.

ELECTRICAL SYMBOL SCHEDULE			
SYMBOL	DESCRIPTION	MOUNTING	NOTES
	LIGHT FIXTURE - SURFACE OR RECESSED	SEE DRAWINGS	1
	EMERGENCY LIGHT FIXTURE - SURFACE OR RECESSED	SEE DRAWINGS	1, 2
	LIGHT FIXTURE - OPEN STRIP	SEE DRAWINGS	1
	EMERGENCY LIGHT FIXTURE - OPEN STRIP	SEE DRAWINGS	1, 2
	LIGHT FIXTURE - WALL MOUNTED	WALL	1
	EMERGENCY LIGHT FIXTURE - WALL MOUNTED	WALL	1, 2
	LIGHT FIXTURE - DOWNLIGHT	CEILING	1
	EMERGENCY LIGHT FIXTURE - DOWNLIGHT	CEILING	1, 2
	LIGHT FIXTURE - WALL WASH DOWNLIGHT	CEILING	1
	LIGHT FIXTURE - CEILING MOUNTED	CEILING	1
	LIGHT FIXTURE - PENDANT / CHANDELIER	CEILING	1
	LIGHT FIXTURE - WALL BRACKET	WALL	1
	EMERGENCY LIGHT FIXTURE - WALL BRACKET	WALL	1, 2
	TRACK LIGHTING	SURFACE	1
	EXIT SIGN - WALL MOUNT	WALL	1, 2, 3
	EXIT SIGN - CEILING MOUNT	CEILING	1, 2, 3
	EXIT SIGN W/ EMERGENCY HEADS - WALL MOUNT	WALL	1, 2, 3
	EXIT SIGN W/ EMERGENCY HEADS - CEILING MOUNT	CEILING	1, 2, 3
	DUAL HEAD EMERGENCY LIGHT FIXTURE	WALL	1, 2
	POLE LIGHT FIXTURE	POLE	1
	STEP LIGHT FIXTURE	WALL	1
	LIGHT BOLLARD	SURFACE	1
	GROUND MOUNTED / IN-GRADE LIGHT FIXTURE	GROUND	1
	OCCUPANCY / VACANCY SENSOR - CEILING MOUNT	CEILING	1
	TIME CLOCK - 7 DAY	60"	
	PHOTO-ELECTRIC CELL WITH RELAY	SURFACE	1
	CURRENT LIMITING DEVICE	SURFACE	1
	WALL OCCUPANCY / VACANCY SENSOR SWITCH	48" TO TOP	
	SINGLE POLE SWITCH	48" TO TOP	
	THREE WAY SWITCH	48" TO TOP	
	FOUR WAY SWITCH	48" TO TOP	
	DIMMER SWITCH	48" TO TOP	
	LOW VOLTAGE SWITCH	48" TO TOP	
	TIMER SWITCH - 30 MINUTE	48" TO TOP	
	PILOT LIGHT SWITCH	48" TO TOP	
	THERMAL OVERLOAD SWITCH	48" TO TOP	
	2-POLE SWITCH	48" TO TOP	
	SINGLE POLE KEYED SWITCH	48" TO TOP	
	DUPLEX OUTLET, 20A, 120VAC	18" UNO	
	DUPLEX OUTLET, 20A, 120VAC - GFCI	18" UNO	
	DUPLEX OUTLET - SPLIT WIRED	18" UNO	
	DUPLEX OUTLET - ISOLATED GROUND	18" UNO	
	DUPLEX OUTLET WITH USB-A & USB-C PORTS	18" UNO	
	DUPLEX OUTLET - OCCUPANCY SENSOR CONTROLLED	18" UNO	
	DUPLEX OUTLET, 20A, 120VAC - CEILING	CEILING	
	DUPLEX OUTLET, 20A, 120VAC - FLOOR	FLOOR	
	FOURPLEX OUTLET, 20A, 120VAC	18" UNO	
	FOURPLEX OUTLET, 20A, 120VAC - GFCI	18" UNO	
	FOURPLEX OUTLET - ISOLATED GROUND	18" UNO	
	FOURPLEX OUTLET, 20A, 120VAC - CEILING	CEILING	
	FOURPLEX OUTLET, 20A, 120VAC - FLOOR	FLOOR	
	APPLIANCE OUTLET - 208/240V SINGLE PHASE	18" UNO	
	APPLIANCE OUTLET - 208/480V 3-PHASE	18" UNO	
	SINGLE/SIMPLEX OUTLET, 20A, 120VAC	18" UNO	
	MULTI-OUTLET METAL SURFACE RACEWAY	44" UNO	7
	DATA OUTLET	18" UNO	
	TELEPHONE OUTLET	18" UNO	
	DUAL TELEPHONE/DATA OUTLET	18" UNO	
	DATA OUTLET - FLOOR	FLOOR	
	DUAL TELEPHONE/DATA OUTLET - FLOOR	FLOOR	
	CEILING DATA OUTLET/ WIRELESS ACCESS POINT	CEILING	
	CABLE TELEVISION OUTLET	18" UNO	

	JUNCTION BOX	SURFACE	
	WALL JUNCTION BOX	1' - 6" UNO	
	FLOOR JUNCTION BOX	FLOOR	
	DISCONNECT SWITCH - NON-FUSED	5' - 0" UNO	4
	DISCONNECT SWITCH - FUSED	5' - 0" UNO	4
	DISCONNECT SWITCH - SHUNT TRIP	5' - 0" UNO	4
	COMBINATION MAGNETIC STARTER/DISCONNECT	5' - 0" UNO	
	MOTOR STARTER	5' - 0" UNO	
	CONTACTOR	5' - 0" UNO	
	MOTOR	SURFACE	
	METER - PLAN VIEW	WALL	
	PUSH BUTTON SWITCH	4' - 0"	
	EMERGENCY POWER SHUTOFF SWITCH	4' - 0"	
	PANELBOARD - SURFACE MOUNTED	6' - 6" TO TOP	
	PANELBOARD - RECESSED	6' - 6" TO TOP	
	TRANSFORMER - PLAN VIEW	PAD/FLOOR	
	TELEPHONE TERMINAL BOARD	WALL	
	CIRCUIT BREAKER	METER - ONE-LINE	
	MLO PANEL - ONE-LINE	TRANSFORMER - ONE-LINE	
	MCB PANEL - ONE-LINE	PAD MOUNT XFMR - ONE-LINE	
	AUTOMATIC TRANSFER SWITCH	GROUND SLEEVE - ONE-LINE	
	CT ENCLOSURE - ONE-LINE	FUSED DISCONNECT - ONE-LINE	
	CURRENT TRANSFORMER	FUSED SWITCH	
	OH RISER	GROUND	
	KEYED NOTE TAG	CABLE/WIRE SIZE TAG	
	MECH/ELEC. EQUIPMENT TAG	DETAIL/VIEW NUMBER	
	OTHER EQUIPMENT TAG	DETAIL/VIEW REFERENCE TAG	
	WIRING / CONDUIT	SHEET NUMBER	
	CONDUIT TURNED UP	UNDERGROUND/FLOOR WIRING	
	CONDUIT TURNED DOWN	CONDUIT TURNED DOWN	
	CIRCUIT HOME RUN TO PANEL: # OF ARROWHEADS INDICATE # OF CIRCUITS (SEPARATE NEUTRAL PER CIRCUIT). BOTH EX. INCLUDE AN EQUIP. GROUND.		
NOTES			
1. SEE LIGHT FIXTURE SCHEDULE FOR TYPE, MOUNTING, AND OTHER SPECIFICS.			
2. CONNECT EMERGENCY AND/OR EXIT LIGHTS TO THE UNSWITCHED SIDE OF THE AREA LIGHTING BRANCH CIRCUIT.			
3. ARROW DENOTES EXIT DIRECTION.			
4. USE HEAVY DUTY FOR 480 VOLT.			
5. MOUNT SWITCH AT DOOR JAM PER MANUFACTURER'S INSTRUCTIONS.			
6. PROVIDE UL LISTED DEVICE TO BE USED WITH THE FIRE ALARM PANEL/SYSTEM OR PROVIDE A MONITOR MODULE TO CONNECT INTO FIRE ALARM SYSTEM.			
7. PROVIDE RACEWAY WITH OUTLETS 12" ON CENTER UNO.			
ABBREVIATIONS			
AFCI - ARC FAULT CKT INTERRUPTER		MCC - MOTOR CONTROL CENTER	
AFF - ABOVE FINISHED FLOOR		MDP - MAIN DISTRIBUTION PANEL	
AFG - ABOVE FINISHED GRADE		MLO - MAIN LUGS ONLY	
AIC - AMPS INTERRUPTING CAPACITY		MOCOP - MAX. OVERCURRENT PROTECTION	
AL - ALUMINUM		(N) - NEW	
ATS - AUTOMATIC TRANSFER SWITCH		NIC - NOT IN CONTRACT	
BC - BARE COPPER		NEC - NATIONAL ELECTRICAL CODE	
BFC - BELOW FINISHED CEILING		NFPA - NATIONAL FIRE PROT. ASSN.	
BFG - BELOW FINISHED GRADE		NL - NIGHT LIGHT	
C OR CND - CONDUIT		NR - NOT REQUIRED	
CKT - CIRCUIT		NTS - NOT TO SCALE	
CLG - INSTALLED IN CEILING		PC - PLUMBING CONTRACTOR	
C.R. - CORD REEL		PH - PHASE	
CT - CURRENT TRANSDUCER		PHL - PANEL	
CU - COPPER		POC - POINT OF CONNECTION	
(E) - EXISTING TO REMAIN		POS - POINT OF SALE	
EC - ELECTRICAL CONTRACTOR		(R) - RELOCATED	
EM - EMERGENCY		REC - RECEPTACLES	
(F) - FUTURE		RMC - RIGID METAL CONDUIT	
FACP - FIRE ALARM CONTROL PANEL		SCA - SHORT CIRCUIT AMPERES	
FLA - FULL LOAD AMPS		SCBA - SELECT COLOR BY ARCHITECT	
FVNR - FULL VOLTAGE NON REVERSING		SES - SERVICE ENTRANCE SWITCHGEAR	
GC - GENERAL CONTRACTOR		SPD - SURGE PROTECTIVE DEVICE	
GFCI - GROUND FAULT CKT INTERRUPTER		TL - TWIST LOCK	
GND - GROUND		TTB - TELEPHONE TERMINAL BOARD	
HP - HORSEPOWER		TR - TAMPER RESISTANT	
IG - ISOLATED GROUND		TYP - TYPICAL	
KW - KILOWATTS		UNO - UNLESS NOTED OTHERWISE	
LCP - LISTED CONTROL PANEL		VR - VOLTIAMPS	
LG - LIGHTING		VF - VERIFY IN FIELD	
LV - LOW VOLTAGE		VR - VANDAL RESISTANT	
MC - MECHANICAL CONTRACTOR		VP - WEATHERPROOF/VEHICLE 3R	
MCA - MINIMUM CIRCUIT AMPS		VU - FURNISHED WITH UNIT	
MCB - MAIN CIRCUIT BREAKER		XFMR - TRANSFORMER	



1
E001
ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"

KEYED NOTES
1. EXISTING PANEL 'B', 120/240V, SINGLE PHASE, 200A MLO. 2. REFER TO ONE-LINE DIAGRAM ON SHEET E501 FOR FEEDER FROM EXISTING PANEL 'B' TO RESTROOM PANEL 'P1'. PROVIDE 60A-2P BREAKER FOR FEEDER.
GENERAL NOTES
A. FIELD VERIFY EXACT LOCATION AND MANUFACTURER OF EXISTING PANELS 'A' AND 'B'. NEW FEEDER BREAKERS SHALL BE COMPATIBLE WITH EXISTING PANELS. B. REFER TO UNDERGROUND CONDUIT DETAIL ON SHEET E501 FOR MORE INFORMATION.

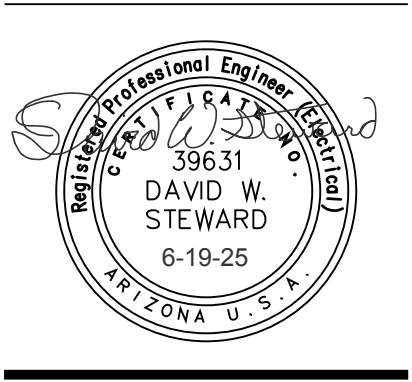


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MAIN STREET COMMONS - RESTROOMS

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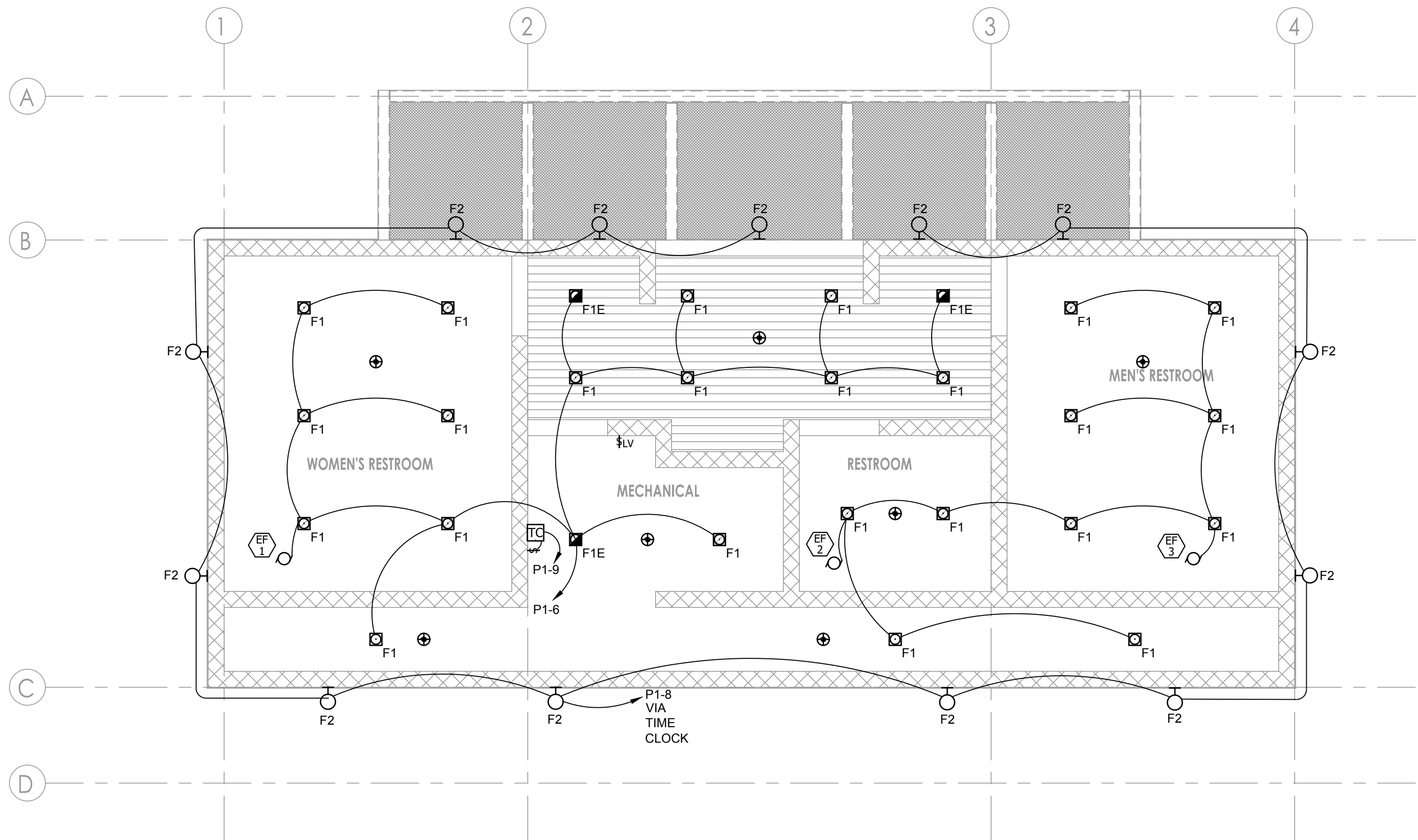
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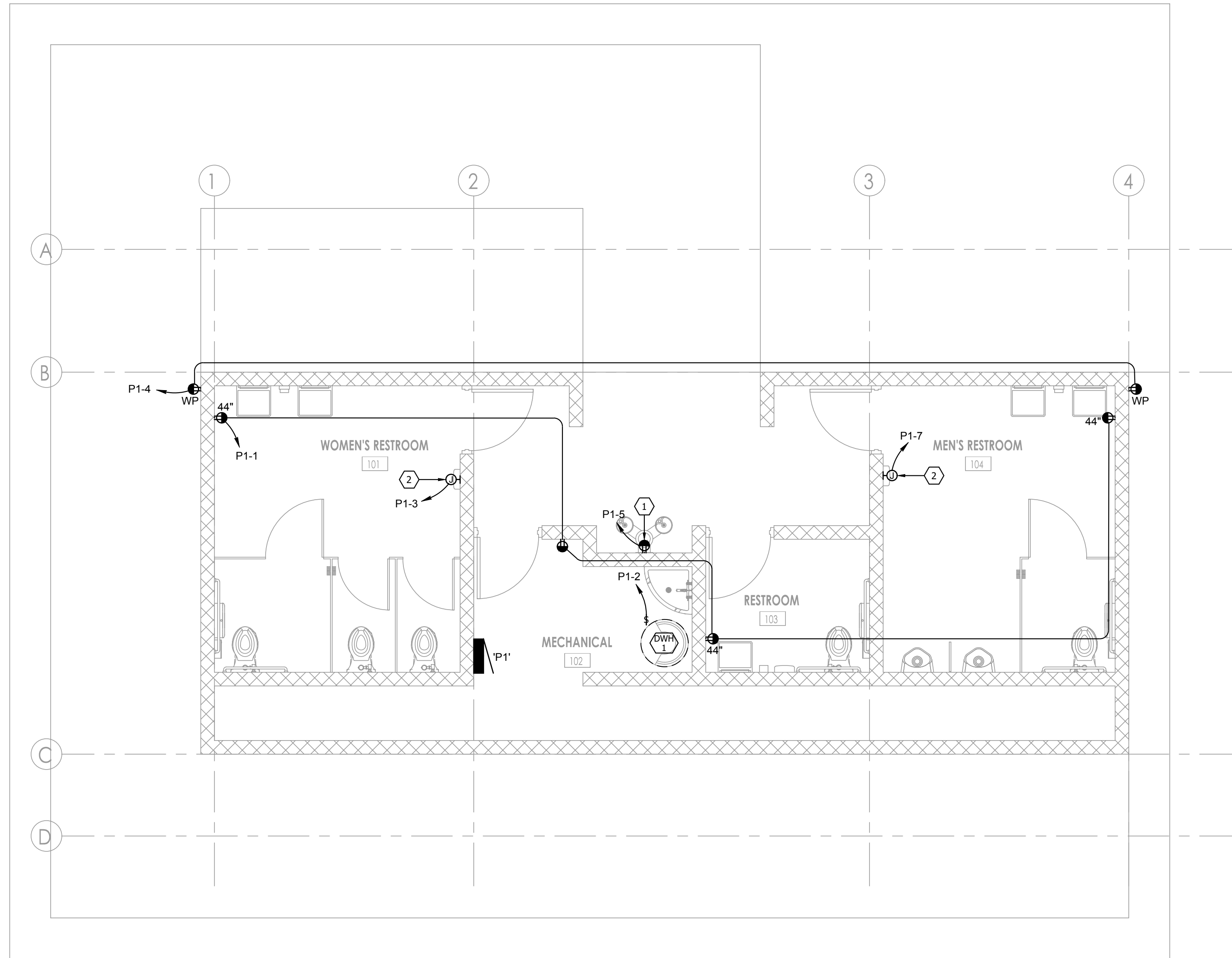
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ELECTRICAL SITE
PLAN

SHEET NUMBER:

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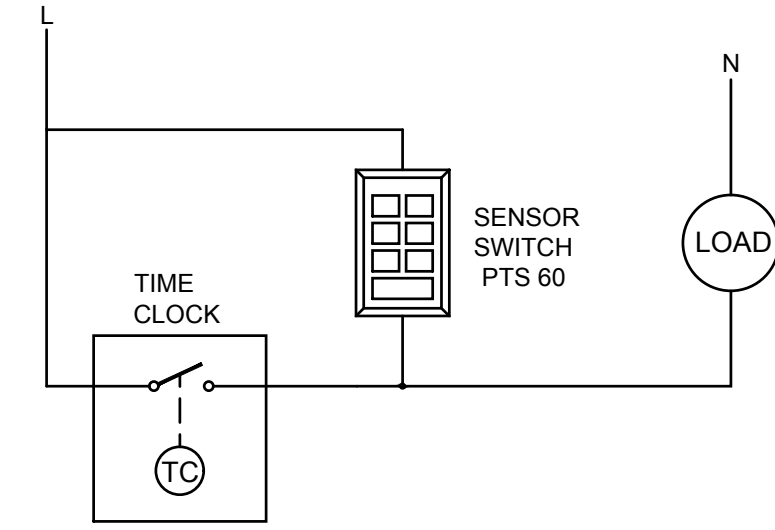


1
E101
RESTROOMS LIGHTING PLAN
SCALE: 1/4" = 1'-0"



2
E101
RESTROOMS POWER PLAN
SCALE: 1/4" = 1'-0"

RESTROOM LIGHT FIXTURE SCHEDULE								
TYPE	MANUFACTURER	CATALOG NO.	VOLTAGE	DELIVERED LUMENS / CCT	CONTROL	MOUNTING	LOAD(VA)	DESCRIPTION
F1	HALO OR APPROVED EQUAL	FLD6CX-40-DE010-HEM14 FEU6C-1015IC-90-35 FBLCXV-W2-H-BL86	UNV	1500 LUMENS / 3500K	0-10V	RECESSED	17.5	8" LED DOWNLIGHT IC RATED Vandal Resistant
F1E	SAME AS F1 WITH EMERGENCY BATTERY BACKUP							
F2	AFX OR APPROVED EQUAL	WTNW0506L3002BK	120V	424 LUMENS / 3000K	0-10V	SURFACE	12	LED OUTDOOR WALL SCONCE
NOTES: 1. ALL LIGHT FIXTURES SHOWN HALF SHADED SHALL BE PROVIDED WITH A MEANS OF EMERGENCY POWER SUCH AS A BATTERY PACK, INVERTER OR GENERATOR CAPABLE OF PROVIDING 90 MIN OF EGRESS ILLUMINATION. WHERE A GENERATOR PROVIDES EMERGENCY POWER, A GENERATOR TRANSFER DEVICE OR SIMILAR DEVICE SHALL BE PROVIDED TO ENSURE LIGHT IS TURNED ON DURING AN EMERGENCY OCCURRENCE. 2. ALL LIGHTING VALUE ENGINEERING PROVIDED FOR THIS PROJECT SHALL BE SUBMITTED TO THE ELECTRICAL ENGINEER FOR REVIEW AND APPROVAL AFTER THE PROJECT HAS BEEN BID AND AWARDED. ANY CREDITS FOR VE SHALL INCLUDE TIME TO COMPENSATE OUR OFFICE FOR ENGINEERING REVIEW AND VERIFICATION OF BRANCH CIRCUIT LOADING AND/OR ENERGY CODE COMPLIANCE. NO VE SUBMITTALS WILL BE APPROVED WITHOUT THIS PROCESS IN PLACE. VE SUBMITTALS SHALL INCLUDE PHOTOMETRIC ANALYSIS TO ENSURE NEW LIGHT FIXTURES PROVIDE COMPARABLE LIGHT LEVELS TO THOSE ORIGINALLY DESIGNED. 3. MANUFACTURER SHALL PROVIDE SEISMIC SUPPORT WITH FIXTURES OVER 20 LBS. 4. FIXTURES LISTED IN THE FIXTURE SCHEDULE HAVE BEEN PROVIDED AS THE BASIS OF DESIGN. FIXTURES ARE TO BE PROVIDED THAT MEET OR EXCEED SPECIFICATIONS. FIXTURES THAT DO NOT COMPLY WILL BE REJECTED AT SUBMITTAL. 5. FIXTURE SHALL BE PROVIDED AS SPECIFIED. CONTACT MANUFACTURER'S REP FOR CONTRACTOR ALLOWANCE PRICING. 6. FIXTURES TO BE PURCHASED BY OWNER AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL PROVIDE ALL CONNECTORS, FASTENERS, AND WIRE TERMINATIONS FOR A COMPLETE SYSTEM PER MANUFACTURER'S INSTALLATION REQUIREMENTS.								



3
E101
TIME CLOCK OVERRIDE
SCALE: NONE

4

KEYED NOTES

1.

COORDINATE DRINKING FOUNTAIN RECEPTACLE LOCATION WITH PLUMBING CONTRACTOR PRIOR TO ROUGH IN. GFCI RECEPTACLE TO BE MOUNTED IN AN ACCESSIBLE LOCATION.

2.

COORDINATE LOCATION AND HEIGHT OF HAND DRYERS WITH OWNER. VERIFY POWER REQUIREMENTS WITH MANUFACTURER'S DOCUMENTATION.

3.

PROVIDE A CEILING MOUNT DUAL TECH OCC. SENSOR WITH POWER PACK FOR RESTROOM LIGHT AND FAN CONTROL. VERIFY FAN VOLTAGE AND PROVIDE ADDITIONAL POWER PACK IF NECESSARY. (SENSOR SWITCH #CM PDT OR EQUIVALENT).

4.

PROVIDE A 2-CIRCUIT INTERMATIC TIME CLOCK ET2825C OR EQUAL.

5.

PROVIDE A SENSOR SWITCH PTS-60 OR EQUAL TIMED SWITCH FOR TIME CLOCK OVERRIDE. SEE WIRING DIAGRAM 3/E101 FOR FURTHER DETAILS.

GENERAL NOTES

A.

COORDINATE MOUNTING HEIGHTS OF ALL EQUIPMENT WITH ARCHITECTURAL DRAWINGS AND MILLWORK CONTRACTOR PRIOR TO ROUGH-IN.

B.

VERIFY EXACT ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION OF EQUIPMENT.

C.

CONNECT ALL EMERGENCY AND EXIT LIGHT FIXTURES TO THE UNSWITCHED SIDE OF THE LIGHTING BRANCH CIRCUIT. LIGHT FIXTURES WITH EMERGENCY DRIVERS SHALL BE NORMALLY SWITCHED WITH THE AREA LIGHTING, BUT HAVE THEIR EMERGENCY DRIVERS CONNECTED AHEAD OF THE LIGHT SWITCH OR LIGHTING CONTROL PANEL RELAY. FIXTURES WILL REMAIN ON FOR NOT LESS THAN 90 MINUTES IN CASE OF POWER LOSS.

D.

IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS THAT CONDUIT IS TO BE INSTALLED WITHIN WALLS AND ABOVE CEILINGS CONCEALED WHERE POSSIBLE.

E.

PROVIDE FIXTURE DIMMING CONTROLS AND PROVIDE THE NECESSARY WIRING AND DEVICES REQUIRED FOR DIMMING OPERATION.

F.

CONCEAL ALL FIXTURE DRIVERS IN ACCESSIBLE CEILING SPACE OUT OF DIRECT VIEW.

LTG CTRL

SEQUENCE OF OPERATION

LIGHTING AND CONTROLS ARE DESIGNED TO MEET IECC 2021.

TIME CLOCK WILL BE PROGRAMMED TO TURN LIGHTS ON AND OFF FOR HOURS OF OPERATION.

SENSOR SWITCH WILL ACT AS OVERRIDE TO TIME SCHEDULING.

OCCUPANCY SENSORS WILL CONTROL LIGHTING IN RESTROOMS, AND UTILITY ROOMS.

BUILDING FACADE AND LANDSCAPE LIGHTING SHALL BE PROGRAMMED TO SHUT OFF NOT LATER THAN 1 HOUR AFTER BUSINESS CLOSING TO NOT EARLIER THAN 1 HOUR BEFORE BUSINESS OPENS. (C405.2.7.2)

pk

Think

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Architecture

Interior Design

Landscape Architecture

Land Planning

Construction Management

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MAIN STREET COMMONS - RESTROOMS

2117 McCULLOCH BLVD NORTH

LAKE HAVASU CITY, AZ 86403

PROJECT NO. 24134

DATE: 19 JUNE 2025

REVISIONS:

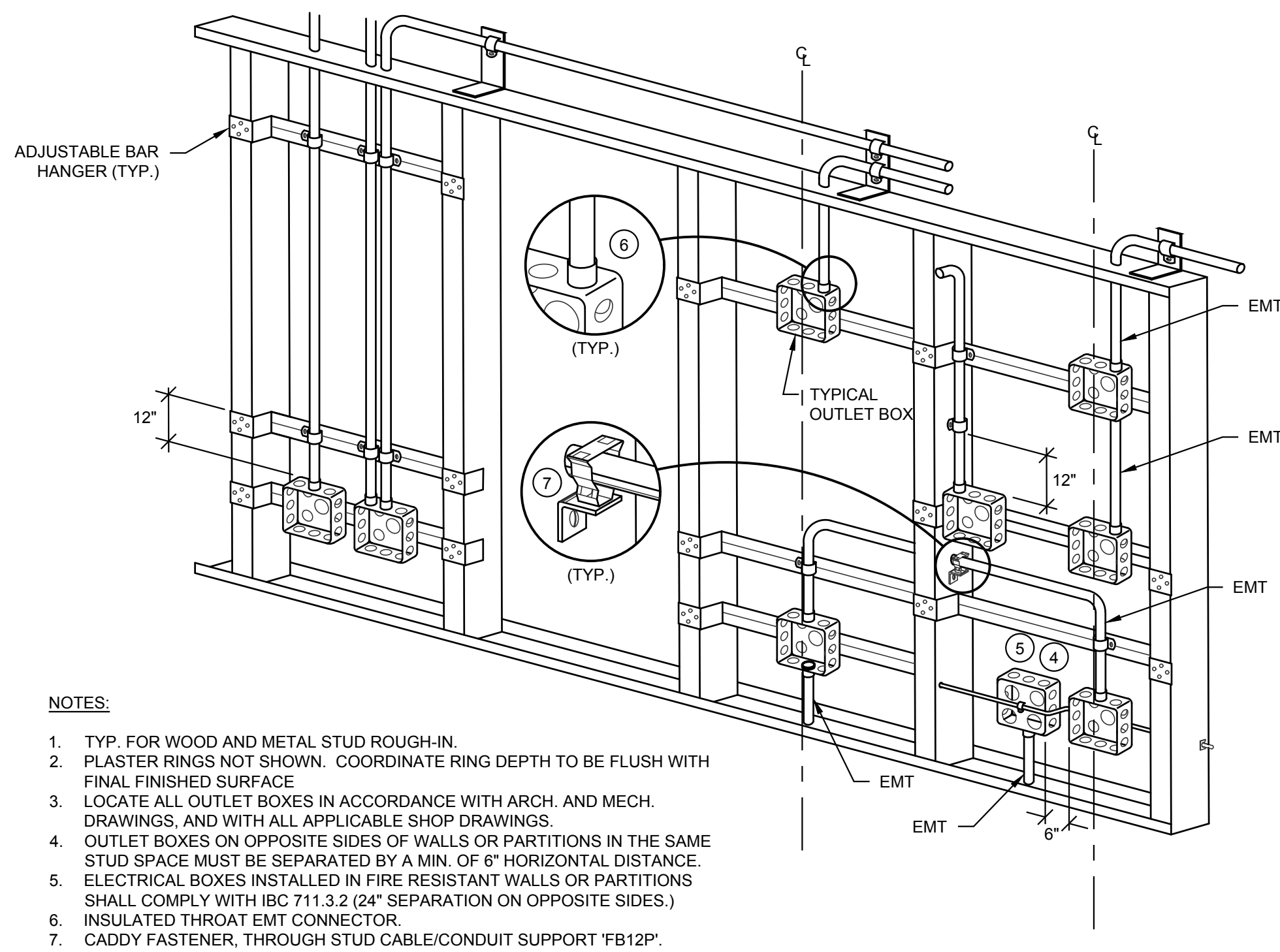
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RESTROOMS
LIGHTING & POWER
PLANS
SHEET NUMBER:

E101

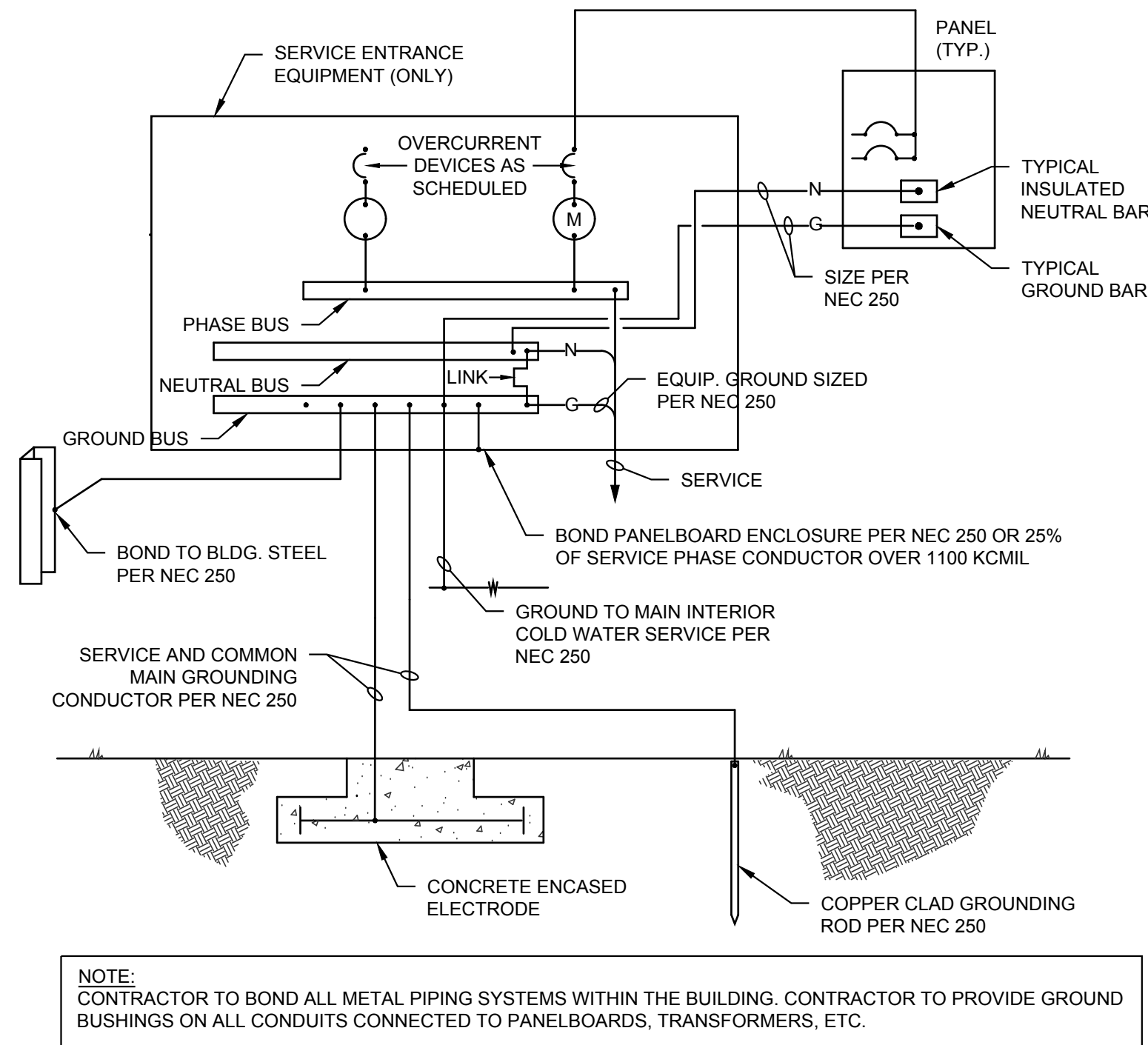
ROCKY MOUNTAIN
CONSULTING ENGINEERS, INC.

2117 South 3600 West, Salt Lake City, UT 84119
(801) 566-0503 www.rmceut.com Project #25096

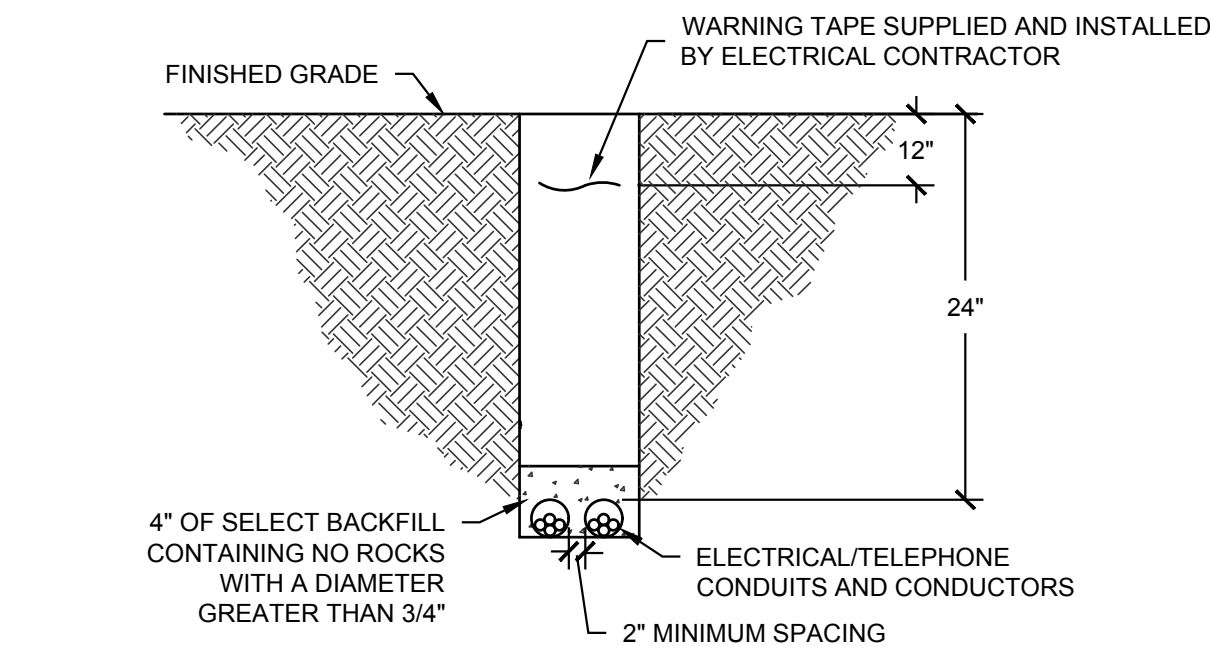
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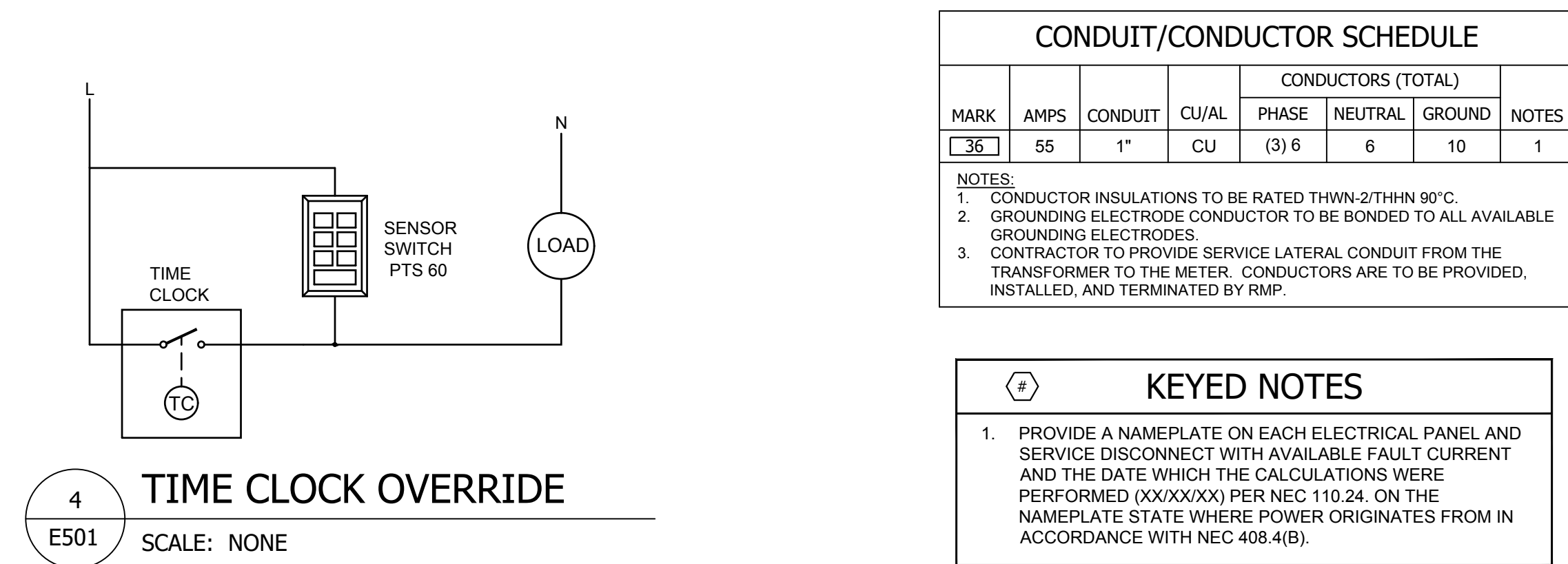
1 TYPICAL ROUGH-IN DETAIL
E501 NO SCALE



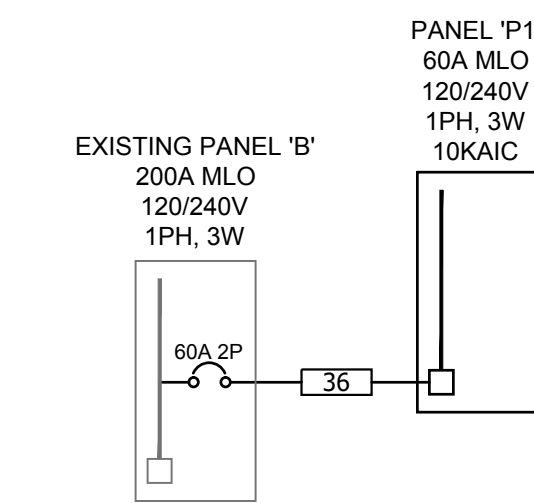
2 TYPICAL GROUNDING/BONDING DETAIL
E501 NO SCALE



3 UNDERGROUND CONDUIT DETAIL
E501 NO SCALE



4 TIME CLOCK OVERRIDE
E501 SCALE: NONE



5 ONE-LINE DIAGRAM
E501 NO SCALE

EQUIPMENT SCHEDULE														
MARK	DESCRIPTION	ELECTRICAL							STARTER		OVERCURRENT PROTECTION		REMARKS	
		V	PH	KW	HP	MCA	FLA	MOCB	CONDUIT SIZE	WIRE QTY. SIZE	GND. SIZE	NEMA DISCONNECT SIZE		FUSE SIZE/POLE
DWH-1	WATER HEATER	240	1	4.5			18.7	30	3/4"	2	10	10	-	5A
EF-1,3	EXHAUST FAN	120	1				105W	20	3/4"	2	12	12	-	15A
EF-2	EXHAUST FAN	120	1				22W	20	3/4"	2	12	12	-	15A
RP-1	RECRIC PUMP	120	1				0.7	20	3/4"	2	12	12	-	13A
NOTE: COORDINATE FINAL EQUIPMENT CONNECTIONS WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN. VERIFY ALL MOUNTING HEIGHTS.														
REMARKS:														
1. FUSED DISCONNECT SWITCH		10. REDUCED VOLTAGE STARTER							13. DIRECT CONNECTION					
2. NON-FUSED DISCONNECT SWITCH		11. VARIABLE FREQUENCY DRIVE							14. DUCT DETECTOR IN RETURN DUCT					
3. BREAKER IN ENCLOSURE		12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.							15. SWITCH WITH LIGHTS					
4. THERMAL OVERLOAD SWITCH														
5. TOGGLE SWITCH														
6. MAGNETIC STARTER														
7. MAGNETIC STARTER/NON-FUSED DISCONNECT SWITCH														
8. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION														
9. MAGNETIC STARTER/BREAKER COMBINATION														
		A. FURNISHED, INSTALLED AND CONNECTED UNDER DIVISION 26												
		B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 26												
		C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIVISION 26												
		D. FURNISHED, INSTALLED, AND CONNECTED UNDER ANOTHER DIVISION												
		E. FURNISHED AND INSTALLED UNDER DIVISION 26 REQUIRING CONNECTION UNDER ANOTHER DIVISION												

PANEL SCHEDULE				P1									
VOLT/PHASE/WIRE: 120/240V/1PH/3W				AIC RATING:				AIC		MAIN BREAKER:			
MOUNT/ENCLOSURE: RECESSED/NEMA 1				LOCATION: RR BLDG MECH RM				MAIN LUGS:		100A			
CCT NO	DESCRIPTION	LOAD	AMPS	POLES	A	C	POLES	AMPS	LOAD	DESCRIPTION	CCT NO		
1	REC - WOMEN, MEN, MECH	720	20	1	3220		1	30	2500	WATER HEATER DWH-1	2		
3	HAND DRYER WOMEN	1000	20	1		1360	1	20	360	REC - EXTERIOR	4		
5	WATER COOLER	400	20	1	900		1	20	500	LTG - RESTROOM	6		
7	HAND DRYER MEN	1000	20	1		1200	1	20	200	LTG - EXTERIOR	8		
9	LTG - TIME CLOCK	500	20	1	500			0	0	SPARE	10		
11	SPARE	0				0		0	0	SPARE	12		
TOTALS					4,620		2,560						
TOTAL LOAD:		7,180											
LOADS		CONTINUOUS		NON-CONTINUOUS		DEMAND FACTOR/CALCULATION				DEMAND LOAD			
EXISTING	0	0		125% x		0						0	
LIGHTING	700	360		125% x		700		+ 100% x		360	1,235		
RECEPTACLE	0	720		100% x		720		+ 50% x		0	720		
MOTOR	0	0		125% x		0		+ 100% x		0	0		
FIXED HEAT	0	0		100% x		0						0	
A/C	0	0		100% x		0						0	
KITCHEN EQUIP.	0	0		100		0						0	
MISC	0	5,400		125% X		0		+ 100% x		5400	5,400		
TOTAL DEMAND LOAD:										7,355 VA			
										31 A			
PANEL NOTES:													
OVERCURRENT PROTECTIVE DEVICES SHALL HAVE SAME AIC RATING AS PANEL THEY ARE LOCATED IN.													