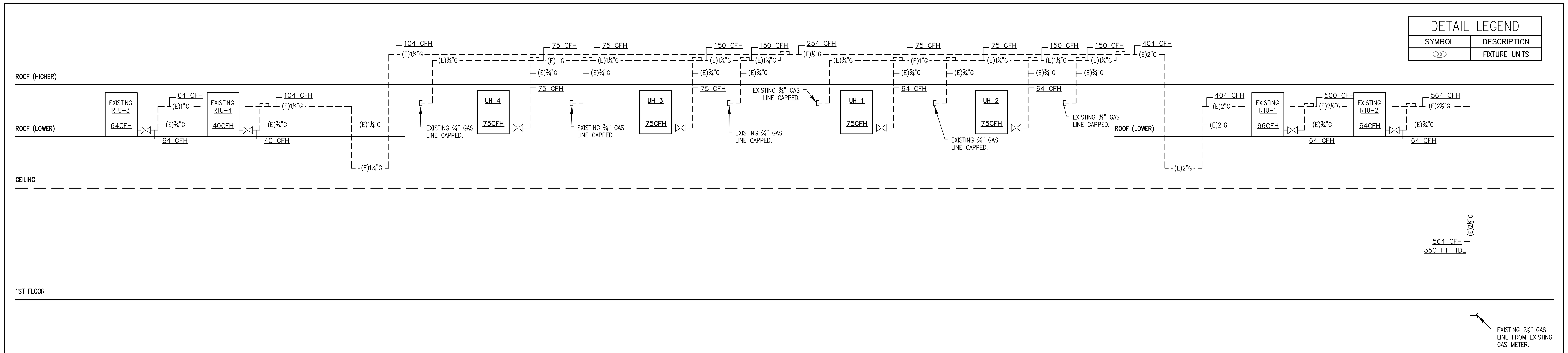
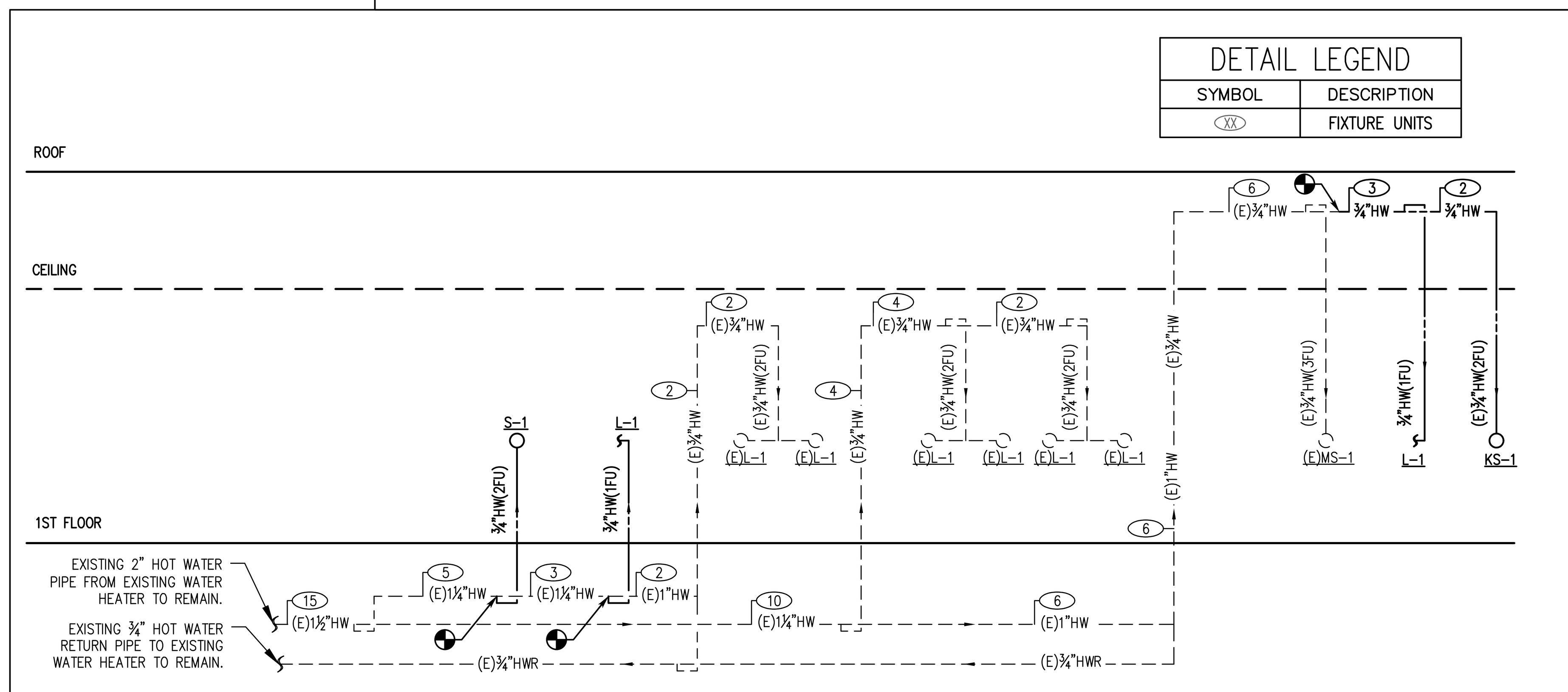
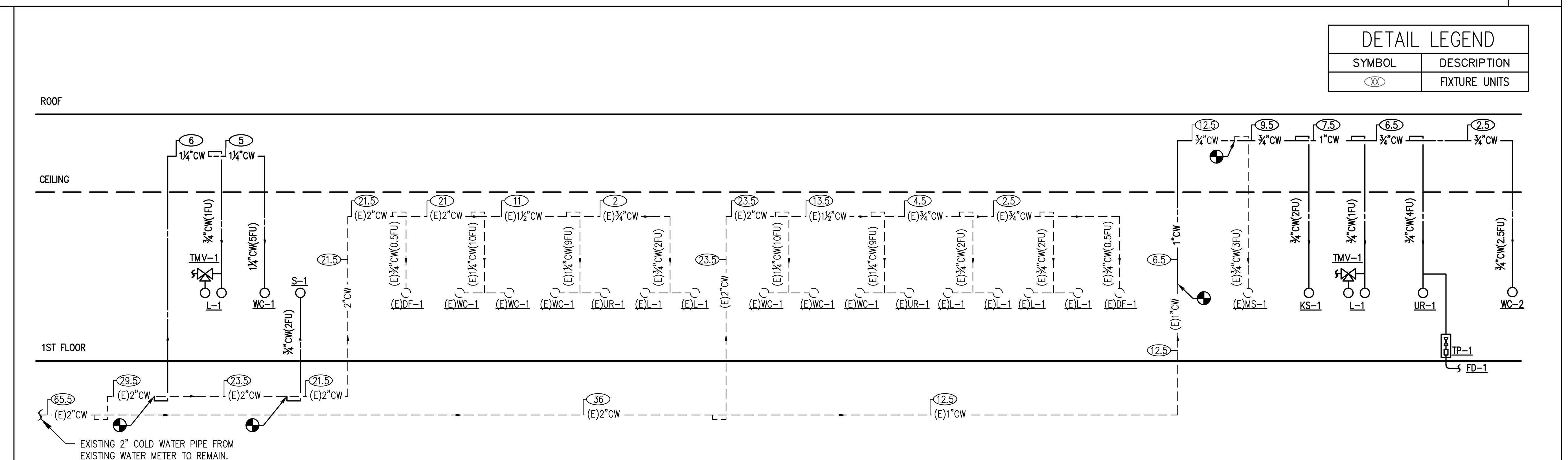


PLUMBING GAS RISER DIAGRAM 4
SCALE: NONE



PLUMBING HOT WATER RISER DIAGRAM 3
SCALE: NONE



PLUMBING COLD WATER RISER DIAGRAM 2
SCALE: NONE

PLUMBING WASTE & VENT RISER DIAGRAM 1
SCALE: NONE

P4.1

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NUMBER	DESCRIPTION	DATE

	INITIALS	DATE
DRAWN	HS	–
DESIGNED	HS	–
REVIEWED	HS	–
STREET		
SEWER		
DRAINAGE		
WATER		
TRAFFIC		
UTILITY/ELEC		
LANDSCAPE		
FACILITIES		
GENERAL ENG		
DESIGN ENG		
INSPECTION		
PARKS & REC		
AS-BUILT		

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT
INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

PLUMBING RISER DIAGRAMS

APPROVED: 05/29/2026
DATE — CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR
ACCEPTED:
DATE — PUBLIC WORKS DIRECTOR

SCALE: AS NOTED
B.M.: N/A
SHEET 41 OF 54 SHEETS
FILE: MISC 5437

ELECTRICAL LEGEND

Symbol	Description
	CONDUIT RUN, CONCEALED IN CEILING, WALLS OR UNDER FLOORS.
	CONDUIT RUN EXPOSED.
	CONDUIT RUN UNDERGROUND.
ø	PHASE
X / X.X	REFERENCE DETAIL NUMBER. "X" INDICATES DETAIL NUMBER AND "X.X" INDICATES SHEET NUMBER.
B-1,3	CONDUIT HOMERUN TO PANELBOARD. LETTER AND NUMERALS INDICATE ELECTRICAL PANEL AND CIRCUIT NUMBER.
	ISOLATED GROUND WIRE. RUN IN ADDITION TO REGULAR GROUND WIRE.
	SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD.
	RECESSED BRANCH CIRCUIT PANELBOARD.
	RECESSED COMMUNICATION TERMINAL CABINET. REFER TO DRAWINGS AND SPECIFICATIONS.
	SURFACE MOUNTED COMMUNICATION TERMINAL CABINET. REFER TO DRAWINGS AND SPECIFICATIONS.
J	JUNCTION BOX IN ACCESSIBLE CEILING SPACE OR FLUSH IN WALL WITH BLANK COVER PLATE TO MATCH DEVICE PLATES.
J	JUNCTION BOX FLUSH IN FLOOR
	DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE
	DUPLEX GROUND FAULT INTERRUPTING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
	TWO DUPLEX GROUNDING TYPE RECEPTACLES IN 4S BOX, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
	FLUSH FLOOR MOUNTED DUPLEX GROUNDING TYPE RECEPTACLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE.
IG	ANY RECEPTACLE INDICATED WITH IG" ADJACENT SHALL BY ISOLATED GROUND TYPE WITH INDIVIDUAL GROUND WIRE TO PANELBOARD.
IG	DEDICATED RECEPTACLE INDICATED WITH IG" ADJACENT SHALL BY ISOLATED GROUND TYPE WITH INDIVIDUAL GROUND WIRE TO PANELBOARD.
	HALF-SWITCHED DUPLEX RECEPTACLE
	FLOOR MOUNTED COMBINATION RECEPTACLE & TELE/DATA
J	WALL POWER IN-FEED JUNCTION BOX FOR WORKSTATIONS FOR POWER AND TELEPHONE/DATA. SINGLE GANG TELEPHONE BOX. PROVIDE 1-1/2"CONDUIT AND STUB-UP AT +6" ABOVE CEILING WITH A SUPER FLEX CONDUIT., UNLESS OTHERWISE NOTED. VERIFY LOCATION WITH FURNITURE CONTRACTOR.
	SPECIAL PURPOSE RECEPTACLE, 208/240 VOLT, 3 WIRE
E	EQUIPMENT WITH "E" ADJACENT IS EXISTING TO REMAIN.
R	EQUIPMENT WITH "R" ADJACENT IS EXISTING TO BE COMPLETELY DISCONNECTED AND REMOVED.
	COMBINATION MAGNETIC MOTOR STARTER AND NON-FUSED DISCONNECT SWITCH.
F	COMBINATION MAGNETIC MOTOR STARTER AND FUSED DISCONNECT SWITCH.
	SINGLE PHASE FRACTIONAL OR INTEGRAL HORSEPOWER MOTOR.
T	TRANSFORMER, PRIMARY & SECONDARY VOLTAGE AND KVA RATING AS NOTED. TYPE AND CONFIGURATION AS SPECIFIED. PROVIDE DRY TYPE, COPPER WOUND, WALL OR BOX MOUNTED UNLESS NOTED OTHERWISE.
RR	EQUIPMENT WITH "RR" ADJACENT IS EXISTING TO BE DISCONNECTED, REMOVED AND RELOCATED TO NEW LOCATION AND RECONNECTED AS REQUIRED.
ER	RELOCATED EQUIPMENT SHOWN IN NEW LOCATION.
	MLO PANEL
200A 3P	MCB PANEL
100A 3P	MLO PANEL WITH BRANCH PANEL FEED
200A 3P / 100A 3P	MCB PANEL WITH BRANCH PANEL FEED
	DRAW-OUT TYPE CIRCUIT BREAKER.
100AS / 90FU, 3P	FUSED SWITCH. "AS" INDICATED AMPERE SWITCH RATING, "AFU" INDICATES AMPERE FUSE RATING, NUMBER OF POLES AS INDICATED.
	VOLTAGE TRANSFORMER. FLOOR MOUNTED, COPPER WOUND, DRY TYPE UNLESS SPECIFIED OTHERWISE.
	CURRENT TRANSFORMERS, "C.T.s"
	POTENTIAL TRANSFORMER, P.T.s".
M	UTILITY METER SOCKET, WITH C.T.s, CLIPS, ETC., PER SERVING UTILITY COMPANY.
100AF / 70AT, 3P	MOLDED CASE CIRCUIT BREAKER. "AF" INDICATES AMPERE FRAME, "AT" INDICATES AMPERE TRIP RATING AND NUMBER OF POLES AS INDICATED. SUBSCRIPT INDICATES TYPE. NO SUBSCRIPT – THERMAL MAGNETIC NA – NON-AUTOMATIC MO – MAGNETIC ONLY CL – CURRENT LIMITING SS – SOLID STATE EM – ELECTRONIC METERING PACKING
100AS	NON-FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH AMPERE RATING.
100AS / 60AFU, F	FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH AMPERE RATING. "AFU" INDICATES FUSE AMPERE RATING.
	FIRE AND SMOKE DAMPER
	SURFACE MOUNTED EMERGENCY LIGHTING UNIT WITH 90 MIN. EMERGENCY BATTERY PACK. REFER TO LIGHTING FIXTURE SCHEDULE.
GFI	"GROUND FAULT INTERRUPTER"
GFP	GROUND FAULT PROTECTION DEVICE.
GFS	GROUND FAULT SENSOR.
	TELEPHONE TERMINAL BACKBOARD "TTB". 3/4 INCH SANDED AND PAINTED CPX PLYWOOD, 4' X 8' UNLESS NOTED OTHERWISE.
$M	MOTOR RATED SWITCH
Sa3k	LOWER CASE LETTER AT BOTTOM INDICATES OUTLETS CONTROLLED. CAPITAL SUPERSCRIPT INDICATES SWITCH TYPE. NO SUPERSCRIPT – SINGLE POLE SWITCH 2 – DOUBLE POLE 3 – THREE WAY 4 – FOUR WAY I – ILLUMINATED HANDLE K – KEYED SWITCH LC – LOCKABLE COVER M – MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION MC – MOMENTARY CONTACT D – LOW VOLTAGE DIMMER SWITCH VS –VACANCY SENSOR
$OS	WALL MOUNTED OCCUPANCY SENSOR SWITCH +42"AFF, U.O.N. (SINGLE MANUAL ON/OFF SWITCH)
$D	WALL MOUNTED DIMMER SWITCH +42"AFF, U.O.N. (SINGLE MANUAL ON/OFF DIMMER SWITCH)
	GROUND, "GRD".
	PUSH BUTTON FOR CHIME BELL.
B	CHIME BELL. (TO BE SELECTED BY ARCHITECT/OWNER)
	TELEPHONE OUTLET LOCATION ONLY. COORDINATE WITH OWNER PRIOR TO BID FOR REQUIREMENTS.
	COMBINATION VOICE/DATA OUTLET. 4S BOX WITH 2 GANG RING AND PLATE. ENGRAVE PLATE "VOICE" AND "DATA" OVER RESPECTIVE JACKS. VERIFY TYPE OF JACK WITH SYSTEM SUPPLIER. CONTRACTOR SHALL RUN 1"C.O MIN. FROM DATA JACK TO MAIN IDF ROOM. COORDINATE CABLING REQUIREMENTS WITH AV CONSULTANT.
TV	TELEVISION CABLE OUTLET LOCATION ONLY, COORDINATE WITH OWNER PRIOR TO BID FOR REQUIREMENTS.
CR	CARD READER
CM	CARBON MONOXIDE DETECTOR.
SD	PHOTOELECTRIC TYPE SMOKE DETECTOR MOUNTED ON CEILING OR WALL PER DRAWINGS. ASTERISK (*) ADJACENT INDICATES RELAY BASED AND LISTED FOR DOOR CONTROL.
OS	CEILING MOUNTED OCCUPANCY SENSOR
DL	CEILING MOUNTED DAYLIGHT SENSOR

ABBREVIATIONS

AF	AMPERE FRAME RATING OF CIRCUIT BREAKERS
AFF	ABOVE FINISHED FLOOR
AFU	AMPERE FUSE RATING
AIC	AMPS INTERRUPTING CAPACITY RATING (RMS SYMMETRICAL)
AM	AMMETER
AMP, A	AMPERES
AS	AMPERE SWITCH RATING
AT	AMPERE TRIP RATING OF BREAKER
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C.	CONDUIT (WITH CONDUCTORS AS REQUIRED BY DRAWINGS OR SPECIFICATION)
CAB	CABINET
CC	CENTER TO CENTER
CKT	CIRCUIT
C.O.	CONDUIT ONLY, PROVIDE PULL ROPE FOR ALL EMPTY CONDUIT.
CU	COPPER
DWG	DRAWING
E	EXISTING
ER	EXISTING TO RELOCATED
FF	FINISHED FLOOR
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FUT	FUTURE
GFCI	GROUND FAULT INTERRUPTING TYPE RECEPTACLE
GND	GROUND
HZ	HERTZ
J.B.	JUNCTION BOX
k	THOUSAND (KILO)
kV	KILOVOLTS
kW	KILOWATTS
KVA	KILOVOLT AMPERES
kWH	KILOWATT-HOURS
LT, LTS	LIGHT, LIGHTS
LTG	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
NO, NOS	NUMBER, NUMBERS
NTS	NOT TO SCALE
OC	ON CENTER
PNL	PANEL
PNLBD	PANEL BOARD
PRI	PRIMARY
PWR	POWER
R	REMOVED
REC	RECEPTACLE
RECPTS	RECEPTACLES
REQD	REQUIRED
RMS	ROOT MEAN SQUARE
RR	REMOVED AND RELOCATED
SW	SWITCH
SYS	SYSTEM
SYM	SYMMETRICAL
TEMP	TEMPERATURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
W	WIRE
WP	WEATHERPROOF (NEMA 3R)

FIRE ALARM PERMIT NOTE

CONTRACTOR SHALL PROVIDE AND SUBMIT FIRE ALARM SAFETY CONSTRUCTION DOCUMENTS FOR ALL AGENCY PLAN CHECK REQUIREMENTS. APPROVAL SHALL BE OBTAINED PRIOR TO THE INSTALLATION OF THE SYSTEM. INTERCONNECTING WIRING AND CONDUIT SIZES ARE NOT INDICATED. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING RACEWAY, WIRING PLANS, VOLTAGE DROP CALCULATION AND COMPLETE ONE LINE DIAGRAM OF THE SYSTEM.

CONTRACTOR SHALL PROVIDE AS PART OF FIRE ALARM SYSTEM:

1. CONSTRUCTION DOCUMENT AND SHOP DRAWINGS.
2. SUBMIT AND SECURE FIRE MARSHAL APPROVAL.
3. FIELD VERIFY EXISTING FIRE ALARM DEVICES. ADD AND/OR RELOCATE EXISTING DEVICES TO COMPLY TO NEW SPACE CONFIGURATION.

APPLICABLE CODES

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

2022 CALIFORNIA BUILDING CODE (CBC)

2022 CALIFORNIA ELECTRICAL CODE (CEC)

2022 CALIFORNIA MECHANICAL CODE (CMC)

2022 CALIFORNIA PLUMBING CODE (CPC)

2022 CALIFORNIA ENERGY CODE (CEnC)

SCOPE OF WORK

INDEPENDENCE PARK GYM RENOVATION:

- EXISTING ELECTRICAL SERVICE TO REMAIN.
- PROVIDE POWER OUTLETS PER PLANS.
- PROVIDE NEW LIGHTING AND CONTROLS PER PLANS.
- PROVIDE POWER TO MECHANICAL EQUIPMENTS.

DEMOLITION GENERAL NOTES

1. ELECTRICAL CONTRACTOR SHALL INVESTIGATE PROJECT SITE TO DETERMINE ALL CONDITIONS WHICH MAY AFFECT THE EXECUTION OF HIS WORK. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THESE EXISTING CONDITIONS, AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH HE WILL BE REQUIRED TO PERFORM HIS WORK. HE SHALL BE RESPONSIBLE FOR DE-ENERGIZING CIRCUITS IN DEMOLITION AREAS TO ENSURE A SAFE CONDITION. MAINTAIN ELECTRICAL SERVICE TO THE EXISTING EQUIPMENT, SERVICES AND CIRCUITS AS REQUIRED. SCHEDULING OF SERVICE OUTAGES SHALL BE COORDINATED WITH ARCHITECT AND OWNER.
2. FOR ALL COMMUNICATION OUTLETS PROVIDE DOUBLE GANG BACK BOX WITH SINGLE GANG PLASTER RING. PROVIDE 1" CONDUIT TO 6" ABOVE ACCESSIBLE CEILING WITH 90° BEND AND CONDUIT BUSHING UNLESS OTHERWISE NOTED ON DRAWINGS. FOR NON-ACCESSIBLE CEILINGS, ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE OR TO NEAREST COMMUNICATION CLOSET. PROVIDE BLANK COVER PLATES FOR ALL UNUSED BOXES.
3. PANELBOARD NAME AND CIRCUITS NUMBER ARE BASED ON AS-BUILT DRAWINGS. CONTRACTOR SHALL FIELD-VERIFY, AS REQUIRED.
4. IN GENERAL, THE DEMOLITION PLAN SHOWS ALL EXISTING EQUIPMENT TO BE REMOVED; HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWINGS OR NOT THAT IS LOCATED IN REMOVED WALLS, FLOORS OR CEILINGS, SHALL BE REMOVED UNLESS OTHERWISE NOTED. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL MATERIAL WHICH WILL NOT BE REUSED. UNUSED CONDUITS SHALL BE CUT OFF AND PLUGGED FLUSH WITH SURFACES. EXISTING MATERIAL WHICH IS NOT TO BE REUSED OR IS NOT REQUIRED TO BE RETAINED BY OWNER SHALL BE REMOVED FROM SITE.
5. DISCONNECT AND REMOVE CIRCUITING BACK TO SOURCE OR NEAREST POINT PRACTICAL TO MAINTAIN ELECTRICAL CONTINUITY OF REMAINING DEVICES, EXTEND CONDUIT AND CONDUCTORS AS NECESSARY TO MAINTAIN CIRCUIT INTEGRITY.
6. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY THE REMODELED AREA. THIS WILL INCLUDE REROUTING, OR THE EXTENSION OF, EXISTING CONDUIT AND FEEDERS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF EXISTING EQUIPMENT REMAINING.
7. EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALL, ETC., IS REMOVED. REMOVE CONDUCTORS FROM THIS POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
8. WHERE EXISTING CIRCUITING IS DISTURBED BY DEMOLITION WORK, THE CONTRACTOR SHALL REWORK AND/OR EXTEND EXISTING CIRCUITING AS REQUIRED TO MAINTAIN CONTINUITY TO ALL REMAINING LOADS AFFECTED BY CIRCUIT.
9. IT SHALL BE THE RESPONSIBILITY FOR THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC., REMAINING IN OPERATION WHICH ARE BEING FED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING CONDUIT, WIRING, ETC., AS REQUIRED.
10. ALL ELECTRICAL FIXTURES, OUTLETS, DEVICES, ETC., THAT ARE REMOVED, SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST FIXTURE, OUTLET, DEVICE, ETC., REMAINING IN SERVICE.
11. EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".
12. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT, AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS IN AN "AS-FOUND" CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT.
13. EXISTING CONDUIT MAY BE REUSED IF ADEQUATELY SIZED, PUT IN NO CASE SHALL EXISTING CONDUCTORS BE REUSED.
14. IN SOME INSTANCES, IT MAY BE NECESSARY FOR THE ELECTRICAL CONTRACTOR TO TEMPORARILY RELOCATE, REROUTE, ETC., EXISTING ELECTRICAL EQUIPMENT. THIS SHALL BE DONE SO THAT THE SYSTEMS IN ALL PHASES (THOSE COMPLETED AND THOSE YET TO BEGIN), ARE IN COMPLETE, OPERABLE, CONDITION AS CONSTRUCTION PROCEEDS THROUGH EACH PHASE.
15. ALL ABANDONED OUTLETS INCLUDING LIGHT, RECEPTACLES, TELEPHONE, ETC., SHALL BE COVERED AND PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE SATISFACTION OF THE OWNER.
16. ALL LIGHTING FIXTURES REMOVED TO ACCOMPLISH DEMOLITION WORK SHALL BE REINSTALLED SIMILAR TO NEW WORK.
17. WHERE EXISTING WALL TO BE REMOVED AND THERE ARE EXISTING CONDUIT FEEDS IN THESE WALL, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE THESE CONDUITS, AFFECTED BY THE REMODELED AREA. THIS WILL INCLUDE REROUTING WITH NEW CONDUITS AND WIRES (MATCH EXISTING), J-BOXES AND EXTENSION OF EXISTING CONDUITS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF EXISTING EQUIPMENT REMAINING.

SHEET INDEX

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THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER · MONITA VERMA · No. E19876 · Exp. 3-31-28 · ELECTRICAL · STATE OF CALIFORNIA

STAMP

SIGNATURE DATE

REVISIONS				INITIALS	DATE
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			STREET		
			SEWER		
			DRAINAGE		
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			INSPECTION		
			PARKS & REC		
			AS-BUILT		

E0.1

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL SYMBOL LIST
& ABBREVIATIONS

APPROVED: 05/29/2026
DATE · CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE · PUBLIC WORKS DIRECTOR

SCALE: AS NOTED

SHEET 42 OF 54 SHEETS

B.M.: N/A

FILE: MISC 5437

PART 1 GENERAL

A. SCOPE:– REFER TO SHEET E0.1 FOR SCOPE OF WORK

B. CODES, REGULATIONS AND STANDARDS

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES AND WITH THE REQUIREMENTS OF THE POWER AND TELEPHONE COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.

2. THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS AND CODES ARE MINIMUM REQUIREMENTS:

a. NEMA–NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS

b. CEC–CALIFORNIA ELECTRICAL CODE

c. UL–UNDERWRITER LABORATORIES INCORPORATED STANDARDS

d. ANSI–AMERICAN NATIONAL STANDARDS INSTITUTE

e. IEEE–INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

f. NESC–NATIONAL ELECTRICAL SAFETY CODE

g. TITLE 24–CALIFORNIA ENERGY COMMISSION

C. INSPECTION OF SITE

1. PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NON–COMPLIANCE WITH THIS CONDITION AFTER BIDDING.

D. GENERAL WORKMANSHIP

1. ALL WORK SHALL BE EXECUTED AND FINISHED IN A PRACTICAL MANNER AND SHALL PRESENT A NEAT AND WORKMANLIKE APPEARANCE WHEN COMPLETED.

2. ALL WORK MUST BE ACCEPTABLE TO THE OWNER. WHERE A DETAILED METHOD OF INSTALLING THE WORK IS NOT SPECIFIED OR INDICATED, INSTALL WORK AS DIRECTED BY THE OWNER.

E. RELATED WORK BY OTHERS

1. ELECTRICAL DRAWINGS IDENTIFY UTILITY SERVICE REQUIREMENTS FOR POWER, TELEPHONE, AND CABLE TV WITHIN AND UP TO FIVE FEET OUTSIDE THE BUILDING. UTILITY ELECTRICAL SERVICE TRANSFORMER(S), WHERE SHOWN ON THE SITE PLAN, ARE FOR INFORMATION ONLY AND INDICATE THE PREFERRED POINT OF SERVICE. UTILITY CONDUIT SYSTEMS, PULL BOXES, AND OTHER STRUCTURES, WHERE SHOWN ON THE SITE PLAN, ARE ALSO FOR INFORMATION ONLY AND INDICATE THE PREFERRED ROUTING. THE ELECTRICAL CONTRACTOR SHALL REFER TO UTILITY SERVICE DRAWINGS FOR ACTUAL UTILITY SERVICE REQUIREMENTS FOR THIS PROJECT. UTILITY SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED UTILITY SERVICE DRAWINGS. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO CONTACT AND FOLLOW–UP WITH ALL UTILITY COMPANIES TO OBTAIN BOTH PRELIMINARY AND FINAL DESIGN DRAWINGS FOR THIS PROJECT.

a. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE, MEET ALL POWER COMPANY REQUIREMENTS AND SHALL PAY ALL UTILITY COMPANY CHARGES.

b. THE LOCAL TELEPHONE COMPANY WILL FURNISH AND INSTALL ALL TELEPHONE WIRING AND EQUIPMENT AND WILL MAKE ALL FINAL TELEPHONE CONNECTIONS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE TELEPHONE SERVICE ENTRANCE, MEET ALL TELEPHONE REQUIREMENTS AND SHALL PAY ALL UTILITY COMPANY CHARGES.

c. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE CABLE SERVICE ENTRANCE, MEET ALL CABLE COMPANY REQUIREMENTS AND SHALL PAY ALL UTILITY COMPANY CHARGES.

F. COOPERATION WITH OTHER CONTRACTORS

1. COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE CHECKED WITH THE OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.

2. CAREFULLY CHECK THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.

3. COORDINATE THE LOCATION OF TRENCHES AND CONDUITS FOR UTILITY SERVICES AND OTHER DISCIPLINES WITH THE GENERAL CONTRACTOR.

G. MECHANICAL AND ELECTRICAL COORDINATION

1. ANY DEVICE WHICH CARRIES THE FULL LOAD CURRENT OF THE ELECTRICALLY DRIVEN MACHINERY, AS OPPOSED TO THE CONTROL OF INSTRUMENTATION CURRENT IN THE HOLDING COIL, IS A POWER CIRCUIT AND IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. CONTROL OR INSTRUMENTATION CIRCUITS CONNECTING HOLDING COILS TO THE CONTROL SYSTEM AS SPECIFIED BY THE MECHANICAL ENGINEER ARE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

2. THE POWER CIRCUIT IS DEFINED AS ALL DEVICES NECESSARY TO OPERATE, AND AS REQUIRED BY CODE TO PROTECT AND SERVICE THE UNIT, INCLUDING BRANCH CIRCUIT PROTECTIVE DEVICES, DISCONNECTS, MAGNETIC MOTOR STARTERS WITH RUNNING OVERLOAD AND SINGLE PHASING PROTECTION, MAGNETIC CONTACTORS, ETC.

3. THE CONTROL OR INSTRUMENTATION CIRCUIT IS DEFINED AS ALL DEVICES NECESSARY TO INTERFACE THE ELECTRICAL POWER CIRCUIT WITH THE CONTROL SYSTEM AS SPECIFIED BY THE MECHANICAL ENGINEER INCLUDING CONDUIT, BOXES, CONDUIT FITTINGS, CONDUCTORS, ELECTRIC–PNEUMATIC SWITCHES, PNEUMATIC–ELECTRIC SWITCHES, ELECTRICAL AND PNEUMATIC RELAYS, PNEUMATIC TUBING, ETC.

4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE 120V DUPLEX RECEPTACLES WITHIN 25 FEET OF ALL ROOF MOUNTED EQUIPMENT, PER CEC 210.63.

H. DRAWINGS

1. THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK. INFORMATION PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. WHERE DISCREPANCIES OR CONFLICTS OCCUR, THE BID SHALL REFLECT THE MOST STRINGENT REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS. USE ACTUAL BUILDING DIMENSIONS.

2. UPON COMPLETION OF THE WORK UNDER THESE DRAWINGS AND SPECIFICATIONS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH A COMPLETE SET OF MARKED–UP ELECTRICAL DRAWINGS SHOWING THE "AS–BUILT" CONDITION OF THE WORK. BOND PRINTS OF THE DRAWINGS REQUIRED WILL BE FURNISHED BY THE OWNER, FOR THIS PURPOSE.

3. ALL OPERATING INSTRUCTIONS, PARTS LISTS AND SPARE PARTS FOR MATERIAL AND EQUIPMENT FURNISHED AND/OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE TURNED OVER TO THE OWNER (THREE COPIES).

I. SHOP DRAWINGS AND APPROVALS

1. SUBMITTALS SHALL CONSIST OF DETAILED SHOP DRAWINGS, SPECIFICATIONS, BLOCK WIRING DIAGRAMS, "CATALOG CUTS" AND DATA SHEETS CONTAINING PHYSICAL AND DIMENSIONAL INFORMATION, PERFORMANCE DATA, ELECTRICAL CHARACTERISTICS, MATERIAL USED IN FABRICATION, AND MATERIAL FINISH. CLEARLY INDICATE BY ARROWS OR BRACKETS PRECISELY WHAT IS BEING SUBMITTED ON AND THOSE OPTIONAL ACCESSORIES WHICH ARE INCLUDED AND THOSE WHICH ARE EXCLUDED.

2. EACH SUBMITTAL SHALL BE ACCOMPANIED SHALL BEAR A STAMP STATING THAT THE SUBMITTAL HAS BE THOROUGHLY REVIEWED BY THE CONTRACTOR AND IS IN FULL COMPLIANCE WITH THE REQUIREMENTS OF CONTRACT DOCUMENTS. COVER LETTERS SHALL LIST IN FULL THE ITEMS AND DATA SUBMITTED. FAILURE TO COMPLY WITH THIS REQUIREMENTS SHALL CONSTITUTE GROUNDS FOR REJECTION OR DATA.

3. THE CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL ELECTRICAL EQUIPMENT AND GENERATOR ROOMS, YARDS, AND UTILITY AREAS. MINIMUM SCALE: 1/4"=1'–0".

4. AS PART OF THE EQUIPMENT SUBMITTALS, THE MANUFACTURER SHALL PROVIDE ANCHORAGE CALCULATIONS FOR FLOOR AND WALL MOUNTED ELECTRICAL EQUIPMENT. STRUCTURAL CALCULATIONS SHALL BE PREPARED AND SIGNED BY REGISTERED STRUCTURAL ENGINEER IN CALIFORNIA.

5. ALL RE–SUBMITTALS SHALL INCLUDE A COVER LETTER THAT LISTS THE ACTION TAKEN AND REVISIONS MADE TO EVERY DRAWING AND EQUIPMENT DATA SHEET IN RESPONSE TO SUBMITTAL REVIEW COMMENTS. FAILURE TO INCLUDE THIS COVER LETTER WILL CONSTITUTE REJECTION OF THE RE–SUBMITTAL PACKAGE.

6. CONTRACTOR SHALL SUBMIT SHORT CIRCUIT AND COORDINATION STUDIES SIGNED BY A REGISTERED ELECTRICAL ENGINEER. STUDIES SHALL BE PERFORMED IN ACCEPTANCE WITH IEEE GUIDELINES. CONTRACTOR SHALL BE SUBMITTED FOR ARCHITECT–ENGINEER REVIEW PRIOR TO ORDERING AND INSTALLING ANY EQUIPMENT. CONTRACTOR SHALL ENSURE THAT THE ACTUAL FEEDER LENGTHS MATCH STUDIES (REVISE STUDIES IF NECESSARY). SERVICE EQUIPMENT MARKINGS AS REQUIRED PER CEC 110.24 SHALL BE BASED ON CONTRACTOR SUBMITTED STUDIES.

7. SUBMIT CONDUITS, FITTINGS; OUTLET PULL AND JUNCTION BOXES, WIRES, WIRING DEVICES; LIGHTING FIXTURES; LAMPS; BALLASTS; SAFETY SWITCHES; FUSES; TRANSFORMERS; PANEL BOARDS; SWITCHBOARDS; CIRCUIT BREAKERS; LIGHTING CONTROL SYSTEM/DEVICES; AND FIRE ALARM SYSTEMS.

J. SUBSTITUTIONS

1. ALL REQUESTS FOR SUBSTITUTIONS SHALL CONFORM TO THE GENERAL REQUIREMENTS AND PROCEDURE OUTLINED IN DIVISION 1.

2. WHERE ITEMS ARE NOTED AS "OR EQUAL", A PRODUCT OF EQUAL DESIGN, CONSTRUCTION AND PERFORMANCE WILL BE CONSIDERED.

3. SUBSTITUTIONS SHALL BE EQUAL, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, TO THE SPECIFIED PRODUCT.

4. THE BURDEN OF PROOF OF EQUALITY OF A PROPOSED SUBSTITUTION FOR A SPECIFIED ITEM SHALL BE UPON THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL SUPPORT ITS REQUEST WITH SUFFICIENT TEST DATA, PHOTOMETRIC ANALYSIS, DETAILED BREAKDOWN DEFINING COST SAVINGS, AND OTHER MEANS TO PERMIT THE ARCHITECT AND/OR ENGINEER TO MAKE A FAIR AND EQUITABLE DECISION ON THE MERITS OF THE PROPOSED SUBSTITUTION. ANY ITEM BY A MANUFACTURER OTHER THAN THOSE SPECIFIED, OR OF BRAND NAME OR MODEL NUMBER WILL BE CONSIDERED A SUBSTITUTION. THE ARCHITECT AND/OR ENGINEER WILL BE THE SOLE JUDGE OF WHETHER OR NOT THE SUBSTITUTION IS EQUAL IN QUALITY, UTILITY, AND ECONOMY TO THAT SPECIFIED.

5. APPROVAL OF A SUBSTITUTION SHALL NOT RELIEVE ELECTRICAL CONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. ELECTRICAL CONTRACTOR SHALL BEAR THE EXPENSE FOR ANY CHANGES IN OTHER PARTS OF THIS WORK OR OTHER WORK CAUSED BY THE PROPOSED SUBSTITUTION.

6. IF ARCHITECT AND/OR ENGINEER REJECTS ELECTRICAL CONTRACTOR'S SUBSTITUTE ITEM ON THE FIRST SUBMITTAL, ELECTRICAL CONTRACTOR MAY MAKE ONLY ONE ADDITIONAL REQUEST FOR SUBSTITUTION IN THE SAME CATEGORY.

K. GUARANTEE & TESTING

1. GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE CORRECTED AS NECESSARY AT NO COST TO THE OWNER.

2. SYSTEM SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, ELECTRICAL CONTRACTOR SHALL MAKE CORRECTIONS AS NECESSARY AT NO COST TO THE OWNER.

L. LABELING

1. PROVIDE ENGRAVED NAME PLATES ON SWITCHBOARDS, PANEL BOARDS, DISCONNECT SWITCHES, MOTOR CONTROL CENTERS, TRANSFORMERS, ETC., INDICATING EQUIPMENT DESIGNATED (OR DESIGNATION OF EQUIPMENT SERVED) AND VOLTAGE.

M. HOUSEKEEPING PADS

1. THE HOUSEKEEPING PAD SHALL BE A MINIMUM OF FOUR INCHES HIGH AND EIGHT INCHES LARGER IN LENGTH AND WIDTH THAN THE ASSEMBLY FOOTPRINT.

2. ALL EDGES OF THE HOUSEKEEPING PAD SHALL BE CHAMFERED.

N. MATERIALS

1. ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.

2. ELECTRICAL 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.

O. STORAGE AND HANDLING OF MATERIAL

1. DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. ELECTRICAL CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD.

2. ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOBSITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.

3. ARRANGE FOR TIMELY DELIVERY OF OWNER SUPPLIED MATERIALS AND EQUIPMENT TO THE JOBSITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.

4. COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.

5. NO ELECTRICAL WORK SHALL BE INSTALLED IN AREAS WHERE OTHER TRADE'S WORK MIGHT CAUSE PHYSICAL DAMAGE TO WIRES, CONDUIT, EQUIPMENT, BOXES OR FITTINGS UNTIL THE OTHER TRADE'S WORK HAS BEEN COMPLETED. ANY EQUIPMENT OR MATERIALS WHICH BECOME DAMAGED SHALL BE REMOVED AND REPLACED AT NO EXTRA COST TO THE OWNER.

P. CLEAN–UP

1. KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK, REMOVE ALL SURPLUS MATERIALS, TOOLS, ETC., AND LEAVE THE PREMISES "BROOM–CLEAN".

Q. EXCAVATION, CUTTING AND FITTING

1. PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF ELECTRICAL EQUIPMENT HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBER SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

R. EXCAVATION AND BACKFILL

1. PERFORM ALL EXCAVATION AND BACKFILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. TRENCH BOTTOMS SHALL BE GRADED TRUE AND FREE FROM STONES OR SOFT SPOTS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY BY THE ARCHITECT. TRENCHING AND BACKFILLING FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES TO BUILDING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.

2. VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO TRENCHING.

PART 2 PRODUCTS AND EXECUTION

A. CONDUIT

1. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED BELOW. GRC MAY BE USED IN ALL AREAS. IMC MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH EARTH. EMT MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH EARTH, NOT IN CONCRETE SLABS OR WALLS AND NOT SUBJECT TO DAMAGE. PVC MAY BE USED IN OR BELOW CONCRETE AND DIRECT BURIED IN EARTH. FLEXIBLE STEEL CONDUIT SHALL BE USED FOR INDOOR FINAL CONNECTIONS TO MECHANICAL EQUIPMENT NOT TO EXCEED 36", AND RECESSED REMOVABLE FLUORESCENT LIGHT FIXTURES NOT TO EXCEED 72". LIQUID–TIGHT FLEXIBLE STEEL CONDUIT SHALL BE FOR OUTDOOR FINAL CONNECTIONS TO EQUIPMENT NOT TO EXCEED 36".

2. WHERE THE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN BY DOUBLE LOCKNUTS AND BUSHINGS (GRC AND IMC ONLY). FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS.

3. COVER METALLIC CONDUIT IN CONTACT WITH EARTH OR FILL WITH POLYETHYLENE TAPE SPIRAL WRAPPED, 1/2" LAPPED TO PROVIDE DOUBLE THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS NOT UNDER BUILDINGS AND FEEDER DUCTS SHALL BE INSTALLED PER CEC 300.5, EXCEPT THAT THE BENDS IN CONDUIT LARGER THAN 1" IN DIAMETER SHALL BE MADE WITH GALVANIZED STEEL CONDUIT TREATED AS NOTED ABOVE. MAKE JOINTS WITH COMPOUND TO BE WATERTIGHT.

4. CONDUIT SIZES SHALL BE AS REQUIRED BY CODE AND AS INDICATED OR SPECIFIED ON DRAWINGS. NO CONDUIT SMALLER THAN 3/4 INCH TRADE SIZE SHALL BE USED.

5. PENETRATION THROUGH FLOOR SLABS WHERE SUBJECT TO DAMAGE SHALL BE IN WRAPPED RIGID STEEL. SCHEDULE 40 PVC ELBOWS AND PENETRATIONS MAY BE USED IN SLAB ON GRADE WHERE PENETRATIONS OCCUR IN PROTECTED AREAS (WALLS, ELECTRICAL ROOMS, ETC.).

6. CONDUITS AND OUTLETS SHALL BE CONCEALED WITHIN THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS. CONDUIT SHOWN TO BE INSTALLED IN CABINETS, COUNTERS, AND CASEWORK SHALL BE RUN AS DIRECTED BY THE ARCHITECT.

7. ALL CONDUIT SERVING ROOF MOUNTED EQUIPMENT AND DEVICES INCLUDING HVAC EQUIPMENT, GFCI MAINTENANCE RECEPTACLES AND DUCT TYPE SMOKE DETECTORS SHALL BE ROUTED IN THE CEILING SPACE. CONDUIT SHALL PENETRATE ROOF AT EQUIPMENT LOCATIONS ONLY. NO CONDUIT SHALL BE INSTALLED HORIZONTALLY ACROSS ROOF SURFACE.

8. FLEXIBLE METALLIC AND NON–METALLIC CONDUIT SYSTEMS SHALL HAVE A CODE SIZED COPPER GROUND CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.

9. FLEXIBLE METAL CONDUIT/CUT–IN BOXES FOR LOW VOLTAGE SYSTEMS (TEL/DATA) MAY BE USED IN WALL CAVITIES PROVIDED THE INSTALLATION COMPLIES WITH CEC ARTICLE 348. ALL CONDUIT FOR LOW VOLTAGE WIRING SYSTEMS IN NEW WALL PARTITIONS SHALL BE EMT. FLEXIBLE METAL CONDUIT FOR THESE SYSTEMS IS NOT ACCEPTABLE IN NEW WALLS.
- MC SHALL BE ALLOWED.
- ONLY BE USED FOR FINAL CONNECTIONS TO LIGHT FIXTURES, MOTORS, VIBRATING ELECTRICAL EQUIPMENT AND HORIZONTAL RUNS IN WOOD OR METAL STUD WALLS ONLY.
- FMC SHALL BE ≤ 6' IN LENGTH.
- FOR REMODELING PURPOSE ONLY, FMC MAY BE LONGER IF CONTRACTOR HAS OBTAINED IOR PERMISSION PRIOR TO INSTALLATION.
- FMC SHALL HAVE ANTI–SHORT BUSHINGS INSTALLED AT EACH CONNECTOR PRIOR TO INSTALLING THE CONDUCTORS.

10. ALL EMPTY CONDUIT SYSTEMS SHALL HAVE A 200 POUND TEST PULL CORD INSTALLED TO FACILITATE INSTALLATION OF FUTURE WIRE.

B. FITTINGS

1. EMT–FITTINGS AND CONDUIT BODIES SHALL BE STEEL, MALLEABLE IRON OR DIE CAST COMPRESSION OR THREADED.

2. IMC AND GRC–SHALL BE STEEL OR MALLEABLE IRON TYPE AND SHALL ENGAGE A MINIMUM OF FIVE (5) THREADS.

C. OUTLET, PULL AND JUNCTION BOXES

1. PULL AND/OR JUNCTION BOXES SHALL BE INSTALLED WHEREVER SHOWN ON THE DRAWINGS OR AS REQUIRED BY CODE.

2. EACH SWITCH, LIGHT, RECEPTACLE OR OTHER OUTLET SHALL BE PROVIDED WITH A CODE GAUGE, GALVANIZED STEEL OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE CODE GAUGE, GALVANIZED STEEL. OUTLET BOXES SHALL BE OF THE ONE PIECE, KNOCKOUT TYPE, IN GENERAL 4–INCH SQUARE, 2 1/8–INCH WITH PLASTER RING. PLASTER RINGS SHALL BE SET TO PROVIDE NOT MORE THAN 1/8" FROM WALL SURFACE TO RING. IN NO CASE SHALL PLASTER RING PROJECT BEYOND SURFACE OF WALL. SINGLE GANG RINGS SIMILAR TO STEEL CITY 52050 SHALL BE USED FOR 4" BOXES IN UNFINISHED BRICK. NUMBER 180 BOXES MAY BE USED FOR UNFINISHED MASONRY FLUSH WALL OUTLETS. CENTER ALL OUTLET BOXES IN BLOCK COURSE.

3. BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON WITH WATERTIGHT GASKETED COVERS, GRAY METALLIC FINISH. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING.

4. BOXES INSTALLED FOR THE ALARM, COMPUTER AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.

5. PULL BOXES SHALL BE THE TYPES, SIZE AND DESIGN AS APPROVED BY THE CEC FOR THE CLASS OF INSTALLATION REQUIRED.

6. PULL BOXES AND OUTLET BOXES SHALL BE SIZED BY THE ELECTRICAL CONTRACTOR AS REQUIRED BY THE CEC BASED ON NUMBER OF CONDUCTORS, YOKES, STRAPS, ETC., USED IN THE INSTALLATION.

D. WIRE

1. MATCH BUILDING STANDARDS IF APPLICABLE IN AN EXISTING BUILDING CONDITION, UNLESS OTHERWISE FOLLOW THE SPECIFICATIONS BELOW.

2. CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE 75 DEGREE C TYPE THWN OR XHHW. ALL BRANCH CIRCUIT AND FEEDER WIRING SHALL BE COPPER.

3. WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES, IDENTIFICATION SHALL BE AS FOLLOWS:

a. 120/208V AND 120/240V
PHASE A: BLACK.
PHASE B: RED.
PHASE C: BLUE
NEUTRAL: WHITE.
GROUND: GREEN

b. 277/480V
PHASE A: BROWN.
PHASE B: ORANGE.
PHASE C: YELLOW
NEUTRAL: GRAY.
GROUND: GREEN

4. THE WIRE SHALL BE #12 AWG UNLESS OTHERWISE INDICATED.

5. NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE U.L. APPROVED LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.

6. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS LARGER THAN NO. 10 AWG SHALL BE STRANDED.

E. WIRING DEVICES

1. SWITCHES: WALL SWITCHES SHALL BE SPECIFICATION GRADE AC SILENT TYPE SWITCHES 20A, 120 277 VOLT. HUBBELL 1221 (SP), 1222 (DP), 1223 (3–WAY) AND 1224 (4–WAY). DIMMERS SHALL BE SPECIFICATION GRADE WITH PRESET SLIDE CONTROL. COLOR SHALL BE AS APPROVED BY THE ARCHITECT/OWNER. MATCH BUILDING STANDARD (IF EXISTING).

2. RECEPTACLES: DUPLEX TYPE OUTLETS SHALL BE HEAVY DUTY, SPECIFICATION GRADE NEMA 5–20R, 20A, 120V GROUNDED TYPE EQUAL TO HUBBELL ISOLATED GROUND OUTLETS SHALL BE EQUAL TO HUBBELL IG5362. SPECIAL APPLICATION RECEPTACLES SHALL BE AS INDICATED ON PLANS AND VERIFIED WITH EQUIPMENT SUPPLIER. COLOR SHALL BE AS APPROVED BY THE ARCHITECT/OWNER. MATCH BUILDING STANDARD (IF EXISTING).

3. WEATHERPROOF RECEPTACLES: COVERS SHALL BE HUBBELL WPFS26 WITH 5362 DUPLEX OUTLET OR EQUAL.

4. GFCI RECEPTACLES: SHALL BE HUBBELL GF5362. GFCI RECEPTACLES SHALL BE USED IN ALL OUTDOOR APPLICATIONS AS WELL AS THOSE PLACED WITHIN 6' OF WATER SOURCE AND ALL OTHER CEC REQUIRED LOCATIONS.

5. MOUNTING HEIGHTS: SWITCHES –+48 INCHES. RECEPTACLES –+18 INCHES COMMUNICATION DEVICES +18 INCHES. FIRE ALARM DEVICES AS REQUIRED BY ADA, NFPA 72 OR AUTHORITY HAVING JURISDICTION. ALL MOUNTING HEIGHTS ARE TO CENTERLINE OF DEVICE.

6. DEVICE PLATES SHALL BE EQUAL TO SIERRA SMOOTH–LINE PLASTIC WALL PLATES COLOR SHALL BE AS APPROVED BY THE ARCHITECT/OWNER. MATCH BUILDING STANDARD (IF EXISTING).

7. IN ALL CASES, SWITCHES CONTROLLING LIGHTING ARE TO BE LOCATED ON THE STRIKE SIDE OF DOORS. LOCATIONS INDICATED FOR SWITCHES AND OUTLETS ARE APPROXIMATE. OWNER MAY MAKE MINOR RELOCATIONS AT NO ADDITIONAL CHARGE.

F. LIGHTING FIXTURES

1. COORDINATE THE FINAL LOCATION OF FIXTURES SHOWN DIAGRAMMATICALLY ON THE DRAWINGS WITH OTHER TRADES IN ORDER TO AVOID INTERFERENCES. RELOCATE FIXTURES AS REQUIRED AS PART OF THE WORK UNDER THIS DIVISION IF NEW LOCATION IS WITHIN A FIVE FOOT RADIUS OF LOCATION SHOWN.

2. PROVIDE ALL LIGHTING FIXTURES, WIRED AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. ELECTRICAL CONTRACTOR SHALL VERIFY FIXTURE LOCATIONS, MOUNTING REQUIREMENTS AND U.L. LABELING OF ALL FIXTURES PRIOR TO ORDERING. INCLUDE ALL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION INCLUDING MOUNTING CLIPS, PLASTER FRAMERS, HANGERS AND HARDWARE IN BASE BID. PROVIDE LAMPS FOR ALL FIXTURES. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS.

3. ADJUSTABLE FIXTURES SHALL BE LOCATED AND PROPERLY AIMED AS DIRECTED BY THE ARCHITECT OR THE LIGHTING DESIGNER.

4. SUPPORT RECESSED FIXTURES FROM CEILING STRUCTURAL SUPPORT PER ADOPTED BUILDING CODES.

5. ALL FIXTURES TO BEAR THE UL LABEL. ALL OUTDOOR FIXTURES SHALL BE UL. LABELED FOR WET OR DAMP LOCATION AS DEFINED BY CEC ARTICLE 100.

G. LAMPS

1. LAMPS SHALL BE BY THE SAME MANUFACTURER. LAMPS SHALL BE MANUFACTURED BY GE, PHILLIPS OR USHIO.

H. SAFETY SWITCHES

1. SAFETY SWITCHES SHALL BE GENERAL DUTY TYPE, 250 VOLT FOR 208 VOLT EQUIPMENT AND HEAVY DUTY TYPE, 600 VOLT FOR 480 VOLT EQUIPMENT. SAFETY SWITCHES SHALL HAVE THE NUMBER OF POLES REQUIRED. WIRE TERMINATIONS SHALL BE LISTED AS SPECIFIED BY THE CEC. SAFETY SWITCHES FOR AIR CONDITIONING USE SHALL BE OF THE FUSIBLE TYPE WHERE RECOMMENDED BY EQUIPMENT MANUFACTURER. FUSIBLE SWITCHES SHALL ACCEPT CLASS 'R' FUSES ONLY AND WILL REJECT ALL OTHER TYPES. THE SWITCH SIZE, NUMBER OF POLES AND VOLTAGE RATING SHALL BE AS REQUIRED BY CODE AND AS INDICATED ON THE DRAWINGS. WHERE OUTSIDE THE BUILDING, THE SWITCHES SHALL BE TYPE NEMA 3R WEATHERPROOF, ALL SWITCHES SHALL BE LOCKABLE.

2. PROVIDE DYMO–TAPE TAG INSIDE COVER OF EACH FUSIBLE SWITCH, INDICATING SIZE AND TYPE OF FUSES PROVIDED.

I. FUSES

1. FUSES SHALL BE DUAL ELEMENT TIME DELAY TYPE, AS MANUFACTURED BY BUSSMANN MFG. COMPANY, OR AS INDICATED OR REQUIRED BY THE EQUIPMENT SUPPLIED.

2. PROVIDE TWO (2) SETS OF THREE (3) SPARE FUSES FOR EACH SIZE AND TYPE PROVIDED ON THIS PROJECT. INSTALL FUSES IN A HINGED DOOR, SHEET METAL STORAGE CABINET EQUIPPED WITH CLIPS OR CUBICLES, EACH MARKED WITH THE SIZE AND TYPE OF FUSE STORED THEREIN. INSTALL IN LOCATION AS DIRECTED BY OWNER. PROVIDE NAMEPLATE "SPARE FUSES."

J. SERVICE ENTRANCE

1. THE SERVICE ENTRANCE EQUIPMENT SIZE, VOLTAGE AND RATING SHALL BE AS INDICATED ON THE DRAWINGS. PROVIDE COPPER BUSING UNLESS OTHERWISE NOTED OR PERMITTED. EQUIPMENT SHALL CARRY THE U.L. LABEL AND SHALL CONFORM TO THE POWER COMPANY REGULATIONS.

2. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY AND CONFIRM THAT EQUIPMENT SUBMITTED SHALL FIT WITHIN THE ALLOTTED SPACE REQUIREMENTS SHOWN ON THE PLANS. DRAWINGS INDICATE MAXIMUM DIMENSIONS FOR SWITCHBOARDS INCLUDING CLEARANCES BETWEEN SWITCHBOARDS AN ADJACENT SURFACES AND OTHER ITEMS. COMPLY WITH MAXIMUM DIMENSIONS. IF ANY SPACE OR SIZE DISCREPANCIES ARE ANTICIPATED IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO SUBMITTAL. ONCE THE SUBMITTALS HAVE BEEN APPROVED IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO INSTALL THE EQUIPMENT WITHIN THE ALLOTTED SPACE AT NO ADDITIONAL COST TO THE OWNER.

3. SERVICE ENTRANCE EQUIPMENT SHALL BE MANUFACTURED BY GENERAL ELECTRIC, SQUARE D, CUTLER–HAMMER, SIEMENS OR APPROVED EQUAL.

4. ALL OVERCURRENT PROTECTION DEVICES AND ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE FULLY (100%) RATED FOR AVAILABLE FAULT CURRENT INDICATED. SERIES RATED DEVICES ARE NOT ACCEPTABLE.

K. TRANSFORMERS

1. TRANSFORMERS SHALL BE DRY WITH COPPER WINDINGS, 115° TEMPERATURE RISE, AND TP–1 COMPLIANT. SEE DRAWINGS FOR K RATING, KVA RATING, VOLTAGE AND "DELTA"–"WYE" CONFIGURATION REQUIREMENTS.

2. ALL TRANSFORMERS SHALL BE PROVIDED WITH CLASS 220 DEGREE CELSIUS INSULATION SYSTEM AND SHALL BE COMPLETELY ENCLOSED EXCEPT FOR VENTILATION OPENINGS.

3. TRANSFORMERS SHALL BE 115 DEGREE TEMPERATURE RISE ABOVE 40 DEGREE CELSIUS AMBIENT TEMPERATURE.

4. TRANSFORMERS SHALL BE EQUIPPED WITH FOUR 2–1/2% (2 ABOVE AND 2 BELOW NORMAL VOLTAGE) PRIMARY TAPS.

L. PANELBOARDS

1. CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. ALL PANELS SHALL HAVE PANELBOARD TYPE CONSTRUCTION WITH BOLT–ON CIRCUIT BREAKERS. PANELS INDICATED AS LOADCENTERS SHALL HAVE PLUG–ON CIRCUIT BREAKERS.

2. BUSING SHALL BE COPPER UNLESS OTHERWISE NOTED OR PERMITTED.

3. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, CUTLER–HAMMER, SIEMENS WITH VOLTAGE, SIZES AND RATINGS AS INDICATED ON DRAWINGS. ALL PANELBOARDS IN THE FACILITY SHALL BE BY THE SAME MANUFACTURER.

4. THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANELBOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE–POLE, DOUBLE–POLE AND THREE–POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAIN TERMINALS SHALL BE OF THE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI–POLE BREAKERS ARE NOT ACCEPTABLE.

5. WIRE TERMINATION FOR PANELBOARDS, LOADCENTERS AND CIRCUIT BREAKERS SHALL BE LISTED AS SPECIFIED BY THE CEC.

6. PROVIDE A TYPEWRITTEN CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE OF LOAD ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR.

7. WHERE PANELBOARDS ARE INSTALLED FLUSH WITH THE WALLS, EXTEND EMPTY CONDUITS FROM THE PANELBOARD TO AN ACCESSIBLE SPACE ABOVE OR BELOW. PROVIDE 3/4" (MINIMUM SIZE) CONDUIT FOR EVERY THREE SINGLE SPARE CIRCUIT BREAKERS OR SPACE OR EQUIVALENT MULTI–POLE ARRANGEMENT, OR FRACTION THEREOF, BUT NOT LESS THAN TWO CONDUITS FOR EACH PANELBOARD. EXISTING CIRCUIT DIRECTORY OR CIRCUIT IDENTIFICATION. IF CIRCUITS ARE ADDED, RELOCATED, OR OMITTED, PROVIDE A NEW, TYPED, UPDATED CIRCUIT DIRECTORY WHICH INCLUDE SPARES & SPACES. FELT OR INK MARKINGS ON THE CARD & NEXT TO BREAKERS WILL NOT BE ACCEPTABLE. PLACE DIRECTORY IN A CLEAR PLASTIC ENVELOPE.

M. SYSTEM GROUNDING

1. GROUNDING SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 250. ALL EXPOSED NONCURRENT–CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, METALLIC CABLE ARMOR, GROUNDING CONDUCTOR OF NONMETALLIC SHEATHED CABLES, GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS, AND GROUNDED CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDED.

2. THE GROUNDED CONDUCTOR (NEUTRAL) OF THE WIRING SYSTEM SHALL BE CONNECTED TO THE SYSTEM GROUNDING CONDUCTOR AT A SINGLE PLACE IN EACH SYSTEM BY REMOVABLE BONDING JUMPERS, SIZED ACCORDING TO THE APPLICABLE PROVISIONS OF THE CEC. THE GROUNDED CONDUCTOR (NEUTRAL) TO THE GROUNDING CONDUCTOR CONNECTION SHALL BE LOCATED IN THE ENCLOSURE FOR THE SYSTEM'S OVERCURRENT PROTECTION OR WHERE OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS.

3. GROUND BUS SEPARATE FROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL SWITCHBOARDS AND PANELBOARDS. GROUND BUS SHALL BE RE–TORQUED (CHECKED) PRIOR TO ENERGIZING EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.

4. GROUND BUSES AND NEUTRAL BUSES IN ALL DISTRIBUTION PANELS, SWITCHBOARDS, PANELBOARDS AND THOSE PROVIDED IN ANY EQUIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED AS SPECIFIED ABOVE FOR THE SERVICE ENTRANCE AND IN TRANSFORMER TERMINAL COMPARTMENTS.

5. WHEN INDICATED ON THE DRAWINGS, EQUIPMENT GROUNDING CONDUCTORS SHALL BE EXTENDED FROM THE GROUND BUS IN THE DISTRIBUTION EQUIPMENT TO THE RECEPTACLE, FIXTURE OR DEVICE LUGS WHERE THEY ARE PROVIDED, WHEN NOT PROVIDED, THEY SHALL BE CONNECTED TO EQUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT REMOVAL OF THE RECEPTACLE, THE EQUIPMENT GROUND CONDUCTORS, OR THE GROUND JUMPERS FROM GROUND BUSING SHALL NOT AFFECT THE GROUND SYSTEM.

6. RACEWAYS MAY NOT BE USED AS A GROUNDING CONDUCTOR FOR POWER AND LIGHTING CIRCUITS. EVERY CONDUIT SUPPLYING POWER AND LIGHTING CIRCUITS SHALL HAVE A SEPARATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO ENSURE A CONTINUOUS GROUNDING PATH.

7. IN INACCESSIBLE LOCATIONS MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS.

8. IN ACCESSIBLE LOCATIONS, CONNECTIONS SHALL BE MADE WITH APPROVED BOLTED BRONZE GROUNDING DEVICES.

N. EQUIPMENT CONNECTIONS

1. ALL MOTORS SHALL BE WIRED TO CONFORM WITH MANUFACTURER'S RECOMMENDATIONS AND WITH APPLICABLE CODES. FURNISH NECESSARY MATERIALS, SUCH AS WIRE, CONDUIT, FITTINGS, ETC. REQUIRED TO CONNECT HOWEVER, MOTORS, CONTROLS, ETC. SHALL BE FURNISHED BY THE SUPPLIER OF THE DRIVEN EQUIPMENT. VERIFY EQUIPMENT LOCATION AND SIZES WITH THE TRADE SUPPLYING THE MOTOR BEFORE INSTALLING THE CONDUIT OR OUTLETS.

2. FINAL CONNECTION TO ALL HVAC OR MOTOR LOADS FROM LOAD SIDE OF DISCONNECT SHALL BE MADE USING COPPER WIRE ONLY, ALUMINUM WIRE NOT ACCEPTABLE.

O. COMMUNICATION SYSTEMS

1. FOR ALL COMMUNICATION OUTLETS PROVIDE DOUBLE GANG BACK BOX WITH SINGLE GANG PLASTER RING. PROVIDE 1 CONDUIT TO 6" ABOVE ACCESSIBLE CEILING WITH 90 BEND AND CONDUIT BUSHING UNLESS OTHERWISE NOTED ON DRAWINGS. FOR NON–ACCESSIBLE CEILINGS, ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE OR TO NEAREST COMMUNICATION CLOSET. PROVIDE BLANK COVER PLATES FOR ALL UNUSED BOXES.

2. PROVIDE 3/4" FIRE RATED PLYWOOD FOR TELEPHONE TERMINAL BACKBOARD AND PAINT TO MATCH WALL SURFACE. REFER TO DRAWINGS FOR DIMENSIONS OF BACKBOARD.

3. PROVIDE #6 AWG CU GROUND WIRE FROM EQUIPMENT BACKBOARD TO BUILDING SERVICE GROUND.

P. LIGHTING CONTROL

1. FURNISH AND INSTALL LIGHTING CONTROL PANELS, OVERRIDE SWITCHES, TIME SWITCHES, PHOTOCELLS AND CONTACTORS REQUIRED FOR LIGHTING CONTROL AS INDICATED ON THE DRAWINGS. LIGHTING CONTROL PANEL AND ALL ASSOCIATED COMPONENTS SHALL CONFORM TO ADOPTED ENERGY CODES.

Q. FIRE ALARM SYSTEM

1. FIRE ALARM IS NOT SHOWN ON THESE DRAWINGS. FIRE ALARM IS REQUIRED AS A PART OF THE CONTRACTOR'S SCOPE OF WORK. CONTRACTOR SHALL ENGAGE THE SERVICES OF A STATE LICENSED FIRE ALARM CONTRACTOR FOR THE DESIGN AND INSTALLATION OF A COMPLETE AND OPERABLE FIRE ALARM SYSTEM THAT COMPLIES WITH ALL NFPA, CEC AND LOCAL ORDINANCES AND REQUIREMENTS APPROVED BY AUTHORITY HAVING JURISDICTION. SYSTEM DESIGN AND INSTALLATION SHALL BE COMPATIBLE WITH EXISTING SHELL BUILDING AND APPROVED BY LANDLORD PRIOR TO BID. MANUFACTURER OF FIRE ALARM SYSTEM SHALL BE THE SAME MANUFACTURER AS THE SHELL BUILDING UNLESS OTHERWISE APPROVED BY LANDLORD AND AUTHORITY HAVING JURISDICTION. INCLUDE ALL COSTS IN BASE BID.

R. MISC

1. ANSI/NECA 1–2010 STANDARD PRACTICE OF GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION PER NFPA 70.110.12 MECHANICAL EXECUTION OF WORK.

S. MEGGAR TESTING

1. PERFORM MEGGER TESTING OF ALL NEW POWER WIRES PER NETA ATS ACCEPTANCE TESTING SPECIFICATIONS FOR ELECTRICAL POWER DISTRIBUTION EQUIPMENT AND SYSTEMS. INSPECT AND TEST IN ACCORDANCE WITH NETA ATS, EXCEPT SECTION 4. B. PERFORM INSPECTIONS AND TESTS LISTED IN NETA ATS, SECTION 7.3.1.

CIP 54691 - INDEPENDENCE PARK GYM RENOVATION

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THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
MONITA VERMA
No. E19878
Exp. 3–31–28
ELECTRICAL
STATE OF CALIFORNIA

STAMP

SIGNATURE DATE

REVISIONS				INITIALS	DATE
NUMBER	DESCRIPTION	DATE	DRAWN	MV	–
			DESIGNED	MV	–
			REVIEWED	MV	–
			STREET		
			SEWER		
			DRAINAGE		
			WATER		
			TRAFFIC		
			UTILITY/ELEC		
			LANDSCAPE		
			FACILITIES		
			GENERAL ENG		
			DESIGN ENG		
			INSPECTION		
			PARKS & REC		
			AS–BUILT		

E0.2

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL SPECIFICATIONS

APPROVED: 05/29/2026
DATE — CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE — PUBLIC WORKS DIRECTOR

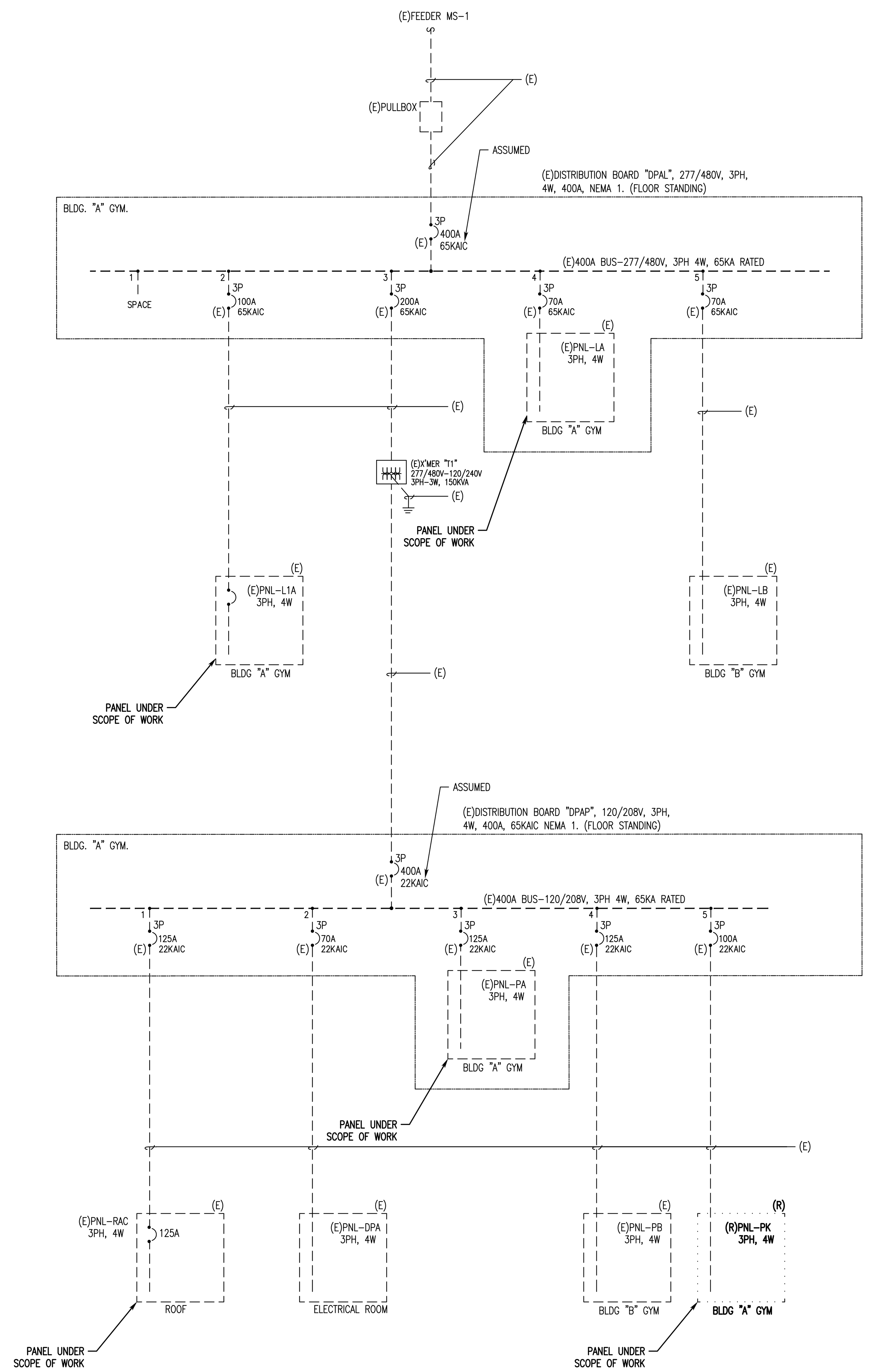
SCALE: AS NOTED

SHEET 43 OF 54 SHEETS

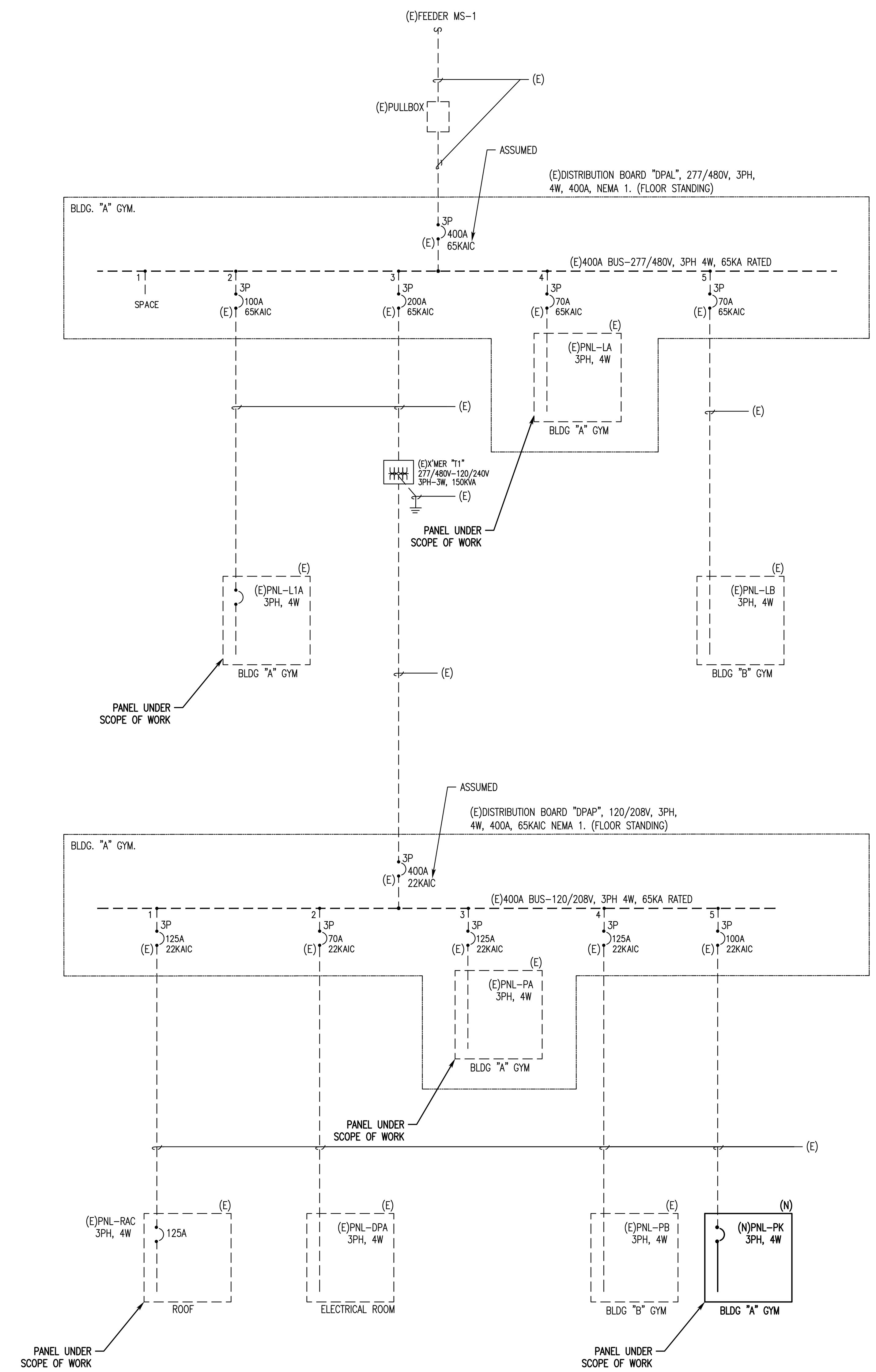
B.M.: N/A

FILE: MISC 5437

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 – E0.2.DWG



EXISTING SINGLE LINE DIAGRAM
SCALE: NTS



PROPOSED SINGLE LINE DIAGRAM
SCALE: NTS

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			UTILITY/ELEC		
			LANDSCAPE		
			FACILITIES		
			GENERAL ENG		
			DESIGN ENG		
			INSPECTION		
			PARKS & REC		
			AS-BUILT		

E0.3A

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT
INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

SINGLE LINE DIAGRAM

APPROVED: 05/29/2026
DATE — CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE — PUBLIC WORKS DIRECTOR

SCALE: AS NOTED
SHEET 44 OF 54 SHEETS
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FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 – E0.3A.DWG

CIP 54691 - INDEPENDENCE PARK GYM RENOVATION

(E)PANEL-L1A

ASSUMED AIC RATING → A.I.C RATING: 10,000 A

VOLTAGE: 480 / 277 | PHASE: 3 | WIRE: 4
BUS AMPS: 100 A | DEVICE AMPS: 100 A MCB | NEMA: 1
A.I.C RATING: 10,000 A | MOUNTING: RECESSED

%V.D	CIRCUIT WIRE	LOCATION DESCRIPTION	LOAD (kVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (kVA)	LOCATION DESCRIPTION	CIRCUIT WIRE	%V.D
-	-	SPACE			/-	1	A	2	20/1	A	1.800	(E) OFFICE / ENTRANCE LOBBY / BATHR. LTS (1)	EXISTING	-
-	-	SPACE			/-	3	B	4	20/1	A	2.400	(E) MULTI-PURPOSE / DAY CARE LTS (1)	EXISTING	-
-	-	SPACE			/-	5	C	6	20/1	A	3.000	(E) MULTI-PURPOSE / DAY CARE LTS (1)(3)	EXISTING	-
-	-	SPARE			20/1	7	A	8	20/1	A	2.000	(E) GYM LIGHTS (1)	EXISTING	-
-	-	SPARE			20/1	9	B	10	20/1			SPARE	-	-
-	EXISTING	(E) GYM LIGHTS (1)	2.000	A	20/1	11	C	12	20/1	A	2.000	(E) GYM LIGHTS (1)	EXISTING	-
-	EXISTING	(E) GYM LIGHTS (1)	4.000	A	20/1	13	A	14	20/1			SPARE	-	-
-	EXISTING	(E) GYM LIGHTS (1)	4.000	A	20/1	15	B	16	20/1			SPARE	-	-
1.80	3/4"C-2#12CU & 1#12G	GYMNASIUM (2)	0.300	A	20/1	17	C	18	20/1			SPARE	-	-
-	-	SPACE			/-	19	A	20	/-			SPACE	-	-
-	-	SPACE			/-	21	B	22	/-			SPACE	-	-
-	-	SPACE			/-	23	C	24	/-			SPACE	-	-
-	-	MAIN BREAKER			100/3	25	A	26	/-			SPACE	-	-
						27	B	28	/-			SPACE	-	-
						29	C	30	/-			SPACE	-	-

PANEL LOAD ANALYSIS

Load Type	DESCRIPTION	Conn. kVA	Demand kVA	CEC 2022 REFERENCE	Load Type	DESCRIPTION	Conn. KVA	Demand kVA	CEC 2022 REFERENCE
A	Lighting	21.50	26.88	CEC Table 210.20	E	Heating	0.00	0.00	CEC Article 220.60
B	Receptacles	0.00	0.00	CEC Table 220.44	F	Largest Motor	0.00	0.00	CEC Article 220.18(A)
C	EV charger	0.00	0.00	-	G	Other Motors	0.00	0.00	CEC Article 220.18(A)
D	Air-Conditioning	0.00	0.00	CEC Table 220.60	H	Other Loads	0.00	0.00	CEC Article 220.14(A)

Phase A Connected Load	7.800	kVA	Notes:	TOTAL CONNECTED LOAD	21.50	kVA	25.9	AMPS
Phase B Connected Load	6.400	kVA	1.EXISTING CIRCUIT TO REMAIN	TOTAL DEMAND LOAD	26.88	kVA	32.3	AMPS
Phase C Connected Load	7.300	kVA	2.NEW C.B. WITH NEW LOAD					
			3.EXISTING C.B. WITH ADDED LOAD					

(E)PANEL-LA

VOLTAGE: 480 / 277 | PHASE: 3 | WIRE: 4
BUS AMPS: 100 A | DEVICE AMPS: 70 A MLO | NEMA: 1
- | MOUNTING: SURFACE

%V.D	CIRCUIT WIRE	LOCATION DESCRIPTION	LOAD (kVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (kVA)	LOCATION DESCRIPTION	CIRCUIT WIRE	%V.D
-	EXISTING	(E) LTG (KIT,HALL,ELEC.RM) (1)	3.200	A	20/1	1	A	2	20/1	A	0.150	(E) EMG/ EXIT LTG (1)	EXISTING	-
-	EXISTING	(E) EAST PK. LOT LIGHTS (1)	2.000	A	20/1	3	B	4	20/1	A	2.000	(E) NIGHT LIGHTS & CONTROLS (1)	EXISTING	-
-	EXISTING	(E) SOUTH & EAST PK. LOT LIGHTS (1)	2.000	A	20/1	5	C	6	20/1	A	2.000	(E) EAST PK. LOT LIGHTS (1)	EXISTING	-
-	EXISTING	(E) HAND BALL LIGHTS (1)	3.300	A	20/2	7	A	8	20/1	A	1.250	(E)WALKWAY (1)	EXISTING	-
			3.300	A		9	B	10	20/1	A	1.250	(E)WALKWAY (1)	EXISTING	-
-	-	SPARE			20/1	11	C	12	20/1	A	1.200	(E) PARKING LOT & WALKWAY (1)	EXISTING	-
-	EXISTING	(E) SOUTH & EAST PK LOT LIGHTS (1)	2.000	A	20/1	13	A	14	/-			SPACE	-	-
-	-	SPARE			20/1	15	B	16	/-			SPACE	-	-
-	-	SPARE			20/1	17	C	18	/-			SPACE	-	-

PANEL LOAD ANALYSIS

Load Type	DESCRIPTION	Conn. kVA	Demand kVA	CEC 2022 REFERENCE	Load Type	DESCRIPTION	Conn. KVA	Demand kVA	CEC 2022 REFERENCE
A	Lighting	23.65	29.56	CEC Table 210.20	E	Heating	0.00	0.00	CEC Article 220.60
B	Receptacles	0.00	0.00	CEC Table 220.44	F	Largest Motor	0.00	0.00	CEC Article 220.18(A)
C	EV charger	0.00	0.00	-	G	Other Motors	0.00	0.00	CEC Article 220.18(A)
D	Air-Conditioning	0.00	0.00	CEC Table 220.60	H	Other Loads	0.00	0.00	CEC Article 220.14(A)

Phase A Connected Load	9.900	kVA	Notes:	TOTAL CONNECTED LOAD	23.65	kVA	28.4	AMPS
Phase B Connected Load	8.550	kVA	1.EXISTING CIRCUIT TO REMAIN	TOTAL DEMAND LOAD	29.56	kVA	35.6	AMPS
Phase C Connected Load	5.200	kVA						

PANEL SCHEDULE NOTE

1. CONTRACTOR SHALL PROVIDE 30-DAY LOAD READINGS FOR PANELS FOR EEOR REVIEW AND APPROVAL ON LOAD ADDITION, PRIOR TO COMMENCEMENT OF ANY NEW WORK.
2. ALL NEW CIRCUIT BREAKERS INSTALLED IN ALL EXISTING PANELS SHALL MATCH THE HIGHEST EXISTING AIC RATED CIRCUIT BREAKER WITHIN THAT BOARD. INSPECTOR TO VERIFY HIGHEST AIC RATING AT THE SITE.
3. CONTRACTOR SHALL VERIFY EXISTING PANELS RATING AND ALL EXISTING LOAD TYPE & WATTAGE AND SUBMIT COMPLETE PANEL DIRECTORY FOR EEOR TO REVIEW BEFORE COMMENCEMENT OF ANY NEW WORK. AFTER EEOR APPROVAL, PROVIDE AND PLACE COMPLETE PANEL DIRECTORY ON THE EXISTING PANELS.

(E)PANEL-RAC

VOLTAGE: 208 / 120 | PHASE: 3 | WIRE: 4
BUS AMPS: 125 A | DEVICE AMPS: 125 A MCB | NEMA: 3R
A.I.C RATING: 10,000 A | MOUNTING: SURFACE

%V.D	CIRCUIT WIRE	LOCATION DESCRIPTION	LOAD (kVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (kVA)	LOCATION DESCRIPTION	CIRCUIT WIRE	%V.D
-	EXISTING	(E)RTU-1 (1)	3.935	D	60/3	1	A	2	30/3	D	2.912	(E)AC-1 (1)	EXISTING	-
			3.935	D		3	B	4		D	2.912			
			3.935	D		5	C	6		D	2.912			
-	EXISTING	(E) EF-4 (1)	0.500	D	20/1	7	A	8	20/1	D	0.500	(E) EF-4 (1)	EXISTING	-
-	EXISTING	(E) EF-5 (1)	0.500	D	20/1	9	B	10	20/1	H	1.500	(E) ROOF (1)	EXISTING	-
1.55	3/4"C-2#12CU & 1#12G	EF-6 TO EF-10 (3)	0.250	D	15/1	11	C	12	20/2	D	1.800	(E) RTU-2 (1)	EXISTING	-
1.40	3/4"C-2#12CU & 1#12G	EF-11 TO EF-13 (3)	0.150	D	15/1	13	A	14		D	1.800			
1.25	3/4"C-2#12CU & 1#12G	FAUCET - 1 (3)	0.400	H	20/1	15	B	16	20/1	H		SPARE	-	-
0.21	3/4"C-2#12CU & 1#12G	ROOF RECEPTACLE (3)	0.180	H	20/1	17	C	18	20/1	D	0.030	EF-14 (2)(4)	3/4"C-2#12CU & 1#12G	0.40

PANEL LOAD ANALYSIS

Load Type	DESCRIPTION	Conn. kVA	Demand kVA	CEC 2022 REFERENCE	Load Type	DESCRIPTION	Conn. KVA	Demand kVA	CEC 2022 REFERENCE
A	Lighting	0.00	0.00	CEC Table 210.20	E	Heating	0.00	0.00	CEC Article 220.60
B	Receptacles	0.00	0.00	CEC Table 220.44	F	Largest Motor	0.00	0.00	CEC Article 220.18(A)
C	EV charger	0.00	0.00	-	G	Other Motors	0.00	0.00	CEC Article 220.18(A)
D	Air-Conditioning	26.07	26.07	CEC Table 220.60	H	Other Loads	2.08	2.08	CEC Article 220.14(A)

Phase A Connected Load	9.797	kVA	Notes:	TOTAL CONNECTED LOAD	28.15	kVA	78.1	AMPS
Phase B Connected Load	9.247	kVA	1.EXISTING CIRCUIT TO REMAIN	TOTAL DEMAND LOAD	28.15	kVA	78.1	AMPS
Phase C Connected Load	9.107	kVA	2.EXISTING C.B. WITH NEW LOAD					
			3.NEW C.B. WITH NEW LOAD					
			4.CONTROL VIA TIMECLOCK					

(E)PANEL-PA

VOLTAGE: 208 / 120 | PHASE: 3 | WIRE: 4
BUS AMPS: 125 A | DEVICE AMPS: 125 A MLO | NEMA: 1
A.I.C RATING: 10,000 A | MOUNTING: SURFACE

%V.D	CIRCUIT WIRE	LOCATION DESCRIPTION	LOAD (kVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (kVA)	LOCATION DESCRIPTION	CIRCUIT WIRE	%V.D
-	EXISTING	(E)EMERG. LIGHT GYM (1)	0.050	A	20/1	1	A	2	20/1	B	1.080	(E)STORAGE,MEETING,GYM RECEPT (1)	EXISTING	-
-	EXISTING	(E)M.TELE. BOARD (1)	0.500	B	20/1	3	B	4	20/1	H	1.260	EXISTING LOAD(1)	EXISTING	-
-	EXISTING	(E) MULTI PURP, GYM RECEPT. (1)(3)	1.440	B	20/1	5	C	6	20/1	H	0.500	(E) DRINKING FOUTAIN(WEST SIDE) (1)	EXISTING	-
-	EXISTING	(E) BILLIARDS,MULTI PUPR,GYM (1)(3)	1.260	B	20/1	7	A	8	20/1	B	0.500	(E) OFFICE & GYM RECEPT. & HAND DRYER (1)	EXISTING	-
-	EXISTING	(E)MULTI-PURP, GYM RECEPT. (1)(3)	1.260	B	20/1	9	B	10	20/1	B	0.500	(E)GYM RECEPT. & SCORE BOARD (1)	EXISTING	-
2.15	3/4"C-2#10CU & 1#12G	(N)UH-1 & 2 (2)	0.888	E	20/1	11	C	12	20/1	A	0.450	(E)STAGE LIGHT -TRAC (1)	EXISTING	-
1.57	3/4"C-2#10CU & 1#12G	(N)UH-3 & 4 (2)	0.888	E	20/1	13	A	14	20/1	A	0.450	(E)STAGE LIGHT -TRAC (1)	EXISTING	-
-	EXISTING	(E)LIGHT-TRAC (1)	0.300	A	20/1	15	B	16	20/1	A	0.450	(E)STAGE LIGHT -TRAC (1)	EXISTING	-
-	EXISTING	(E)STAGE LIGHT -TRAC (1)	0.500	A	20/1	17	C	18	20/1	D	0.864	(E)EF-1(GYM ROOF) (1)	EXISTING	-
-	EXISTING	(E)WARWICK CONTROL (1)	0.500	H	20/3	19	A	20	20/1	D	0.864	(E)EF-1 (1)	EXISTING	-
			0.500	H		21	B	22	20/1	A	0.500	(E)GYM ROOF RECEPT. SECUIRITY LIGHT (1)	EXISTING	-
			0.500	H		23	C	24	20/1	D	0.864	(E)EF-1 (1)	EXISTING	-
-	EXISTING	(E)FACP (1)	0.500	H	20/1	25	A	26	20/1	D	0.864	(E)EF-1 (1)	EXISTING	-
-	EXISTING	(E)FACP (1)	0.500	H	20/1	27	B	28	20/1	D	0.864	(E)EF-1 (1)	EXISTING	-
0.90	3/4"C-2#12CU & 1#12G	EQUIPMENT CHECK RECEPT. (2)	0.540	B	20/1	29	C	30	20/1	A	0.500	(E)UP LIGHTS (1)	EXISTING	-
-	EXISTING	(E)TELE-COMM, OFFICE (1)	0.300	B	20/1	31	A	32	20/1	H	1.150	(E)BASKET-HOOP WEST (1)	EXISTING	-
-	EXISTING	(E)TELE-COMM, OFFICE (1)	0.300	B	20/1	33	B	34	20/1	H	1.150	(E)BASKET-HOOP WEST (1)	EXISTING	-
-	EXISTING	(E)BASKET-HOOP WEST (1)	0.500	H	20/1	35	C	36	20/1	H	0.500	(E)CONTROL CIR FOR ROOF (1)	EXISTING	-
-	EXISTING	(E)A/C KIT. (1)	2.400	D	30/2	37	A	38	20/2	D	1.373	(E)RTU 4 (1)	EXISTING	-
			2.400	D		39	B	40		D	1.373			
-	EXISTING	(E)TIME SWITCH (1)	0.500	H	20/1	41	C	42	20/1	B	0.500	(E)SOUTH OFFICE OUTLETS (1)	EXISTING	-

PANEL LOAD ANALYSIS

Load Type	DESCRIPTION	Conn. kVA	Demand kVA	CEC 2022 REFERENCE	Load Type	DESCRIPTION	Conn. KVA	Demand kVA	CEC 2022 REFERENCE
A	Lighting	3.20	4.00	CEC Table 210.20	E	Heating	1.78	0.00	CEC Article 220.60
B	Receptacles	8.18	8.18	CEC Table 220.44	F	Largest Motor	0.00	0.00	CEC Article 220.18(A)
C	EV charger	0.00	0.00	-	G	Other Motors	0.00	0.00	CEC Article 220.18(A)
D	Air-Conditioning	11.87	11.87	CEC Table 220.60	H	Other Loads	8.06	8.06	CEC Article 220.14(A)

Phase A Connected Load	12.179	kVA	Notes:	TOTAL CONNECTED LOAD	33.08	kVA	91.8	AMPS
Phase B Connected Load	11.857	kVA	1.EXISTING CIRCUIT TO REMAIN	TOTAL DEMAND LOAD	32.11	kVA	89.1	AMPS
Phase C Connected Load	9.046	kVA	2.EXISTING C.B. WITH NEW LOAD					
			3.EXISTING C.B. WITH ADDED LOAD					

(N)PANEL-PK

VOLTAGE: 208 / 120 | PHASE: 3 | WIRE: 4
BUS AMPS: 100 A | DEVICE AMPS: 100 A MCB | NEMA: 1
A.I.C RATING: 10,000 A | MOUNTING: SURFACED

%V.D	CIRCUIT WIRE	LOCATION DESCRIPTION	LOAD (kVA)	LOAD TYPE	TRIP POLE	#	PH	#	TRIP POLE	LOAD TYPE	LOAD (kVA)	LOCATION DESCRIPTION	CIRCUIT WIRE	%V.D
-	-	SPARE			30/2	1	A	2	30/2			SPARE	-	-
						3	B	4						
1.32	3/4"C-2#12CU & 1#12G	STAFF BREAKROOM EQ	1.000	H	20/1	5	C	6	20/1	H	0.800	ICE MAKER (1)	3/4"C-2#12CU & 1#12G	2.01
-	EXISTING	(E) RECEPTACLES	0.540	B	20/1	7	A	8	20/1			SPARE	-	-
1.87	3/4"C-2#12CU & 1#12G	COFFEE MAKER	1.400	H	20/1	9	B	10	20/1	H	0.800	GARBAGE DISPOSAL (1)	3/4"C-2#12CU & 1#12G	1.10
1.85	3/4"C-2#12CU & 1#12G	MICROWAVE (1)	1.400	H	20/1	11	C	12	20/1	H	0.500	(E) HOOD AND FAN	EXISTING	-
0.21	3/4"C-2#12CU & 1#12G	FAUCET - 2	0.050	H	20/1	13	A	14	20/1	B	0.720	STAFF BREAKROOM-109 RECEPTACLE	3/4"C-2#12CU & 1#12G	1.15
0.65	3/4"C-2#12CU & 1#12G	UNDER COUNTER FRIDGE (1)	1.000	H	20/1	15	B	16	20/1	H	0.500	TIME CLOCK	3/4"C-2#12CU & 1#12G	1.49
-	-	SPACE			/-	17	C	18	/-			SPACE	-	-
-	-	SPACE			/-	19	A	20	/-			SPACE	-	-
-	-	SPACE			/-	21	B	22	/-			SPACE	-	-
-	-	SPACE			/-	23	C	24	/-			SPACE	-	-
-	-	MAIN BREAKER			100/3	25	A	26	/-			SPACE	-	-
						27	B	28	/-			SPACE	-	-
						29	C	30	/-			SPACE	-	-

PANEL LOAD ANALYSIS

Load Type	DESCRIPTION	Conn. kVA	Demand kVA	CEC 2022 REFERENCE	Load Type	DESCRIPTION	Conn. KVA	Demand kVA	CEC 2022 REFERENCE
A	Lighting	0.00	0.00	CEC Table 210.20	E	Heating	0.00	0.00	CEC Article 220.60
B	Receptacles	1.26	1.26	CEC Table 220.44	F	Largest Motor	0.00	0.00	CEC Article 220.18(A)
C	EV charger	0.00	0.00	-	G	Other Motors	0.00	0.00	CEC Article 220.18(A)
D	Air-Conditioning	0.00	0.00	CEC Table 220.60	H	Other Loads	7.45	7.45	CEC Article 220.14(A)

Phase A Connected Load	1.310	kVA	Notes:	TOTAL CONNECTED LOAD	8.71	kVA	24.2	AMPS
Phase B Connected Load	3.700	kVA	1.PROVIDE GFI CIRCUIT BREAKER	TOTAL DEMAND LOAD	8.71	kVA	24.2	AMPS
Phase C Connected Load	3.700	kVA						

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5/5/26 C25-105

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER MONITA VERMA No. E19876 Exp. 3-31-28 ELECTRICAL STATE OF CALIFORNIA

STAMP

SIGNATURE DATE

NUMBER	DESCRIPTION	DATE
	REVISIONS	

	INITIALS	DATE
DRAWN	MV	–
DESIGNED	MV	–
REVIEWED	MV	–
STREET		
SEWER		
DRAINAGE		
WATER		
TRAFFIC		
UTILITY/ELEC		
LANDSCAPE		
FACILITIES		
GENERAL ENG		
DESIGN ENG		
INSPECTION		
PARKS & REC		
AS-BUILT		

E0.3B

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT
INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

PANEL SCHEDULES

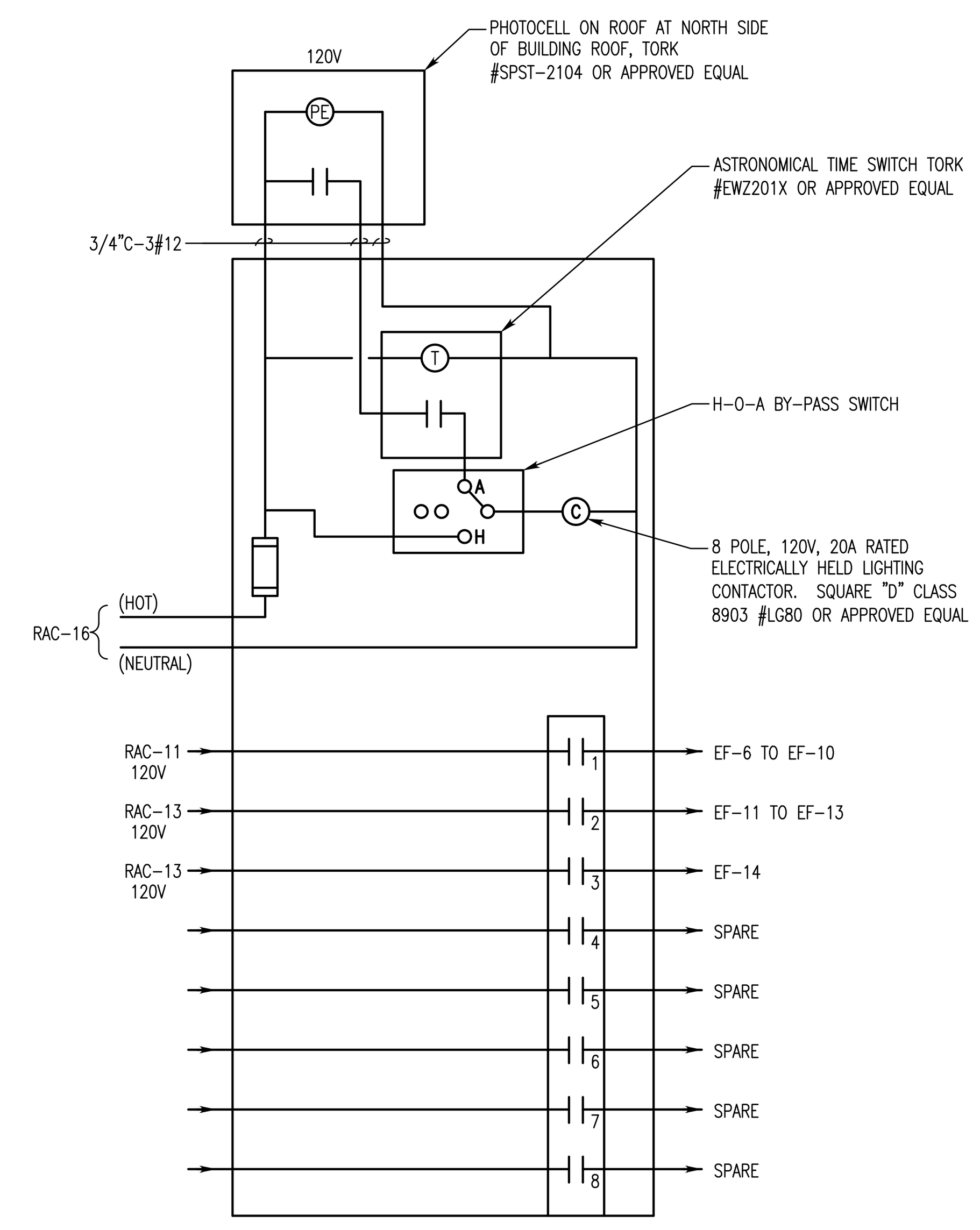
APPROVED: 05/29/2026 — DATE — CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR
ACCEPTED: DATE — PUBLIC WORKS DIRECTOR

SCALE: AS NOTED
SHEET 45 OF 54 SHEETS
B.M.: N/A
FILE: MISC 5437

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 - E0.3B.DWG

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER / MODEL NO.	VOLTAGE	LAMP TYPE
A / 23	2' X 4' LED LIGHT	LITHONIA LIGHTING #2VTL4-30L-ADP-EZ1-LP835 OR APPROVED EQUAL	MVOLT	LED
AE / 26	2' X 4' LED LIGHT (WITH 90MIN BATTERY BACK UP)	LITHONIA LIGHTING #2VTL4-30L-ADP-EZ1-LP835-E10WLCP OR APPROVED EQUAL	MVOLT	LED
B / 23 (S.M.)	1' X 4' LED LIGHT	LITHONIA LIGHTING #VTL4-30L-ADP-EZ1-LP835 OR APPROVED EQUAL	MVOLT	LED
BE / 23	1' X 4' LED LIGHT (WITH 90MIN BATTERY BACK UP)	LITHONIA LIGHTING #VTL4-30L-ADP-EZ1-LP835-E10W OR APPROVED EQUAL	MVOLT	LED
C / 80	HIGH BAY LIGHT	LITHONIA LIGHTING #REBL-AL013-UVOLT-SWW3-80CRI OR APPROVED EQUAL	MVOLT	LED



TIME CLOCK– AREA CONTROLS

LITHONIA LIGHTING — TYPE-A & AE

Catalog Number: TYPE-A & AE
Notes
Type

VT Series Volumetric LED Troffer

2VTL4/2VTS4

2' x 4' LED

FEATURES & SPECIFICATIONS

INTENDED USE — The VT Series Volumetric LED Troffer (VTL/VTS) combines the aesthetics and high performance with intelligent LED engines for applications such as offices, schools, retail locations and hospitals. High-efficacy light engines deliver long life and excellent color, ensuring a superior quality lighting installation that is highly efficient and sustainable. Multiple lumen packages and driver options provide solutions for all your lighting applications. Featured nLight control system provides design flexibility and ease of installation and optimum energy savings.

CONSTRUCTION — Rugged, one-piece cold-rolled steel coated polyester, painted after fabrication with embossed facets (VTL) or smooth (VTS) reflector surface. Impact-modified, single clear acrylic diffuser provides excellent shielding and wide distribution. End plates include integral T-bar clips. Fixture may be mounted and wired in continuous rows. Total fixture height is only 4-3/8". Driver is accessible from below the fixture, behind the diffuser and channel cover.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions, vertical and horizontal work surfaces — rendering the interior space, objects and occupants in a more balanced, complementary luminous environment. Deep drawn reflector cavity softens and distributes light into the space while minimizing luminous contrast between the fixture and ceiling. Sloped end plates provide a smooth, luminous transition between fixture and ceiling while enhancing the perception of fixture depth.

High-performance diffuser provides LED concealment, even illumination across the diffuser and improved lumen-per-watt performance.

Now available with two different aesthetics including the standard Acrylic Linear Prismatic Diffuser (**ADP**) and the Acrylic smooth (**ADSM**) diffuser. Both options are available with trim rings (**ADSMT/ADPT**).

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000).

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional integrated nLight® controls make each luminaire addressable, allowing them to digitally communicate with other nLight enabled controls such as dimmers, switches, nLight AIR RIO, RES7 occupancy sensors, and photocontrols. Simply connect all the nLight enabled control devices and the VTL/VTS luminaires using standard Cat-5 cabling, or the nLight AIR wireless network. Unique plug-and-play convenience allows devices and luminaires to automatically discover each other and self-commission.

Lumen Management: Unique lumen management system (option N80) provides onboard intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

Driver disconnect provided where required to comply with US and Canadian codes.

SENSOR— Integrated sensor (individual control): Sensor Switch MSD7ADCX (Passive infrared (PIR)) or MSDPDT7ADCX (PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 2 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 2 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The RES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or microphonic (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CLAIRITY+, which allows for simple sensor adjustment. See page 3 for more details on the Integrated Smart Sensor.

INSTALLATION — Unique grid interfacing arrangement provides mounting into standard 1" and 9/16" tee bar or screw slot grids. 9/16" allows fixture trim to hang level with architectural ceiling tiles. Drywall ceiling adaptors available. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. IC rated. DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations. BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

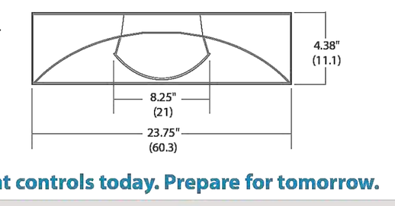
NOTE: Actual performance may differ as a result of end-user environment and application. A generational electronics upgrade occurred in May 2019. The upgraded VT series LED troffer has a slight visual variation from previous generations.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

DLC LISTED PREMIUM · nLIGHT · eldoLED · BAA · BABA

Dimensions

All dimensions are inches (centimeters) unless otherwise specified.

Specifications
Length: 47.75" (121.3)
Width: 23.75" (60.3)
Depth: 4.38" (11.1)



Embed nLight controls today. Prepare for tomorrow.

Now	Tomorrow
User-friendly install	Scalability
Enhanced energy savings	Space configuration
Code compliance	Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® or XPoint™ Wireless control networks when ordered with drivers marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

2VTL/2VTS Volumetric Recessed Lighting 2'x4' — TYPE-A & AE

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** 2VTL4 40L ADPT EZ1 LP840 MSD7ADCX

2VTL4/2VTS4

Series	Air function	Lumens[1]	Diffuser	Voltage	Driver
2VTL4 2X4 Ribbed Reflector 2VTS4 2X4 Smooth Reflector	(blank) Static H Heat removal	30L 3000 lumens 40L 4000 lumens 48L 4800 lumens 60L 6000 lumens 72L 7200 lumens 85L 8500 lumens 100L 10000 lumens[2] 120L 12000 lumens[2]	ADP Acrylic linear prismatic ADPT Acrylic linear prismatic with diffuser trim rings ADSM Acrylic Curved, smooth ADSMT Acrylic Curved, smooth with diffuser trim rings	(blank) MVOLT 347 347V[3]	EZ1 eldoLED dims to 1%, 0-10V EZB eldoLED dims to 0.1%, 0-10V GZ1 Dims to 1% (0-10V dimming)[4] GZ10 Dims to 10% (0-10V dimming)[4] EDB eldoLED DALI[5] SLD Step-level dimming[5]

Color temperature	nLight Interface	Control	Options
LP830 3000 K, 80CRI LP835 3500 K, 80CRI LP840 4000 K, 80CRI LP850 5000 K, 80CRI LP930 3000 K, 90CRI LP935 3500 K, 90CRI LP940 4000 K, 90CRI LP950 5000 K, 90CRI	**nLight Wired** (blank) No nLight® interface N80 nLight® with 80% lumen management N80EMG nLight® with 80% lumen management. For use with generator supply EM power[6] N100 nLight® without lumen management N100EMG nLight® without lumen management. For use with generator supply EM power[6] **nLight Wireless** (blank) No nLight® interface NLTAIR2 nLight® Air Generation 2 enabled[7,8]	**nLight Wired** (blank) No nLight control NES7 nLight® nES 7 PIR integral occupancy sensor[8,9] NESPDT7 nLight® nES PDT 7 dual technology integral occupancy control[8,9] NES7ADCX nLight® nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell[8,9] NESPDT7ADCX nLight® nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell[8,9] **nLight Wireless** (blank) No nLight control RES7 nLight AIR control with PIR integral occupancy sensor and automatic dimming photocell[7,8,12] RES7PDT nLight AIR control with PDT dual technology integral occupancy sensor and automatic dimming photocell[7,8,12] RIO nLight® AIR radio module without sensor[7,8,12] RES7EM nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection[12] RES7PDTEM nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection[12] RIOEM nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection[12] **Individual Control** MSD7ADCX PIR integral occupancy sensor with automatic dimming control photocell[8] MSDPDT7ADCX PDT integral occupancy sensor with automatic dimming control photocell[8]	BDP Disconnect Plug EL7L 700 lumen battery pack, Noncompliant with CA T20 EL14L 1400 lumen battery pack, Noncompliant with CA T20 E10WLCP EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS BGTD Bodine Generator Transfer Device[10,11] PWS1836 6' pre-wire 3/8" diameter, 18 gauge, 1 circuit PWS1846 6' pre-wire 3/8" diameter, 18 gauge, 2 circuit PWS1846 PWSLV Two cables: one 6' prewire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge PWS1856LV 6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/ low voltage wires CP Chicago plenum[13] BAA Buy America(n) Act and/or Build America Buy America Qualified

Notes
1 Approximate lumen output.
2 Not available with SLD, EL7L and EL14L.
3 Not available with SLD, EL7L, EL14L, or E10WLCP.
4 GZ1, GZ10 drivers not available with any Controls or sensor options.
5 Not available with N80, N80EMG, N100, or N100EMG, or NLTAIR2.
6 nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
7 Must order with RES7, RES7PDT, or RIO sensor. Only available with EZ1/EZB driver. Not available with 72L, 85L, 100L and 120L.
8 Must specify ADPT diffuser. See sensor section on page 3.
9 Requires N80, N80EMG, N100, or N100EMG.
10 Not available with SLD. When using a pre-wire option, use PWS1846 or PWS1846 PWSLV.
11 Must specify voltage. Requires BSE labeling, voltage specific. Consult factory for options.
12 See UL 924 Sequence of Operation chart on page 4. When combined with the EZ1 option, can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
13 Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.

LITHONIA LIGHTING — TYPE-B & BE

Catalog Number: TYPE-B & BE
Notes
Type

VT Series LED

VTL4

1' X 4' LED

FEATURES & SPECIFICATIONS

INTENDED USE — The VT Series LED combines digital LED lighting and controls technologies with patented high-performance optical design to offer the most advanced luminaire for general-ambient lighting applications. High-efficacy light engine delivers long life and excellent color, ensuring a superior quality lighting installation that is highly efficient and sustainable. A typically configured VTL features a Unified Glare Rating (UGR) starting at 18, UGR data available on page 4.

CONSTRUCTION — Rugged, one-piece cold-rolled steel reflector assembly with embossed facets. Coated polyester powder-paint after fabrication.
Rigid structure with ballast box and end plates. End plates include integral T-bar clips.
Driver is accessible from above the fixture.
Impact-modified acrylic prismatic refractor.
Luminaires may be mounted end-to-end and continuously wired.

OPTICS — Volumetric illumination is delivered by creating an optimal mix of light to walls, partitions, vertical and horizontal work surfaces — rendering the interior space, objects and occupants in a more balanced, complementary luminous environment.
Light distribution is carefully controlled at high angles, providing just enough luminous flux to create the volumetric effect.
Linear faceted reflector cavity softens and distributes light into the space while minimizing luminous contrast between the fixture and ceiling.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000).

Networked embedded controls: Networked embedded controls by nLight address the requirements of Luminaire Level Lighting Controls (LLLC). Luminaires with networked embedded controls by nLight are designed, manufactured, tested, and shipped with occupancy, daylight sensors or control devices factory-installed. This simplifies design layouts and reduces total installed cost by eliminates field installation of control devices, while addressing code requirements.
Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.
eldoLED driver options deliver choice of dimming range, and choice of control, while assuring flicker-free, low current inrush, 89% efficiency and low EMI.
Ballast disconnect provided where required to comply with US and Canadian codes.

INSTALLATION — Drivers and internal components accessed via plenum. Driver tray may be removed from fixture during service. Suitable for damp location.
Maintenance: LED boards include plug-in connectors for easy replacement or servicing.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
Tested to LM80 standards. IC rated.
Protected by one or more of US Patent Nos. 7,229,192; D541,467; D541,468; D544,633; D544,634; D544,992. D544,933 and additional patents pending.

GOVERNMENT PROCUREMENT — BAA – Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

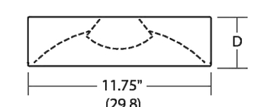
Note: Actual performance may differ as a result of end-user environment and application. A generational electronics upgrade occurred in May 2019. The upgraded VT series LED troffer has a slight visual variation from previous generations.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

DLC LISTED · nLIGHT · eldoLED · BAA · BABA · iota

Dimensions

All dimensions are inches (centimeters) unless otherwise specified.

Specifications
Length: 47.75" (121.3)
Width: 11.75" (29.8)
Depth: 3.13" (7.9)



A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a shaded background*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.
*See ordering tree for details

VTL Volumetric Recessed Lighting 1'x4' — TYPE-B & BE

A+ Capable options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** VTL4 40L ADP EZ1 LP835 N80

Series (VTL4)	Lumens[1]	Diffuser (ADP)	Voltage	Driver[2]	Color temperature
VTL4 Recessed 1X4 LED	20L 2000 30L 3000 40L 4000 48L 4800 60L 6000	ADP Acrylic linear prismatic	(blank) MVOLT (120 - 277V) 347 347 volt[2]	EZ1 eldoLED dims to 1% (0-10 volt dimming) EZB eldoLED dims to 0.1% (0-10 volt dimming) GZ1 Dims to 1% (0-10V dimming)[3] GZ10 Dims to 10% (0-10V dimming)[3] EDB eldoLED DALI[4] SLD Step-level dimming[4]	LP830 3000 K, 82 CRI LP835 3500 K, 82 CRI LP840 4000 K, 82 CRI LP850 5000 K, 82 CRI LP930 3000 K, 90 CRI LP935 3500 K, 90 CRI LP940 4000 K, 90 CRI LP950 5000 K, 90 CRI

Control	Option
(blank) No controls N80 nLight with 80% lumen management N80EMG nLight with 80% lumen management for use with generator supply EM power[5] N100 nLight without lumen management N100EMG nLight without lumen management for use with generator supply EM power[5]	BDP Disconnect Plug E7W 7W Emergency battery pack, constant power, Certified in CA Title 20 MAEDBS, User selectable Self-Diagnostic, AC Activate with Integral Test Switch (LINK) ‡ E10W 10W Emergency battery pack, constant power, Certified in CA Title 20 MAEDBS, User selectable Self-Diagnostic, AC Activate with Integral Test Switch (LINK) ‡ BGTD Bodine Generator Transfer Device[6,7] PWS1836 6' pre-wire 3/8" diameter, 18 gauge, 1 circuit PWS1846 6' pre-wire 3/8" diameter, 18 gauge, 2 circuit PWS1846 PWSLV Two cables: one 6' prewire, 3/8" diameter, 18 gauge, 2 circuits; one 6' pre-wire, 3/8" diameter, 18 gauge PWS1856LV 6' pre-wire, 3/8" diameter, 18 gauge, 1 circuit w/ low voltage wires CP Chicago plenum[8] BAA Buy America(n) Act and/or Build America Buy America Qualified

Accessories: *Order as separate catalog number.*

DGA14	Drywall ceiling adaptor, unit installation
1X4SMKSHP PAF	Surface Mount Troffer Kit Post Paint
RK8BDP 2P U	Disconnect Plug (BDP), 2 Pole, Package of 1
RK8BDP 3P U	Disconnect Plug (BDP), 3 Pole, Package of 1
RK8BDP 2P J10	Disconnect Plug (BDP), 2 Pole, Package of 10
RK8BDP 2P J40	Disconnect Plug (BDP), 2 Pole, Package of 40

Notes
1. Approximate lumen output.
2. Not available with SLD, E7W, E10W.
3. GZ1, GZ10 drivers not available with any Controls option.
4. Not available with N80, N80EMG, N100 or N100EMG
5. nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
6. Not available with SLD. When using a pre-wire option, use PWS1846 or PWS1846 PWSLV.
7. Must specify voltage. Requires BSE labeling, voltage specific. Consult factory for options.
8. Not available with N80, N80EMG, N100, N100EMG, PWS1836, PWS1846, PWS1846 PWSLV or PWS1856LV.

BSE Labeling Options

BSE10	Drivers load transfer relay installed per manufacturer's instructions. Voltage, BGTD and BSE10 called out.
BSE14	One voltage fixture with driver load control relay supplied with one prewire (PWS option). Prewire wired for normal circuit, the control relay for emergency circuit left unconnected. Voltage, BGTD, BSE14 and prewire called out, in the description.

*For configurations with Reloc or two voltages an RFA modification is required.

LITHONIA LIGHTING — TYPE-C

Catalog Number: TYPE-C
Notes
Type

LED Round High Bay

REBL

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal one-for-one replacement of traditional HID and fluorescent lighting. For use in Industrial applications including warehousing, retail spaces, and manufacturing environments with mounting heights ranging from 10' +. **Certain airborne contaminants can diminish integrity of acrylic and LED's.** Click here for Polycarbonate Environmental Compatibility table for suitable uses.

Certain airborne contaminants may adversely affect the functioning of LEDs and other electronic components, depending on various factors such as concentrations of the contaminants, ventilation, and temperature at the end-user location. Click here for a list of substances that may not be suitable for interaction with LEDs and other electronic components.

CONSTRUCTION — REBL features patent pending micro-prism optics that deliver uniform and comfortable illumination across the entire space. The rugged diecast aluminum housing and the polycarbonate lens are IK10 impact rated, providing protection from flying objects without the need for a wireguard. Available in four switchable lumen packages and two color temperature options (3500K/4000K/5000K up to 30,000 lumens, 4000K/5000K for 30,000 to 55,000 lumens). Medium distribution lens comes standard with stock items.

FINISH — Black and white finishes available.

ELECTRICAL — High-efficiency LEDs provide up to 187 LPW. Thermally protected driver standard with 0-10V continuous dimming allowing for 10% to 100% dimming capability. Fixture comes with standard 6' power cord and 6' low voltage dimming cords. Projected lumen maintenance L70 > 100,000 hours. Luminaire surge protection level: designed to withstand up to 6kV/3kA per ANSI C82.77-5-2015.

INSTALLATION — Fixture includes patented flip hook with safety latch. The hook can be flipped down and mounted with the ¾ inch NPT threaded pendant mount. Fixture comes standard with silicone plug to close pendant mount opening when not in use. Optional surface mount bracket available.

LISTINGS —UL/C-UL listed to US and Canadian safety standards. Wet location listed. IP66, NEMA Type 4X, and NSF Splash Zone 2 rated. Designed for use in ambient temperatures ranging from -40°C to 55°C when suspended 18" from ceiling.
DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
The product images shown are for illustration purposes only and may not be an exact representation of the product.
Specifications subject to change without notice.

ds · DLC LISTED PREMIUM · IK10 · WET LOCATION · UL LISTED · DIMMABLE LED · 66 IP RATED · NSF · NEMA TYPE 4X

Stock Part Number	Stock Part Number CI Code	UPC	Pallet Quantity
REBL AL013 UVOLT SWW3 80CRI DWH M2	*28753U	00197590119349	72
REBL AL013 UVOLT SWW3 80CRI DBL M2	*28753Y	00197590119332	54
REBL AL016 UVOLT SWW3 80CRI DWH M2	*28754C	00197590119370	36
REBL AL016 UVOLT SWW3 80CRI DBL M2	*28754E	00197590119394	36
REBL AL027 UVOLT SWW9 80CRI DWH M2	*28754J	00197590119417	36
REBL AL028 UVOLT SWW9 80CRI DWH M2	*28754R	00197590119493	24
REBL AL013 XVOLT SWW3 80CRI DWH M2	*28754V	00197590119523	72
REBL AL016 XVOLT SWW3 80CRI DWH M2	*28754X	00197590119554	36
REBL AL028 XVOLT SWW9 80CRI DWH M2	*28755C	00197590119578	32

Field Installable Sensors

Stock Part Numbers	Stock Part Number CI Code	UPC	Description
TLS WH	*289JT6	197590692934	Twist-to-Lock Sensor, White
TLS BK	*289JT8	197590692958	Twist-to-Lock Sensor, Black

OUT-OF-BOX SETTINGS:
Occupancy: 10 min
High Trim: 100%
Daylight Dimming: Disabled
IWP Remote used to make changes from these settings

Require to program TLS sensor.

design select
Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

REBL LED Round High Bay — TYPE-C

Design Select options indicated by this color background.
CS Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to www.contractorselect.com

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** REBL AL016 WD UVOLT SWW3 80CRI TLS DWH

Series	Mounting	Switchable Lumens	Distribution	Voltage	Color Temperature (Switchable White) ‡
REBL	(Blank) Standard hook with 3/4" pendant mount PSB Pendant splice box ‡	AL013 12000LM/15000LM/18000LM AL016 24000LM/27000LM/30000LM AL027 30000LM/35000LM/40000LM ‡ AL028 35000LM/45000LM/55000LM ‡	ND Narrow distribution MD Medium distribution ‡ WD Wide distribution	UVOLT 120-347V, UVOLT driver, 50/60Hz ‡ XVOLT 277-480V, XVOLT driver, 50/60Hz 120 120V UVOLT driver, 50/60Hz 208 208V UVOLT driver, 50/60Hz 240 240V UVOLT driver, 50/60Hz 277 277V UVOLT driver, 50/60Hz ‡ 347 347V UVOLT driver, 50/60Hz 277X 277V XVOLT driver, 50/60Hz 347X 347V XVOLT driver, 50/60Hz 480X 480V XVOLT driver, 50/60Hz	SWW9 40K/50K ‡ SWW3 35K/40K/50K ‡

Color Rendering Index	Options	Controls	Finish
80CRI 80 CRI	Cordsets: ‡ (blank) 6' power cord and 6' dimming leads CP5BW 6' white damp location cord with 15 amp straight blade plug (voltage will match fixture) CP5B 6' black damp location cord with 15 amp straight blade plug (voltage will match fixture) CPTLW 6' white damp location cord with 15 amp twist-lock plug (voltage will match fixture) CPTL 6' black damp location cord with 15 amp twist-lock plug (voltage will match fixture) CPTL20AW 6' white damp location cord with 20 amp twist-lock plug (voltage will match fixture) CPTL20A 6' black damp location cord with 20 amp twist-lock plug (voltage will match fixture) L/DIM Less dimming leads ‡ Reloc: OCS RELOC® OnePass® selectable cable 6' installed ‡ OCS10 RELOC® OnePass® selectable cable 10' installed ‡	nLight AIR Wireless Controls: NLTAIR2 APIR nLight AIR (wireless) gen2 control device with low mount occupancy and daylight sensor, mounting height 8' - 20' NLTAIR2 APIRH nLight AIR (wireless) gen2 control device with high mount occupancy and daylight sensor, mounting height 10' - 40' NLTAIR2 APIRA nLight AIR (wireless) gen2 control device with aisleway mount occupancy and daylight sensor, mounting height 10' - 40' NLTAIREM2 APIR nLight AIR (wireless) gen2 control device with low mount occupancy and daylight sensor, with UL924 listed emergency operation, mounting height 8' - 20' NLTAIREM2 APIRH nLight AIR (wireless) gen2 control device with high mount occupancy and daylight sensor, with UL924 listed emergency operation, mounting height 10' - 40' NLTAIREM2 APIRA nLight AIR (wireless) gen2 control device with aisleway mount occupancy and daylight sensor, with UL924 listed emergency operation, mounting height 10' - 40' Individual Controls: TLS PIR Motion Sensor	DWH Gloss White DBL Matte Black ‡

‡ Option Value Ordering Restrictions

Option Value	Ordering Restrictions
AL027	Not available with XVOLT driver options.
AL028	AL028 UVOLT with NLTAIR2 needs 1 NPS (RPP20 Power Pack) per emergency group.
Color Temperature	SWW9 (40K/50K) only available in AL027 and AL028, SWW3 (35K/40K/50K) only available in AL013 and AL016.
Cordsets	See NEMA configuration chart on page 3. Must specify voltage, not available XVOLT or UVOLT. Not for use with battery pack. Some factory configured options may impact NSF and NEMA Type 4X, consult with factory representative. PSB required for any cord length other than 6'.
DBL	Available with AL013 and AL016 only. Not available with XVOLT.
L/DIM	Fixture will be damp location rated. Not available with sensors.
MD	Please use stock product listed on page one unless mounting or other option is selected.
OCS, OCS10	Requires PSB option. Dry location only. Not available UVOLT or XVOLT. Not NEMA Type 4X or NSF rated.
PSB	PSB finish will match fixture finish. Required for any cord length other than 6'.
RBAY BLDE40WCP M4	Ambient Temperature rating 5°C- 50°C (41°F- 22°F). Not NSF rated. For use with 100-347V on UVOLT fixtures only.
SWW3	Available with AL013 and AL016 only.
SWW9	Available with AL027 and AL028 only.

Design Select Ordering Restrictions

Option Value	Ordering Restrictions
277	Not available on program when combined with AL013 or AL016.
UVOLT	Not available on program when combined with AL013 or AL016.

REBL LED Round High Bay — TYPE-C

PHOTOMETRICS
See www.acuitybrands.com.

PERFORMANCE TABLE

Micro-prism Optics, Medium distribution

	Voltage	Lumen Package	Wattage (W)	Color Temperature	Lumen Output	LPW @ 4000K
AL013	UVOLT (120 - 347V) XVOLT (277-480V)	12000LM	80	3500K	12651	170
				4000K	13603	
				5000K	13059	
		15000LM	98	3500K	15188	166
				4000K	16332	
				5000K	15678	
		18000LM	117	3500K	17533	161
				4000K	18852	
				5000K	18098	
AL016	UVOLT (120 - 347V) XVOLT (277-480V)	24000LM	150	3500K	23704	170
				4000K	25488	
				5000K	24469	
		27000LM	169	3500K	26333	167
				4000K	28315	
				5000K	27182	
		30000LM	190	3500K	29082	164
				4000K	31271	
				5000K	30020	
AL027	UVOLT (120 - 347V)	30000LM	164	4000K	31088	189
				5000K	29844	
		35000LM	193	4000K	35799	185
				5000K	34367	
		40000LM	230	4000K	41652	181
				5000K	39986	
AL028	UVOLT (120 - 347V) XVOLT (277-480V)	35000LM	192	4000K	36514	190
				5000K	35053	
		45000LM	249	4000K	46242	186
				5000K	44392	
		55000LM	310	4000K	55262	178
				5000K	53052	

NEMA CONFIGURATION PLUGS

Voltage	Twist lock	Straight blade
120	L5-15P	5-15P
208	L6-15P	N/A
240	L6-15P	N/A
277	L7-15P	N/A
347	L24-20P	N/A
480	L8-20P	N/A

SCALING FACTOR TABLE

Distribution	Multiplier
ND	0.99
MD	1.00
WD	0.99
With Reflector	0.96
Uplight at 4000K	2%

Control Input	Sensor Function	Sensor Used	Unoccupied Time Until Dim	Dim to Off Time Delay	Occupied Dim Level	Unoccupied Dim Level	Daylighting Set Point	Image
NLTAIR2	APIR	RMSOD 7	7.5 min	5 minutes	100%	30%	5 fc	
	APIRH	RMSOD 45						
	APIRA	RMSOD 45A						
NLTAIREM2	APIR	RMSOD 7 EM						
	APIRH	RMSOD 45 EM						
	APIRA	RMSOD 45A EM						

BATTERY OPERATIONAL DATA

Model	Input Voltage	Input Current	Input Power	Emergency Time	Output Voltage	Output power	Battery Type	Ambient Temp
RBAY BLDE40WCP M4	100-347Vac 50/60Hz	≤200mA	15W	90minutes	170Vdc	40W	Li-ion	5°C-50°C

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714/525-0363 FAX 714/525-9626

5/5/26 C25-105

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:
REGISTERED PROFESSIONAL ENGINEER MONITA VERMA No. E19876 Exp. 3-31-28 ELECTRICAL STATE OF CALIFORNIA
STAMP
SIGNATURE DATE

REVISIONS				INITIALS	DATE
NUMBER	DESCRIPTION	DATE	DRAWN	MV	–
			DESIGNED	MV	–
			REVIEWED	MV	–
			STREET		
			SEWER		
			DRAINAGE		
			WATER		
			TRAFFIC		
			UTILITY/ELEC		
			LANDSCAPE		
			FACILITIES		
			GENERAL ENG		
			DESIGN ENG		
			INSPECTION		
			PARKS & REC		
			AS-BUILT		

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT
INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

LIGHTING FIXTURE SCHEDULE

APPROVED: 05/29/2026 — DATE — CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR
ACCEPTED: DATE — PUBLIC WORKS DIRECTOR

SCALE: AS NOTED
SHEET 46 OF 54 SHEETS
B.M.: N/A
FILE: MISC 5437

E0.4

CIP 54691 - INDEPENDENCE PARK GYM RENOVATION

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 – E0.4.DWG

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.	
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 1 of 8)
Project Address: 801 W VALENCIA DR	**Date Prepared:** 21-03-2026

A. GENERAL INFORMATION

01	Project Location (city)	FULLERTON	04 Total Conditioned Floor Area (ft²)	6,935
02	Climate Zone	8	05 Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade)	1

● Gymnasium ● Support Areas ● Warehouse ● All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☐ New Lighting System				
☐ New Lighting System - Parking Garage				
☒ Altered Lighting System	Area Category Method	6935	Area Category Method	0
Total Area of Work (ft²)	6935		0	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 2 of 8)
	Date Prepared: 21-03-2026

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04		05	06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	=	**Total Allowed** (Watts)	≥ Total Designed (Watts)	Adjustments: PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		3,489	0		=	3,489	≥ 3,436	0	=	3436	COMPLIES
Unconditioned					=		≥		=		
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 3 of 8)
	Date Prepared: 21-03-2026

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
(E)TYPE-L	(E)TYPE-L	No	NA	150	Mfr. Spec	20	No	3,000	☐	☐
TYPE-A	TYPE- A	No	NA	23	Mfr. Spec	3	No	69	☐	☐
TYPE-AE	TYPE- AE	No	NA	23	Mfr. Spec	1	No	23	☐	☐
TYPE-B	TYPE- B	No	NA	26	Mfr. Spec	4	No	104	☐	☐
TYPE-C	TYPE-C	No	NA	80	Mfr. Spec	3	No	240	☐	☐
						Total Designed Watts: CONDITIONED SPACES		3,436		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C		

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 4 of 8)
	Date Prepared: 21-03-2026

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Required >= 4,000W subject to multilevel: See Area/Space Level Controls ☐ ☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
RESTROOM	Restroom	Readily Accessible	NA: Restrooms	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
STORAGE	Commercial Industrial Storage Area	Readily Accessible	Dimmer	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
KITCHENETTE	Kitchen/ Food Preparation	Readily Accessible	Dimmer	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
GYMNASIUM	Exercise Center Gymnasium	Readily Accessible	Dimmer	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
							13		
							Plan Sheet Showing Daylit Zones:		

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
RESTROOM	Restroom	0.65	132	85.8	No	No

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 5 of 8)
	Date Prepared: 21-03-2026

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

STORAGE	Commercial Industrial Warehouse	0.4	90	36	No	No
KITCHENETTE	Kitchen/ Food Preparation	0.55	213	117.2	No	No
GYMNASIUM	Exercise Center Gymnasium	0.5	6,500	3,250	No	No
		TOTALS:	6,935	3,489	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 6 of 8)
	Date Prepared: 21-03-2026

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 7 of 8)
	Date Prepared: 21-03-2026

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	RESTROOM ; STORAGE; KITCHENETTE; GYMNASIUM;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: INDEPENDENCE PARK GYM	**Report Page:** (Page 8 of 8)
Project Address: 801 W VALENCIA DR	**Date Prepared:** 21-03-2026

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature: Monita
Company: H2S Engineers Inc.	Signature Date: 2026-03-21
Address: 4095 E LA PALMA AVE., SUITE F	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: ANAHEIM CA 92807	Phone: 7142900718

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: MONITA VERMA	Responsible Designer Signature: Monita
Company: H2S ENGINEERS INC.	Date Signed: 2026-03-21
Address: 1124 N BOATSWAIN CIRCLE	License: E19876
City/State/Zip: ANAHEIM CA 92801	Phone: 7142900718

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Mechanical and Electrical Engineers
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Innovations in Architecture
110 E. WILSHIRE AVE., SUITE 300 FULLERTON, CA 92832
714/526-2888 FAX 714/526-2828

5/5/26 C25-105

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:
REGISTERED PROFESSIONAL ENGINEER MONITA V VERMA Exp. 3-31-27 ELECTRICAL STATE OF CALIFORNIA
Monita
STAMP
SIGNATURE DATE

REVISIONS					
NUMBER	DESCRIPTION	DATE		INITIALS	DATE
			DRAWN	MV	--
			DESIGNED	MV	--
			REVIEWED	MV	--
			STREET		
			SEWER		
			DRAINAGE		
			WATER		
			TRAFFIC		
			UTILITY/ELEC		
			LANDSCAPE		
			FACILITIES		
			GENERAL ENG		
			DESIGN ENG		
			INSPECTION		
			PARKS & REC		
			AS-BUILT		

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT
INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

T-24 COMPLIANCE FORMS

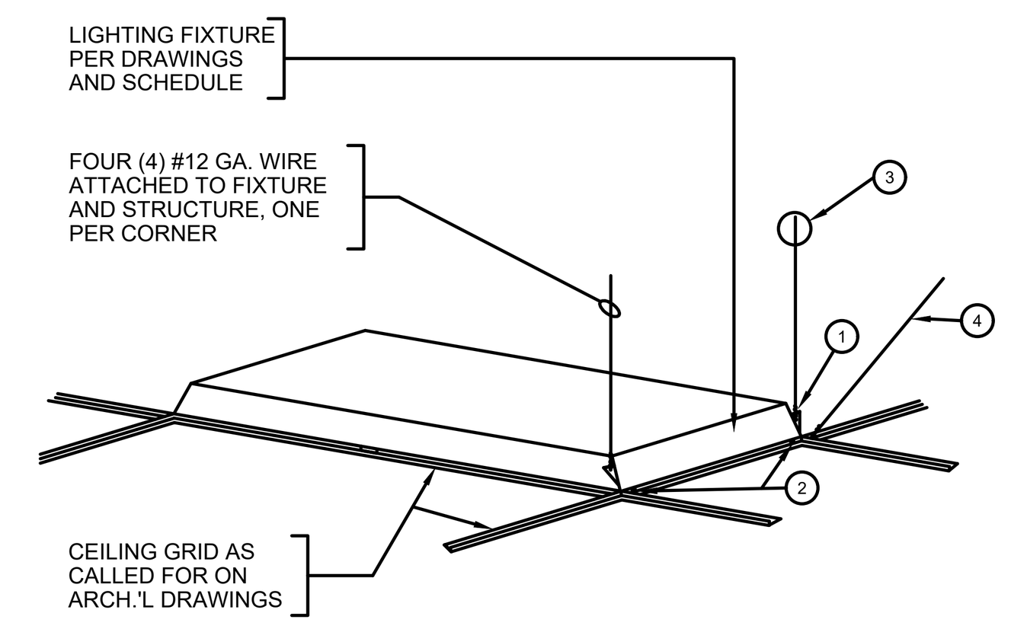
APPROVED: 05/29/2026 DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR
ACCEPTED: DATE PUBLIC WORKS DIRECTOR

SCALE: AS NOTED
B.M.: N/A
SHEET 47 OF 54 SHEETS
FILE: MISC 5437

E0.5

CIP 54691 - INDEPENDENCE PARK GYM RENOVATION

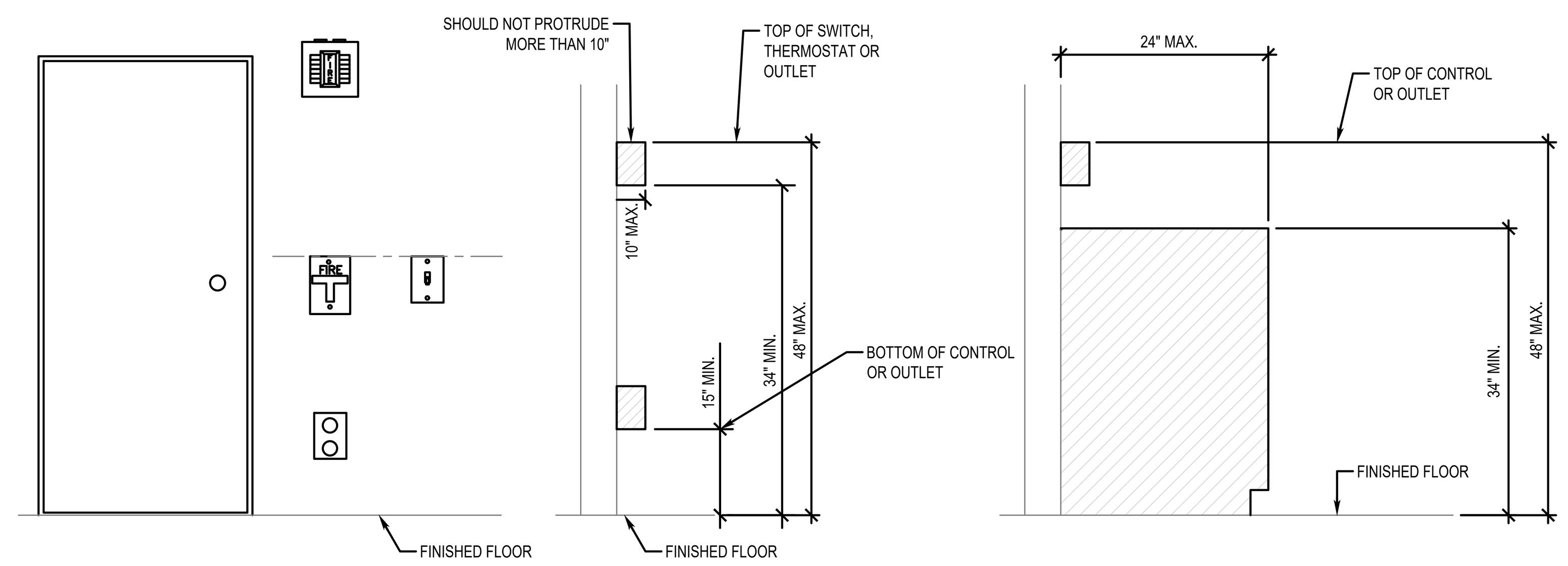
FILE PATH: G:\SHARED DRIVES\SD PROJECTS\2025\25098_INDY GYM\1_SUPPORT\1_25098 - CD.ELDWG



NOTES:

1. ATTACH WIRE TO FIXTURE (3 TIGHT TURNS MIN. IN 1 1/2" MAX.).
2. "TEK" SCREW GRID TO FIXTURE @ EACH CORNER.
3. ATTACH HANGER WIRES TO STRUCTURE AS PER STRUCTURAL & ARCHITECTURAL DETAILS.
4. CEILING SYSTEM SPLAY/HANGER WIRES AS OCCURS, SEE PLANS.

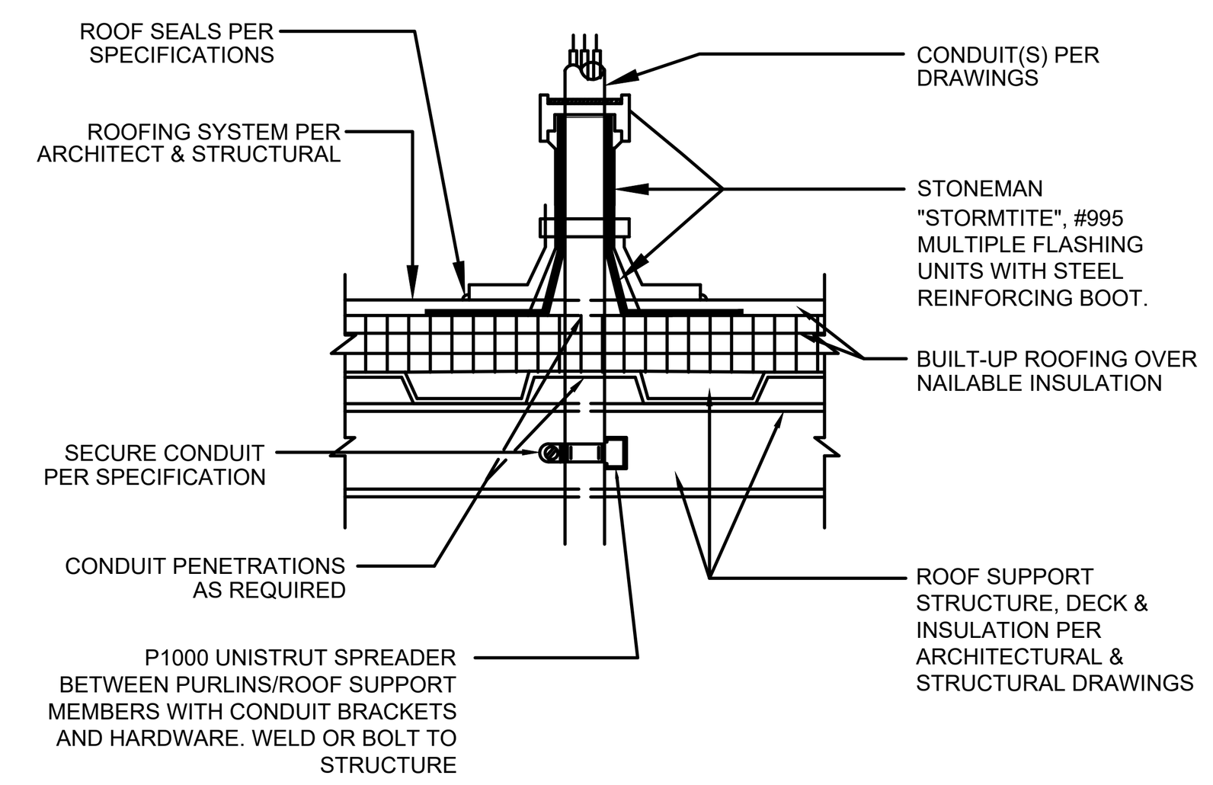
RECESSED LAY-IN CLNG. FIXT. MTG. DET. | 3



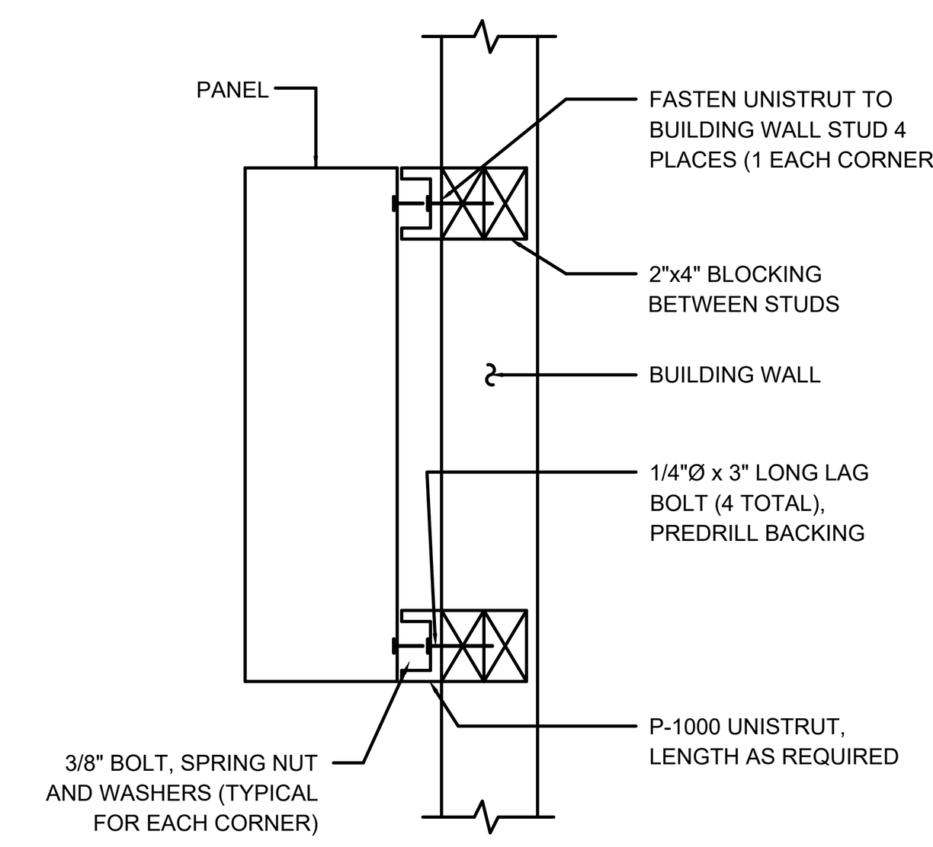
1. ALL DEVICE HEIGHTS DEPICTED SHALL BE MODIFIED AS REQUIRED BY GOVERNING BUILDING CODES. CONTRACTOR TO VERIFY/RECONCILE APPLICABLE CODE REQUIREMENTS AND ANY DEVICE HEIGHT REQUIREMENTS DEPICTED ON ARCHITECTURAL OR INTERIOR DESIGN PLANS AND SPECIFICATIONS PRIOR TO DEVICE ROUGH-IN. CONFLICTS OR LACK OF MOUNTING HEIGHT SPECIFICITY ON THE ARCHITECTURAL OR INTERIOR DESIGN PLANS AND SPECIFICATIONS SHALL BE CAUSE FOR THE CONTRACTOR TO ISSUE A FORMAL WRITTEN RFI FOR RESOLUTION. DEVICE MOUNTING HEIGHT CLARIFICATION/SPECIFICATIONS SHALL NOT RESULT IN AN ADDITIONAL COST TO THE OWNER - CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID
2. ALL DEVICES IN IMMEDIATE PROXIMITY TO EACH OTHER SHALL ALIGN VERTICALLY AND HORIZONTALLY.
3. ALL DEVICES SHOULD NOT PROTUDE MORE THAN 10 INCH.

DEVICE ALIGNMENT AND MOUNTING HEIGHT DETAILS | 2

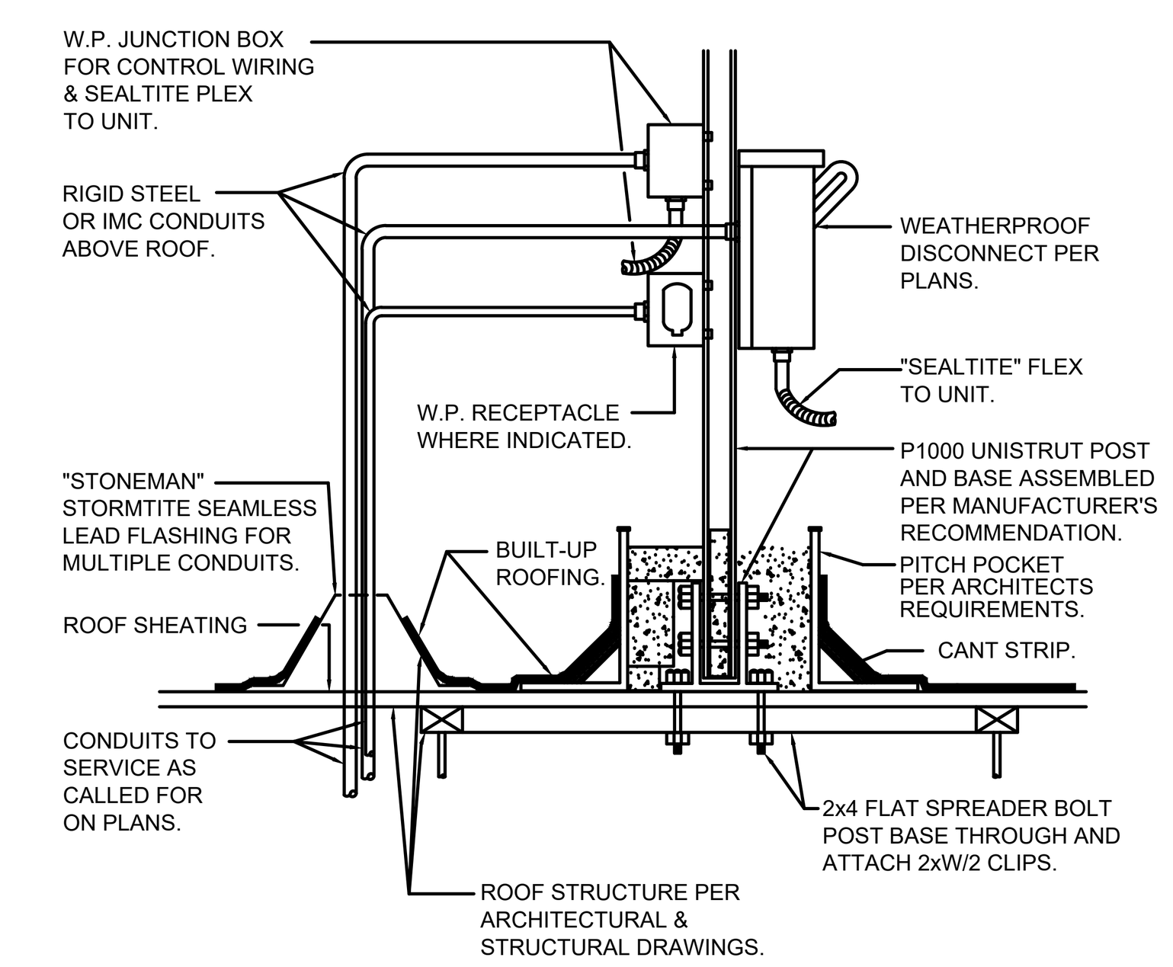
NOT USED | 1



ROOF PENETRATION DETAIL FOR CONDUIT | 6



SURFACE MTD. PNL/CABINET WOOD FRAM. | 5



AC DISCONNECT MOUNTING DETAIL | 4

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5/5/26 C25-105

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:

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REGISTERED PROFESSIONAL ENGINEER MONITA VERMA No. E18870 Exp. 3-31-28 ELECTRICAL STATE OF CALIFORNIA

SIGNATURE DATE

REVISIONS		
NUMBER	DESCRIPTION	DATE

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REVIEWED	MV	—
STREET		
SEWER		
DRAINAGE		
WATER		
TRAFFIC		
UTILITY/ELEC		
LANDSCAPE		
FACILITIES		
GENERAL ENG		
DESIGN ENG		
INSPECTION		
PARKS & REC		
AS-BUILT		

E0.6

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL DETAILS

APPROVED: 05/29/2026
DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE PUBLIC WORKS DIRECTOR

SCALE: AS NOTED

SHEET 48 OF 54 SHEETS

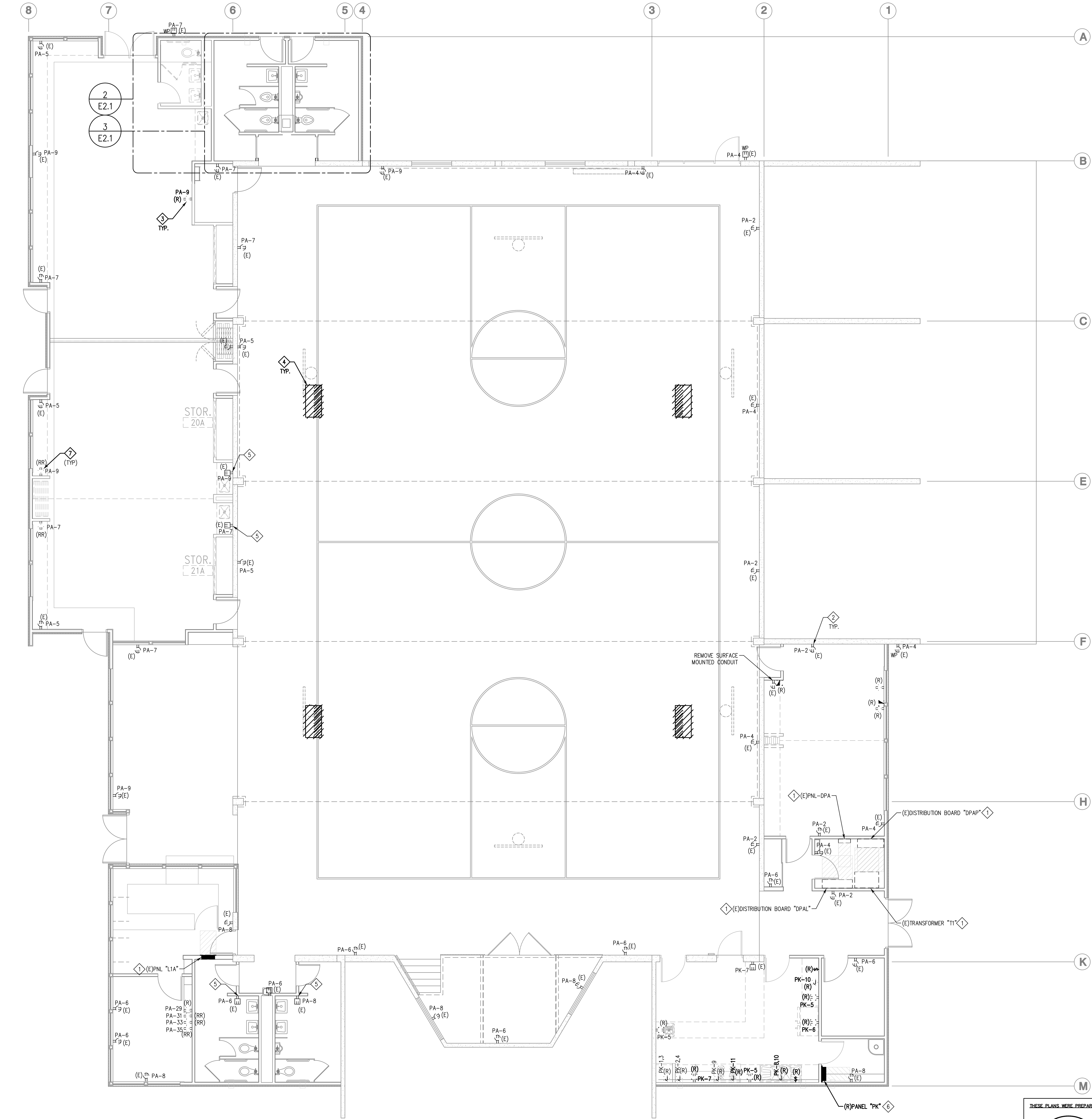
B.M.: N/A

FILE: MISC 5437

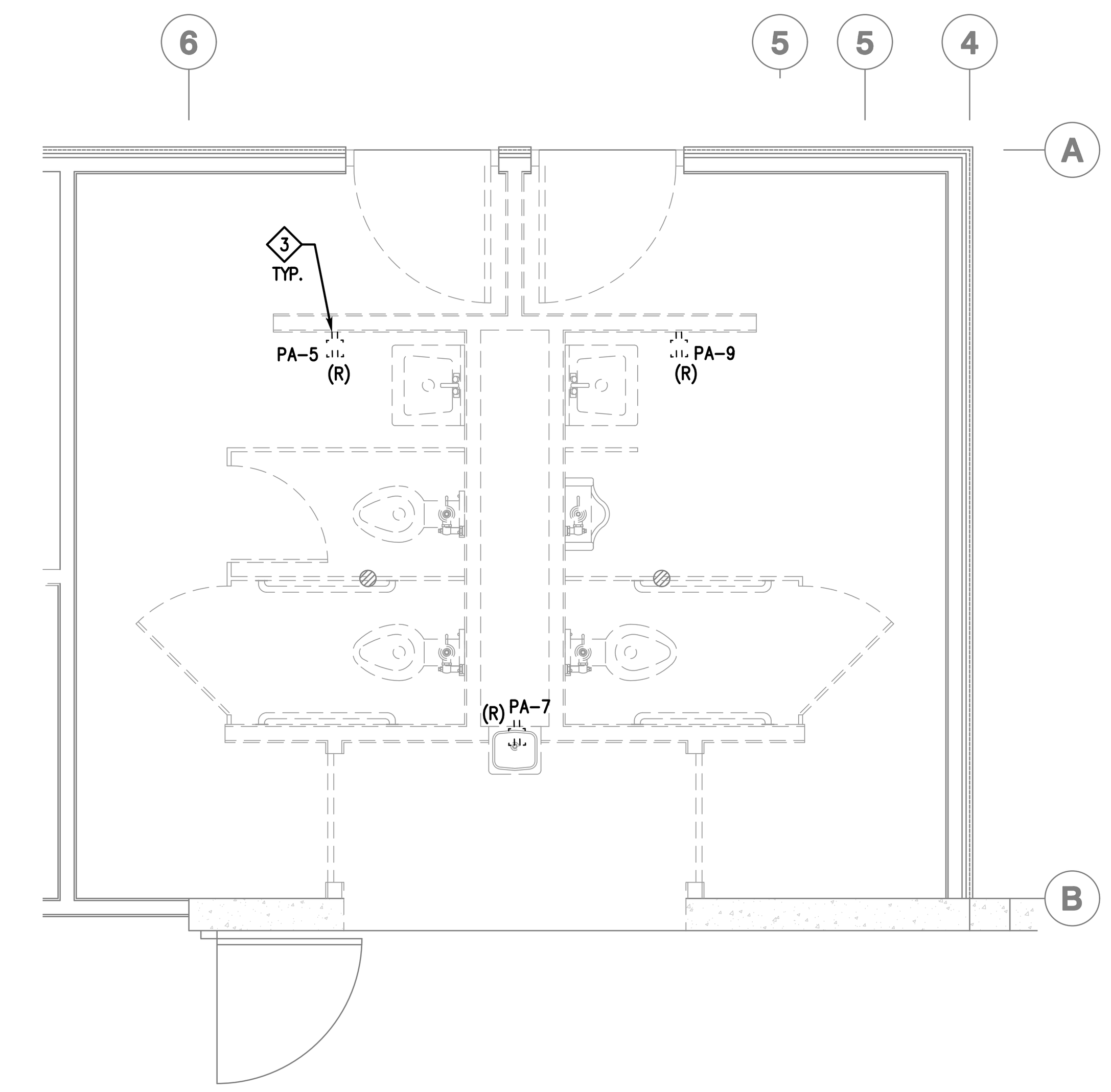
FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 - E0.6.DWG

SHEET NOTES

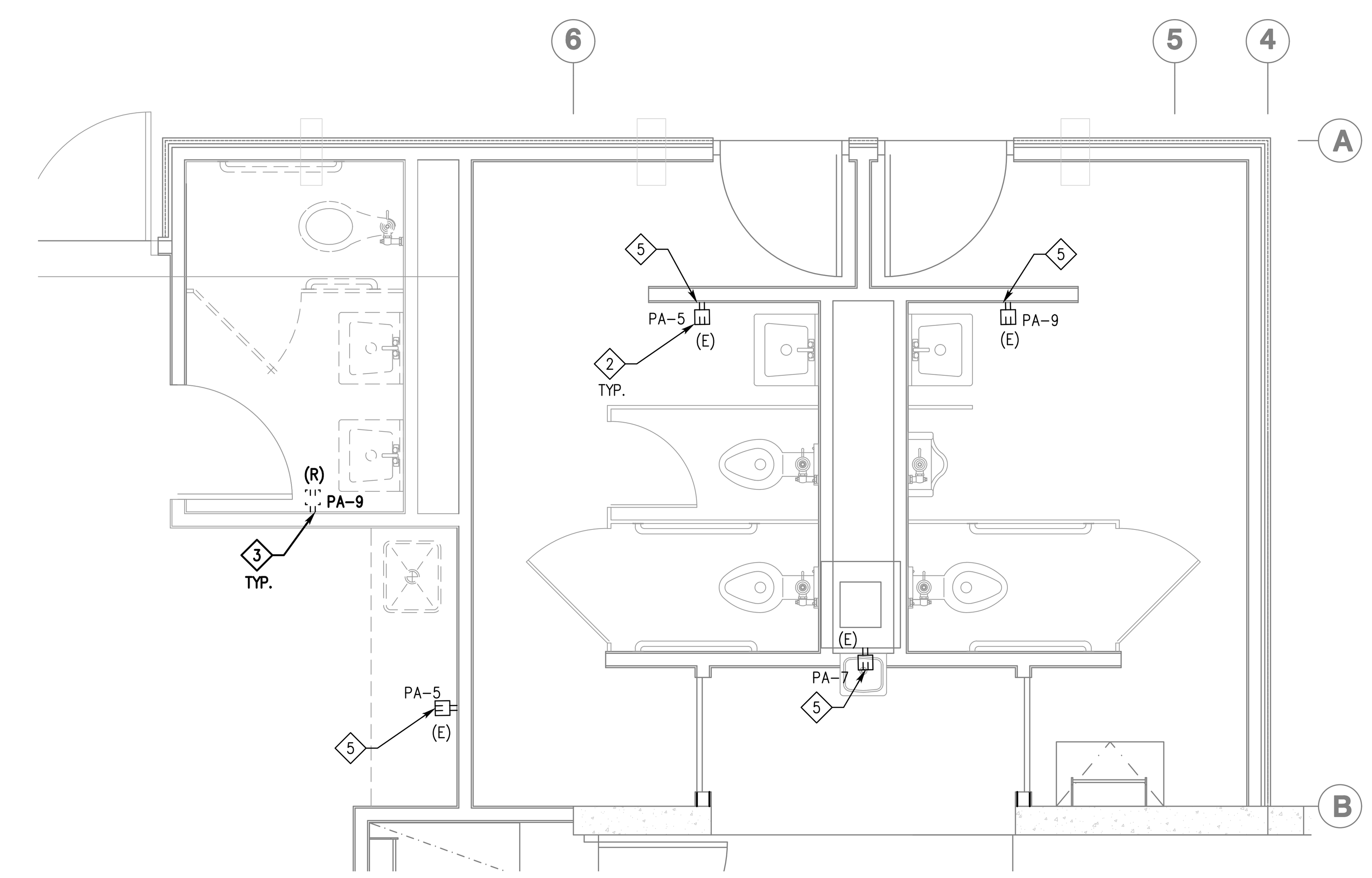
1. EXISTING DISTRIBUTION BOARD, TRANSFORMER AND PANELBOARDS TO REMAIN.
2. EXISTING RECEPTACLE MARKED WITH (E) TO REMAIN EXISTING WITH CIRCUIT.
3. EXISTING RECEPTACLE AND DATA OUTLET MARKED WITH (R) TO BE DEMOLISH, DISCONNECT AND REMOVE FROM EXISTING CIRCUIT WITH ASSOCIATED CABLES & CONDUIT. CONTRACTOR TO CHECK & MAINTAIN CIRCUIT CONTINUITY OF ALL EXISTING RECEPTACLES WHICH ARE TO REMAIN.
4. DEMOLISH THE EXISTING CEILING SUSPENDED SPACE HEATER.
5. CONTRACTOR SHALL VERIFY WHETHER THE RECEPTACLE IS GFCI OR NON-GFCI. IF IT IS FOUND TO BE NON-GFCI, IT SHALL BE REPLACED WITH A NEW GFCI RECEPTACLE AS REQUIRED.
6. DISCONNECT AND REMOVE EXISTING PANEL AND REPLACED IT WITH NEW 30 CKT PANEL.
7. EXISTING RECEPTACLES MARKED WITH "RR" SHALL BE DISCONNECTED, REMOVED, AND RELOCATED TO THE NEW LOCATIONS AS SHOWN ON THE PROPOSED PLAN.



1 ELECTRICAL OVERALL & ENLARGED DEMOLITION POWER PLAN
SCALE 3/16" = 1'-0"



3 ELECTRICAL ENLARGED DEMOLITION POWER PLAN
(BID ALTERNATE #1)
SCALE 3/8" = 1'-0"



2 ELECTRICAL ENLARGED DEMOLITION POWER PLAN
(BASE BID)
SCALE 3/8" = 1'-0"

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REVISIONS		
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	INITIALS	DATE
DRAWN	MV	–
DESIGNED	MV	–
REVIEWED	MV	–
STREET		
SEWER		
DRAINAGE		
WATER		
TRAFFIC		
UTILITY/ELEC		
LANDSCAPE		
FACILITIES		
GENERAL ENG		
DESIGN ENG		
INSPECTION		
PARKS & REC		
AS-BUILT		

E2.1

CITY OF FULLERTON
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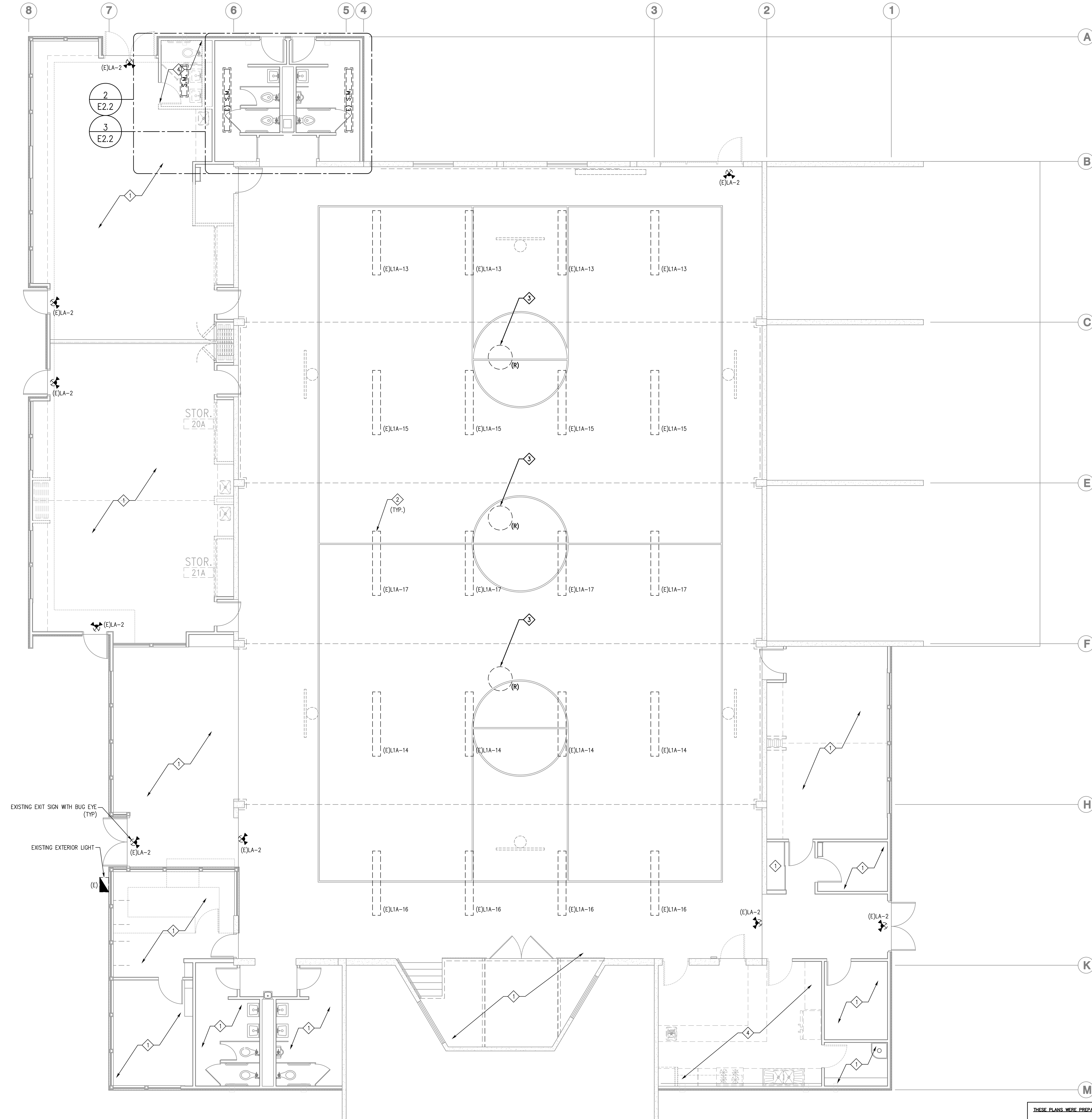
H2S PROJECT 25098

ELECTRICAL OVERALL & ENLARGED DEMOLITION POWER PLAN

APPROVED: 05/29/2026 DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR
ACCEPTED: DATE PUBLIC WORKS DIRECTOR

SCALE: AS NOTED
SHEET 49 OF 54 SHEETS
B.M.: N/A
FILE: MISC 5437

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 - E2.1.DWG



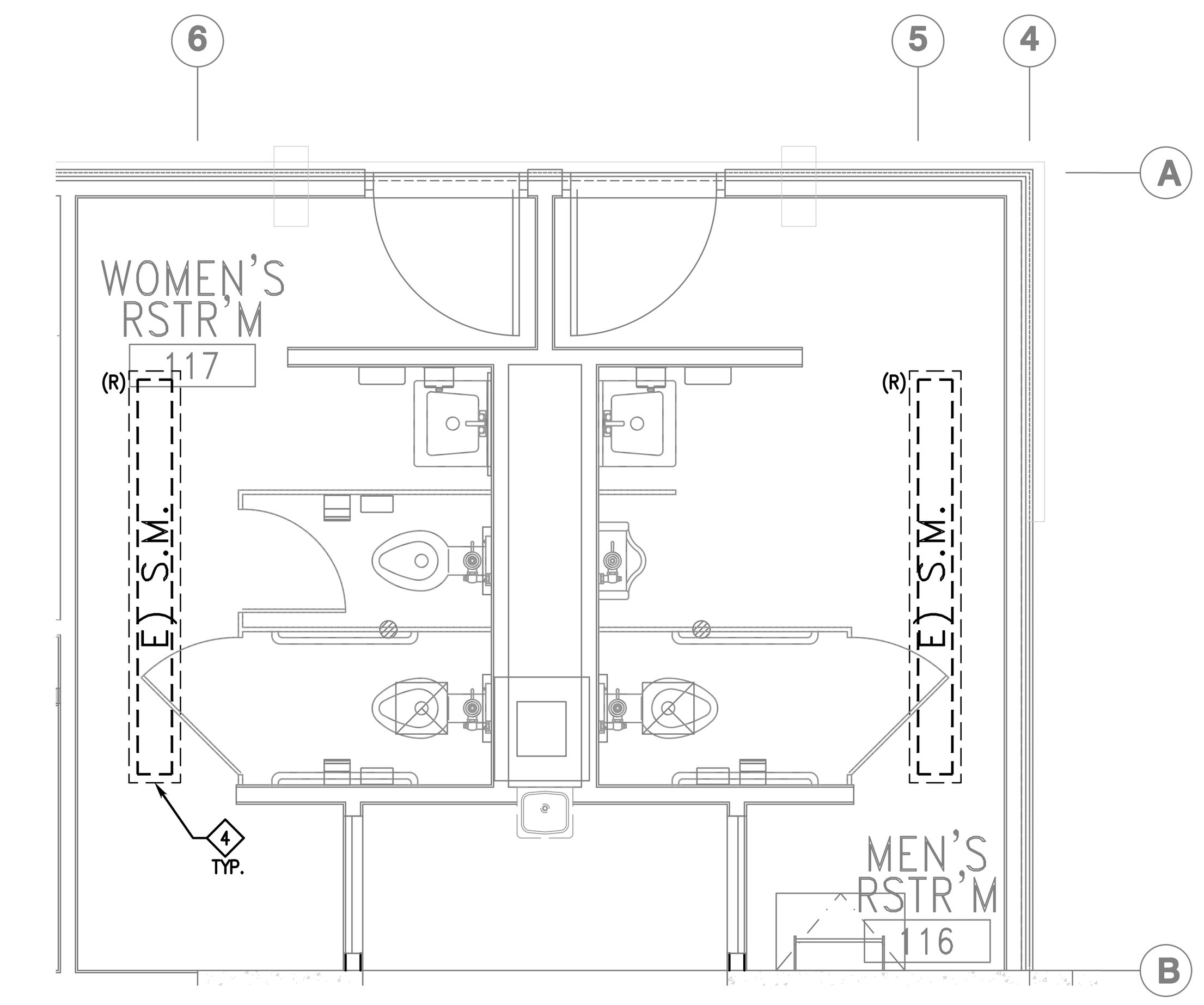
1 ELECTRICAL DEMOLITION LIGHTING PLAN

0' 4' 8' 16'

SCALE 3/16" = 1'-0"

SHEET NOTES

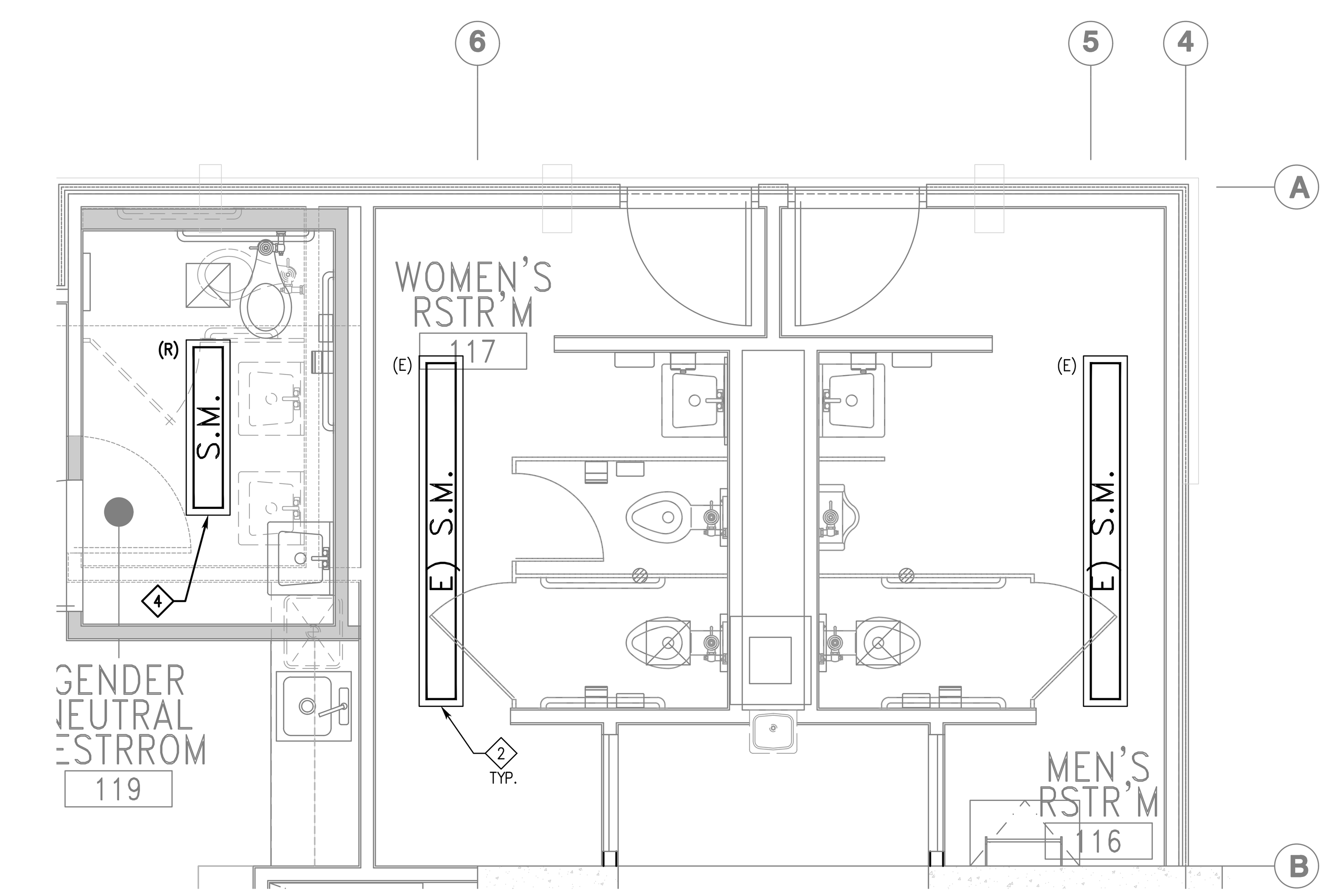
1. U.N.O ALL ELECTRICAL LIGHTING FIXTURE ON THIS AREA TO REMAIN EXISTING WITH CIRCUIT & CONTROLS AND RELOCATE THE SWITCH IF IT IS LOCATED ON A DEMOLITION WALL, AS REQUIRED.
2. LIGHTS MARKED WITH (E) TO REMAIN EXISTING WITH CIRCUIT & CONTROLS.
3. EXISTING H.I.D. LIGHT FIXTURE SHALL BE REPLACED WITH A NEW LED FIXTURE.
4. U.N.O ALL ELECTRICAL LIGHTING FIXTURES IN THIS AREA TO BE DEMOLISH WITH EXISTING SPACE LOCAL CONTROLS, DISCONNECT AND REMOVE LIGHT FROM EXISTING CIRCUIT.



3 ELECTRICAL ENLARGED DEMOLITION LIGHTING PLAN
(BID ALTERNATE #1)

0' 1' 2' 4'

SCALE 3/8" = 1'-0"



2 ELECTRICAL ENLARGED DEMOLITION LIGHTING PLAN
(BASE BID)

0' 1' 2' 4'

SCALE 3/8" = 1'-0"

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5/5/26 C25-105

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
MONITA VERMA
No. E19876
Exp. 3-31-28
ELECTRICAL
STATE OF CALIFORNIA

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			FACILITIES		
			GENERAL ENG		
			DESIGN ENG		
			INSPECTION		
			PARKS & REC		
			AS-BUILT		

E2.2

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL DEMOLITION LIGHTING PLAN

APPROVED: 05/29/2026
DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE PUBLIC WORKS DIRECTOR

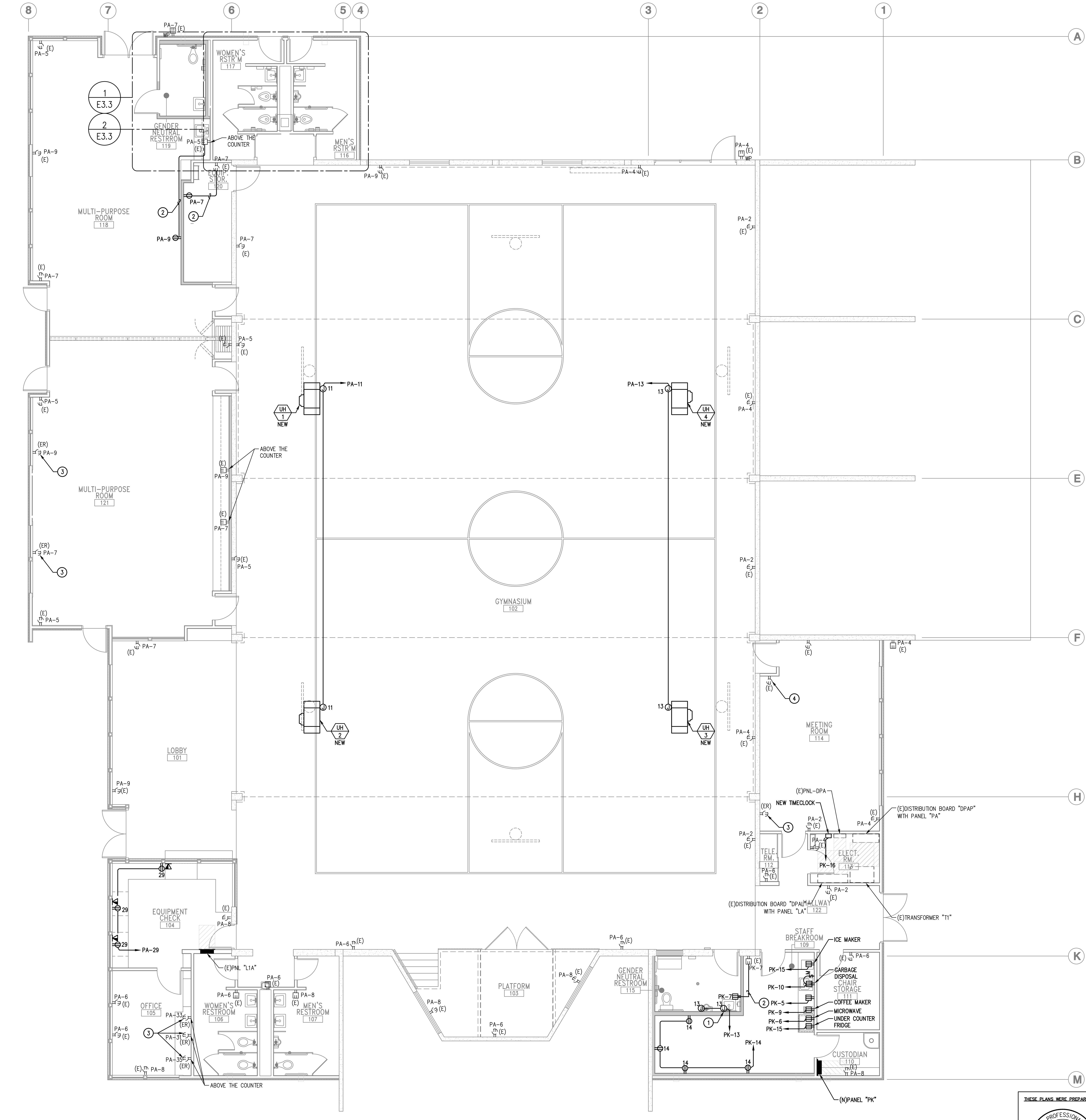
SCALE: AS NOTED

SHEET 50 OF 54 SHEETS

B.M.: N/A

FILE: MISC 5437

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 - E2.2.DWG



1 ELECTRICAL PROPOSED POWER PLAN

SCALE 3/16" = 1'-0"

SHEET NOTES

1. JUNCTION BOX FOR WATER CLOSET AND LAVATORY. PROVIDE LOW VOLTAGE TRANSFORMER WITH JUNCTION BOX.
2. EXTEND CONDUIT AND CIRCUIT FROM EXISTING NEARBY RECEPTACLE CIRCUIT TO CONNECT NEW RECEPTACLE AS REQUIRED.
3. RELOCATE EXISTING RECEPTACLE ON THE WALL WITH NEW SURFACE-MOUNTED CONDUIT RUNNING ALONG THE WINDOW FRAMING. CONTRACTOR SHALL CONFIRM EXACT LOCATION WITH OWNER.
4. THE CONTRACTOR SHALL FIELD-VERIFY THE EXISTING CIRCUIT AND CONDUIT FOR THE RECEPTACLE, REMOVE THE EXISTING CONDUIT AND CIRCUIT. INSTALL NEW OVERHEAD CONDUIT AND WIRING FROM THE SOURCE PANE TO FEED THE EXISTING OUTLET..

GENERAL NOTES

1. ALL RECEPTACLE MOUNTING HEIGHTS SHOULD BE COORDINATED WITH THE ARCHITECT.

CIP 54691 - INDEPENDENCE PARK GYM RENOVATION

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5/5/26 C25-105

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E3.1

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT
INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL PROPOSED POWER PLAN

APPROVED: 05/29/2026
DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE PUBLIC WORKS DIRECTOR

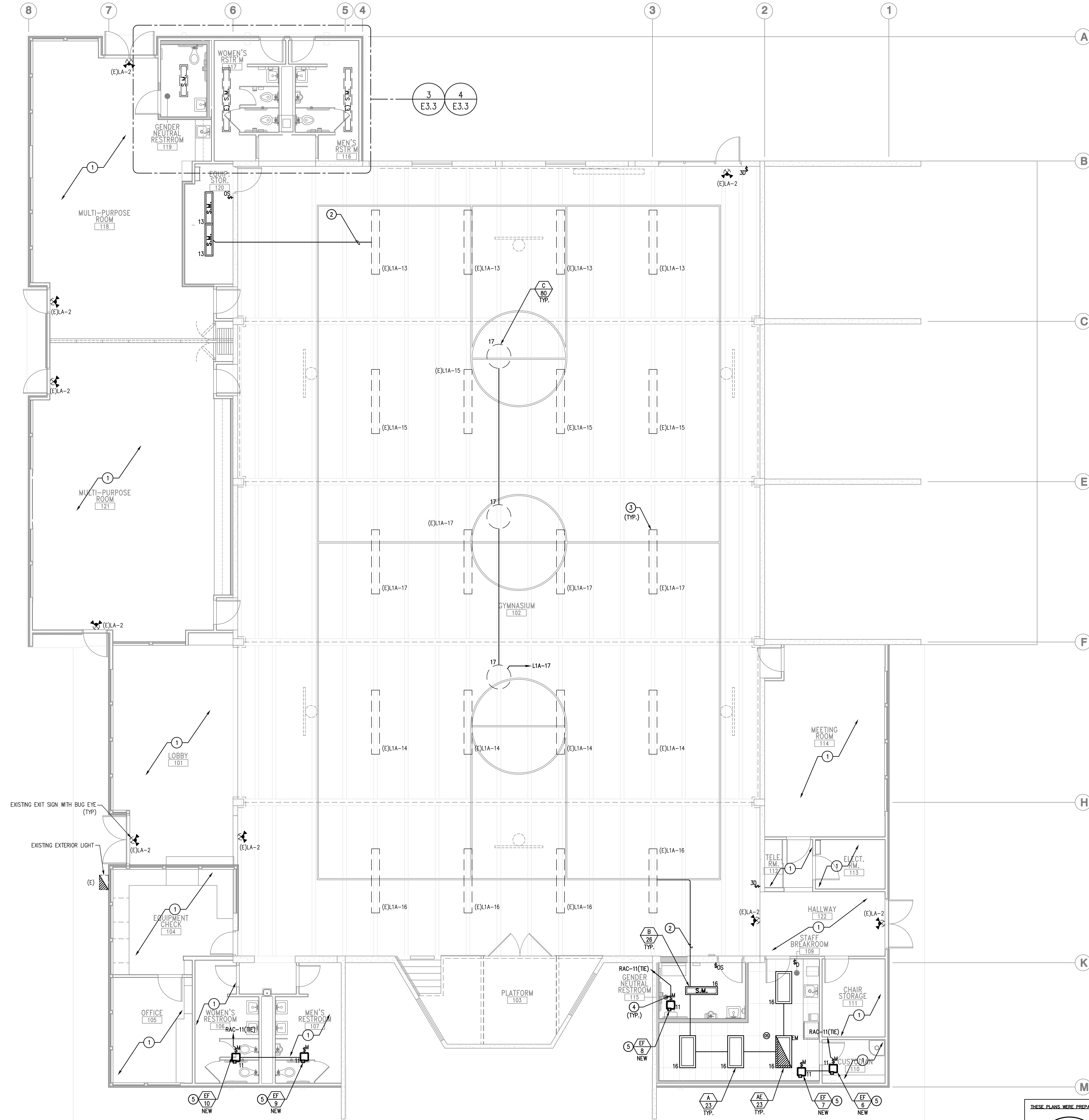
SCALE: AS NOTED

SHEET 51 OF 54 SHEETS

B.M.: N/A

FILE: MISC 5437

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 - E3.1.DWG



1 ELECTRICAL PROPOSED LIGHTING PLAN

SCALE 3/16" = 1'-0"

0' 4' 8' 16'

SHEET NOTES

1. U.N.O ALL ELECTRICAL LIGHTING FIXTURE ON THIS AREA TO REMAIN EXISTING WITH CIRCUIT & CONTROLS AND RELOCATE THE SWITCH IF IT IS LOCATED ON A DEMOLITION WALL, AS REQUIRED.
2. EXTEND CONDUIT AND CIRCUIT FROM EXISTING NEARBY LIGHTING CIRCUIT TO CONNECT NEW LIGHTS AS REQUIRED.
3. CONTRACTOR SHALL FIELD VERIFY WHETHER HALF-HATCHED LIGHTS ARE EMERGENCY FIXTURES. IF ANY DISCREPANCY IS FOUND BETWEEN THE FIELD CONDITION AND THE HALF-HATCHED LIGHTS SHOWN ON THE PLANS, CONTRACTOR SHALL REPLACE THEM AS REQUIRED.
4. PROVIDE 15A/1P TOGGLE MOTOR RATED DISCONNECT SWITCH FOR EXHAUST FAN. REFER TO MECHANICAL PLAN FOR ADDITIONAL REQUIREMENTS AND PROVIDE AS DIRECTED.
5. CONTROLLED VIA TIME CLOCK.

GENERAL NOTES

1. LIGHT FIXTURES SHOWN WITH HATCH OR NAMED WITH "EM" ARE PROVIDED WITH INTEGRALLY MOUNTED BATTERY BACK-UP FOR 90MIN OF ILLUMINATION UNDER NORMAL POWER LOSS.
2. REFER TO SHEET E0.4 FOR LIGHT FIXTURE SPECIFICATIONS
3. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION AND MOUNTING HEIGHTS OF LIGHT FIXTURES. COORDINATE FIXTURE LOCATIONS WITH DECOR DRAWINGS.
4. ALL WORK AND MATERIALS SHALL BE BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.
5. ALL CONDUIT TO BE E.M.T CONDUIT IN CEILING AND WALLS - RIGID CONDUIT UNDER SLAB.

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CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL PROPOSED LIGHTING PLAN

APPROVED: 05/29/2026
DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

ACCEPTED:
DATE PUBLIC WORKS DIRECTOR

SCALE: AS NOTED

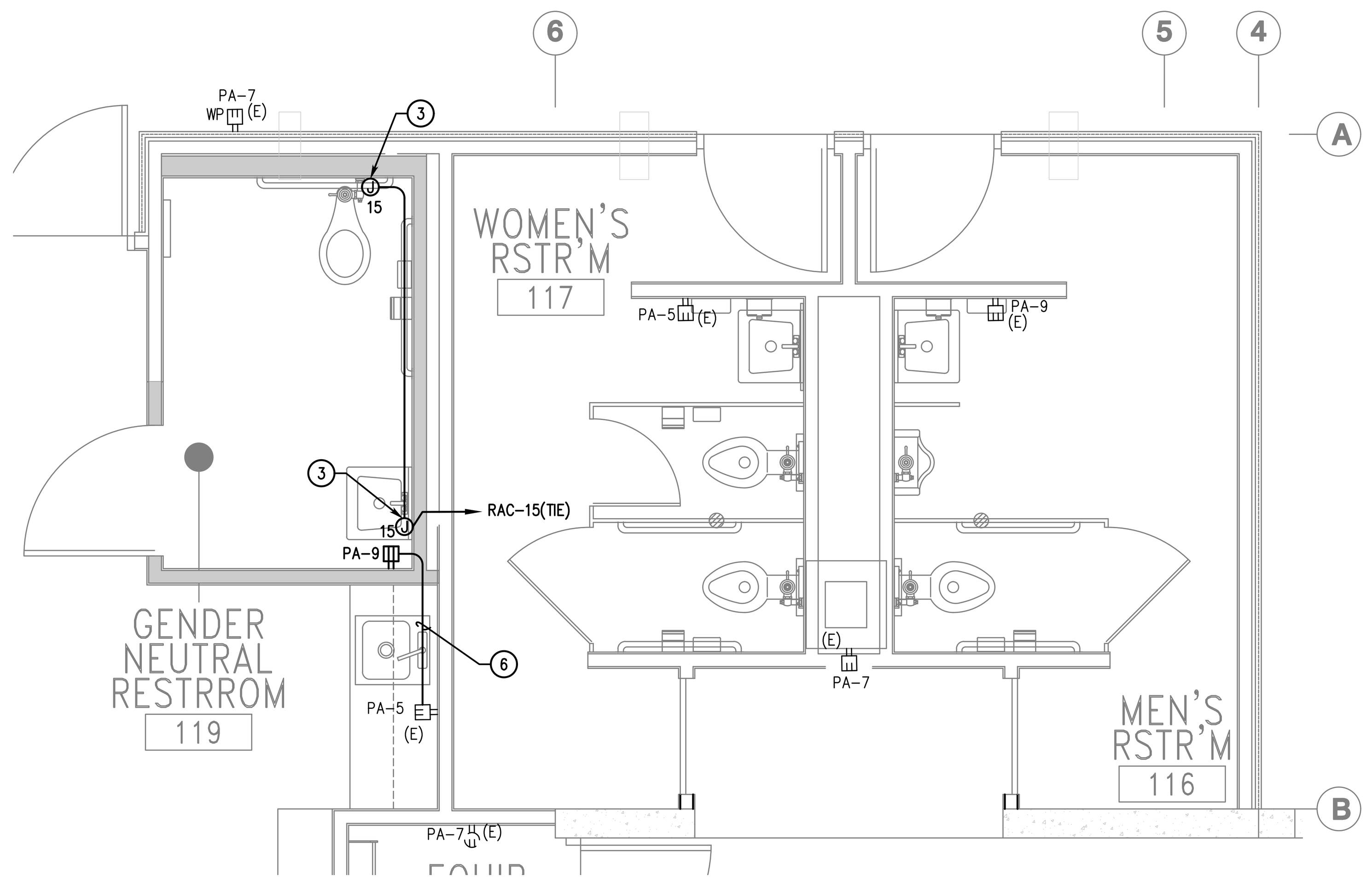
SHEET 52 OF 54 SHEETS

B.M.: N/A

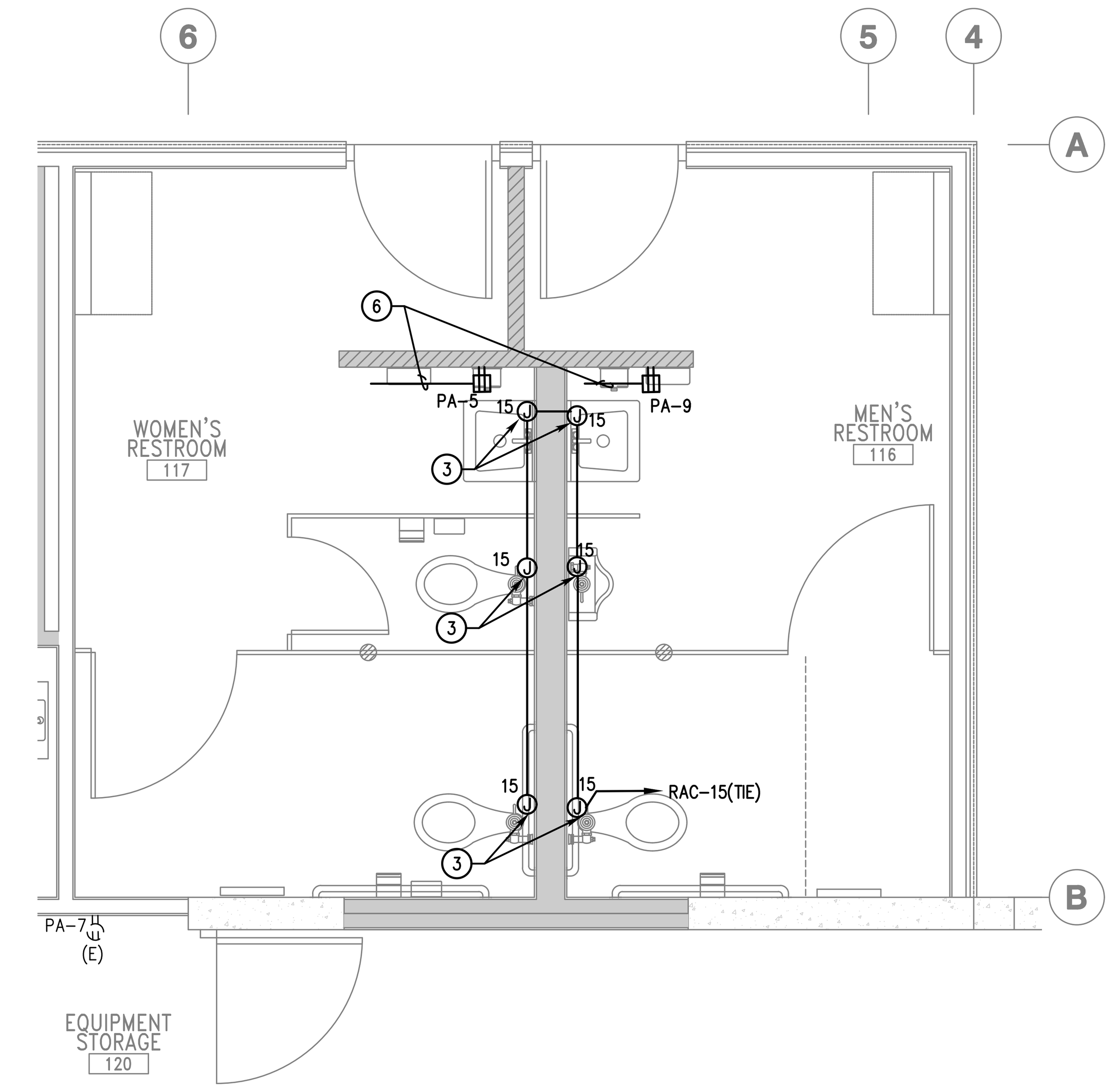
FILE: MISC 5437

E3.2

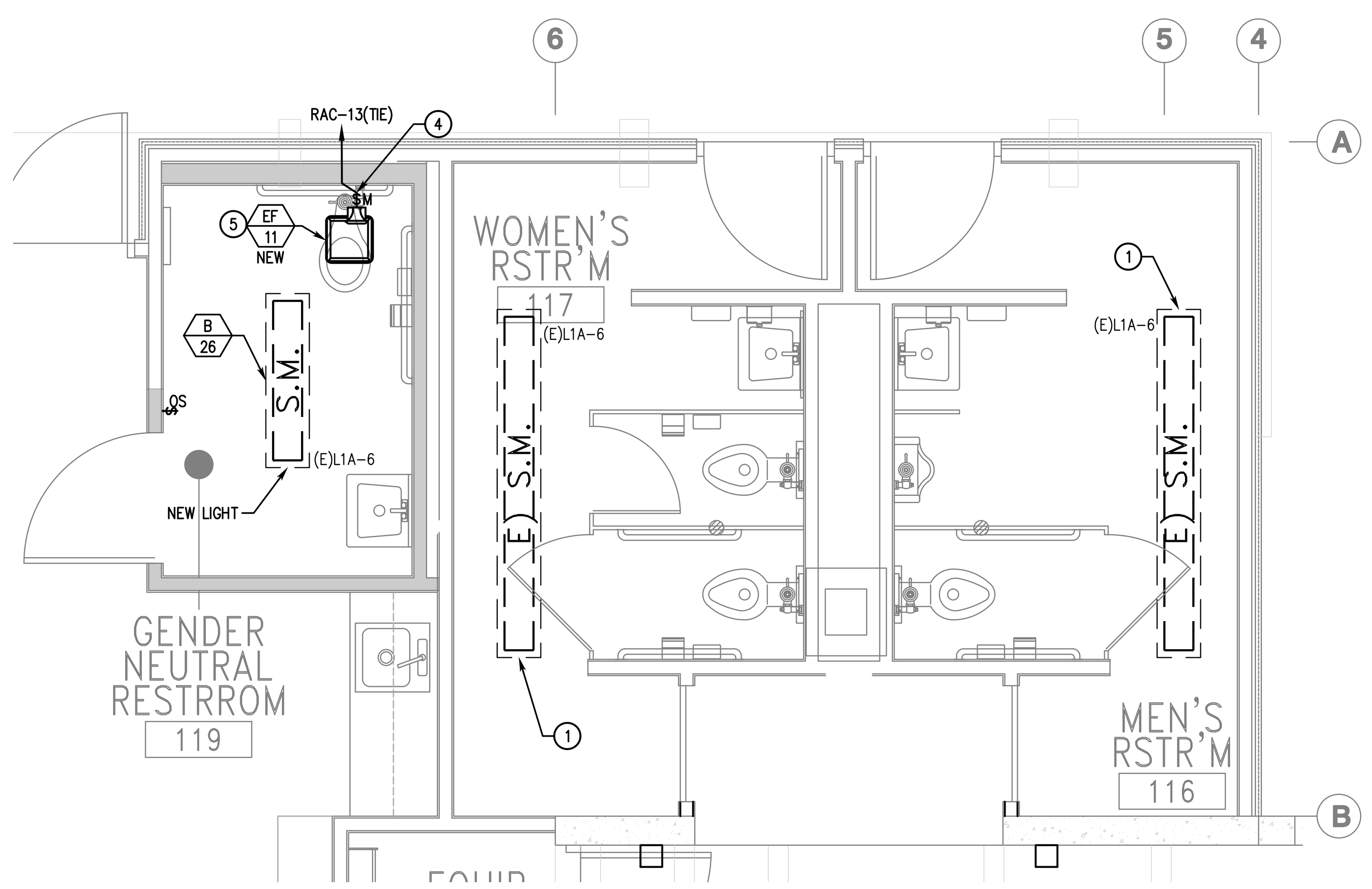
FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 - E3.2.DWG



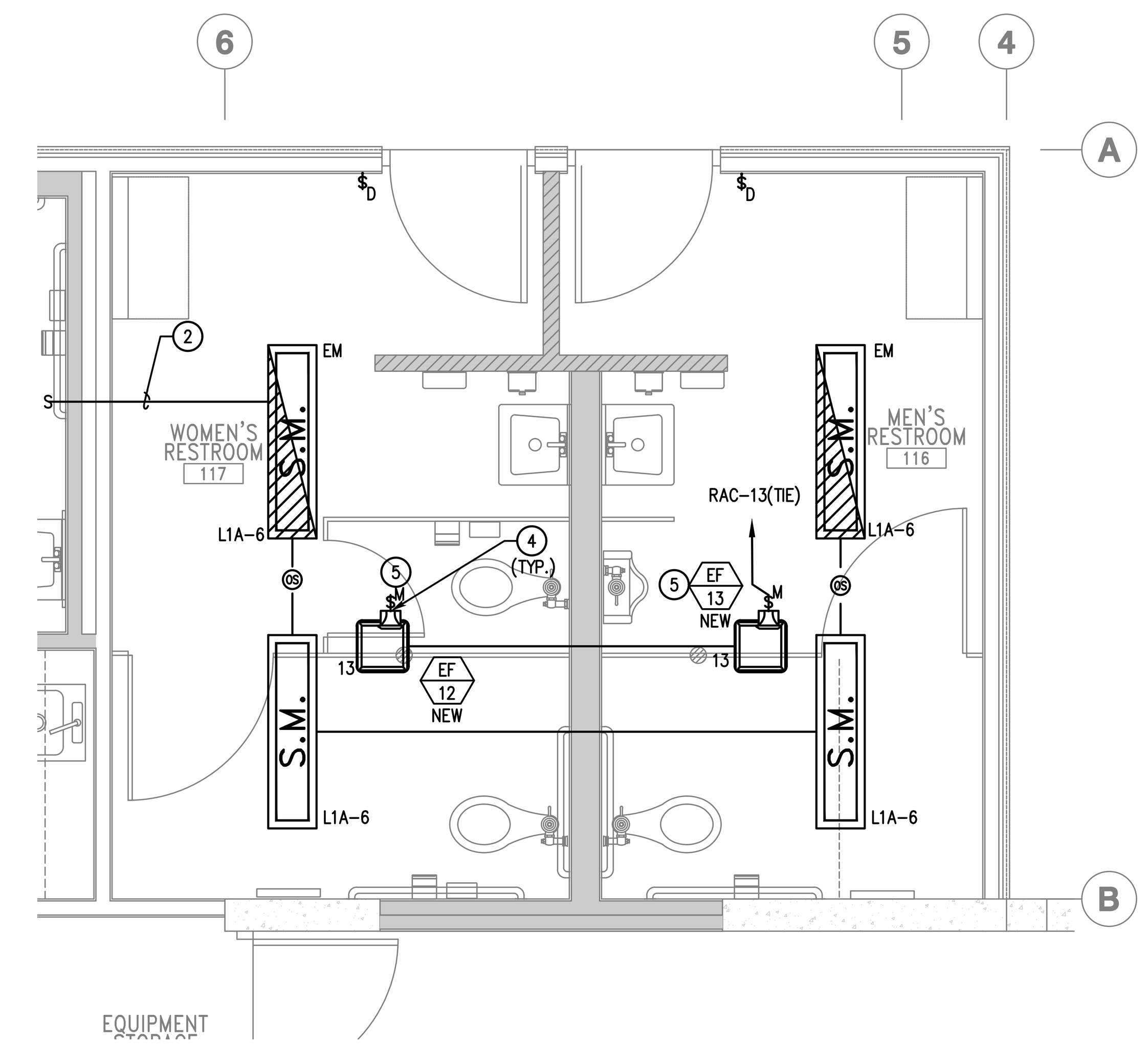
① **ELECTRICAL ENLARGED PROPOSED POWER PLAN**
(BASE BID)
SCALE 3/8" = 1'-0"



② **ELECTRICAL ENLARGED PROPOSED POWER PLAN**
(BID ALTERNATE #1)
SCALE 3/8" = 1'-0"



③ **ELECTRICAL ENLARGED PROPOSED LIGHTING PLAN**
(BASE BID)
SCALE 3/8" = 1'-0"



④ **ELECTRICAL ENLARGED PROPOSED LIGHTING PLAN**
(BID ALTERNATE #1)
SCALE 3/8" = 1'-0"

SHEET NOTES

1. LIGHTS MARKED WITH (E) TO REMAIN EXISTING WITH CIRCUIT & CONTROLS.
2. EXTEND CONDUIT AND CIRCUIT FROM EXISTING NEARBY LIGHTING CIRCUIT TO CONNECT NEW LIGHTS AS REQUIRED.
3. JUNCTION BOX FOR WATER CLOSET AND LAVATORY. PROVIDE LOW VOLTAGE TRANSFORMER WITH JUNCTION BOX.
4. PROVIDE 15A/1P TOGGLE MOTOR RATED DISCONNECT SWITCH FOR EXHAUST FAN. REFER TO MECHANICAL PLAN FOR ADDITIONAL REQUIREMENTS AND PROVIDE AS DIRECTED.
5. CONTROLLED VIA A TIME CLOCK.
6. EXTEND CONDUIT AND CIRCUIT FROM EXISTING NEARBY RECEPTACLE CIRCUIT TO CONNECT NEW RECEPTACLE AS REQUIRED.

GENERAL NOTES

1. LIGHT FIXTURES SHOWN WITH HATCH OR NAMED WITH "EM" ARE PROVIDED WITH INTEGRALLY MOUNTED BATTERY BACK-UP FOR 90MIN OF ILLUMINATION UNDER NORMAL POWER LOSS.
2. REFER TO SHEET E0.4 FOR LIGHT FIXTURE SPECIFICATIONS
3. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION AND MOUNTING HEIGHTS OF LIGHT FIXTURES. COORDINATE FIXTURE LOCATIONS WITH DECOR DRAWINGS.
4. ALL WORK AND MATERIALS SHALL BE BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.
5. ALL CONDUIT TO BE E.M.T CONDUIT IN CEILING AND WALLS – RIGID CONDUIT UNDER SLAB.

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REVISIONS				INITIALS	DATE
NUMBER	DESCRIPTION	DATE	DRAWN	MV	–
			DESIGNED	MV	–
			REVIEWED	MV	–
			STREET		
			SEWER		
			DRAINAGE		
			WATER		
			TRAFFIC		
			UTILITY/ELEC		
			LANDSCAPE		
			FACILITIES		
			GENERAL ENG		
			DESIGN ENG		
			INSPECTION		
			PARKS & REC		
			AS-BUILT		

E3.3

CITY OF FULLERTON
PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL ENLARGED PLANS

APPROVED: 05/29/2026
DATE CITY ENGINEER/ASSISTANT PUBLIC WORKS DIRECTOR

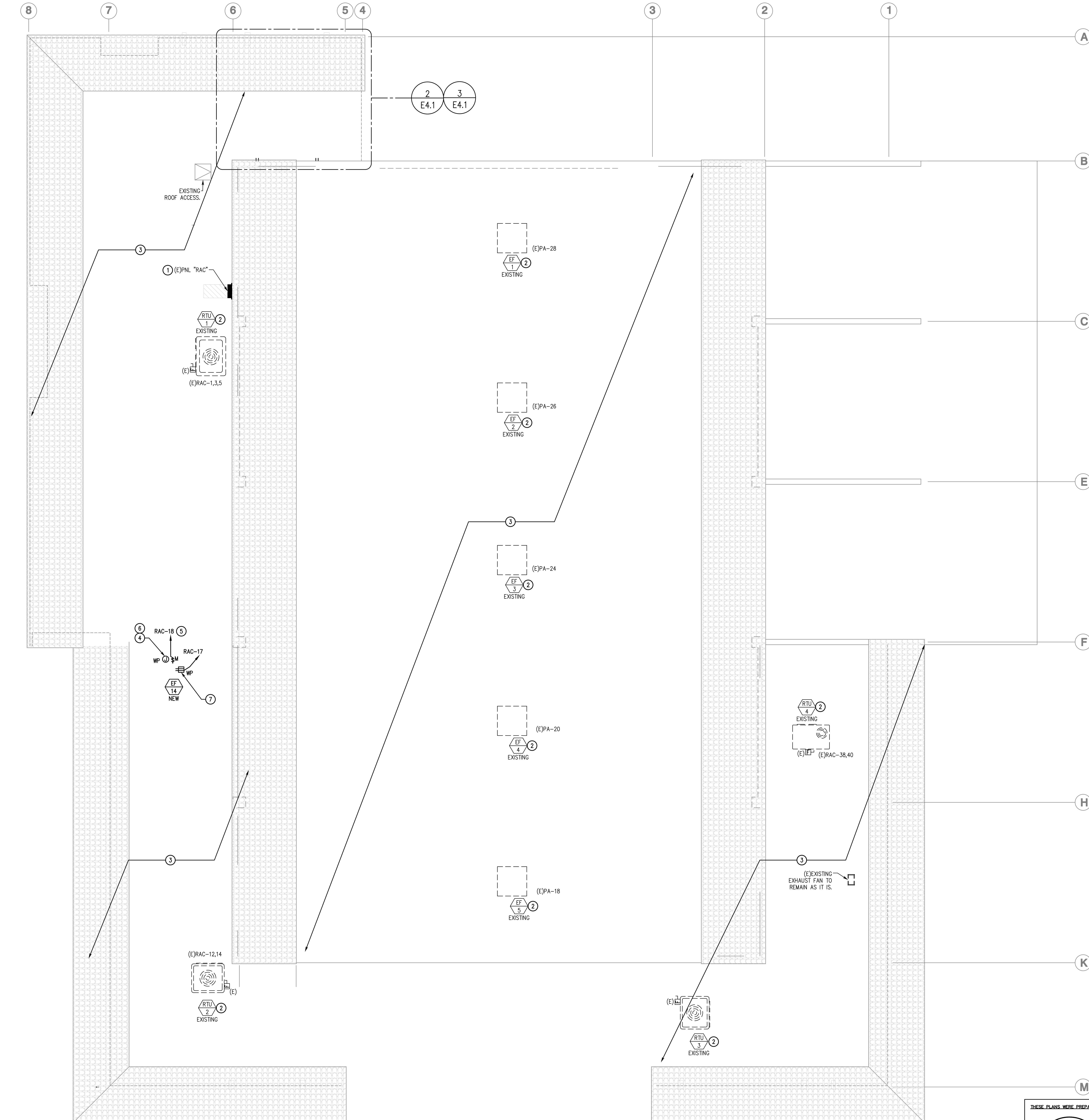
ACCEPTED:
DATE PUBLIC WORKS DIRECTOR

SCALE: AS NOTED

B.M.: N/A

FILE: MISC 5437

FILE PATH: G:\SHARED DRIVES\03 PROJECTS\2025\25098_INDY GYM\3_DWGS\E\25098 – E3.3.DWG



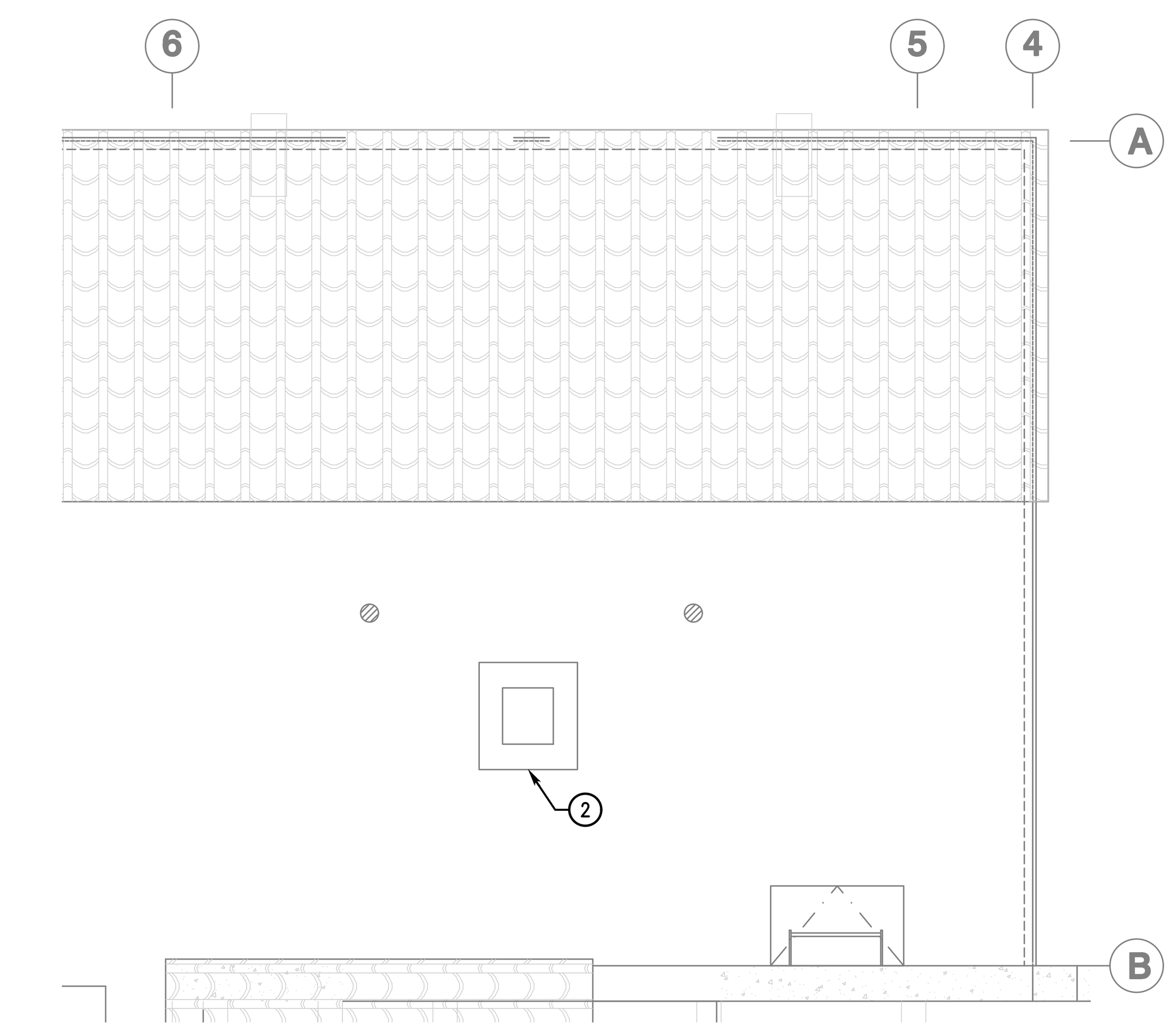
1 ELECTRICAL ROOF PLAN

0' 4' 8' 16'

SCALE 3/16" = 1'-0"

SHEET NOTES

1. EXISTING PANEL TO REMAIN.
2. EXISTING HVAC EQUIPMENTS TO REMAIN ALONG WITH ITS ASSOCIATED DISCONNECT SWITCH, CONDUIT, AND CABLES.
3. ALL SERVICE RECEPTACLE IN THIS AREA TO REMAIN WITH EXISTING CIRCUITS.
4. PROVIDE JUNCTION BOX. RUN 3/4" CONDUIT WITH CONTROL WIRES TO RESPECTIVE CONTROL DEVICE(S). COORDINATE ALL REQUIREMENTS AND EXACT LOCATIONS WITH MECHANICAL PLANS AND MECHANICAL CONTROL DIAGRAMS AND PROVIDE AS DIRECTED.
5. CONTROLLED VIA TIME CLOCK.
6. EXISTING EXHAUST FAN SHALL BE REPLACED WITH A NEW EXHAUST FAN. DISCONNECT AND REMOVE THE EXISTING CONTROL AND DISCONNECT SWITCH. PROVIDE CIRCUIT AND CONTROL AS SHOWN ON THE DRAWINGS.REFER TO MECHANICAL PLAN FOR ADDITIONAL REQUIREMENTS AND PROVIDE AS DIRECTED.
7. THE OUTDOOR/ROOFTOP RECEPTACLES SHALL BE NOTED AS THE WEATHER RESISTANT (WR) TYPE, IN A WEATHER PROOF (WP) OUTLET BOX AND BE EQUIPPED WITH AN "EXTRA DUTY"RATED COVER. THE RECEPTACLE OUTLET SHALL ALSO BE GFCI PROTECTED.
8. EXISTING HVAC EQUIPMENT TO BE DEMOLISHED WITH ASSOCIATED DISCONNECT SWITCH, CONDUIT & CABLES BACK TO THE SOURCE.

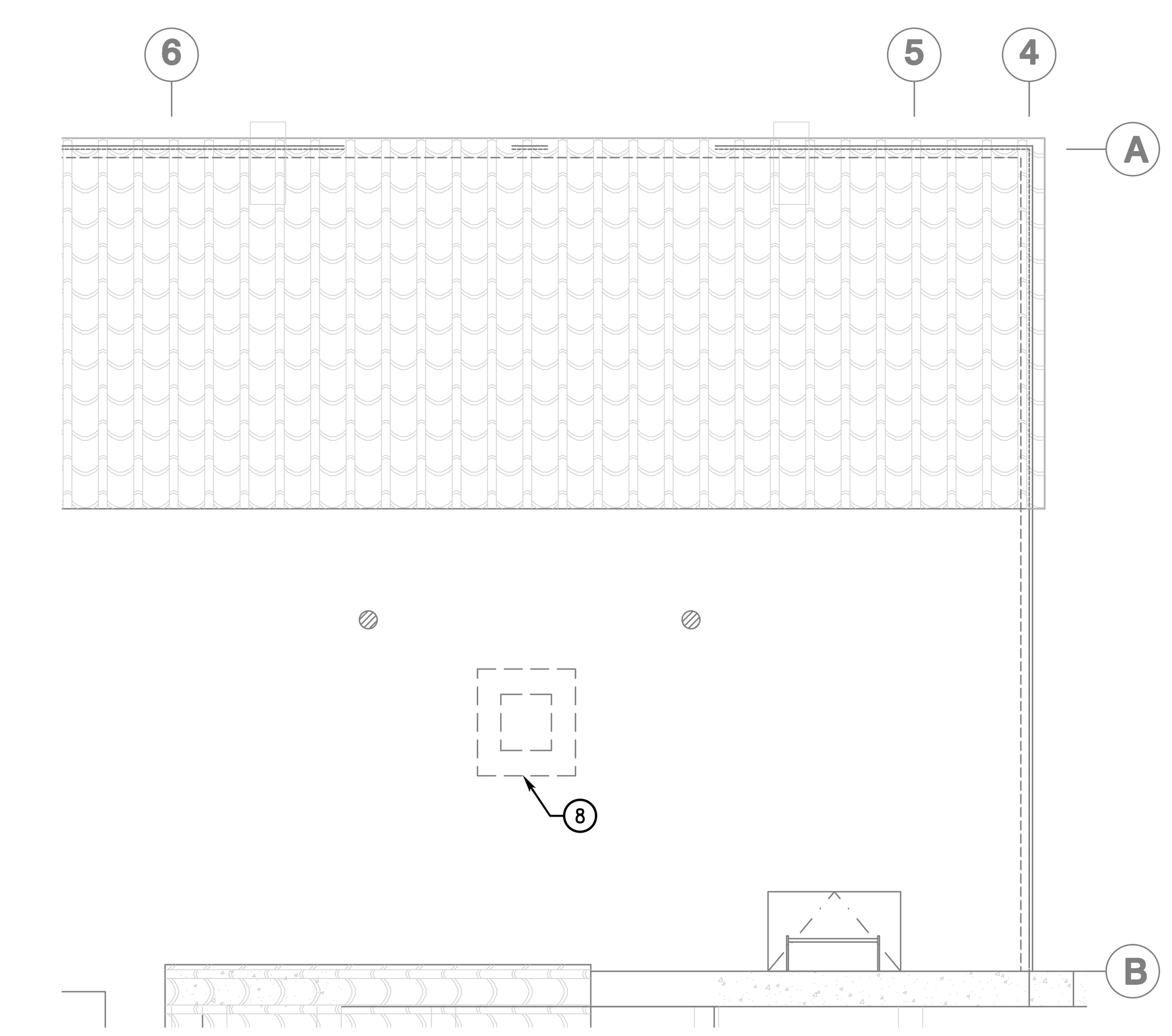


2 ELECTRICAL ENLARGED DEMOLITION ROOF PLAN

(BASE BID)

0' 1' 2' 4'

SCALE 3/8" = 1'-0"



3 ELECTRICAL ENLARGED PROPOSED ROOF PLAN

(BID ALTERNATE #1)

0' 1' 2' 4'

SCALE 3/8" = 1'-0"

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5/5/26 C25-105

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER MONITA VERMA No. E19876 Exp. 3-31-28 ELECTRICAL STATE OF CALIFORNIA

STAMP

SIGNATURE DATE

REVISIONS		
NUMBER	DESCRIPTION	DATE

	INITIALS	DATE
DRAWN	MV	–
DESIGNED	MV	–
REVIEWED	MV	–
STREET		
SEWER		
DRAINAGE		
WATER		
TRAFFIC		
UTILITY/ELEC		
LANDSCAPE		
FACILITIES		
GENERAL ENG		
DESIGN ENG		
INSPECTION		
PARKS & REC		
AS-BUILT		

E4.1

CITY OF FULLERTON

PUBLIC WORKS DEPARTMENT

INDEPENDENCE PARK GYM RENOVATION
H2S PROJECT 25098

ELECTRICAL ROOF PLAN

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ACCEPTED:
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SCALE: AS NOTED

SHEET 54 OF 54 SHEETS

B.M.: N/A

FILE: MISC 5437

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