

FAN SCHEDULE														
MARK FAN	AIR FLOW (CFM)	STATIC PRESSURE (in of H2O)	DRIVE TYPE	FAN TYPE	FAN SERVICE	INTERLOCK WITH	MAXIMUM RPM	MAXIMUM SONES	MOTOR		ELECTRICAL DATA			NOTES
									WATTS	HORSE POWER	VOLTS	Hz	PHASE	
EF-1	140	0.25	DIRECT	INLINE	RESTROOMS	LIGHTS	1,200	3.0	120	N/A	120	60	1	1, 2, 3
NOTES														
1	COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.													
2	PROVIDE FAN WITH SOLID STATE SPEED CONTROLLER. CONTROLLER SHALL BE LOCATED ADJACENT TO THE FAN.													
3	EXTEND EXHAUST DUCT UP THROUGH TRANSLUCENT PANEL AND TERMINATE WITH A WEATHERPROOF CAP.													

**SHEET NOTES**

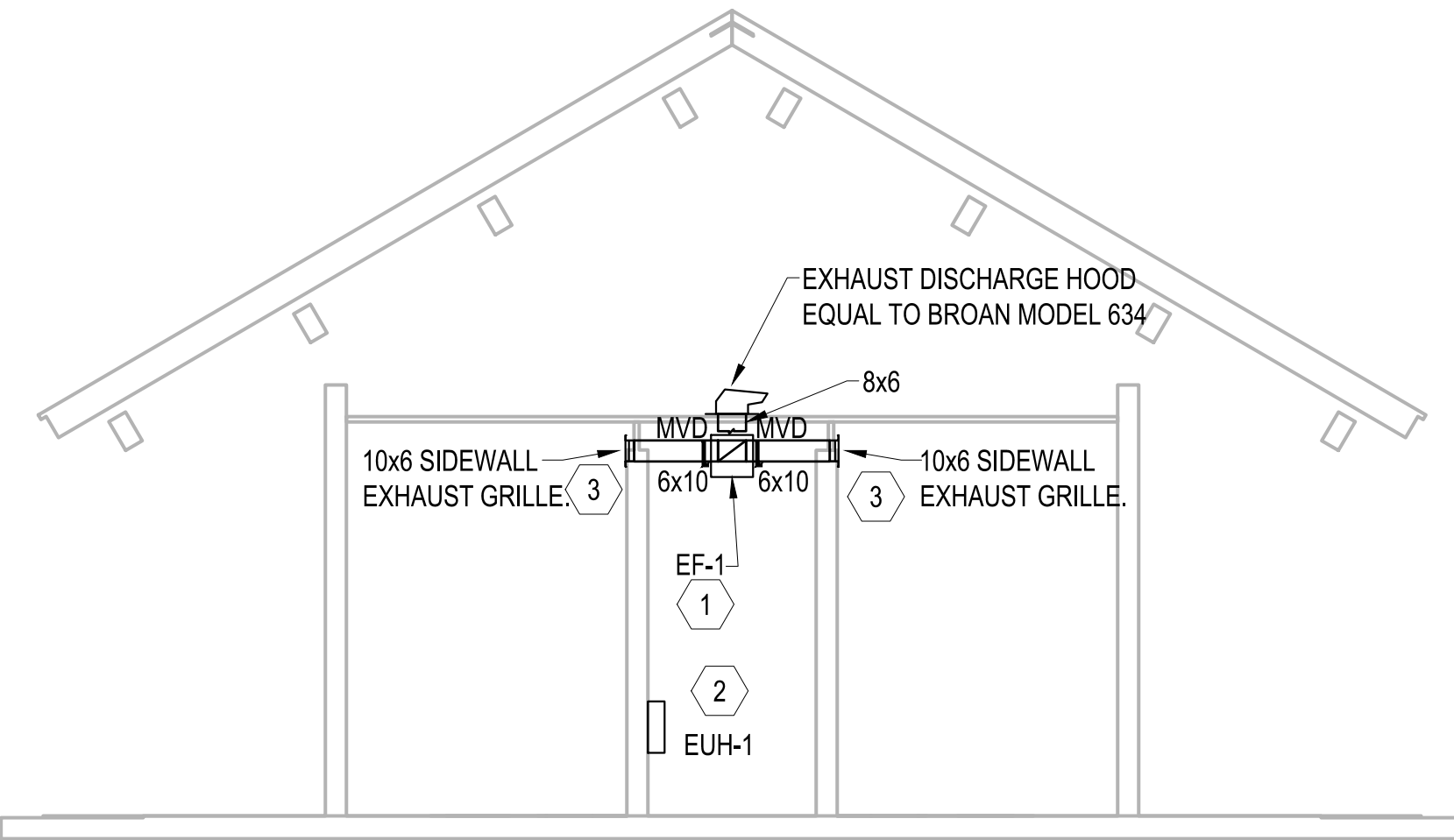
- 1 SUSPEND EXHAUST FAN FROM STRUCTURE ABOVE. EXTEND DISCHARGE DUCT UP THROUGH RESTROOM ROOF PANEL AND DISCHARGE THROUGH A BROAN MODEL 634 EXHAUST HOOD. TRANSITION DUCT FROM 8x6 TO FULL SIZE OF HOOD THROAT.
- 2 INSTALL BOTTOM OF HEATER 18" AFF.
- 3 COORDINATE SLEEVE INSTALLATION FOR GRILLE WITH POURED IN PLACE CONCRETE WALL. PROVIDE WITH 10x6 SIDEWALL EXHAUST GRILLE EQUAL TO TITUS 33RL. BALANCE FOR 70 CFM.

ELECTRIC UNIT HEATER SCHEDULE											
HEATER MARK	CFM TOTAL	TYPE DRIVE	MOUNTING	CONTROL WITH	HEATING CAPACITY	UNIT AMPS	ELECTRICAL DATA			HEATER SERVICE	REMARKS
							VOLTS	Hz	PHASE		
EUH-1	175	DIRECT	SURFACE MOUNTED	INTEGRAL T-STAT	750 W	6.25	120	60	1	PLUMBING CHASE FREEZE PROTECTION	1 2 3

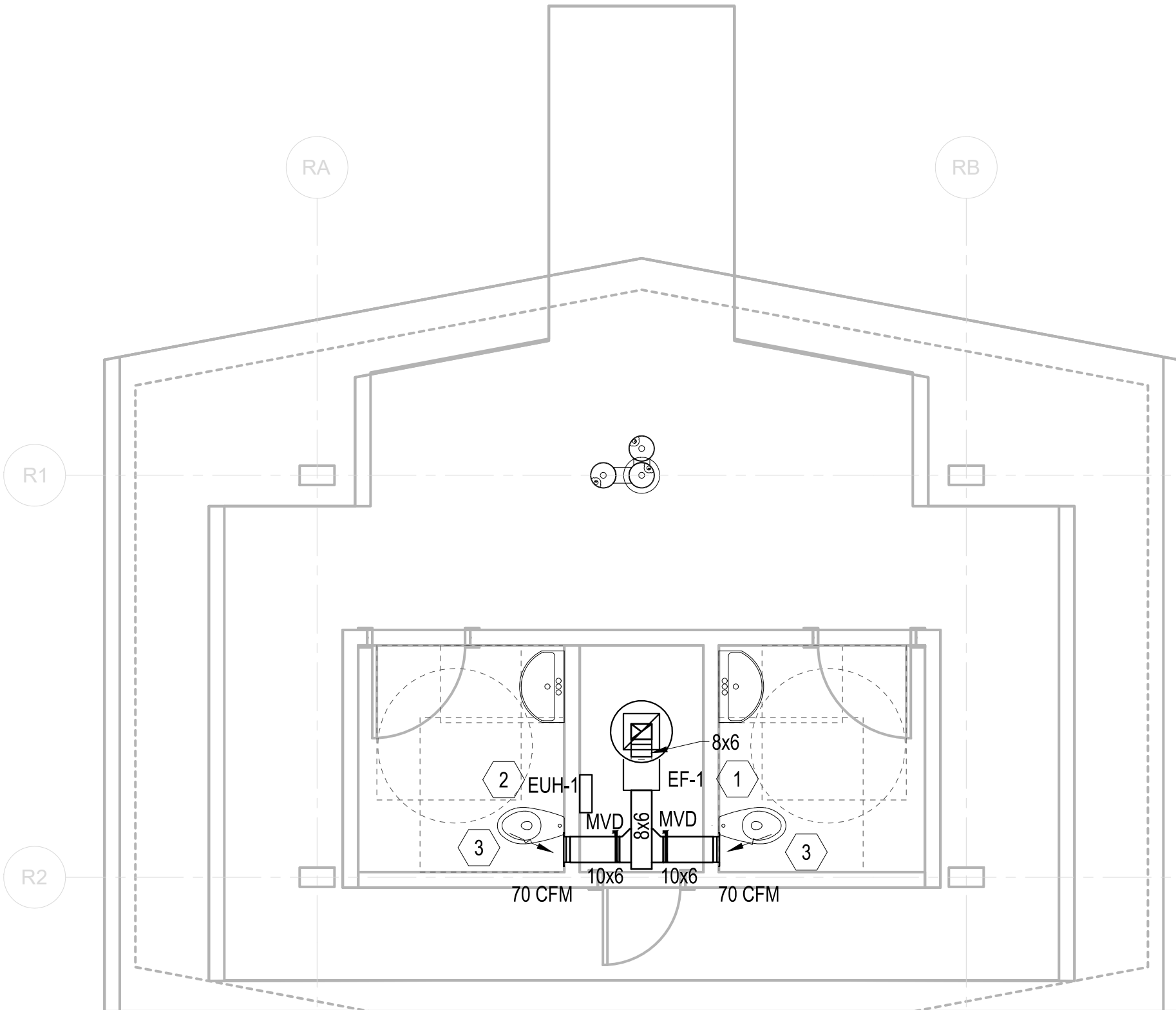
- 1 PROVIDE WITH FAN DELAY SWITCH, POWDER COATED EPOXY FINISH, AND THERMOSTAT. SET FOR HEATER TO ENERGIZE AT TEMPERATURES BELOW 45°F.
- 2 COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.
- 3 BASIS OF DESIGN IS MARKEL 3320 SERIES. PROVIDE WITH WALL MOUNTING BRACKET.

**HVAC GENERAL NOTES:**

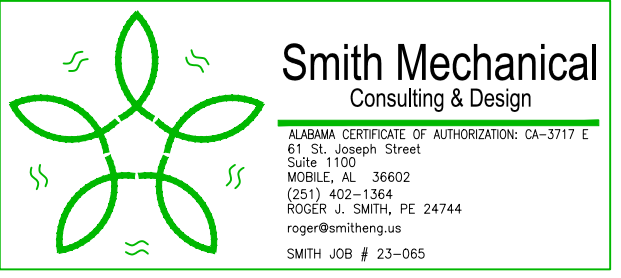
- INSTALL ALL WORK IN COMPLIANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION, THE 2018 INTERNATIONAL MECHANICAL CODE, AND THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE.
- COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR PRIOR TO BEGINNING ANY WORK.
- DUCT CONSTRUCTION SHALL BE PER THE LATEST REQUIREMENTS OF NFPA 90A AND 90B, SMACNA AND ASHRAE AND SHALL MEET OR EXCEED THEIR REQUIREMENTS FOR SUPPORT AND REINFORCEMENT.
- EQUIPMENT PROVIDED AND INSTALLED ON THIS PROJECT SHALL MEET OR EXCEED THE MINIMUM EFFICIENCY REQUIREMENTS INDICATED IN THE SCHEDULE.
- DUCT CONSTRUCTION SHALL BE G-90 GALVANIZED SHEET METAL. DUCT SEALING SHALL BE CLASS "A", ALL JOINTS, SEAMS, AND PENETRATIONS SHALL BE BRUSHED WITH 2 COATS OF WATER BASED MASTIC. THE DUCT SEAL SHALL MEET OR EXCEED PRESSURE CLASS 2".
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES ALL REQUIRED OPENINGS IN WALLS, FOUNDATIONS, FLOORS, AND ROOFS. CONTRACTOR SHALL INSTALL LOUVERS PER MANUFACTURERS RECOMMENDATIONS AND DETAILS INDICATED ON THE ARCHITECTURAL PLANS.
- THE MECHANICAL CONTRACTOR SHALL VERIFY ALL MECHANICAL EQUIPMENT LOCATIONS AND BE RESPONSIBLE FOR ALL RELATED CLEARANCES IN THE FIELD. PROVIDE CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS PER NATIONAL ELECTRIC CODE REQUIREMENTS. DUCT SHALL NOT ROUTE OVER ELECTRICAL PANELS.
- OFFSET AND TRANSITION DUCT AS NECESSARY TO AVOID STRUCTURAL MEMBERS OR EQUIPMENT CONNECTION SIZES. PROVIDE FLEXIBLE DUCT CONNECTORS ON ALL DUCT CONNECTION TO MOTORIZED EQUIPMENT.



**2 HVAC ELEVATION PLAN**  
SCALE: 1/4"=1'-0"



**1 HVAC PLAN**  
SCALE: 1/4"=1'-0"



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0	ISSUED FOR BID	2/23/24	AJG



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SCALE: 1:1

**FLYING CREEK NATURE PRESERVE**

**RESTROOM - HVAC PLAN**

DATE: FEBRUARY 2024  
JOB NO.: 22-1101-0229  
DRAWING NO.: M-1.0  
REVISION NO.: 0

## ELECTRICAL LEGEND

### GENERAL ELECTRICAL DEVICES:

- Ⓢ SINGLE POLE LIGHTING SWITCH. MOUNT 48" TO TOP OF DEVICE AFF UNLESS NOTED OTHERWISE. SUBSCRIPT INDICATES AS FOLLOWS:  
M - TWO POLE MOTOR RATED SWITCH MOUNTED AT THE EQUIPMENT. PROVIDE PHENOLIC LABEL.  
D - LINE VOLTAGE SWITCH WITH DIMMING.
- Ⓜ DUPLEX RECEPTACLE NEMA 5-20R. MOUNT 18" AFF UNLESS NOTED OTHERWISE. VERIFY DUPLEX MOUNTING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN. SUBSCRIPT INDICATES AS FOLLOWS:  
G - GROUND FAULT CIRCUIT INTERRUPTER TYPE.  
WP - GFI DEVICE WITH DIECAST WEATHERPROOF BACKBOX & DIECAST WEATHERPROOF (IN-USE) COVERPLATE. IN EXTERIOR LOCATIONS MOUNT 30" AFG. WEATHERPROOF OUTLET BOX HOODS ARE TO BE LISTED AND IDENTIFIED AS "EXTRA-DUTY".  
84" - MOUNTING HEIGHT OF DEVICE AFF.  
21 - # INDICATES PANELBOARD CKT NUMBER
- Ⓜ DUPLEX RECEPTACLE MOUNTED 42" AFF. OR MOUNT 7" ABOVE COUNTER. VERIFY COUNTER HEIGHT PRIOR TO ROUGH-IN. ORIENT WITH LONG AXIS HORIZONTAL ABOVE COUNTERS.

### LIGHTING CONTROL EQUIPMENT:

- Ⓜ INTERMATIC 'ET2845CP' PROGRAMMABLE TIMECLOCK OR APPROVED EQUAL.

### OCCUPANCY SENSORS:

- Ⓜ WALL MOUNTED LINE VOLTAGE DUAL TECHNOLOGY SWITCH WITH DUAL RELAYS. EACH RELAY IS TO HAVE INDEPENDENT DELAY CONTROL. MOUNT 48" AFF TO TOP OF THE DEVICE UNLESS NOTED OTHERWISE. SWITCH SHALL BE PROGRAMMED TO BE MANUAL ON.

### DISTRIBUTION & POWER EQUIPMENT:

- Ⓜ PANELBOARD. MOUNT AS INDICATED. SEE PANELBOARD SCHEDULES.
- Ⓜ NEC 110.26(A) WORKING CLEARANCE.
- Ⓜ NON-FUSED GENERAL DUTY SAFETY SWITCH. SIZE FOR LOAD BEING SERVED.

### LIGHTING FIXTURES:

SEE LIGHTING FIXTURE SCHEDULE FOR SYMBOLS AND DESCRIPTIONS. THE FIXTURE MARK IN AN ENCLOSED SPACE WITH SIMILAR FIXTURES WILL APPLY TO ALL FIXTURES IN THE SPACE.

### MISCELLANEOUS EQUIPMENT:

- Ⓜ EXHAUST FAN.
- Ⓜ ELECTRICAL CONNECTION TO EQUIPMENT. VERIFY LOCATION WITH EQUIPMENT PROVIDER.

### OTHER:

- Ⓜ CIRCUIT RUN CONCEALED ABOVE CEILING OR IN WALL.
- Ⓜ CIRCUIT RUN CONCEALED IN OR BELOW FLOOR SLAB OR UNDERGROUND.
- Ⓜ HOMERUN TO PANELBOARD. ANY CIRCUIT WITHOUT FURTHER DESIGNATION SHALL BE 2#12 #12G, 3/4"C. TICK MARKS INDICATE # OF CONDUCTORS (EGC NOT SHOWN). MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 50 FEET SHALL BE #10 AWG. MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 100 FEET SHALL BE #8 AWG. MINIMUM SIZE ON 120V HOMERUNS GREATER THAN 160 FEET SHALL BE #6 AWG. MINIMUM SIZE ON 277V HOMERUNS GREATER THAN 100 FEET SHALL BE #10 AWG. INCREASE CONDUIT SIZE AS REQUIRED PER NEC. UNDERLINED TEXT INDICATES CIRCUIT DESIGNATION.
- Ⓜ MECHANICAL EQUIPMENT IDENTIFICATION TAG. SEE MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE.
- Ⓜ LIGHT FIXTURE IDENTIFICATION TAG. SEE LIGHT FIXTURE SCHEDULE FOR SYMBOLS & DETAILS.
- Ⓜ SHEET NOTE TAG.
- Ⓜ PANELBOARD, SWITCHBOARD, TRANSFORMER & ELECTRICAL EQUIPMENT IDENTIFICATION TAG.
- Ⓜ ROOM NUMBER TAG.
- Ⓜ LEADERS.

## ABBREVIATIONS

A AC AF AFF AFG AHU AL ARCH AT ATS ATU AWG BAS BFG BJ BKR BLDG BOD C C/B CL C/L CLG CKT CT CU DDC DEMO EC EGC ELEC EMGB EF EX EXT EWC EMT EQUIP FMC FACP FU F/A FLA FLR FVNR GFI G GC GND GEC HH HOA HP HVAC IG IMC JB k kAIC kMIL LCP LTG LFMC LV MAX MCA MCC MCE	AMPS ABOVE COUNTER AMP FRAME ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AIR HANDLING UNIT ALUMINUM ARCHITECT OR ARCHITECTURAL AMP TRIP AUTOMATIC TRANSFER SWITCH AIR TERMINAL UNIT AMERICAN WIRE GAUGE BUILDING AUTOMATION SYSTEM BELOW FINISHED GRADE BONDING JUMPER CIRCUIT BREAKER BUILDING BASIS OF DESIGN CONDUIT CIRCUIT BREAKER CURRENT LIMITING CENTERLINE CEILING CIRCUIT CURRENT TRANSFORMER COPPER DIRECT DIGITAL CONTROL DEMOLISH ELECTRICAL CONTRACTOR EQUIPMENT GROUNDING CONDUCTOR ELECTRICAL ELECTRICAL MAIN GROUNDING BUSBAR EXHAUST FAN EXISTING TO REMAIN EXTERIOR ELECTRIC WATER COOLER ELECTRICAL METALLIC TUBING EQUIPMENT FLEXIBLE METAL CONDUIT FIRE ALARM SYSTEM CONTROL PANEL FUSE FIRE ALARM FULL LOAD AMPS FLOOR FULL VOLTAGE NON-REVERSING GROUND FAULT INTERRUPTER GROUND (OR GFI FOR RECEPTACLE SUBSCRIPT) GENERAL CONTRACTOR GROUND GROUNDING ELECTRODE CONDUCTOR HANDHOLE HAND-OFF-AUTOMATIC HEAT PUMP OR HORSEPOWER HEATING, VENTILATION & AIR-CONDITIONING ISOLATED GROUND INTERMEDIATE METAL CONDUIT JUNCTION BOX KILO KILO-AMPERE INTERRUPTING CAPABILITY THOUSAND CIRCULAR MILS LIGHTING CONTROL PANEL LIGHTING LIQUID TIGHT FLEXIBLE METAL CONDUIT LOW VOLTAGE MAXIMUM MINIMUM CIRCUIT AMPACITY MOTOR CONTROL CENTER MAIN COMMUNICATIONS EQUIPMENT ROOM	MCM MH MIN MISC MLO MNT MTG MTS MV N1 N3R N/A NA NEC NESC NEU OCPD OFOI OFCI OH OHE OHP OHS PBD PF PNL PT PWR REC REQD RM RGS RNC RVSS SA SCA SF SPEC SWBD SWGR TBB TR TGB TMGB TVSS TYP UFR UG UGE UGP UGS UL UNO UPS V VA VAR VAV W WAO WP WSR XFMR XP φ 72° Δ Ω THOUSAND CIRCULAR MILS MANHOLE MINIMUM MISCELLANEOUS MAIN LUGS ONLY MOUNTING HEIGHT MOUNTING MANUAL TRANSFER SWITCH MEDIUM VOLTAGE NEMA 1 NEMA 3R NOT APPLICABLE NOT APPLICABLE NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL SAFETY CODE NEUTRAL OVERCURRENT PROTECTION DEVICE OWNER FURNISHED OWNER INSTALLED OWNER FURNISHED CONTRACTOR INSTALLED OVERHEAD OVERHEAD ELECTRIC OVERHEAD PRIMARY OVERHEAD SECONDARY PANELBOARD POWER FACTOR PANELBOARD POTENTIAL TRANSFORMER POWER RECEPTACLE REQUIRED ROOM RIGID GALVANIZED STEEL CONDUIT RIGID NON-METALLIC CONDUIT REDUCED VOLTAGE SOLID STATE SURGE ARRESTER SHORT CIRCUIT AMPS SUPPLY FAN SPECIFICATION SWITCHBOARD SWITCHGEAR TELECOMMUNICATIONS BONDING BACKBONE TELECOMMUNICATIONS ROOM TELECOMMUNICATIONS GROUNDING BUSBAR TELECOMMUNICATIONS MAIN GROUNDING BUSBAR TRANSIENT VOLTAGE SURGE SUPPRESSION TYPICAL UNDERFLOOR RACEWAY UNDERGROUND UNDERGROUND ELECTRIC UNDERGROUND PRIMARY UNDERGROUND SECONDARY UNDERWRITERS' LABORATORIES UNLESS NOTED OTHERWISE UNINTERRUPTIBLE POWER SUPPLY VOLT VOLT-AMPERES VOLT-AMPERES REACTIVE VARIABLE AIR VOLUME UNIT WATTS WORK AREA OUTLET WEATHERPROOF WITHSTAND RATING TRANSFORMER EXPLOSION PROOF PHASE DEGREES DELTA OHMS
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DATE: FEBRUARY 2024

FLYING CREEK NATURE PRESERVE

ELECTRICAL LEGEND & ABBREVIATIONS

JOB NO.: 22-1101-0229  
DRAWING NO.: E-0.1  
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# ELECTRICAL SPECIFICATIONS

1. GENERAL ELECTRICAL:
  - 1.1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS INDICATED WITHIN THESE DRAWINGS. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES AND WITH MANUFACTURER'S RECOMMENDATIONS.
  - 1.2. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING HIS BID. THE CONTRACTOR WILL BE REQUIRED TO FURNISH, INSTALL AND CONNECT ALL ITEMS AS INDICATED ON THE DRAWINGS.
  - 1.3. THE ARCHITECT SHALL BE NOTIFIED OF ANY CONFLICTS, OR INTERFERENCES THAT OCCUR BETWEEN INDIVIDUAL DRAWINGS.
  - 1.4. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT, FIRST CLASS, WORKMANLIKE MANNER, TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND GOVERNING AUTHORITIES.
  - 1.5. IN ADDITION TO THE MANUFACTURERS STANDARD GUARANTEES, THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP AGAINST DEFECTS FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND SHALL CORRECT ANY DEFECTS AT NO ADDITIONAL COST TO THE OWNER. ALL LAMPS SHALL BE GUARANTEED FOR 30 DAYS AFTER ACCEPTANCE.
  - 1.6. THE LOADS SHOWN FOR APPLIANCES AND EQUIPMENT ARE BASED ON DESIGN INFORMATION. THE CONTRACTOR SHALL VERIFY ALL APPLIANCE LOADS PRIOR TO RUNNING THE CIRCUIT. THE MINIMUM CIRCUIT REQUIREMENTS SHALL BE BASED ON THE APPLIANCE NAMEPLATE VALUE OR CODE REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ADDITIONAL COMPENSATION SHALL NOT BE ALLOWED FOR APPLIANCE MODIFICATIONS BY THE CONTRACTOR.
  - 1.7. PRIOR APPROVAL: PRIOR APPROVAL SHALL BE REQUIRED FOR ANY MANUFACTURER OTHER THAN THOSE LISTED FOR ALL SPECIFIED ITEMS IN THESE DRAWINGS. SUBMIT ALL REQUESTS FOR PRIOR APPROVAL 2 WEEKS PRIOR TO BID OPENING. ENGINEER'S APPROVAL WILL BE IN THE FORM OF AN ADDENDUM.
  - 1.8. APPROVAL SUBMITTALS: PROVIDE 6 COPIES OF APPROVAL SUBMITTALS FOR ALL EQUIPMENT BEING PROVIDED FOR ENGINEERS REVIEW.
2. CODES & STANDARDS:
  - 2.1. INSTALLATION AND MATERIALS SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES & STANDARDS:
    - 2.1.1. NATIONAL ELECTRICAL CODE.
    - 2.1.2. INTERNATIONAL BUILDING CODE.
    - 2.1.3. INTERNATIONAL ENERGY CONSERVATION CODE.
    - 2.1.4. NFPA 101.
    - 2.1.5. ADA .
    - 2.1.6. ANSI.
    - 2.1.7. NEMA.
    - 2.1.8. OSHA.
    - 2.1.9. UL.
3. ALTERATIONS & ADDITIONS TO EXISTING WORK:
  - 3.1. PROVIDE ALL NECESSARY ADDITIONS AND ALTERATIONS TO EXISTING WORK AS REQUIRED TO PROVIDE AND MAINTAIN A COMPLETE AND PROPER ELECTRICAL INSTALLATION.
  - 3.2. AS NECESSARY, RELOCATE EXISTING ELECTRICAL WORK SO OTHER TRADES CAN PURSUE THEIR WORK.
  - 3.3. MAINTAIN POWER TO EXISTING PORTIONS OF BUILDINGS FED FROM OR THROUGH AREA IN SCOPE OF THIS CONTRACT.
  - 3.4. COORDINATE ALL REQUIRED OUTAGES WITH OWNER.
4. BASIC MATERIALS & METHODS:
  - 4.1. ALL POWER AND DISTRIBUTION CABLING SHALL BE COPPER TYPE THWN/THHN.
  - 4.2. ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. LOCATED OUTDOORS SHALL BE WEATHERPROOF.
  - 4.3. ELECTRICAL CONTRACTOR SHALL PROVIDE ADEQUATE AND PROPER SUPPORT FOR ALL ELECTRICAL OUTLETS, DEVICES, LIGHT FIXTURES, ETC. BUILT IN OR MOUNTED ON CEILINGS. NO OUTLET BOX, DEVICE, LIGHT FIXTURE, ETC. SHALL BE SUPPORTED FROM ANY ACOUSTICAL CEILING TILE OR DRYWALL CEILINGS. PROVIDE METAL SUPPORTS THAT ARE MADE FOR USE WITH CEILING GRID SYSTEMS OR PROVIDE HANGERS FROM STRUCTURE ABOVE.
  - 4.4. CONDUIT ROUTINGS AND DEVICE/EQUIPMENT LOCATIONS SHOWN ARE DIAGRAMMATIC ONLY, CONTRACTOR SHALL FIELD ROUTE AND LOCATE AS REQUIRED. CONDUIT ROUTINGS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING LINES.
  - 4.5. JUNCTION BOXES LOCATED ABOVE CEILING SHALL BE INSTALLED FACING DOWN AND SHALL BE ACCESSIBLE AFTER INSTALLATION.
  - 4.6. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES AND STRUCTURAL COMPONENTS TO AVOID CONFLICTS PRIOR TO BEGINNING ANY WORK.
  - 4.7. THE CONDUIT MATERIAL SHALL BE AS FOLLOWS:
    - 4.7.1. BELOW GRADE - RNC (POWER & SITE LIGHTING ONLY). ELBOWS >1-1/2" SHALL BE RGS.
    - 4.7.2. RISER FROM 36" BELOW GRADE - RGS.
    - 4.7.3. CONCEALED RISER FROM 36" BELOW GRADE - RNC (POWER ONLY).
    - 4.7.4. ABOVE GRADE SUBJECT TO PHYSICAL ABUSE - RGS.
    - 4.7.5. ABOVE GRADE NOT SUBJECT TO PHYSICAL ABUSE OR WEATHER - EMT.
    - 4.7.6. INDOORS NOT SUBJECT TO PHYSICAL ABUSE - EMT.
    - 4.7.7. FINAL CONDUIT CONNECTIONS TO HEAT PUMPS, AIR HANDLERS, EXHAUST FANS, AND WATER HEATERS SHALL BE LFMC WHETHER INTERIOR OR EXTERIOR.
  - 4.8. CONDUIT FITTINGS SHALL BE AS FOLLOWS:
    - 4.8.1. EMT - <=2" USE STEEL SET SCREW WITH INSULATED THROATS FOR INTERIOR/ USE COMPRESSION FITTINGS WITH INSULATED THROATS FOR EXTERIOR, >2" USE SET-SCREW STEEL WITH INSULATED THROATS.
    - 4.8.2. RGS - THREADED GALVANIZED STEEL.
    - 4.8.3. PVC - PVC APPROVED FOR THE USE.
    - 4.8.4. FMC - ZINC-PLATED STEEL OR CADMIUM-PLATED MALLEABLE IRON SCREW TYPE WITH INSULATED THROAT.
- 4.8.5. LFMC - CADMIUM-PLATED MALLEABLE IRON OR STEEL COMPRESSION TYPE WITH INSULATED THROAT.
- 4.9. ALL OUTLET BOXES SHALL BE 4"x4"x1-1/2" DEEP MINIMUM.
- 4.10. ELECTRICAL CONTRACTOR SHALL WORK CLOSELY WITH THE MASONRY CONTRACTOR ON THE INSTALLATION OF ALL ELECTRICAL BOXES, CABINETS, RINGS, ETC. IN MASONRY WALLS. THE BOXES SHALL BE INSTALLED AT THE UNIFORM HEIGHTS CALLED FOR ON THE DRAWINGS AND SPECIFICATIONS. PROVIDE APPROPRIATE DEPTH MASONRY RINGS FOR ALL OUTLETS IN MASONRY WALLS TO INSURE PROPER CUTTING AND FITTING. THE FACE OF THE CABINETS, BOXES, RINGS, ETC. SHALL BE PLUMB AND FLUSH WITH THE FACE OF THE FINISH MATERIAL. ANY CABINET, OUTLET BOX, ETC. NOT MEETING THE ABOVE REQUIREMENT SHALL BE REMOVED AND REINSTALLED AT NO ADDITIONAL COST TO THE OWNER.
- 4.11. ALL SIDEWALKS AND PARKING LOT ASPHALT AREAS THAT ARE CUT DUE TO NEW ELECTRICAL SERVICES SHALL BE REPAIRED TO MATCH EXISTING.
- 4.12. ALL DIMENSIONS TO DEVICES AFF SHALL BE TO CENTERLINE UNLESS NOTED OTHERWISE.
- 4.13. WALL OUTLETS SHALL NOT BE INSTALLED BACK TO BACK.
- 4.14. COORDINATE LOCATIONS OF ELECTRICAL EQUIPMENT, DEVICES, OUTLETS, FIXTURES, ETC., WITH ARCHITECTURAL PLANS, ELEVATIONS AND REFLECTED CEILING PLANS PRIOR TO ROUGH-IN WORK.
5. GROUNDING & BONDING:
  - 5.1. PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS.
  - 5.2. GROUND RODS SHALL BE 3/4"x20" COPPERCLAD STEEL.
  - 5.3. BELOW GRADE CONNECTIONS SHALL BE EXOTHERMIC TYPE.
  - 5.4. ALL CABLES SHALL BE COPPER, ALL BOLTED CONNECTIONS SHALL BE BRONZE.
  - 5.5. WHERE AVAILABLE, BOND TO BUILDING STRUCTURAL STEEL, BUILDING FOUNDATION STEEL, METAL WATER SERVICE PIPING.
  - 5.6. PROVIDE THREE 20' GROUND RODS IN TRIANGLE ARRANGEMENT ON 20' CENTERS FOR MADE ELECTRODE SYSTEM. THE ELECTRICAL CONTRACTOR SHALL BOND NEW COPPER CLAD GROUND RODS WITH TINNED STRANDED BARE COPPER CONDUCTOR.
6. IDENTIFICATION:
  - 6.1. PROVIDE ENGRAVED 1"x3" PHENOLIC LABELS FOR ALL PANELBOARDS, SAFETY SWITCHES, TRANSFORMERS, CABINETS, ETC.
  - 6.2. PAINT THE RACEWAY SYSTEM COUPLINGS AND BOX COVERS ABOVE CEILINGS FOR THE FOLLOWING SYSTEMS AS FOLLOWS:
    - 6.2.1. 240 VOLT SYSTEMS - BLACK.
    - 6.2.2. AFTER PAINTING, WRITE THE CIRCUIT NUMBER (I.E. "LPA-34") ON ALL BRANCH CIRCUIT JUNCTION BOX COVERS ABOVE CEILING WITH WHITE MARKER.
7. GENERAL WIRING DEVICES:
  - 7.1. SWITCHES - SPECIFICATION GRADE, 20 AMP, COLOR BY ARCHITECT.
  - 7.2. RECEPTACLES - SPECIFICATION GRADE, 20 AMP, NEMA 5-20R, COLOR BY ARCHITECT.
  - 7.3. COVER PLATES - NYLON, COLOR BY ARCHITECT.
  - 7.4. SPECIAL RECEPTACLES - PER THE DRAWINGS, VERIFY WITH EQUIPMENT BEING SUPPLIED.
  - 7.5. APPROVED MANUFACTURERS - HUBBELL, LEVITON, EAGLE, PASS & SEYMOUR.
8. SAFETY SWITCHES:
  - 8.1. GENERAL DUTY, VISIBLE BLADE, LOCKABLE, QUICK-MAKE/QUICK-BREAK, HORSEPOWER RATED, FUSED WHERE INDICATED.
  - 8.2. PROVIDE WITH GROUND LUG KIT.
  - 8.3. INTERIOR - NEMA 1.
  - 8.4. EXTERIOR - NEMA 3R.
  - 8.5. APPROVED MANUFACTURERS - SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER SIEMENS.
9. MOTOR STARTERS:
  - 9.1. MANUAL TYPE SHALL BE TOGGLE WITH THERMAL OVERLOAD.
  - 9.2. MAGNETIC TYPE SHALL HAVE SOLID STATE OVERLOAD RELAY WITH Ø LOSS AND Ø UNBALANCE PROTECTION, HOA SWITCH, RED RUN AND GREEN STOP LED LIGHTS.
  - 9.3. INTERIOR - NEMA 1.
  - 9.4. EXTERIOR - NEMA 3R.
  - 9.5. APPROVED MANUFACTURERS - SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER, SIEMENS.
10. PANELBOARDS:
  - 10.1. FRONT ACCESSIBLE, BOLT-ON MOLDED CASE C/Bs, COPPER PHASE & NEUTRAL BUSSING, COPPER GROUND BAR, FULLY RATED (SERIES RATING NOT ALLOWED).
  - 10.2. ENCLOSURES SHALL BE DOOR-IN-DOOR CONSTRUCTION.
  - 10.3. INTERIOR - NEMA 1.
  - 10.4. ALL INTERIOR PANELBOARDS ARE TO HAVE FOUR SPARE 3/4" CONDUITS INSTALLED TO AN ACCESSIBLE SPACE FOR FUTURE.
  - 10.5. EXTERIOR - NEMA 3R.
  - 10.6. PROVIDE TYPE-WRITTEN DIRECTORY IN CLEAR SLEEVE ON INSIDE OF DOOR.
  - 10.7. APPROVED MANUFACTURERS - SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER, SIEMENS.



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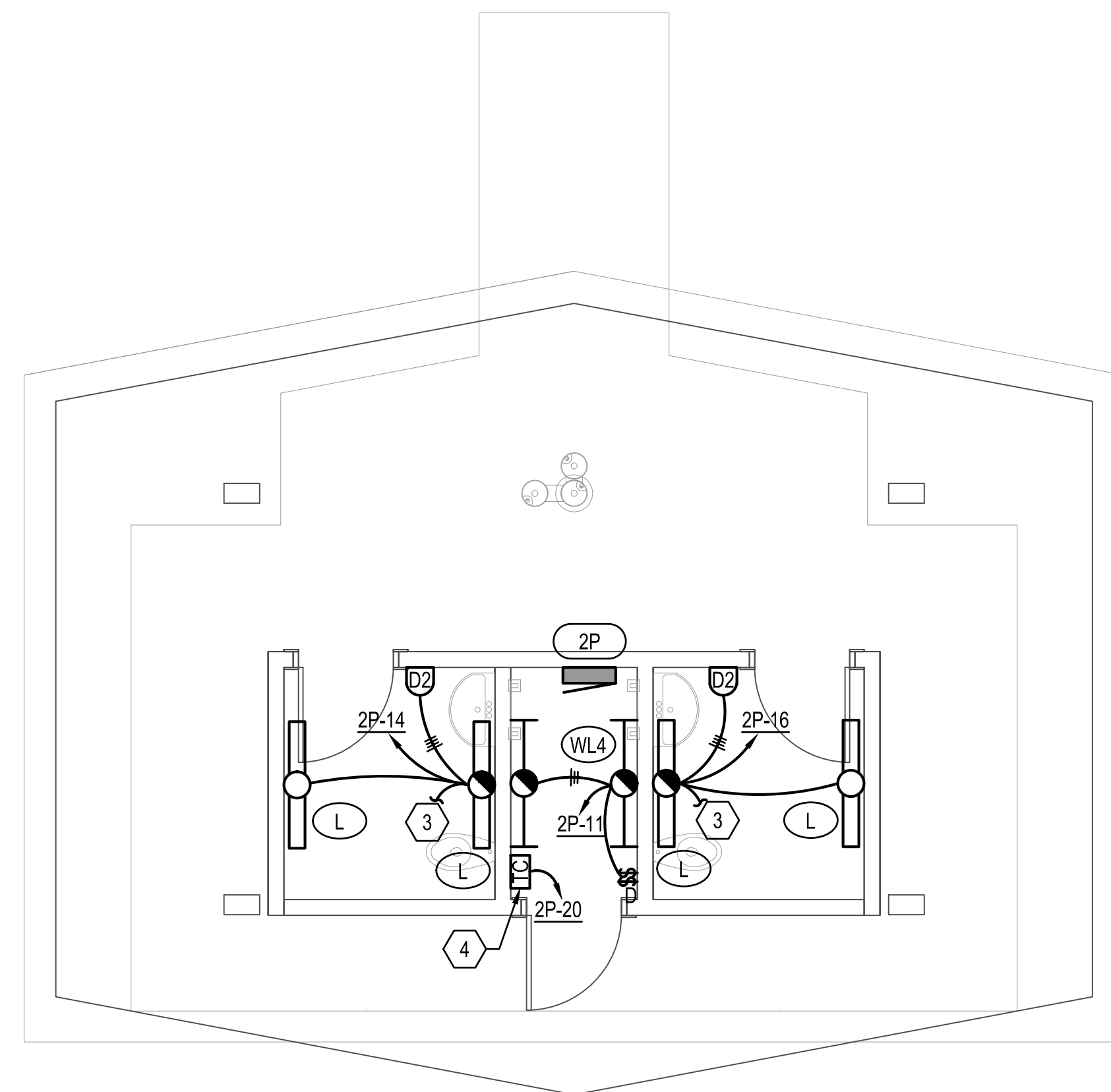
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**FLYING CREEK NATURE PRESERVE**

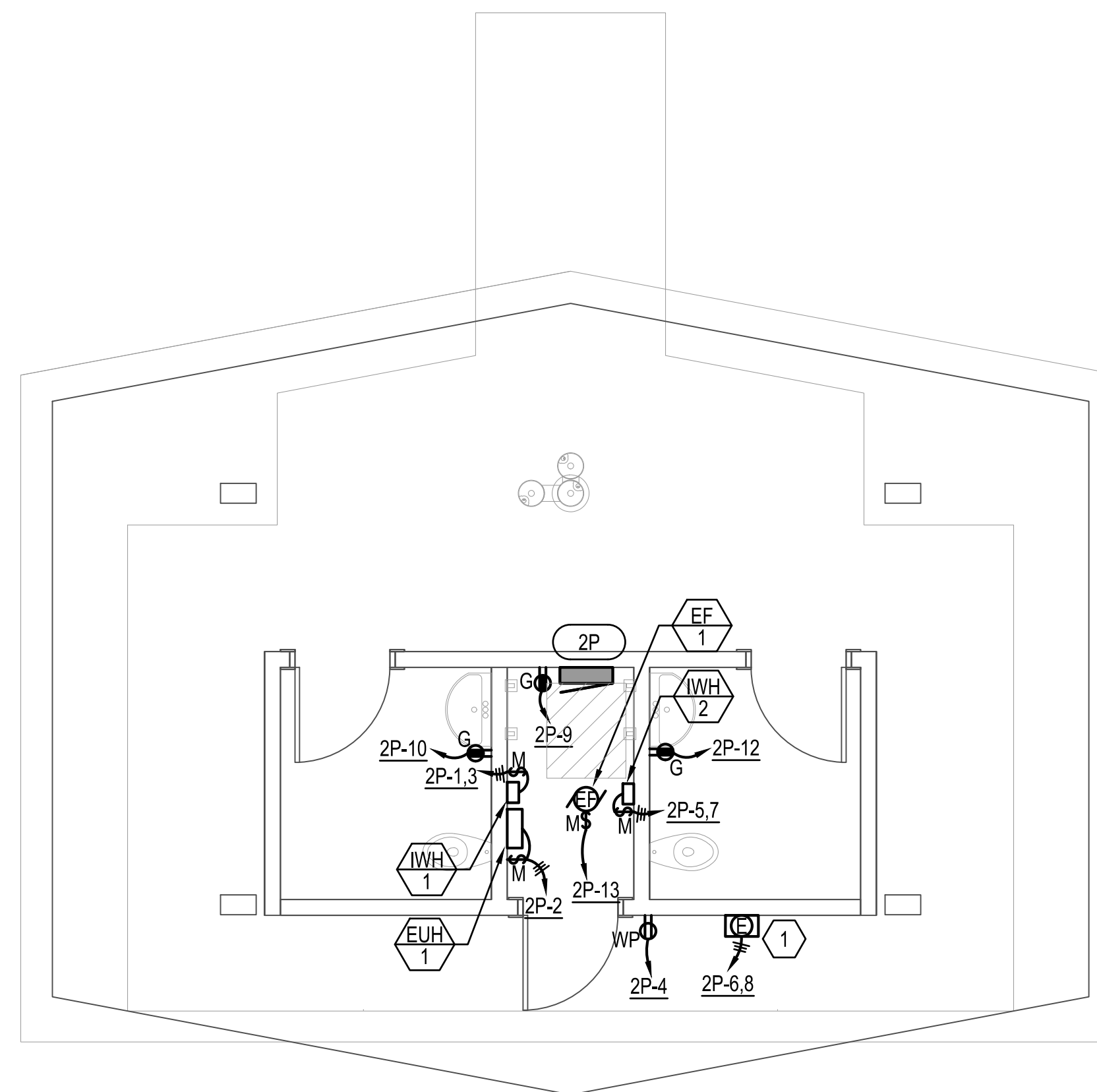
ELECTRICAL SPECIFICATIONS

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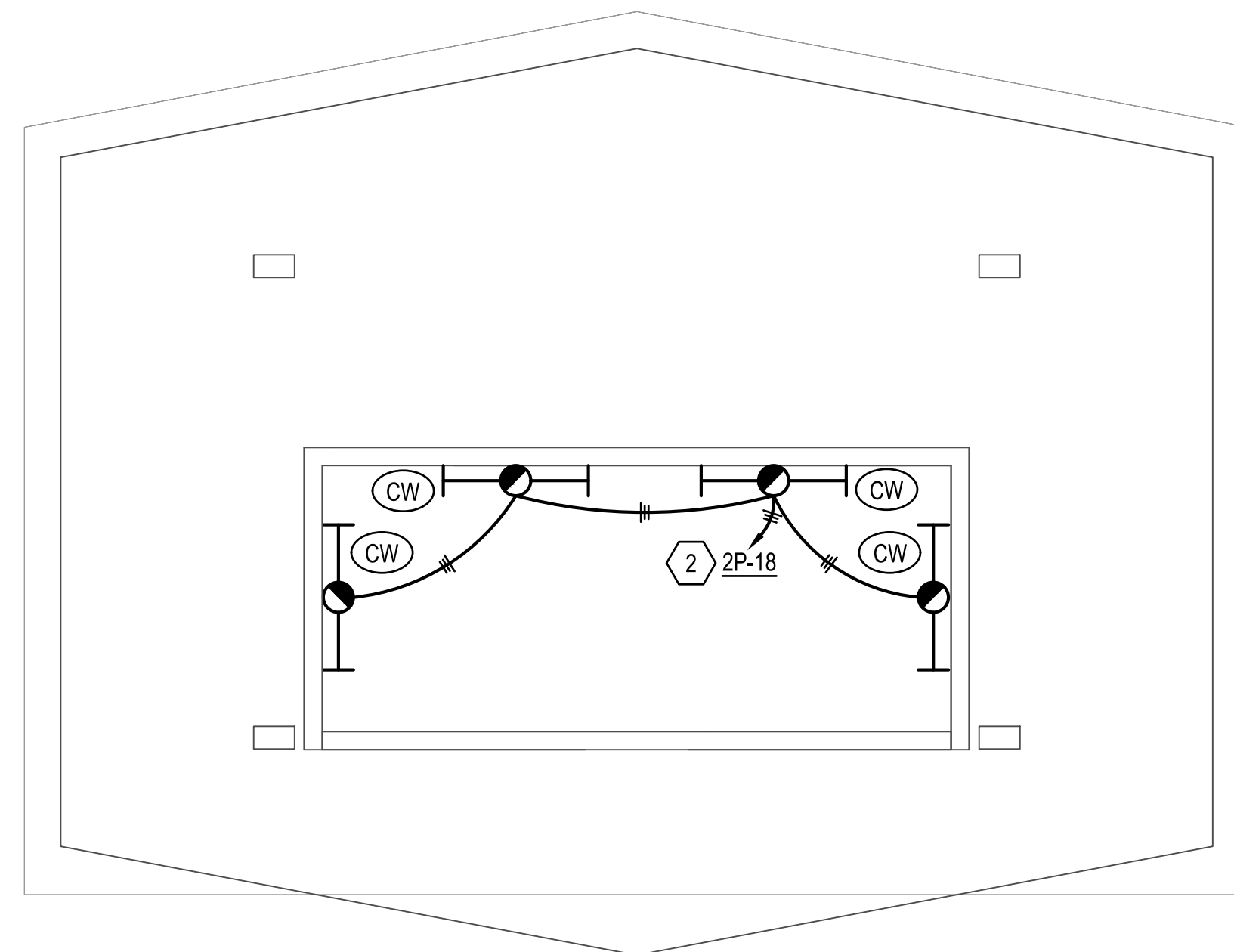




1 LIGHTING PLAN  
SCALE: 1/4"=1'-0"



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



3 LIGHTING PLAN - ROOF  
SCALE: 1/4"=1'-0"

### GENERAL NOTES

- ALL ELECTRICAL CONDUIT, BOXES, DEVICES, ETC. (EXCLUDING THE UTILITY CHASE) ARE TO BE RECESSED IN THE CAST-IN-PLACE CONCRETE WALLS. COORDINATE THE INSTALLATION OF ALL RECESSED ELECTRICAL WORK WITH THE CAST-IN-PLACE CONTRACTOR PRIOR TO BEGINNING ANY WORK.
- 'CW' FIXTURES ARE TO BE MOUNTED TO THE PARAPET WALL ABOVE THE ROOF. COORDINATE THE FINAL AIMING OF THE 'CW' FIXTURES WITH THE ARCHITECT PRIOR TO PROJECT COMPLETION.
- COORDINATE FINAL LIGHT FIXTURE LOCATIONS WITH ALL OTHER TRADES INSIDE THE CHASE TO ENSURE MAXIMUM LIGHTING COVERAGE.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO ENSURE THAT ALL ELECTRICAL EQUIPMENT CLEARANCE REQUIREMENTS ARE MET.
- COORDINATE ALL EQUIPMENT DISCONNECT LOCATIONS WITH ALL OTHER TRADES PRIOR TO ROUGH-IN TO AVOID CONFLICTS.

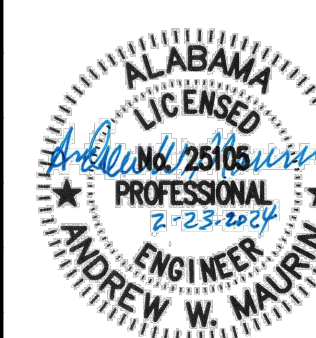
### SHEET NOTES

- APPROXIMATE LOCATION OF THE GRINDER PUMP CONTROL PANEL. COORDINATE EXACT LOCATION AND FINAL POWER CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
- THIS CIRCUIT IS TO BE ROUTED THROUGH THE TIMECLOCK AND PROGRAMMED PER THE OWNER'S REQUIREMENTS. PROVIDE THE CIRCUIT WITH A DIMMING OVERRIDE SWITCH LOCATED IN THE UTILITY CHASE.
- CONNECT TO EF-1. THE FAN SHALL BE 'ON' IF EITHER OF THE RESTROOM SWITCHES ARE 'ON'. THE FAN SHALL ONLY BE 'OFF' IF BOTH RESTROOM LIGHT SWITCHES ARE 'OFF'.
- COORDINATE THE FINAL LOCATION OF THE PROGRAMMABLE TIMECLOCK PRIOR TO ROUGH-IN.

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CITY OF FAIRHOPE  
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FLYING CREEK NATURE PRESERVE

LIGHTING & POWER PLANS

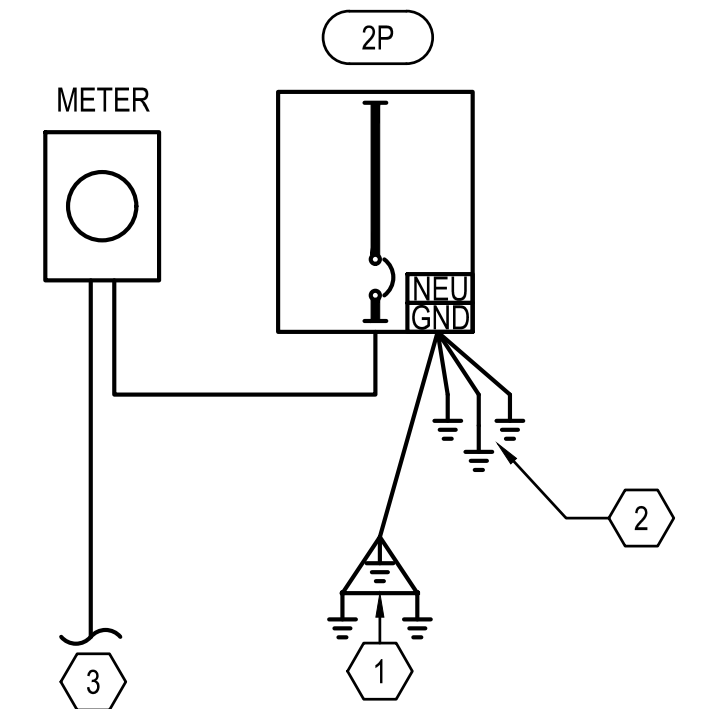
PANELBOARD SCHEDULE													
MARK: PANEL 2P													
CKT #	LOAD DESCRIPTION	BREAKER		PHASE (kVA)		PHASE (kVA)		BREAKER		LOAD DESCRIPTION		CKT #	
		P	TRIP	A	B	A	B	TRIP	P				
1	IWH-1	2	20	1.8		0.8		20	1	EUH-1		2	
3					1.8		0.2		20	1	WEATHERPROOF RECEPTACLE		4
5					1.8		1.5		20	2	GRINDER PUMP CONTROL PANEL		6
7	IWH-2	2	20		1.8		1.5		20	2			8
9	UTILITY CHASE RECEPTACLE	1	20	0.2		0.2		20	1	RESTROOM RECEPTACLE		10	
11	UTILITY CHASE LIGHTING	1	20		0.1		0.2	20	1	RESTROOM RECEPTACLE		12	
13	EF-1	1	20	0.2		0.2		20	1	RESTROOM LIGHTING		14	
15	SPARE	1	20				0.2	20	1	RESTROOM LIGHTING		16	
17	SPARE	1	20				0.2	20	1	ROOF STRUCTURE UPLIGHTING		18	
19	SPARE	1	20				0.2	20	1	LIGHTING TIMECLOCK		20	
21	SPARE	1	20					20	1	SPARE		22	
23	SPARE	1	20					20	1	SPARE		24	
25	SPARE	1	20					20	1	SPARE		26	
27	SPARE	1	20				-	20	1	SPARE		28	
29	SPARE	1	20				-	20	1	SPARE		30	
				4.0	3.7	2.9	2.3						
TOTAL (kVA) ØA				6.9	ØB	6.0	HIGH PHASE (AMPS)				57.5		
TOTAL CONNECTED LOAD (kVA)				12.9				TOTAL LOAD (AMPS)				62.0	
CREATE A DIRECTORY TO INDICATE INSTALLED LOADS. INDICATE LOAD TYPE (REC, LTG, AHU-1, ETC.) AND ROOM NUMBERS SERVED FOR EVERY BRANCH CIRCUIT.													

### GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE PERMANENT, TYPEWRITTEN LABELS AND DIRECTORIES FOR ALL PANELBOARDS INVOLVED IN THE PROJECT.

### SINGLE LINE DIAGRAM NOTES

- 1 #1/0 GEC TO THREE 20' GROUND RODS ON 20' CENTERS IN EQUILATERAL DELTA ARRANGEMENT.
- 2 #1/0 BONDS TO FOUNDATION REBAR, BUILDING WATER SERVICE AND BUILDING STEEL.
- 3 SERVICE CONDUITS / CONDUCTORS FROM THE METER TO THE UTILITY IS PROVIDED AND INSTALLED BY THE CITY OF FAIRHOPE. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL SERVICE REQUIREMENTS WITH FAIRHOPE UTILITIES PRIOR TO BEGINNING ANY WORK. ALL FINAL ELECTRICAL CONNECTIONS TO THE BUILDING SERVICE ARE TO BE MADE BY THE ELECTRICAL CONTRACTOR.



1 SINGLE LINE DIAGRAM  
NOT TO SCALE

### PANELBOARD INFORMATION SCHEDULE

MARK	ENCLOSURE TYPE	MOUNTING STYLE	VOLTAGE	Ø	WIRE	MAIN BKR	IF MLO, SERVING BKR	SERVICE RATED	AVAILABLE SCA**	KAIC RATING*	Ø BUS RATING (A)	N BUS	FEEDER			NOTES
													CONDUCTORS	GROUND	CONDUIT	
2P	NEMA 1	SURFACE	120/240	1	3	200	N/A	YES	-	10	200	100%	3#3/0	NONE	2 1/2" C	1
NOTES																
1. THE ELECTRICAL CONTRACTOR IS TO LABEL THE SERVICE ENTRANCE EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE 110.24.																
ALL PANELBOARDS ARE TO HAVE ARC FLASH WARNING LABEL IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ARTICLE 110.16.																
ALL PANELBOARDS ARE TO HAVE COPPER BUS.																

### LIGHTING FIXTURE SCHEDULE

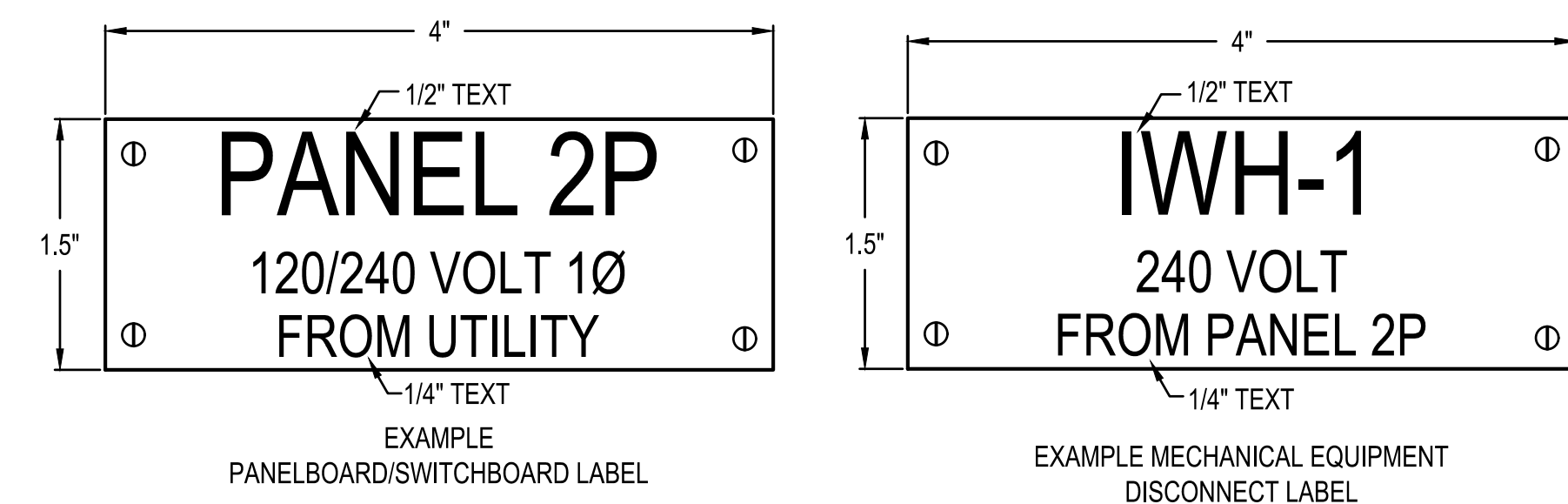
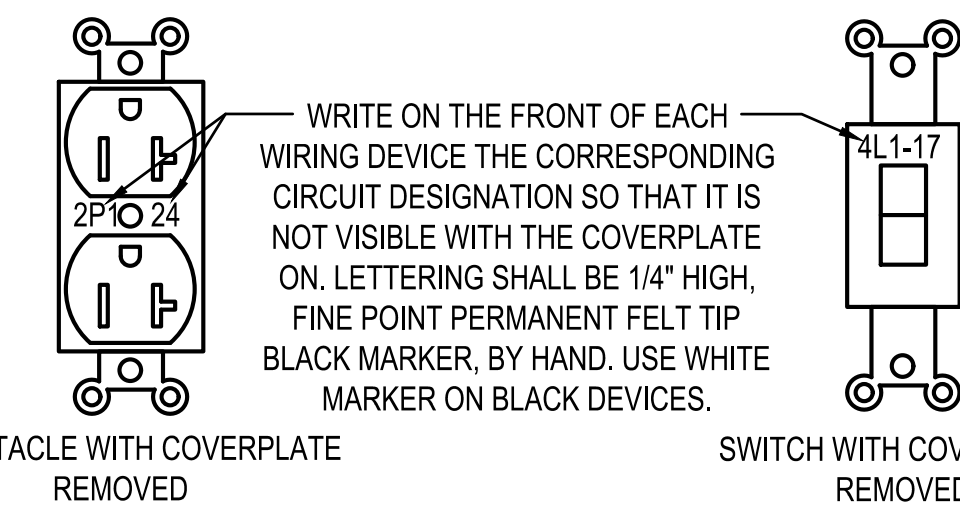
MARK	MANUFACTURER AND CATALOG NUMBER	LAMPS			TOTAL WATTS	VOLTAGE	MOUNTING	NOTES
		TYPE	#	WATTS				
L	KENALL MLHA5S B48 E48 R MW PP 45L35K DCC DV DL CMB D-0552	LED	1	49	49	120	WALL / CORNER	4' LOW PROFILE LINEAR LED FIXTURE
CW	PINNACLE MW HE 830VHO 4 WH U EE1 1	LED	1	39	38.8	MVOLT	SURFACE / PARAPET WALL	4' ADJUSTABLE LINEAR COVE FIXTURE PROVIDE WITH FLUSH MOUNT
WL4	LITHONIA LIGHTING WL4 40L EZ1 LP835	LED	1	39.5	39.5	MVOLT	WALL	4' LED STRIP LIGHT FIXTURE
NOTES								
FIXTURES WITH HALF FILLED IN CENTERS ARE TO BE PROVIDED WITH EMERGENCY BALLAST, 1100 LUMENS OR THE MAXIMUM AVAILABLE FOR THE FIXTURE.								
CONFIRM FINAL FIXTURES SELECTION WITH THE ARCHITECT / OWNER PRIOR TO ORDERING.								
CONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED MOUNTING HARDWARE AS REQUIRED TO OBTAIN A FULLY FUNCTIONAL LIGHTING SYSTEM								

### MECHANICAL EQUIPMENT ELECTRICAL SCHEDULE

MARK	ITEM	VOLTAGE/Ø	MCA (AMPS)	LOAD	MEANS OF DISCONNECT*	C/B TRIP (AMPS)	CIRCUIT			SERVING PANEL	NOTES
							Ø	GROUND	CONDUIT		
IWH-1	INSTANTANEOUS WATER HEATER	240/1	18.8	3.6 kW	TSM	20	3#12	#12	3/4" C	2P	
IWH-2	INSTANTANEOUS WATER HEATER	240/1	18.8	3.6 kW	TSM	20	3#12	#12	3/4" C	2P	
NOTES											
*N1=NEMA 1, N3R=NEMA 3R, SS=SAFETY SWITCH, FSS=FUSED SAFETY SWITCH, C/B=SERVING C/B, TS=MANUAL TOGGLE SWITCH, TSM=MOTOR RATED TS											
FOR FUSED SAFETY SWITCHES THE 1ST # IS FUSE SIZE, THE 2ND # IS FRAME SIZE (FOR EXAMPLE: 90/100/3 N1,FSS INDICATES A 3 POLE 100A FUSED SAFETY SWITCH WITH 90A FUSES)											

### 2 WIRING DEVICE LABEL DETAIL

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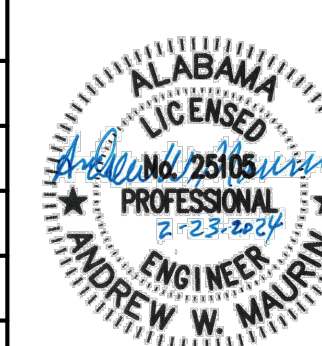
ENGRAVED PLASTIC TAG WITH BLACK LETTERS ON WHITE BACKGROUND (RED BACKGROUND FOR EMERGENCY EQUIPMENT). TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH. SECURE TAG WITH 4 CHROME (STAINLESS STEEL FOR WET OR DAMP LOCATIONS) SCREWS. ADHESIVE BACKING, TAPE, ETC IS NOT ALLOWED. DIMENSIONS ARE MINIMUM, TAG SHALL BE LARGER AS REQUIRED TO FIT APPROPRIATE TEXT.

### 3 TYPICAL EQUIPMENT LABELING DETAIL

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FLYING CREEK NATURE PRESERVE

ELECTRICAL DETAILS & SCHEDULES

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DELL CONSULTING PROJECT: 23-169



## GENERAL PLUMBING NOTES

1. THE CONTRACTOR SHALL EXECUTE ALL WORK SO THAT IT PROCEEDS WITH A MINIMUM INTERFERENCE WITH OTHER TRADES.
2. VERIFY EXACT PLUMBING FIXTURE ROUGH-IN AND FINAL HVAC EQUIPMENT REQUIREMENTS IN THE FIELD.
3. DRAIN, WASTE, AND VENT PIPING AND FITTINGS SHALL BE SCHEDULE 40 POLY VINYL CHLORIDE (PVC) SYSTEM "ASTM D 2665". NO FOAM CORE SHALL BE USED. PROVIDE ALL NECESSARY FITTINGS TO CONNECT NEW TO EXISTING PIPING.
4. DOMESTIC WATER PIPING SHALL BE ASTM B 88, TYPE K, WITH ANSI B16.18 OR ANSI B16.22 SOLDER JOINT FITTINGS USING SILVER SOLDER AND FLUX CONTAINING NOT MORE THAN 0.2 PERCENT LEAD; OR WITH ANSI B16.26 FLARED JOINT FITTINGS. ASTM B 88, TYPE L MAY BE PROVIDED FOR ABOVEGROUND PIPING. SLEEVE SERVICE ENTRANCE AT SLAB. SEAL AROUND PIPING WATER PROOF. AT CONTRACTOR'S OPTION, UPANOR PEX PIPING CAN BE USED WITH POLYMER FITTINGS. NO SHARK BITE FITTINGS ARE ALLOWED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, FURNISHING AND INSTALLING ALL TRAPS, DRAINS, AND SUPPLIES WITH STOPS. FURNISH AND INSTALL PLUMBING FIXTURES INDICATED OR SPECIFIED, COMPLETE WITH ALL EQUIPMENT, FITTINGS, TRIM AND ACCESSORIES INDICATED OR SPECIFIED. EXPOSED WATER PIPING TO FIXTURES SHALL BE CHROME-PLATED BRASS, IPS. ADJUST WATER FLOW THROUGH ALL FIXTURES TO PROVIDE PROPER FLUSHING ACTION WITH THE LEAST AMOUNT OF WATER.
6. COORDINATE ROUTING OF WATER SUPPLY, WASTE, AND VENT PIPING WITH OTHER TRADES.
7. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES ALL REQUIRED OPENINGS AND EXCAVATIONS.
8. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE THE ROOF. ALL VENTS SHALL BE A MINIMUM OF 10 FEET FROM ANY OUTSIDE AIR INTAKE.
9. FLOOR CLEANOUTS SHALL BE ADJUSTABLE HEIGHT POLISHED BRONZE, NICKEL BRONZE WITH "CO" CAST IN THE FLOOR PLATE.
10. PROVIDE STOPS AND WATER HAMMER ARRESTORS IN ACCORDANCE WITH PDI AND ASSE 1010. AN ACCESS PANEL MUST BE INSTALLED IF WATER HAMMER ARRESTER IS LOCATED INSIDE A WALL OR ABOVE A HARD CEILING. COORDINATE OPENINGS WITH ARCHITECT.
11. PROVIDE DIELECTRIC UNIONS AT ALL DISSIMILAR METAL CONNECTIONS.
12. INSULATE ALL WATER PIPING. DOMESTIC WATER PIPE NOT EXPOSED TO VIEW SHALL BE INSULATED WITH 1" THICK GLASS FIBER WITH FACTORY APPLIED UNIVERSAL JACKET. DENSITY SHALL BE 4 POUNDS PER CUBIC FOOT. FITTINGS SHALL BE INSULATED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. INSULATION VAPOR BARRIER SHALL BE LAPPED AND CEMENTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DOMESTIC WATER PIPE EXPOSED TO VIEW SHALL BE INSULATED SAME AS WHERE NOT EXPOSED TO VIEW, EXCEPT IT SHALL BE FINISHED WITH A SIZED UNIVERSAL JACKET SUITABLE FOR PAINTING. FITTING SHALL BE MADE OF "QUICKSET" CEMENT MOLDED TO FIT AND COVERED WITH 8 OZ. CANVAS AND FINISHED WITH WHITE VAPOR BARRIER CEMENT, AND HAVE PLASTIC MOLDED FITTING COVERS. INSULATE DOMESTIC WATER AND WASTE PIPING UNDER HANDICAP LAVATORIES AND SINKS USING "LAVGUARD2 E-Z SERIES" MOLDED VINYL PIPING COVERS. COVER ALL PIPING, FITTING, VALVES, AND TRAPS EXPOSED TO VIEW.
13. ROUTE ALL PIPING AS TO CAUSE MINIMAL INTERFERENCE FOR MAINTENANCE OF ALL EQUIPMENT. UNLESS OTHERWISE NOTED, ALL DOMESTIC WATER PIPING SHALL BE ROUTED WITHIN CHASE SPACE. PIPING BELOW SLAB SHALL BE WITHOUT JOINTS AND TEES. PIPING PASSING THRU WALLS EXTENDING TO BOTTOM OF STRUCTURE SHALL BE SLEEVED AND SEALED. ALL DOMESTIC WATER PIPING ROUTED EXPOSED BELOW 6'-8" ABOVE FINISH FLOOR SHALL BE PROVIDED WITH A PVC JACKET TO PREVENT DAMAGE TO THE PIPE.
14. PROVIDE SHUTOFF VALVE TO EACH SILLCOCK WITH VALVE IDENTIFICATION AS REQUIRED BY CODE.
15. BEFORE FINAL ACCEPTANCE OF THE WORK, TEST EACH SYSTEM AS IN SERVICE TO DEMONSTRATE COMPLIANCE WITH 2018 INTERNATIONAL PLUMBING CODE AND LOCAL CODE REQUIREMENTS. ONCE TEST ARE IN COMPLIANCE WITH CONTRACT REQUIREMENTS DISINFECT WATER SYSTEM IN ACCORDANCE WITH AWWA C651.
16. CONTRACTOR TO VERIFY ALL LOCATIONS OF ROOF PENETRATIONS WITH ARCHITECTURAL DRAWINGS.
17. PIPE HANGERS AND SUPPORTS SHALL BE MSS SP-58 AND MSS SP-69, TYPE 1 OR 6, OF THE ADJUSTABLE TYPE, EXCEPT AS INDICATED OTHERWISE. ATTACHMENTS TO STEEL W OR S BEAMS SHALL BE WITH TYPE 21, 28, 29, OR 30 CLAMPS. ATTACHMENTS TO STEEL ANGLES AND CHANNELS (WITH WEB VERTICAL) SHALL BE WITH TYPE 20 CLAMP WITH A BEAM CLAMP CHANNEL ADAPTER. ATTACHMENTS TO STEEL CHANNEL (WITH WEB HORIZONTAL) SHALL BE WITH DRILLED HOLE ON CENTERLINE AND DOUBLE NUT AND WASHER. ATTACHMENTS TO CONCRETE SHALL BE WITH TYPE 18 INSERT OR A DRILLED HOLE WITH EXPANSION ANCHOR. HANGER RODS AND ATTACHMENTS SHALL BE FULL SIZE OF THE HANGER-THREADED DIAMETER. PROVIDE TYPE 40 INSULATION PROTECTION SHIELDS FOR INSULATED PIPING. PROVIDE STEEL SUPPORT RODS. PROVIDE NONMETALLIC, HAIR FELT, OR PLASTIC PIPING ISOLATORS BETWEEN COPPER TUBING AND THE HANGERS.
18. LABEL ALL WATER SERVICE VALVES IN ACCORDANCE WITH APPLICABLE CODES
19. COORDINATE EXACT FLOOR DRAIN LOCATIONS ARCHITECTURAL DRAWINGS. SLOPE ENTIRE ROOM TO DRAINS.
20. ALL TRAP PRIMER VALVES NOT LOCATED IN NORMALLY UNOCCUPIED SPACES SHALL BE MOUNTED ABOVE THE CEILING AND PROVIDED WITH A LABEL ON THE CEILING GRID TO INDICATE THE TRAP PRIMER LOCATION. NO TRAP PRIMERS SHALL BE INSTALLED EXPOSED IN NORMALLY OCCUPIED SPACES.
21. ROUTE SANITARY PIPING AS HIGH AS POSSIBLE TO AVOID CONFLICT WITH FOOTERS AND TO MAINTAIN ABILITY TO GRAVITY DISCHARGE INTO CITY SEWER. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION OF THE NEW SANITARY SEWER LATERAL AND ENSURE WASTE PIPING IS INSTALLED TO PROVIDE A GRAVITY DISCHARGE INTO THE CITY MAIN.
22. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL ASSOCIATED WASTE AND WATER TAP FEES ASSOCIATED WITH THIS PROJECT. ALL FEES ARE TO BE INCLUDED IN THE CONSTRUCTION COST.
23. ALL WORK INSTALLED SHALL MEET THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION, THE 2018 INTERNATIONAL PLUMBING CODE AND THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE.

## PLUMBING FIXTURE CONNECTION SCHEDULE

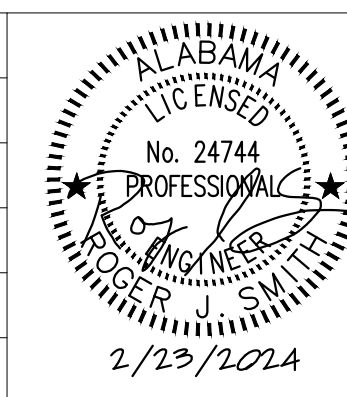
MARK #	FIXTURE TYPE	BASIS OF DESIGN	CONNECTIONS				REMARKS
			WASTE	VENT	CW	HW	
P-1A	FLOOR MOUNTED FLUSH VALVE WATER CLOSET (HANDICAPPED)	KOHLER K-96057-SS SLOAN UPPERCUT WES 111	3"	1-1/2"	1"	-	VIT. CHINA, WHITE, 16-5/8" HIGH ELONGATED BOWL, TOP SPUD, FLOOR MOUNTED BOTTOM OUTLET 1.6 GPF FLUSH VALVE TYPE WITH WHITE OPEN FRONT SEAT WITHOUT COVER, BOLT CAPS, AND SLOAN WES 111 DUAL FLUSH VALVE WITH ANTIMICROBIAL GREEN FLUSH HANDLE WITH TWO METAL WALL PLATES WITH DUAL FLUSH OPERATION INSTRUCTIONS. FIXTURE EQUAL TO KOHLER K-96057-SS. INSTALL PER ADA REQUIREMENTS.
P-2A	LAVATORY (HANDICAPPED)	KOHLER K-1999-SS4 SLOAN EBF-85	1-1/2"	1-1/2"	1/2"	1/2"	VITREOUS CHINA WALL HUNG LAVATORY. PROVIDE WITH INTEGRAL BASIN AND TRAP SHROUD COVER, ADA BATTERY POWERED SENSOR OPERATED FAUCET, 17 GA. P-TRAP, GRID DRAIN, FLEXIBLE SUPPLIES AND STOPS. INSTALL PER SPECIFIC MANUFACTURER'S RECOMMENDATIONS AND ADA REQUIREMENTS. COORDINATE FINAL INSTALLATION DIMENSIONS WITH ARCHITECTURAL PLANS.
P-3	DRINKING FOUNTAIN (HANDICAPPED)	ELKAY LK4420DB	1-1/2"	1-1/2"	1/2"	1/2"	OUTDOOR BI-LEVEL PEDESTAL FOUNTAIN WITH PET STATION, NON-FILTERED NON-REFRIGERATED. CONSTRUCTION SHALL BE HEAVY DUTY VANDAL RESISTANT CONSTRUCTION WITH STAINLESS STEEL VANDAL RESISTANT BUBBLER. COLOR SHALL BE SELECTED BY THE ARCHITECT. SUBMIT STANDARD COLOR SELECTION CHART FOR APPROVAL. INSTALL PER SPECIFIC MANUFACTURER'S RECOMMENDATIONS AND ADA REQUIREMENTS.
FPHB	FREEZE PROOF HOSE BIBB	ZURN 1305	-	-	1/2"	-	1/2 TURN, FREEZE PROOF, ENCASED WALL HYDRANT WITH AUTOMATIC DRAINING, AND INTEGRAL VACUUM BREAKER. PROVIDE WITH LOOSE KEY OPERATION VALVE AND POLISHED BRONZE FACE.
FD	FLOOR DRAIN	ZURN ZN-451	3"	2"	-	-	FLOOR DRAIN EQUAL TO ZURN ZN-451 WITH BRASS GRATE STRAINER. PROVIDE AND INSTALL NEW BRASS GRATE. PROVIDE WITH GREEN DRAIN TRAP SEAL.
ECO	EXTERIOR CLEANOUT	ZURN Z-1400	4"	-	-	-	EXTERIOR CLEANOUT. INSTALL WITH TOP FLUSH WITH ADJACENT GRADE. PROVIDE WITH PROTECTIVE CONCRETE RING.
WCO	WALL CLEANOUT	ZURN Z-1446	3"	-	-	-	WALL CLEANOUT. INSTALL WITH STAINLESS STEEL WALL PLATE.

## ELECTRIC INSTANTANEOUS TANKLESS WATER SCHEDULE

MARK	MINIMUM EFFICIENCY	TEMPERATURE RISE	HEATING CAPACITY (KW)	MINIMUM FLOW (GPM)	VOLTS	Hz	PHASE	BASIS OF DESIGN	NOTES
1	0.9	49°F @ 0.5 GPM	3.6	0.3	240	60	1	EEMAX AM005240T	1, 2, 3, 4
2	0.9	49°F @ 0.5 GPM	3.6	0.3	240	60	1	EEMAX AM005240T	1, 2, 3, 4
<b>NOTES</b>									
1 COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.									
2 INSTALL PER SPECIFIC MANUFACTURERS RECOMMENDATIONS.									
3 PROVIDE WITH INTEGRAL ASSE 1070 MIXING VALVE SET FOR 105°F.									
4 PROVIDE AQUA PURE AP510 WATER FILTER IN FRONT OF COLD WATER CONNECTION TO WATER HEATER. WATER FILTER TO BE INSTALLED PER SPECIFIC MANUFACTURER'S RECOMMENDATIONS. WATER FILTER TO BE THOROUGHLY FLUSHED PRIOR TO FLOWING THROUGH WATER HEATER.									

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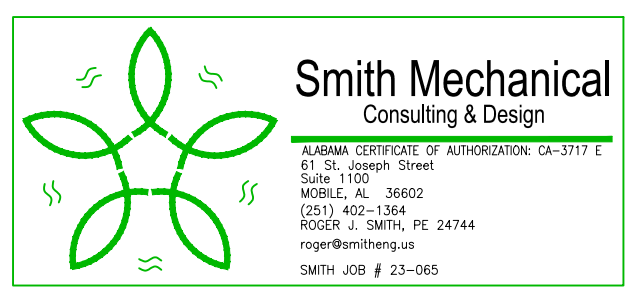


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SCALE: 1:1	PLOT SCALE: 1:1	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: FEBRUARY 2024	JOB NO.: 22-1101-0229	DRAWING NO: P-1.0	REVISION NO.: 0
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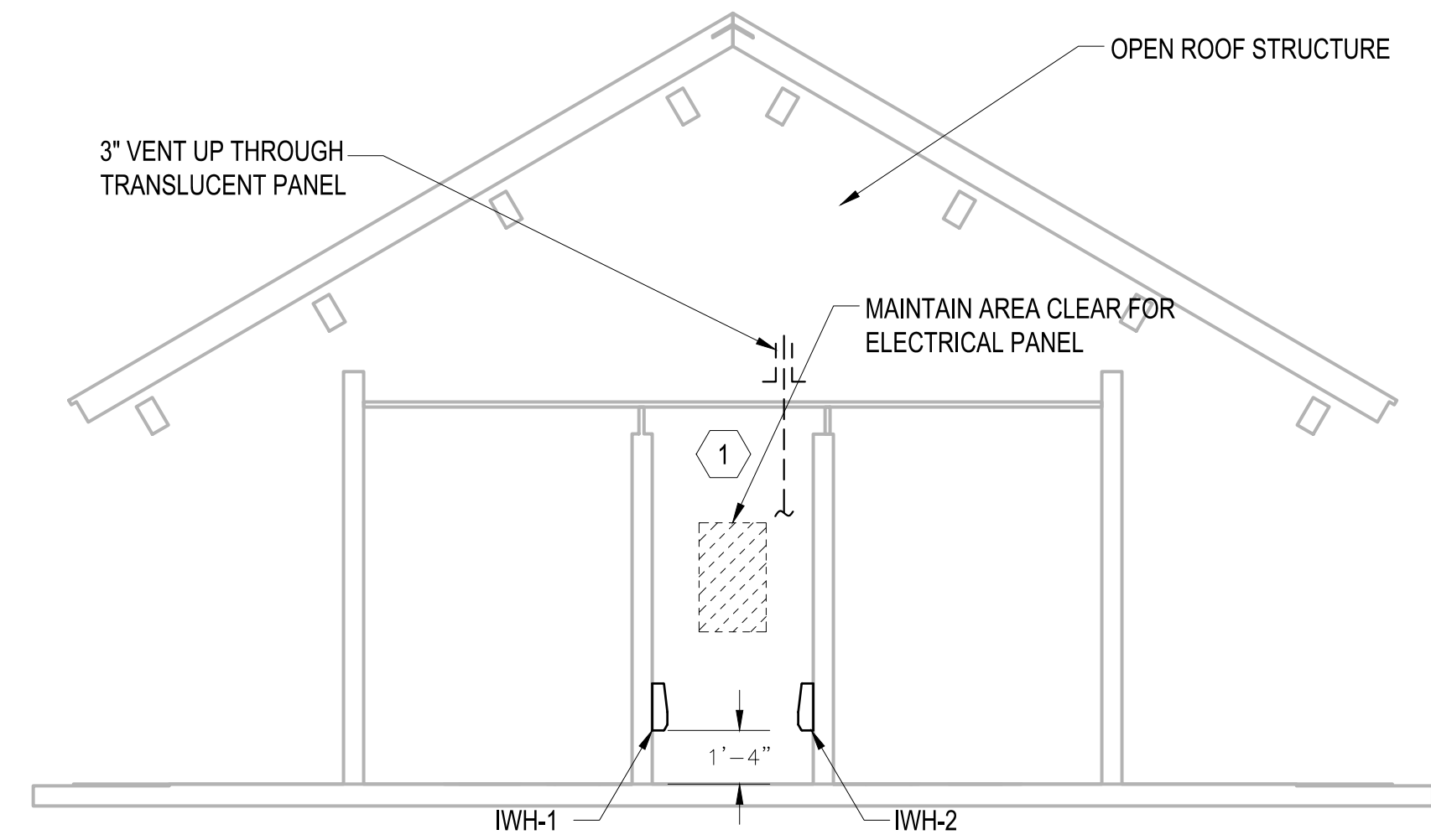
## FLYING CREEK NATURE PRESERVE

### RESTROOM - PLUMBING SCHEDULES AND NOTES

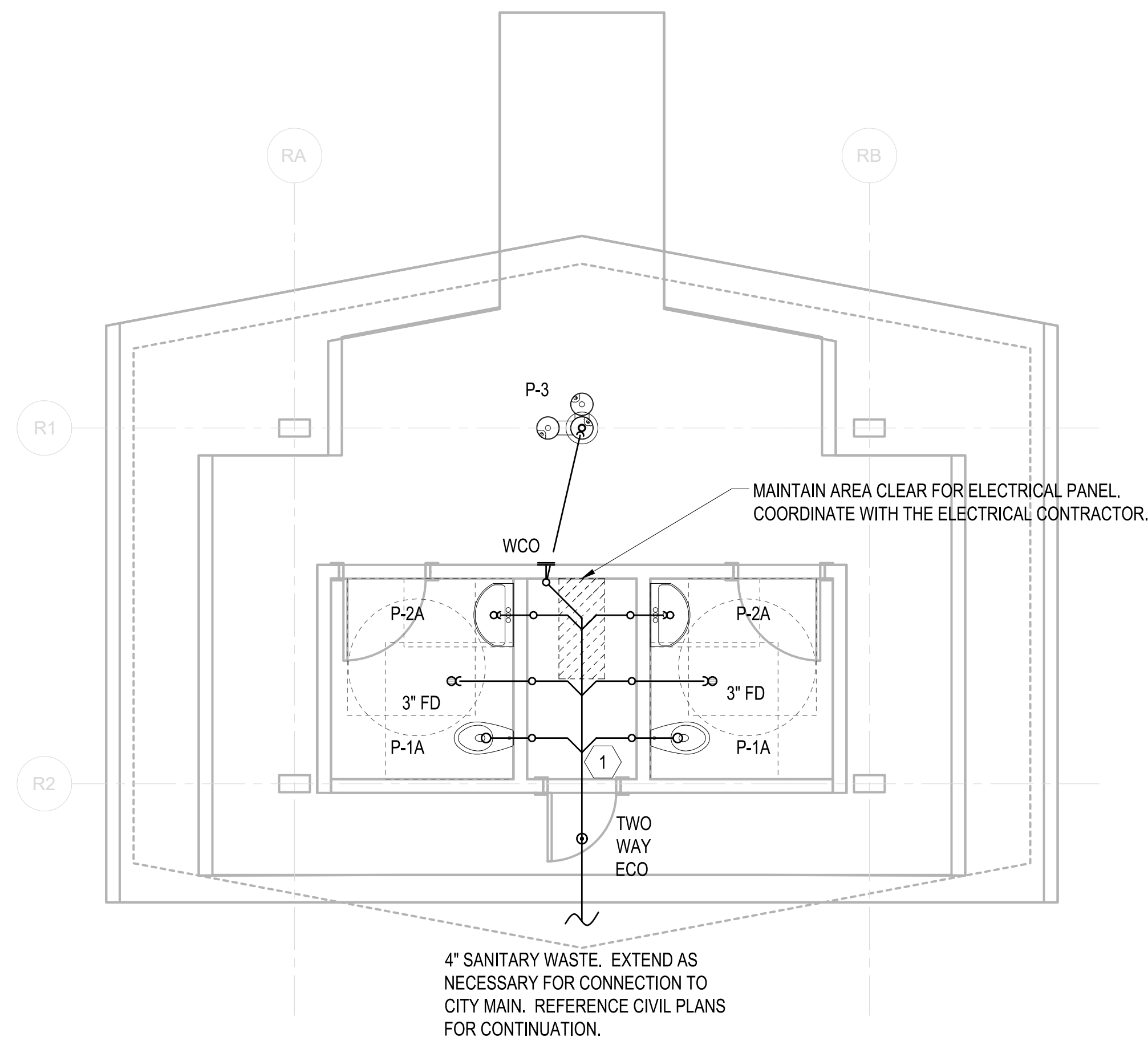


## SHEET NOTES

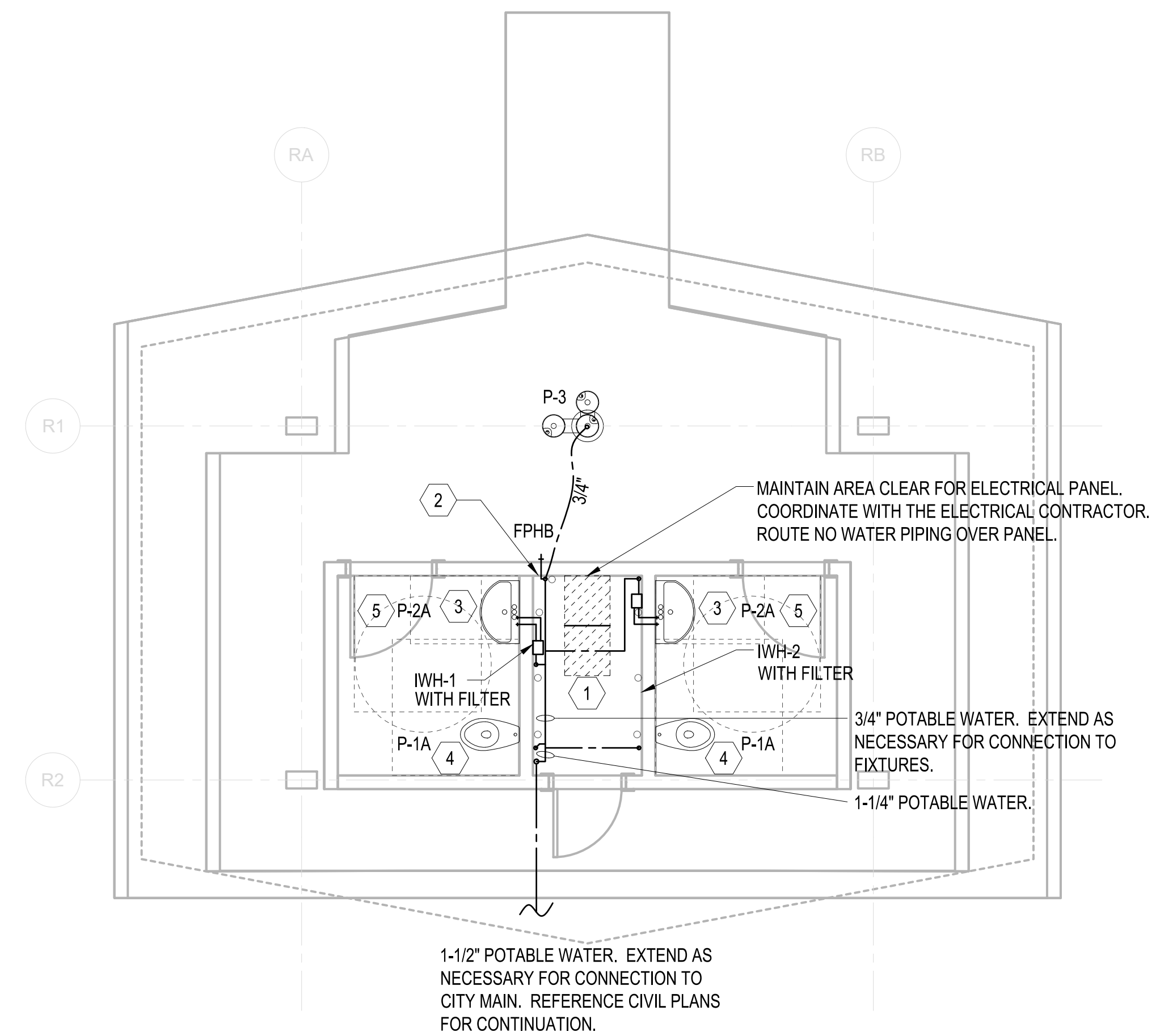
- 1 WATER AND VENT PIPING SHALL BE INSTALLED EXPOSED INSIDE THE PLUMBING CHASE. ROUTE PIPING TIGHT TO THE WALLS AND UNDERSIDE OF CEILING STRUCTURE TO MAXIMIZE ACCESS SPACE INSIDE THE CHASE AND TO MEET THE REQUIRED CLEARANCE TO THE ELECTRICAL PANEL PER THE LATEST NEC REQUIREMENTS.
- 2 3/4" CW DOWN TO BELOW THE SLAB FOR CONTINUATION TO DRINKING FOUNTAIN. PROVIDE ISOLATION SHUT OFF VALVE IN BRANCH WITHIN THE PLUMBING CHASE. PROVIDE 1/2" BRANCH CONNECTION TO FREEZE PROOF HOSE BIBB WITH ISOLATION VALVE IN BRANCH.
- 3 1/2" CW BRANCH CONNECTION TO LAVATORY AND INSTANTANEOUS WATER HEATER. PROVIDE AQUA PURE AP510 WATER FILTER IN BRANCH CONNECTION TO INSTANTANEOUS WATER HEATER. CONTINUE 1/2" HW/CW BRANCH CONNECTIONS THROUGH CONCRETE WALL FOR CONNECTION TO LAVATORY. LAVATORY CONCEALED ARM CARRIER SHALL BE INSTALLED WITHIN THE PLUMBING CHASE.
- 4 1" BRANCH CONNECTION TO WATER CLOSET.
- 5 COORDINATE INSTALLATION OF CONCEALED ARM LAVATORY CARRIER TO MAXIMIZE CLEAR SPACE IN PLUMBING CHASE.



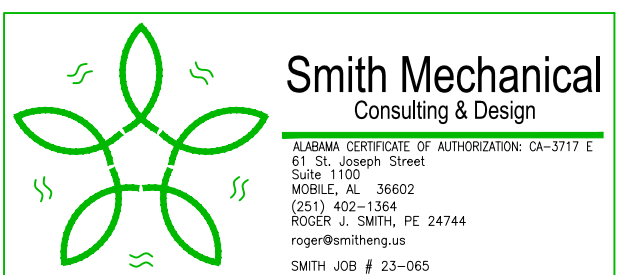
**3 PLUMBING ELEVATION PLAN**  
 4' 0' 4' 8'  
 SCALE: 1/4"=1'-0"



**1 SANITARY WASTE PLAN**  
 4' 0' 4' 8'  
 SCALE: 1/4"=1'-0"

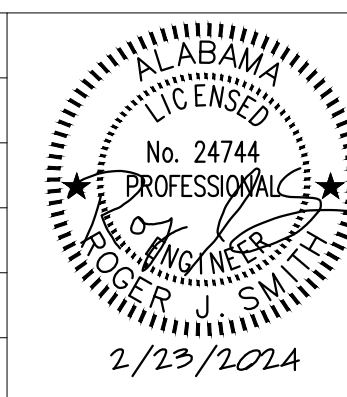


**2 PLUMBING PLAN**  
 4' 0' 4' 8'  
 SCALE: 1/4"=1'-0"



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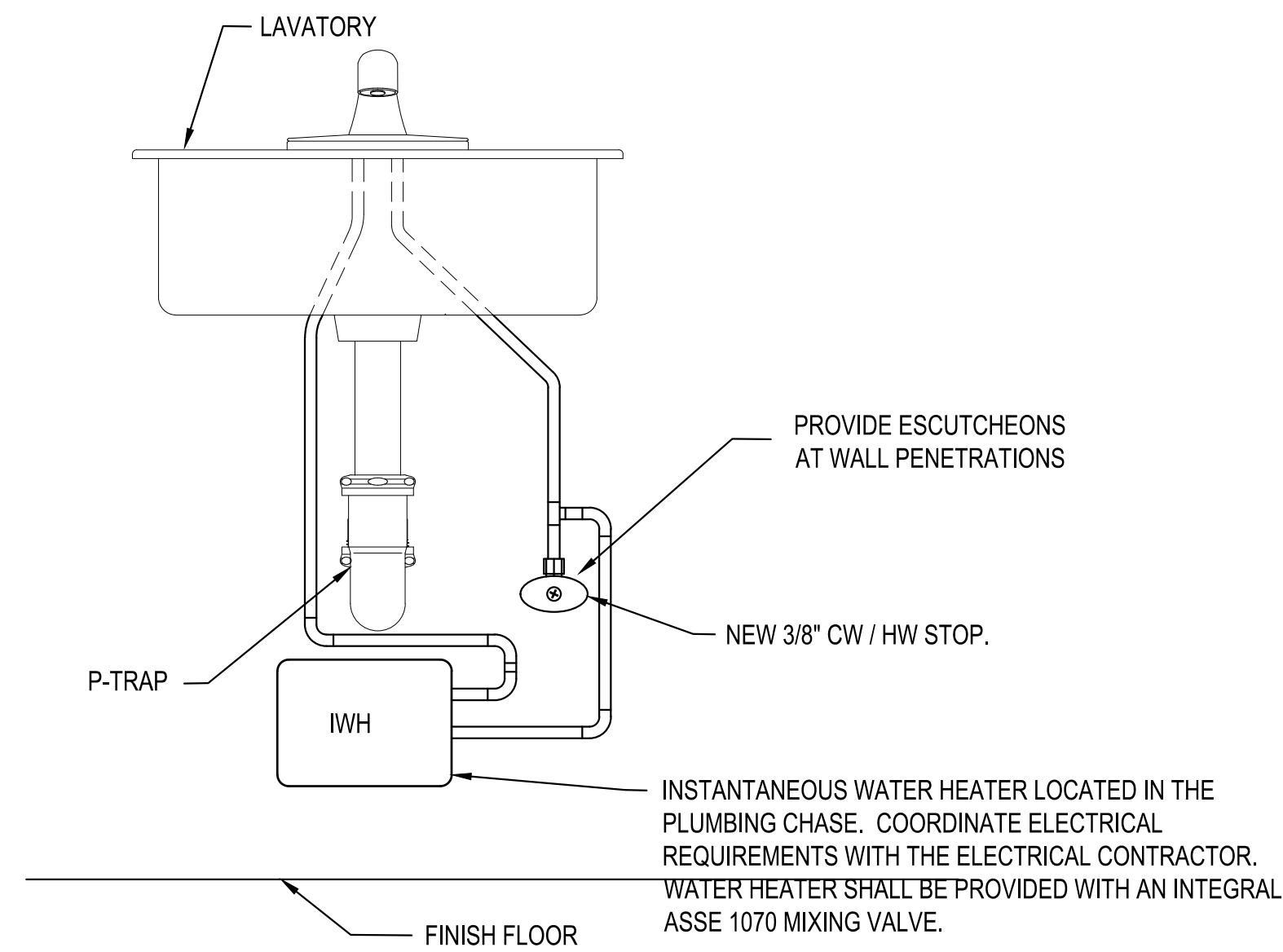
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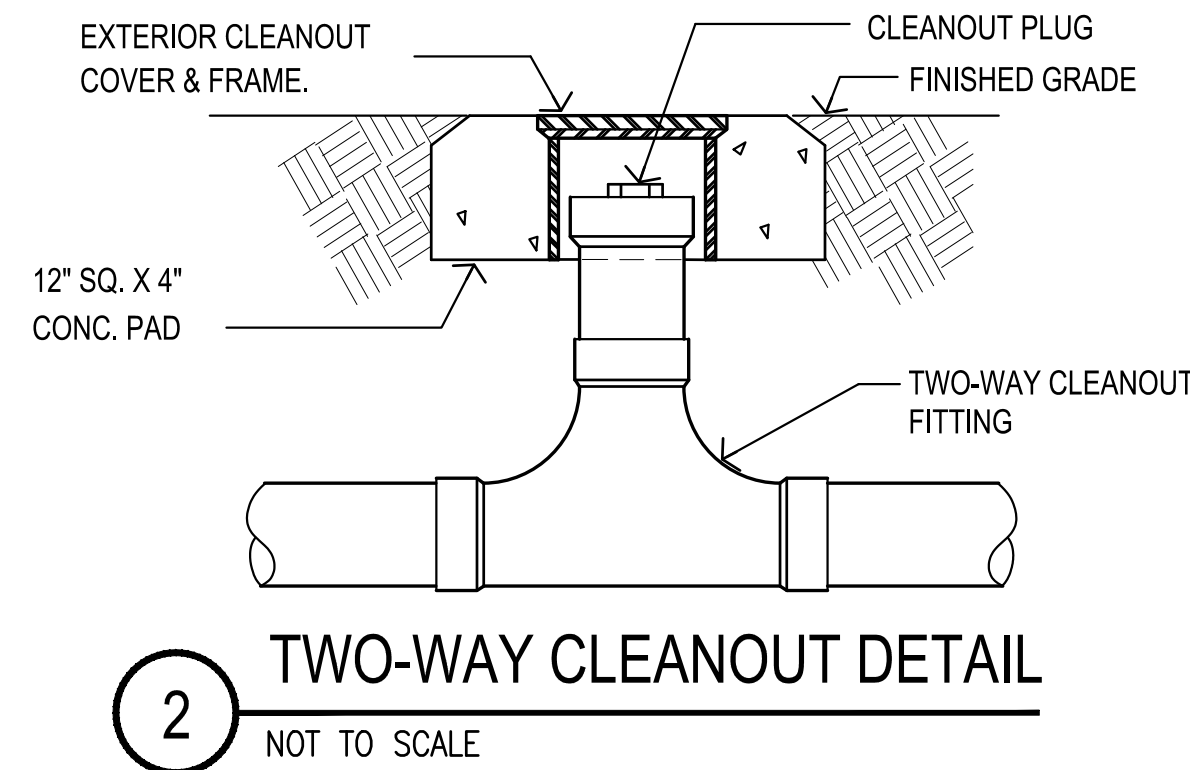
**FLYING CREEK NATURE PRESERVE**

**RESTROOM - PLUMBING PLAN**

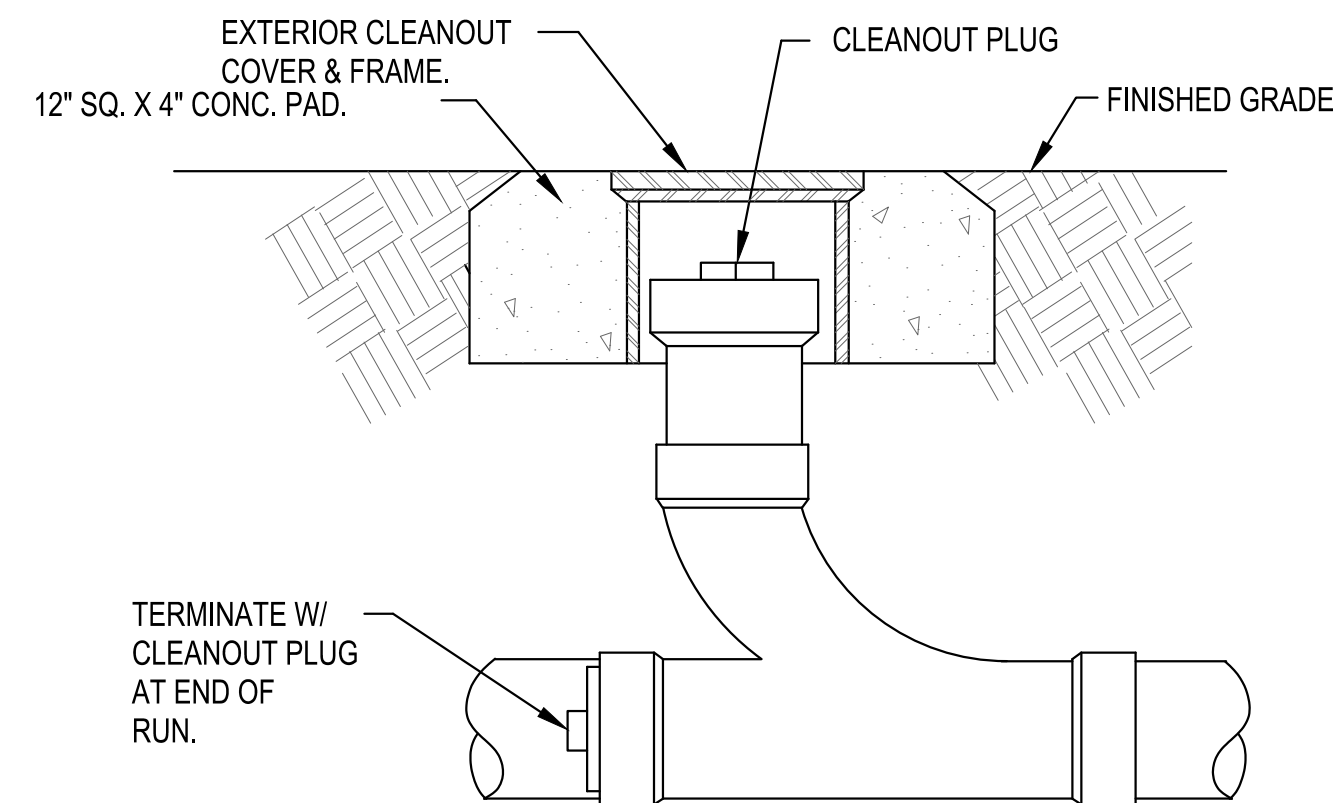
FEBRUARY 2024      22-1101-0229      P-20      0



**1** LAVATORY PIPING DETAIL  
NOT TO SCALE

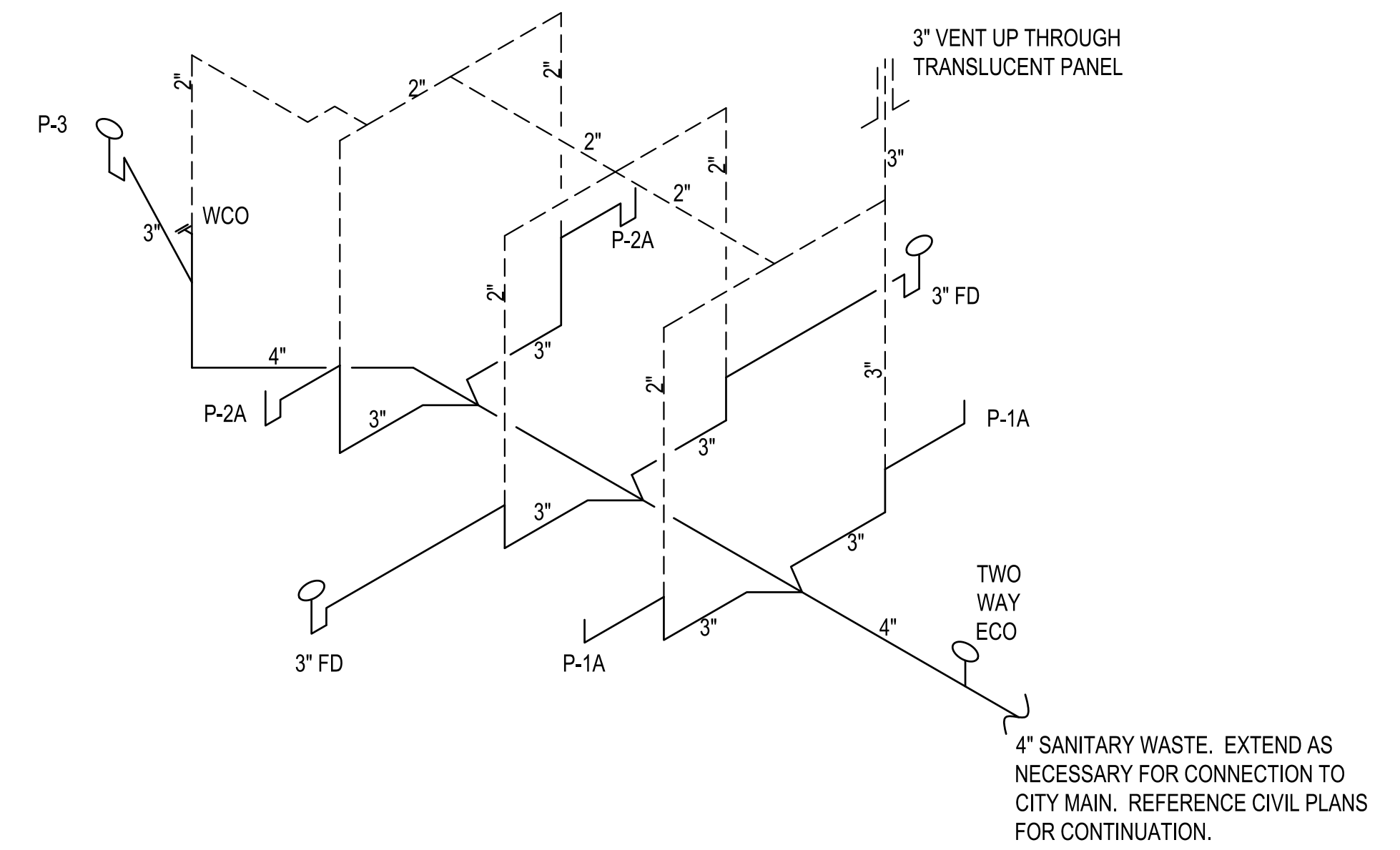


**2** TWO-WAY CLEANOUT DETAIL  
NOT TO SCALE



**3** EXTERIOR CLEANOUT DETAIL  
NOT TO SCALE

ALL CLEANOUT PLUGS SHALL BE COUNTERSUNK BRASS TYPE.



**4** SANITARY WASTE RISER  
NOT TO SCALE

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RESTROOM - PLUMBING DETAILS

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