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REUNION AT BLACKWELL

PART 2 OF 2

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LEE'S SUMMIT, MO 64063

PERMIT DOCUMENTS

24 AUGUST 2023

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ELECTRICAL ENGINEER

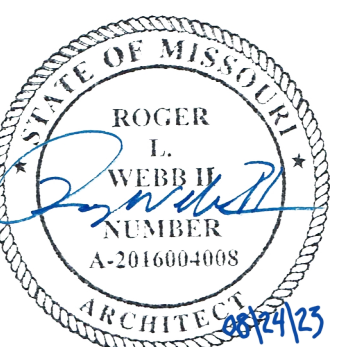
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ELECTRICAL SPECIFICATIONS

PART I – GENERAL

A. GENERAL

- FURNISH AND INSTALL A COMPLETELY WIRED AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO, THESE MAJOR ITEMS:
A. LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.
B. ELECTRICAL PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.
C. TELEPHONE, TELEVISION, AND FIRE ALARM, OUTLETS AND CONDUIT AS INDICATED.
- OBTAIN AND REVIEW ALL OTHER DRAWINGS INCLUDING REFLECTED CEILING PLAN, INTERIOR AND EXTERIOR ELEVATIONS, FURNITURE PLANS AND ALL MILL WORK DRAWINGS. COORDINATE INSTALLATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH-IN.
- OBTAIN SUBMITTAL AND SHOP DRAWINGS FROM OTHER TRADES AND EQUIPMENT TO COORDINATE INSTALLATION ACCORDINGLY.
- INSTALLATION SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES AND GOVERNING AGENCIES HAVING JURISDICTION.
- FIRE ALARM SYSTEM, IF REQUIRED PER IBC, SHALL BE DESIGN-BUILD BY OWNER'S/GC'S FIRE ALARM CONTRACTOR. DESIGN SHALL BE IN ACCORDANCE WITH NFPA 72. FIRE ALARM CONTRACTOR SHALL SUBMIT STAMPED DRAWINGS TO AHJ FOR REVIEW AND APPROVAL. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR TESTING AND VERIFYING THAT THE AUDIBILITY OF THE FIRE ALARM SYSTEM MEETS A MINIMUM OF 15 DBA ABOVE AMBIENT NOISE LEVELS. ADD HORNS WHERE REQUIRED TO MAINTAIN MINIMUM LEVELS.
- PROVIDE FIRE STOP ON ALL PIPING THAT PENETRATES RATED WALLS. METHOD OF FIRE STOP SHALL MEET WALL RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS. THIS CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH-IN BOXES, PANELS, ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENINGS IN RATED ASSEMBLIES.

B. RELATED WORK BY OTHERS

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE. COORDINATE WITH LOCAL UTILITY COMPANIES.

C. CODES, REGULATIONS, AND STANDARDS

- THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.
- THE LATEST EDITIONS OF THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS:
A. THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS.
B. THE NATIONAL ELECTRICAL CODE, INCLUDING LOCAL AMENDMENTS.
C. UNDERWRITER LABORATORIES INCORPORATED STANDARDS.
D. AMERICAN NATIONAL STANDARDS INSTITUTE.
E. INTERNATIONAL BUILDING CODE.

D. INSPECTION OF SITE

- PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE 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 NONCOMPLIANCE WITH THIS CONDITION AFTER BIDDING.
- ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS.

E. STORAGE AND HANDLING OF MATERIAL

- 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. 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.
- ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.
- 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.

F. CLEANUP

- 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.

G. EXCAVATION, CUTTING, AND FITTING

- PERFORM ALL EXCAVATION AND BACK FILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY.
- PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

H. DRAWINGS

- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK. DATA 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. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.

I. COOPERATION WITH OTHER CONTRACTORS

- COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE VERIFIED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.
- CAREFULLY VERIFY THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.
- COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR.
- COORDINATE HVAC AND PLUMBING EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC AND PLUMBING CONTRACTORS.

J. RECORD DRAWINGS

- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS.
- AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL RECORD CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.

PART II – PRODUCTS AND EXECUTION

A. MATERIALS

- 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.

B. SHOP DRAWINGS AND APPROVALS

- THE ITEMS SPECIFIED HEREIN AND ON DRAWINGS ARE USED AS A STANDARD OF QUALITY. ANY MATERIALS OF EQUAL QUALITY AND AESTHETIC VALUE WILL BE GIVEN CONSIDERATION AS A SUBSTITUTE FOR THE MATERIALS SPECIFIED. NO APPROVAL WILL BE GIVEN TO A SPECIFIC CATALOG NUMBER, MODEL, OR TYPE OF EQUIPMENT, PRIOR TO BIDDING. AFTER BIDDING, THE DECISION OF THE ARCHITECT AND/OR ENGINEER DETERMINING EQUAL MATERIALS WILL BE FINAL.
- THE CONTRACTOR SHALL SUBMIT (3) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE FOLLOWING ITEMS TO THE G.C.:
A. LIGHTING FIXTURE CUTS AND PERFORMANCE DATA.
B. OUTLINE DRAWINGS AND DATA SHEETS OF EACH PANELBOARD, LOAD CENTERS, AND DISTRIBUTION PANELS.
C. OUTLINE DRAWINGS OF ALL SWITCH GEAR COMPONENTS.
D. WIRING DEVICES AND COVERPLATES.
E. ALL CIRCUIT BREAKERS INSTALLED IN PANELBOARDS, LOAD CENTERS, AND DISTRIBUTION PANELS.

C. SYSTEM GROUNDING

- 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 GROUNDING CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDED.
- GROUNDING 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 NATIONAL ELECTRICAL CODE. 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.
- A GROUND BUS SEPARATE FROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL DISTRIBUTION PANELS AND PANELBOARDS. PROPER TORQUE ON GROUND BUS SHALL BE VERIFIED, PER MANUFACTURER'S RECOMMENDATIONS, PRIOR TO ENERGIZING EQUIPMENT.
- GROUND BUSES AND NEUTRAL BUSES IN ALL DISTRIBUTION PANELS, LOAD CENTERS, PANELBOARDS, AND THOSE PROVIDED IN ANY EQUIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED AS SPECIFIED ABOVE FOR THE SERVICE ENTRANCE.
- 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. WHERE LUGS ARE NOT PROVIDED, EQUIPMENT GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT REMOVAL OF THE RECEPTACLE, EQUIPMENT GROUND CONDUCTORS, OR GROUND JUMPERS FROM GROUND BUSES SHALL NOT AFFECT THE GROUND SYSTEM.
- RACEWAYS MAY NOT BE USED AS A GROUNDING CONDUIT FOR POWER AND LIGHTING CIRCUITS. ALL CONDUIT SHALL HAVE SEPARATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO INSURE A CONTINUOUS GROUNDING PATH.
- IN INACCESSIBLE LOCATIONS, MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS.
- IN ACCESSIBLE LOCATIONS, CONNECTIONS SHALL BE MADE WITH BOLTED THROUGH, APPROVED SOLDERLESS BRONZE GROUNDING DEVICES.

D. WIRE

- CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE TYPE XHHW OR SE FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 AWG, TYPE THHN/THWN INSULATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER.
- ALUMINUM CONDUITS MAY BE UTILIZED FOR SERVICE ENTRANCE AND PANEL FEEDERS. CONDUCTORS SHALL BE ALUMINUM ALLOY AA-8000 SERIES.
- THE WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE 20W-WHITE (277V-GRY) LIVE WIRES 480Y/277V SHALL BE BROWN (PHASE A), ORANGE (PHASE B), AND YELLOW (PHASE C); AND LIVE WIRES 208Y/120V AND 120/240V SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C). WHERE BOTH 208Y/120V AND 120/240V EXIST IN THE SAME BUILDING, THE CONDUCTORS OF EACH CONFIGURATION SHALL BE SEPARATELY IDENTIFIED (NOT THE SAME COLORS). "HIGH-LEG" PHASE OF DELTA SYSTEM SHALL ALWAYS BE MARKED RED. CIRCUIT SHALL BE LABELED IN EACH J-BOX.
- ALL CONDUCTORS SHALL BE RATED 600 VOLT.
- SPICES IN EXTERIOR PULL BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.
- PROVIDE SOLID CONDUCTOR FOR 10 AWG AND SMALLER.
- NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE MINERALCAL NO. 100 OR EQUIVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.
- MC CABLE WITH COPPER CONDUCTORS AND GROUND WIRE MAY BE USED WHERE PERMITTED.

E. CONDUIT

- WIRING SHALL BE INSTALLED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED IN OTHER SECTIONS. RGS, WITH A 20 MIL PVC COATING WILL BE USED WHEN IN CONTACT WITH EARTH. IMC MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH THE 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 EQUIPMENT IN LENGTHS NOT TO EXCEED 72". LIQUID-TIGHT FLEXIBLE STEEL CONDUIT SHALL BE USED FOR OUTDOOR FINAL CONNECTIONS TO EQUIPMENT NOT TO EXCEED 48".
- WHERE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, COMPRESSION CONNECTORS, OR DOUBLE LOCKNUTS FOR GRC. ALL CONNECTIONS SHALL HAVE BUSHINGS OR INSULATED THROUGH CONNECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT, T & B OR APPLETON, OR EQUAL).
- COVER METALLIC CONDUIT IN CONTACT WITH EARTH WITH POLYETHYLENE TAPED SPIRAL WRAPPED, 1/2 LAPPED TO PROVIDE 20 MIL THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS NOT UNDER BUILDINGS AND FEEDER DUCTS SHALL BE INSTALLED PER N.E.C. 300-5. WAKE JOINTS WITH COMPOUND TO BE WATERTIGHT.
- SCHEDULE 40 PVC CONDUIT SHALL BE PERMITTED UNDERGROUND WITH PROPER FITTINGS. ALL UL APPROVED AND CEMENTED JOINTS. PENETRATIONS THROUGH FLOOR SLABS AND BENDS GREATER THAN 22" SHALL BE WRAPPED RIGID GALVANIZED STEEL ELBOWS.
- FITTINGS AND CONDUIT BODIES SHALL BE STEEL. DIECAST FITTINGS ARE NOT ACCEPTABLE.
- CONDUIT SIZES SHALL BE AS REQUIRED BY CODE AND AS INDICATED OR SPECIFIED.
- ALL EMPTY CONDUIT SYSTEMS SHALL HAVE A 200 LB. TEST NYLON PULL STRING TO FACILITATE INSTALLATION OF FUTURE WIRE.
- WIRING, CONDUITS, AND OUTLETS SHALL BE CONCEALED WITH THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS.
- CONDUIT PENETRATION THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
- CONDUITS SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

F. OUTLET, PULL, AND JUNCTION BOXES

- EACH SWITCH, LIGHT, RECEPTACLE OR OTHER OUTLET, SHALL BE PROVIDED WITH A CODE SIZED, STEEL OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE METAL AND CODE SIZED.
- BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH WATERTIGHT GASKETED COVERS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING. BOXES INSTALLED FOR THE ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.
- BOXES FOR TELEPHONE, COMPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE MINIMUM 2-1/8" DEEP.

G. WIRING DEVICES (COMMERCIAL)

- WALL SWITCHES SHALL BE SPECIFICATION GRADE AO SILENT TYPE SWITCHES, 20A 120/277 VOLT.
- RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX TYPE. NEWAS-20R, 20 AMPERE, 120VOLT GROUNDED TYPE. SPECIAL APPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS. MOUNT WITH THE GROUND DOWN.
- DEVICE PLATES SHALL BE EQUAL TO SIERRA SMOOTH-LINE PLASTIC WALL PLATES. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.
- RECEPTACLES IN OUTDOOR AND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED AND U.L. LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE, EQUAL TO TAYMAC SPECIFICATION GRADE.

H. SERVICE ENTRANCE SECTION

- THE SERVICE ENTRANCE EQUIPMENT SHALL BE AS INDICATED ON THE DRAWINGS. EQUIPMENT SHALL CARRY THE U.L. LABEL AND SHALL CONFORM TO THE POWER COMPANY REGULATIONS.
 - SERVICE ENTRANCE EQUIPMENT SHALL BE PROVIDED WITH A FULLY RATED COPPER OR ALUMINUM BUS. HORIZONTALLY TAPERED BUSSING SHALL NOT BE ALLOWED.
- A. PANEL BOARDS
- CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS, UNLESS INDICATED OTHERWISE. ALL PANELS SHALL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT-ON CIRCUIT BREAKERS FOR 3Ø PANELS
 - MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SEIMENS, CUTLER-HAMMER WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
 - THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD 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 SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI-POLE BREAKERS NOT ACCEPTABLE.

K. LOAD CENTER

- CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SEIMENS, CUTLER-HAMMER/EATON WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
- THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE-POLE AND DOUBLE-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 NOT ACCEPTABLE.
- A. CIRCUIT BREAKERS SHALL BE PLUG-IN TYPE.
- WIRE TERMINATION FOR PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE LISTED AS SUITABLE FOR 75 DEGREES C.
- PROVIDE A TYPEWRITTEN CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE LOAD SERVED. ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR.
- PANEL BOARDS/LOAD CENTERS TO BE PROVIDED WITH COPPER BUSSING ONLY.

L. LIGHTING FIXTURES

- PROVIDE ALL LIGHTING FIXTURES, WIRED AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES. THE LAMPS SHALL BE BY THE SAME MANUFACTURER. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS. PROVIDE PLASTER FRAMES AND HANGERS AS REQUIRED. CEILING CONSTRUCTION, ARCHITECTURAL ACCESSORIES, VOLTAGE, AND DRIVERS TO MEET THE EXISTING CEILING CONDITION.
- ALL FIXTURES SHALL BE FED FROM JUNCTION BOXES WITH LIGHT FIXTURE WHIPS (<6'). DAISY-CHAINING OF FIXTURES IS NOT ALLOWED.

M. LIGHTING CONTROL

- FURNISH AND INSTALL TIME SWITCHES, PHOTOCELLS, CONTRACTORS AND FULL LIGHTING CONTROL SYSTEMS AS REQUIRED FOR LIGHTING CONTROLS INDICATED ON THE DRAWINGS.
- TIME SWITCHES SHALL BE EQUAL TO PARAGON, GENERAL ELECTRIC, TORQ, OR INTERMATIC AND SHALL HAVE SIZE AND NUMBER OF POLES AS REQUIRED.
- PHOTOCELLS SHALL BE EQUAL TO TORQ OR INTERMATIC WITH VOLTAGE AS INDICATED.

N. TELEPHONE AND CABLE TELEVISION SYSTEMS

- TELEPHONE WALL OUTLETS SHALL CONSIST OF NO LESS THAN 2-1/8" DEEP BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.
- CABLE TELEVISION OUTLETS SHALL CONSIST OF NO LESS THAN 2-1/8" DEEP BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.

O. GUARANTEE

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

P. FIRE SEALING NOTES

- COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE INSTALLED ACCORDING TO SPECIFIED AND APPLICABLE UL REQUIREMENTS.
- COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES, OR CUT OPENINGS TO ACCOMMODATE THROUGH-PENETRATION FIRESTOP SYSTEMS.
- DO NOT COVER UP THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATIONS UNTIL EXAMINED BY INSPECTOR, IF REQUIRED BY AUTHORITIES HAVING JURISDICTION.
- COMPATIBILITY: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT ARE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH THE ITEMS, IF ANY, PENETRATING THROUGH-PENETRATION FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
- PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.
- PROVIDE SLEEVES THROUGH ALL FIRE-RATED WALLS AND FILL VOIDS SURROUNDING SLEEVES AND INTERIOR TO SLEEVES AROUND PIPING WITH FIRE STOP PUTTY WITH U.L. LISTED 3 HOUR RATING INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
- FIRE SEAL ALL PIPING, CONDUIT, CABLE, ETC PENETRATIONS ROUTED THROUGH FIRE RATED WALLS.
- PROVIDE FIRE RATED ENCLOSURES OR WRAPS ON LIGHT FIXTURES AND OTHER ITEMS PENETRATING FIRE RATED CEILINGS, FLOOR/CEILING/ CEILING/ROOF ASSEMBLIES TO MAINTAIN UL LISTING FOR CONSTRUCTION.

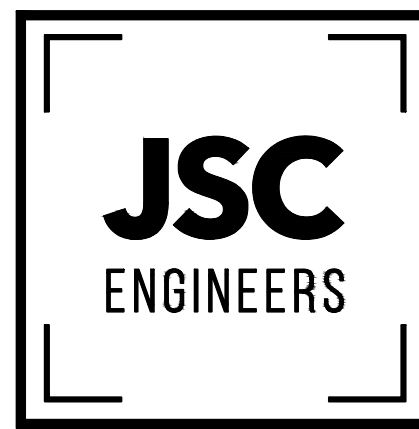
SYMBOLS LEGEND

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC., ARE NECESSARILY USED ON THE DRAWINGS.	
LIGHTING FIXTURES – SYMBOL/LETTER INDICATES LIGHT FIXTURE AS INDICATED ON FIXTURE SCHEDULE	
	LED FIXTURE (SEE LIGHTING FIXTURE SCHEDULE)
	FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
	TRACK LIGHT
	DOWNDRAFT FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
	WALL MOUNTED FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
	PENDANT MOUNTED FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
	DOWNDRAFT FIXTURE
	WALL MOUNTED FIXTURE
	PENDANT MOUNTED FIXTURE
	WALL WASHER
	SINGLE FACE EXIT SIGN – UNIVERSAL MOUNTED
	SINGLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD
	DOUBLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD
	DUAL HEADED EMERGENCY UNIT
	COMBO DUAL HEADED EMERGENCY AND EXIT SIGN UNIT
	POLE MOUNTED SITE LIGHT
LIGHTING CONTROLS	
	S SINGLE POLE SWITCH @ +48" UNLESS NOTED
	Sabc SWITCH BANK @ +48" UNLESS NOTED, LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.
	S3 3-WAY SWITCH @ +48" UNLESS NOTED
	S4 4-WAY SWITCH @ +48" UNLESS NOTED
	SD DIMMER SWITCH – SIZE AS REQUIRED @ +48" UNLESS NOTED
	SM MANUAL MOTOR STARTER
	Sos WALL SWITCH WITH OCCUPANCY SENSOR: DIGITAL LOW VOLTAGE WALL SWITCH. SWITCH @ +48" UNLESS NOTED.
	SLV TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH. PROVIDES ON/OFF 0-10V DIMMING. SWITCH @ +48" UNLESS NOTED. PROVIDE EXTRA CONTROL CABLES NEEDED TO FIXTURE CONTROLLED.
	Ⓢ LIGHTING CONTROLS CEILING MOUNT OCCUPANCY SENSOR
	Ⓢ LIGHTING CONTROLS POWER PACK
	PC PHOTOCELL
	TC TIMECLOCK
POWER DISTRIBUTION	
	SWB SWITCHBOARD, MOTOR CONTROL CENTER OR DISTRIBUTION BOARD
	SW 277/480V, 3 PHASE, 4 WIRE PANELBOARD, UNO
	SW 120/208V, 3 PHASE, 4 WIRE PANELBOARD, UNO
	SW 120/240V, 1 PHASE, 3 WIRE PANELBOARD, UNO
	TR TRANSFORMER
POWER DEVICES	
	SEH SPECIAL HEAVY DUTY RECEPTACLE @ +18" UNLESS NOTED – SIZE AS NOTED
	S1/2 1/2 SWITCHED RECEPTACLE @ +18" UNLESS NOTED
	FR FIRE RATED POKE THRU WITH TYPE INDICATED
	FF FLUSH FLOOR BOX WITH TYPE INDICATED
	S SINGLE RECEPTACLE @ +18" UNLESS NOTED
	D DUPLEX RECEPTACLE @ +18" UNLESS NOTED
	DD DOUBLE DUPLEX RECEPTACLE @ +18" UNLESS NOTED
	DC DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
	GFI GFCI-RATED DUPLEX RECEPTACLE
	AF ARC FAULT RATED DUPLEX RECEPTACLE
	TR TAMPER RESISTANT RATED DUPLEX RECEPTACLE @ 18" UNLESS NOTED
	JB JUNCTION BOX
	DS DISCONNECT SWITCH – SIZE AND TYPE NOTED
	CS COMBINATION FUSED STARTER DISCONNECT SWITCH FUSE SIZE AS INDICATED, STARTER SIZE '1'
AUXILIARY SYSTEMS	
	EF 1 MECHANICAL EQUIP. CONNECTION, SEE SCHED. ON MECH. PLAN
	TELEPHONE OUTLET @ +18" UNLESS NOTED
	DATA OUTLET @ +18" UNLESS NOTED
	COMBINATION TELEPHONE/DATA OUTLET @ +18" UNLESS NOTED
	TELEVISION OUTLET @ +60" UNLESS NOTED
	DC DOOR CHIME PUSHBUTTON @ +48" UNLESS NOTED
	SD SMOKE DETECTOR
	HD HEAT DETECTOR
	SD DUCT SMOKE DETECTOR
	RT REMOTE TEST STATION WITH INDICATING LIGHT. MOUNT AT 48" AFF UNO.
	AS AUXILIARY SYSTEM TERMINAL CABINET
GENERAL	
	CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING
	CONDUIT RUN BELOW FLOOR OR GRADE
	P1-3,5,7 HOMERUN TO PANELBOARD, INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO ASSOCIATED NOTE FOR BRANCH CIRCUIT CONDUCTOR SIZES.
	INDICATES 1/2" CONDUIT CONCEALED IN CEILING OR WALL WITH (3) CONDUCTORS. (1) PHASE, (1) NEUTRAL, AND (1) GROUND WIRE. ALL ARE #12 AWG UNLESS NOTED OTHERWISE.
(E) OR ETR: DENOTES EXISTING ITEM/EQUIPMENT TO REMAIN	

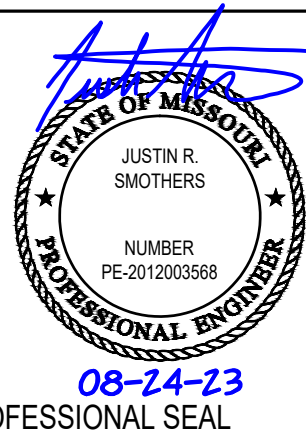
GENERAL NOTES

- DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS OR FIELD MEASUREMENTS FOR DIMENSIONS.
- ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL LOCAL BUILDING CODES AND AMENDMENTS.
- COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.
- THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEMS.
- THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC AND PLUMBING EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT LOCATION AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- ALL WIRING SHALL BE IN APPROVED RACEWAY.
- WIRE SIZE SHALL BE MINIMUM #12 AWG, THHN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 70 FEET.
- CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
- ROUTE ALL EXPOSED, RIGID CONDUIT TIGHT TO STRUCTURE, PARALLEL TO BUILDING LINES AND IN UNISTRUT CABLE/PIPE TRAY WHERE POSSIBLE. COORDINATE CONDUIT ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN. SUPPORT CONDUIT FROM STRUCTURE NOT ROOF DECK. MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING CONDUITS.
- ADJUST LIGHT FIXTURES WHERE DUCTWORK RUNS INTERFERE WITH PLACEMENT.
- COORDINATE WIRE SIZING FOR BRANCH CIRCUITS WITH VOLTAGE DROP CRITERIA CHART.

MEP ENGINEER



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ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

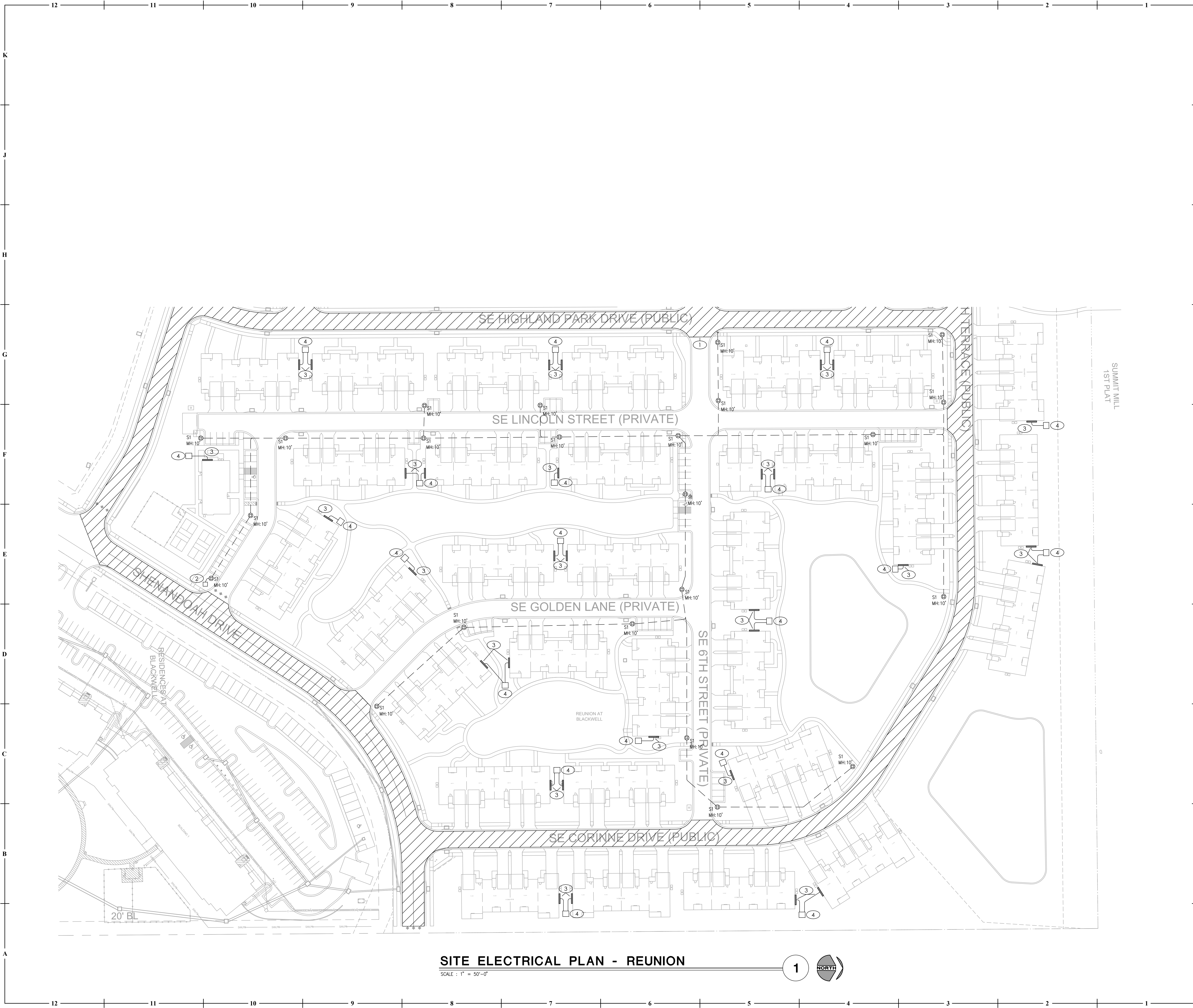
ELECTRICAL SPECIFICATIONS & SYMBOLS

REUNION AT BLACKWELL

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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SITE ELECTRICAL PLAN - REUNION
SCALE : 1" = 50'-0"

KEYED PLAN NOTES

1. PUBLIC ROADWAY LIGHTING DESIGN BY OTHERS.
2. PROVIDE ROADWAY LIGHTING METER AND CONTROLLER PER MUNICIPAL STANDARDS. REFER TO STANDARD DETAILS ON SHEETS E100C-G FOR MORE INFORMATION.
3. PROPOSED LOCATION OF ELECTRIC SERVICE ENTRANCE EQUIPMENT. COORDINATE EXACT LOCATION AND SECONDARY ROUTING FROM UTILITY TRANSFORMER WITH UTILITY PRIOR TO CONSTRUCTION.
4. PROPOSED UTILITY TRANSFORMER LOCATION. COORDINATE EXACT LOCATION OF TRANSFORMER WITH UTILITY PRIOR TO CONSTRUCTION.

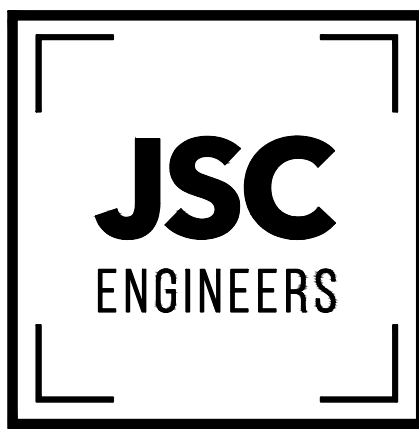


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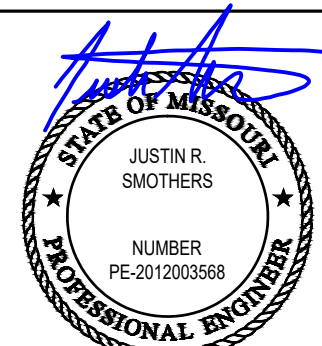
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ELECTRICAL SITE PLAN

STREET LIGHT POLE, BRACKET ARM, AND BREAK-AWAY BASE

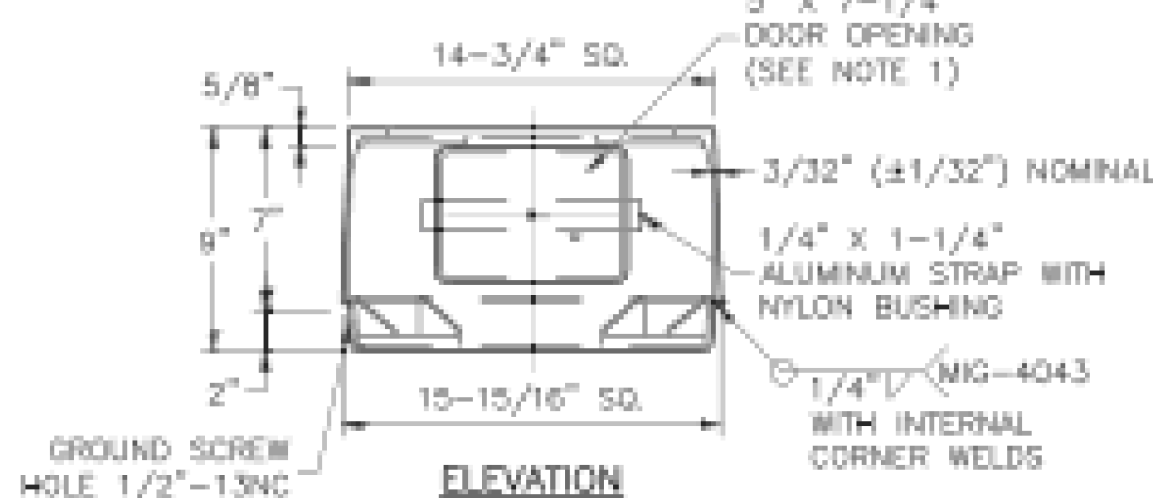
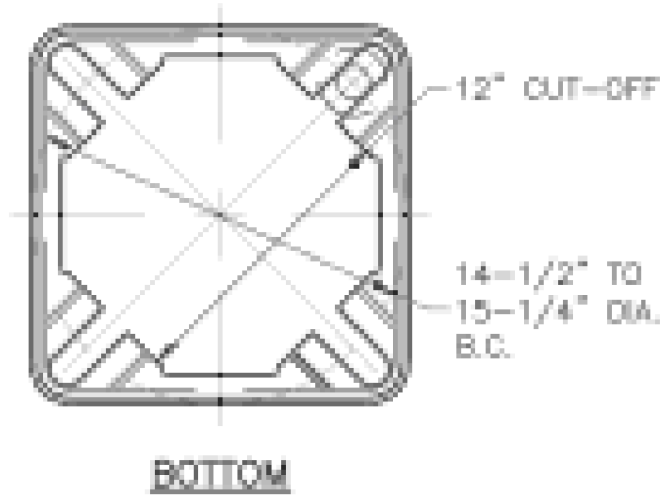
POLE TYPE	MOUNTING HEIGHT (A)	BRACKET ARMS		POLE SHAFT		SHOE BASE		ANCHOR BOLTS		
		ARM 1	ARM 2	BASE O.D.	TOP O.D.	MIN. WALL THICKNESS	SHAFT LENGTH (C)	BOLT CIRCLE (BC)	DIAMETER	LENGTH
P12	12'	—	—	6"	3"	0.156"	12'-0"	9.5"	0.75" 10NC	25"
P14	14'	—	—	6"	3"	0.156"	14'-0"	9.5"	0.75" 10NC	25"
P30S	30'	6' or 10'	—	8"	6"	0.188"	26'-6" ±2"	11.0"	1.00" 8NC	36"
P30D	30'	6' or 10'	6' or 10'	8"	6"	0.219"	26'-6" ±2"	11.0"	1.00" 8NC	36"
P40S	40'	6', 10' or 15'	—	8"	6"	0.219"	36'-6" ±2"	11.5"	1.00" 8NC	36"
P40D	40'	6', 10' or 15'	6', 10' or 15'	10"	6"	0.219"	36'-6" ±2"	14.5"	1.00" 8NC	48"

NOTES:

- ALL POLES, ARMS, AND MISCELLANEOUS EQUIPMENT SHALL CONFORM TO THESE DETAILS AND AS SPECIFIED BY THE LATEST CITY STANDARD SPECIFICATIONS.
- POLE SHAFT SHALL HAVE A SATIN GROUND FINISH.
- ALL HARDWARE (BOLTS, NUTS, WASHERS BUT NOT INCLUDING ANCHOR BOLTS) NOT OTHERWISE SPECIFICALLY DESIGNATED IN THE SPECIFICATIONS OR DETAILS SHALL BE 300-SERIES STAINLESS STEEL CONFORMING TO ASTM A193 OR A194.
- ANCHOR BOLTS SHALL BE USED WITH CONCRETE BASES. ANCHOR BOLTS SHALL BE STEEL WITH 50,000 PSI MINIMUM YIELD; TOP 10" MIN. GALVANIZED; INCLUDING 8 NUTS AND 8 FLAT WASHERS GALVANIZED TO ASTM A153 STANDARDS. GALVANIZED HEX HEAD BOLTS (SEE POLE FOUNDATION SHEET) SHALL BE USED WITH SCREW-IN ANCHOR BASES. 4 BOLTS, 4 NUTS AND 8 FLAT WASHERS TO PROVIDED WITH EACH ANCHOR.
- ALL WELDING IS TO BE DONE WITH 4043 WELD WIRE. ALL ARMS AND SHAFTS ARE TO BE HEAT-TREATED TO T6 TEMPER AFTER WELDING.
- ANCHOR BOLTS SHALL PROJECT ABOVE THE CONCRETE BASE AS PER MANUFACTURER'S RECOMMENDED PRACTICES, 2 1/2" TO 3".
- THE ALUMINUM STREET LIGHT POLE ASSEMBLY, INCLUDING ANCHORAGE AND LUMINAIRE, SHALL COMPLY WITH THE LATEST CITY STANDARD SPECIFICATIONS AND THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LOAD WIND LOADING.
- ALL POLES AND ARMS SHALL BE CLEARLY IDENTIFIED BY THE MANUFACTURER'S NAME, ABBREVIATION, OR SYMBOL ENGRAVED ON THE SHAFT, SHOE BASE, HAND HOLE, OR OTHER MEANS SUCH AS TO BE READILY VISIBLE AFTER INSTALLATION.

MATERIAL DATA

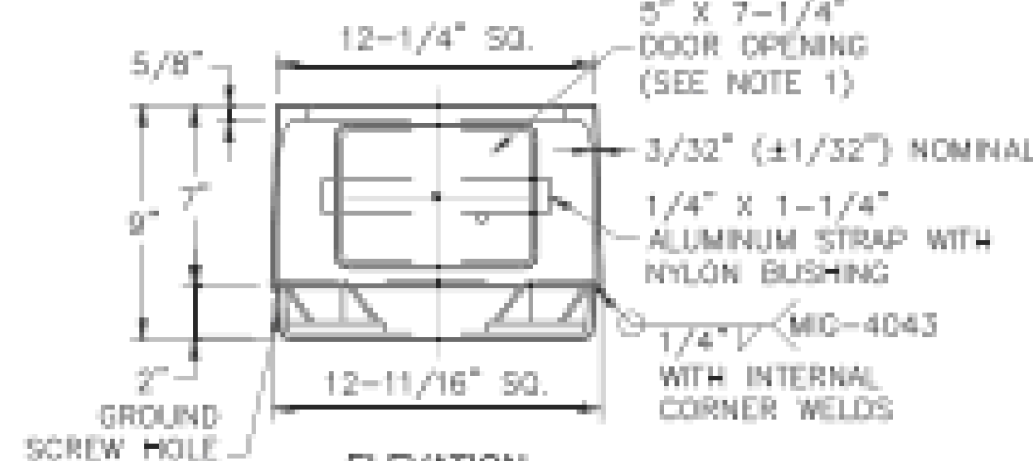
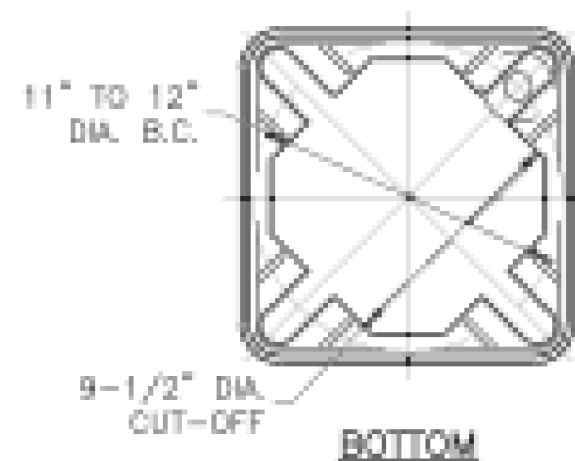
COMPONENT	ALUMINUM ALLOY DESIGNATION	SPECIFICATION
SHOE BASE	356-T6, CAST	ASTM B26 OR B108
BREAKAWAY BASE	356-T6, CAST	ASTM B108
BOLT COVERS	356 OR 360, CAST	ASTM B26 OR B108
POLE SHAFT	6063-T6, EXTRUDED	ASTM B221 OR B241
GROUND LUG	6061-T5 OR 6063-T6, PLATE	ASTM B221
REINFORCED HANDHOLE FRAME	356-T6 OR 6061-T6	ASTM B26, B108 OR B221
HANDHOLE COVER	6063-T6	ASTM B209, B221 OR B241
BRACKET ARM & TUBING PIPES	6063-T6	ASTM B221, B241 OR B249
BRACKET ARM MOUNTING PLATES	6061-T6 OR 6063-T6 EXTRUDED	ASTM B221
BRACKET ARM STRUT & ARM CONNECTOR	AU6061-T6 OR 6063-T6 EXTRUDED	ASTM B221, B241 OR B249
POLE CAP	356, CAST	ASTM B26 OR B108
ANCHOR BOLTS	N/A	GALVANIZED PER ASTM A153



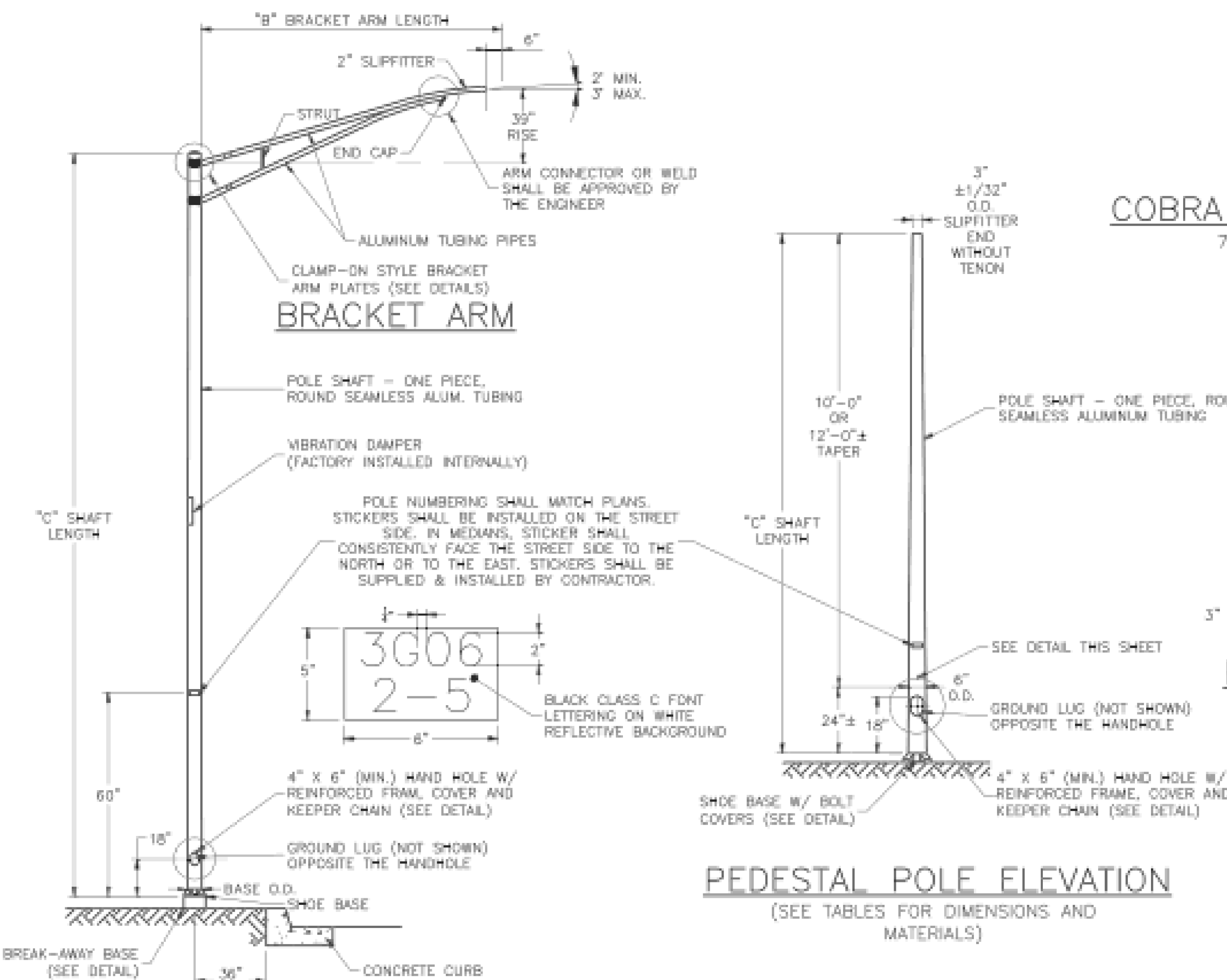
15" BREAK-AWAY BASE

NOTES:

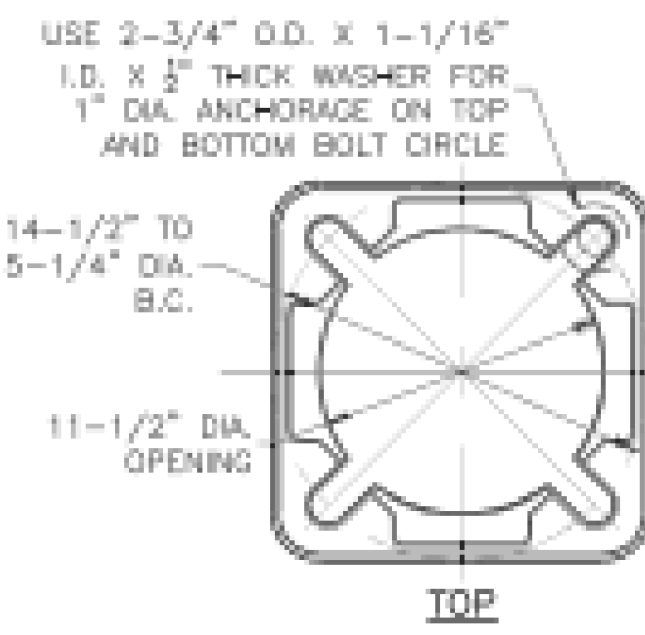
- DOOR SHALL BE ON THE SAME SIDE OF THE POLE AS THE HAND HOLE. BASE CONFORMS TO BREAKAWAY CRITERIA OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (1994).



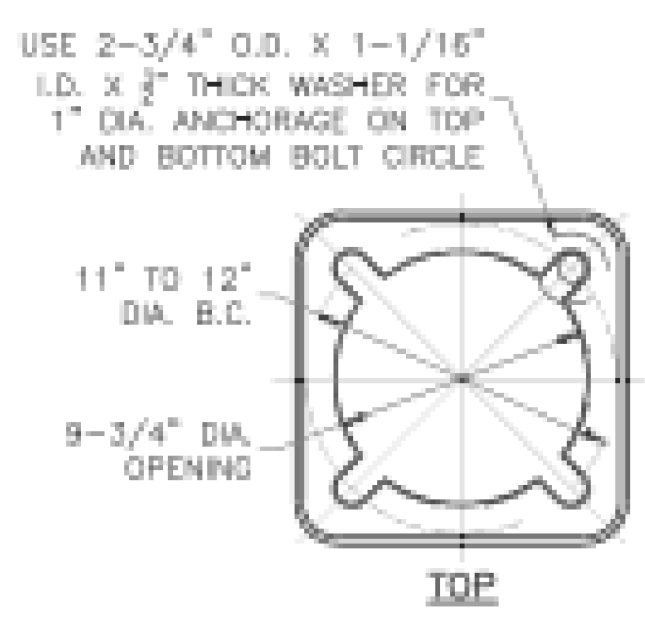
11" BREAK-AWAY BASE



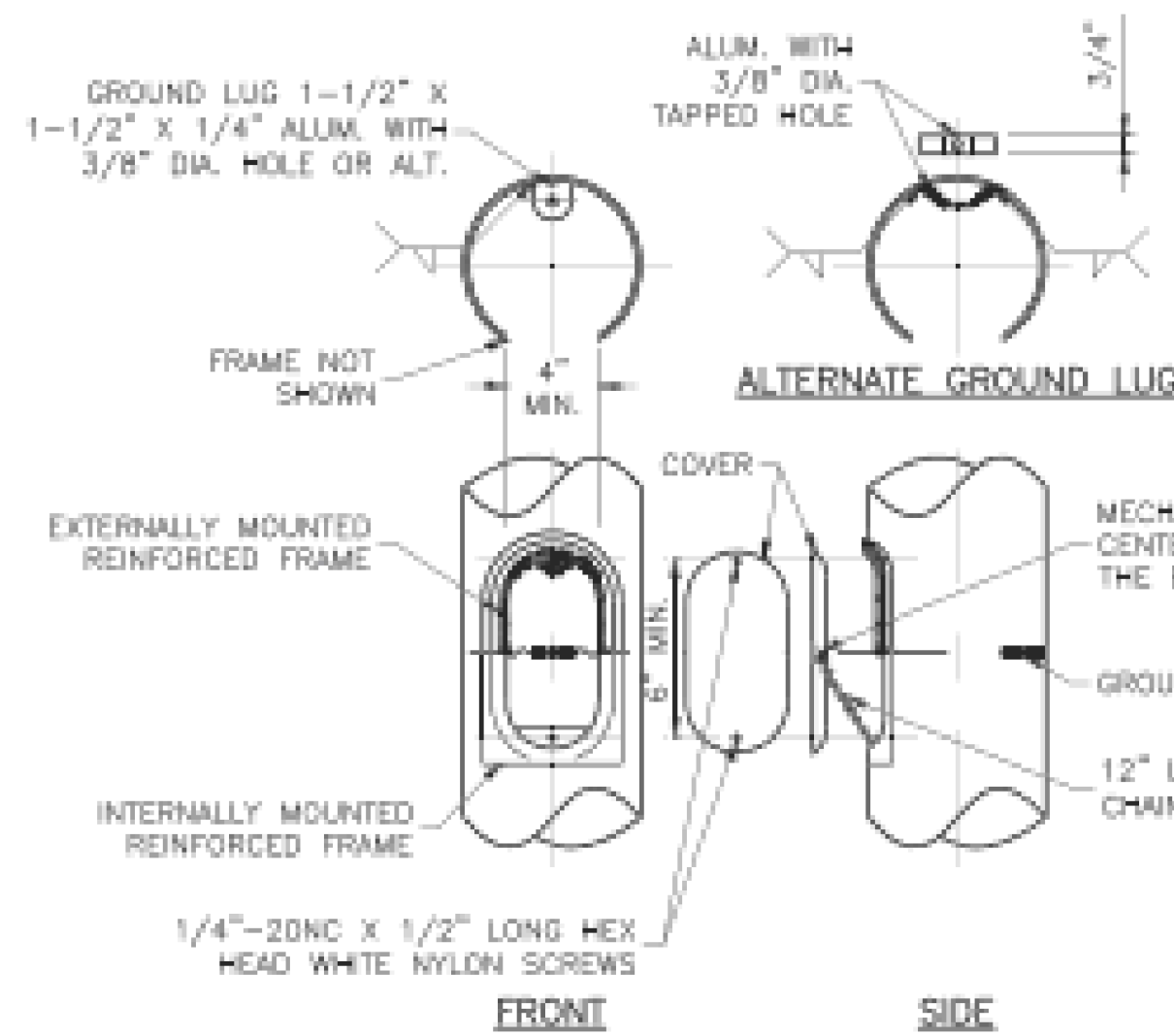
POLE ELEVATION
(SEE TABLES FOR DIMENSIONS AND MATERIALS)



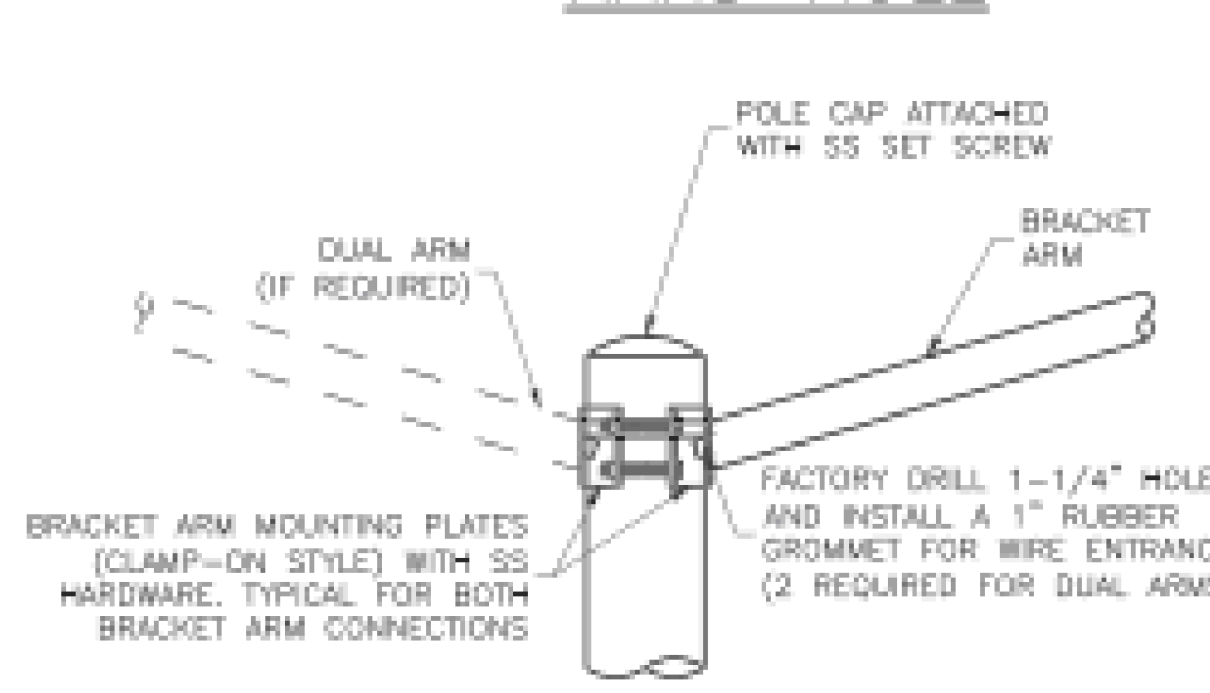
TOP



TOP



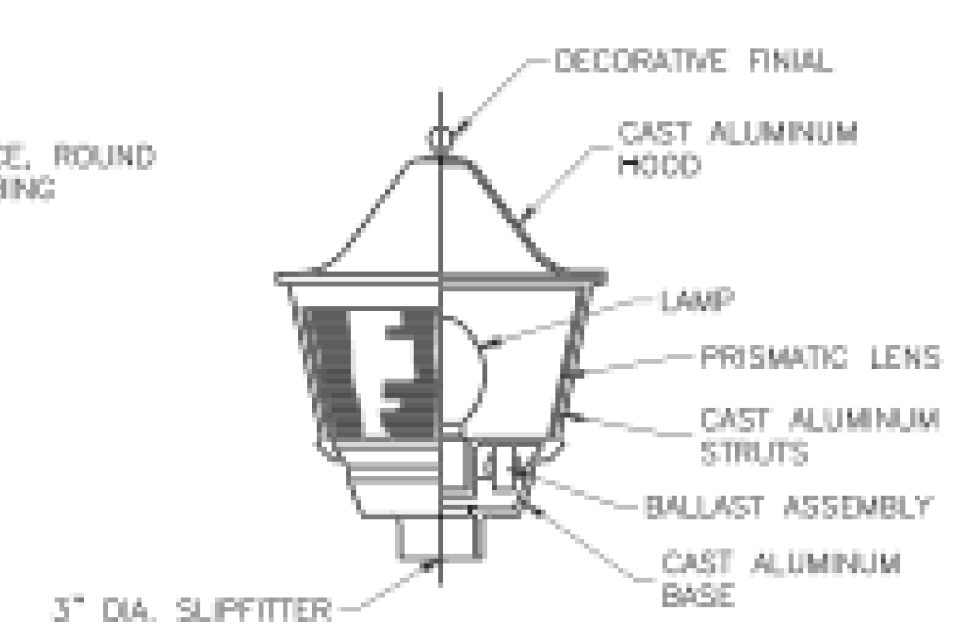
HAND HOLE



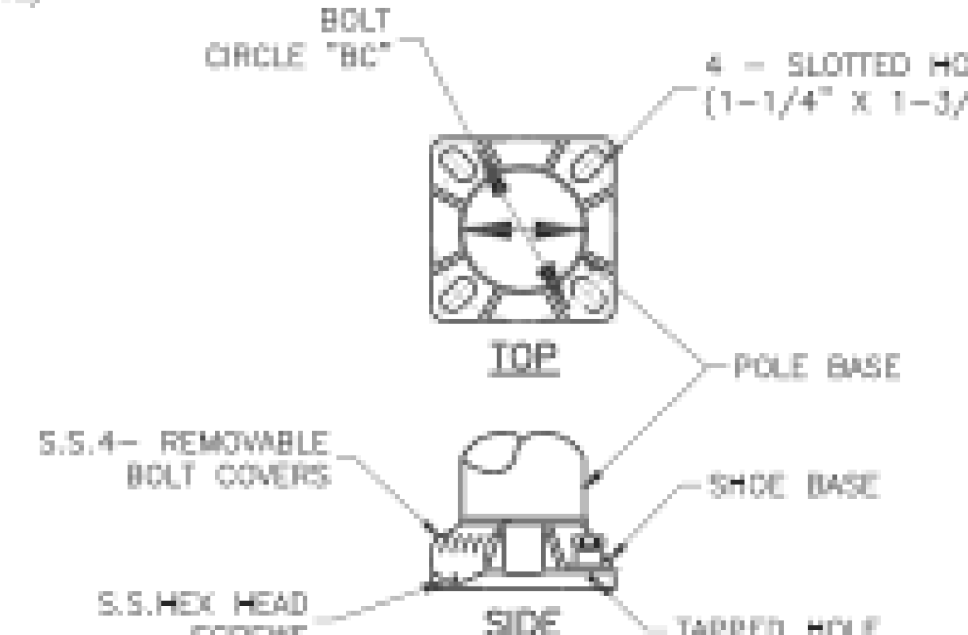
BRACKET ARM MOUNTING



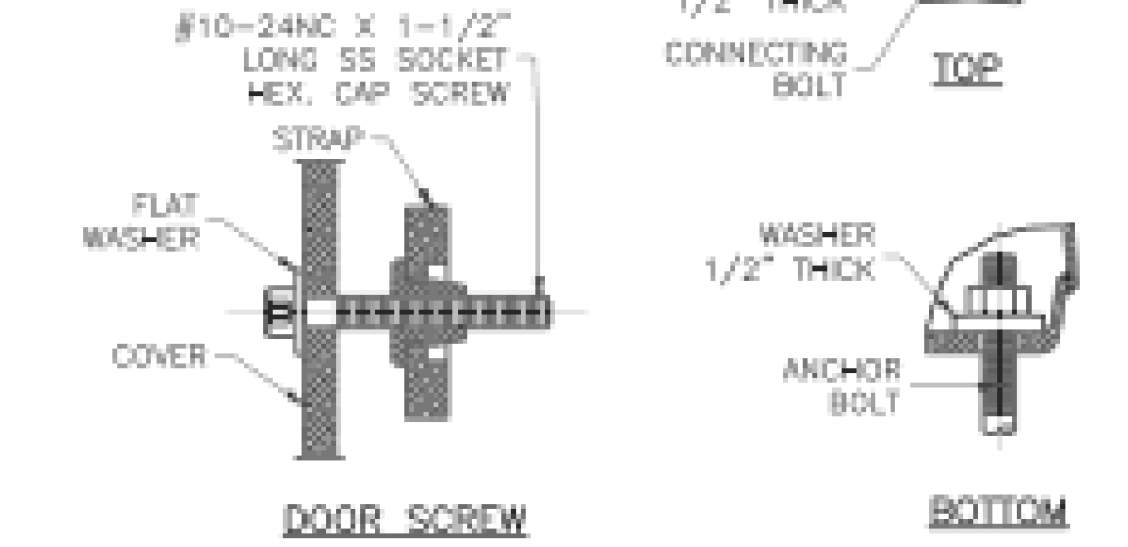
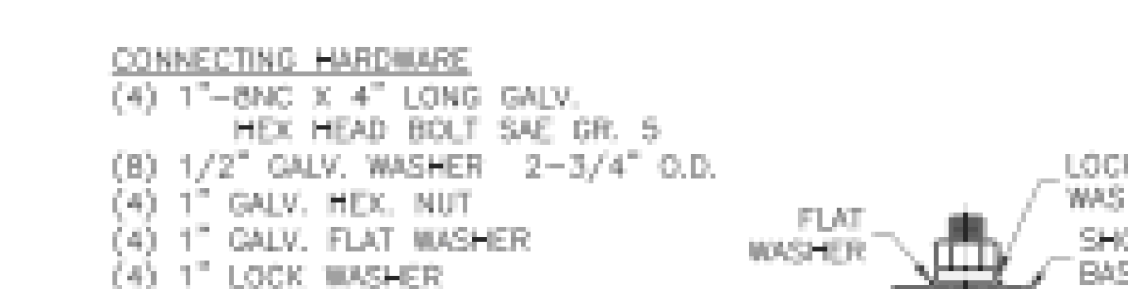
COBRA HEAD STYLE LUMINAIRE
7,500, 12,500, 24,500 LUMEN LED



POST TOP LUMINAIRE
10,000 LUMEN LED



SHOE BASE

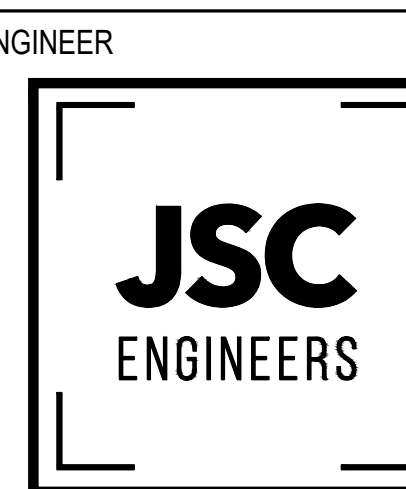


BREAK-AWAY BASE ANCHORAGE

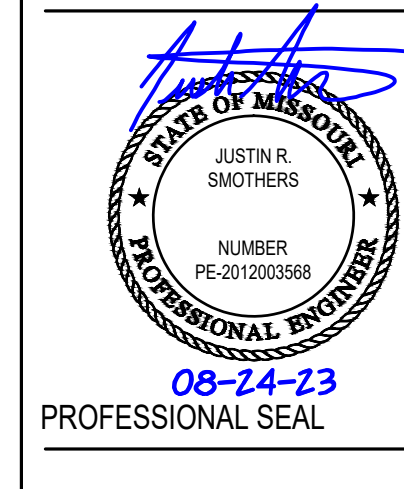
LEE'S SUMMIT
MISSOURI

POLE AND LUMINAIRE DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

SL-1



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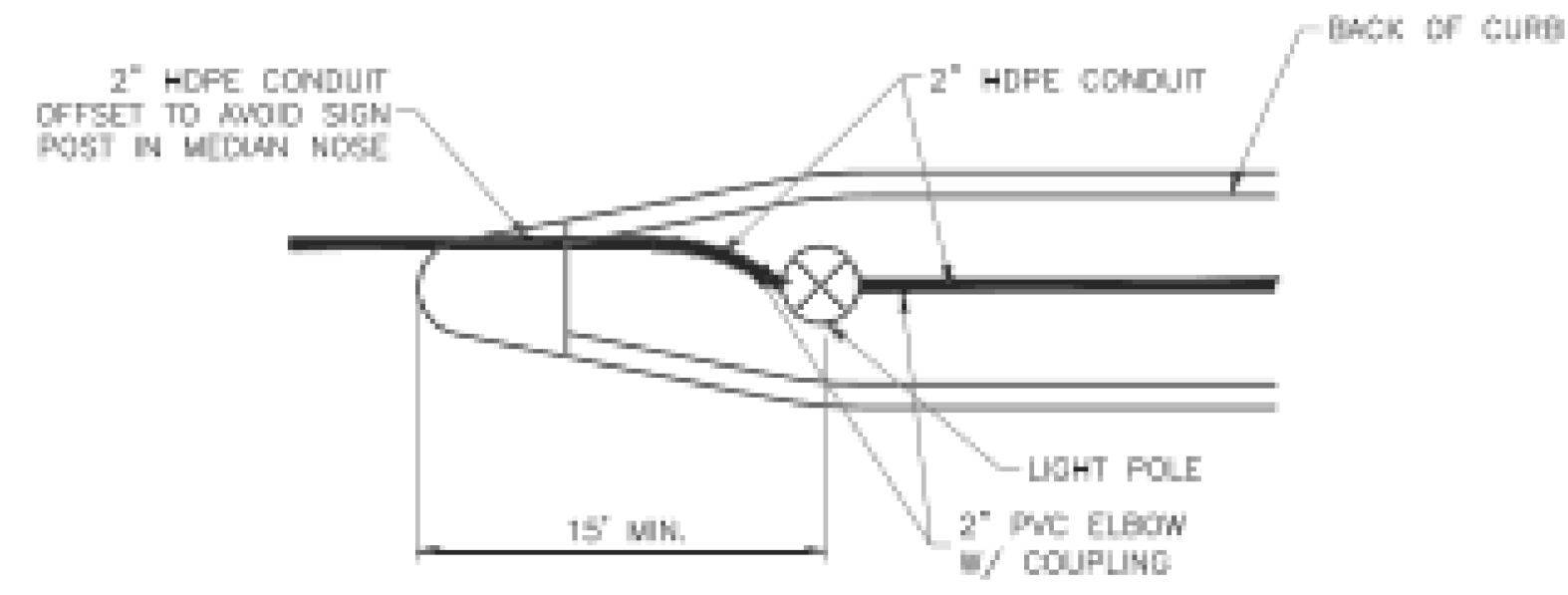
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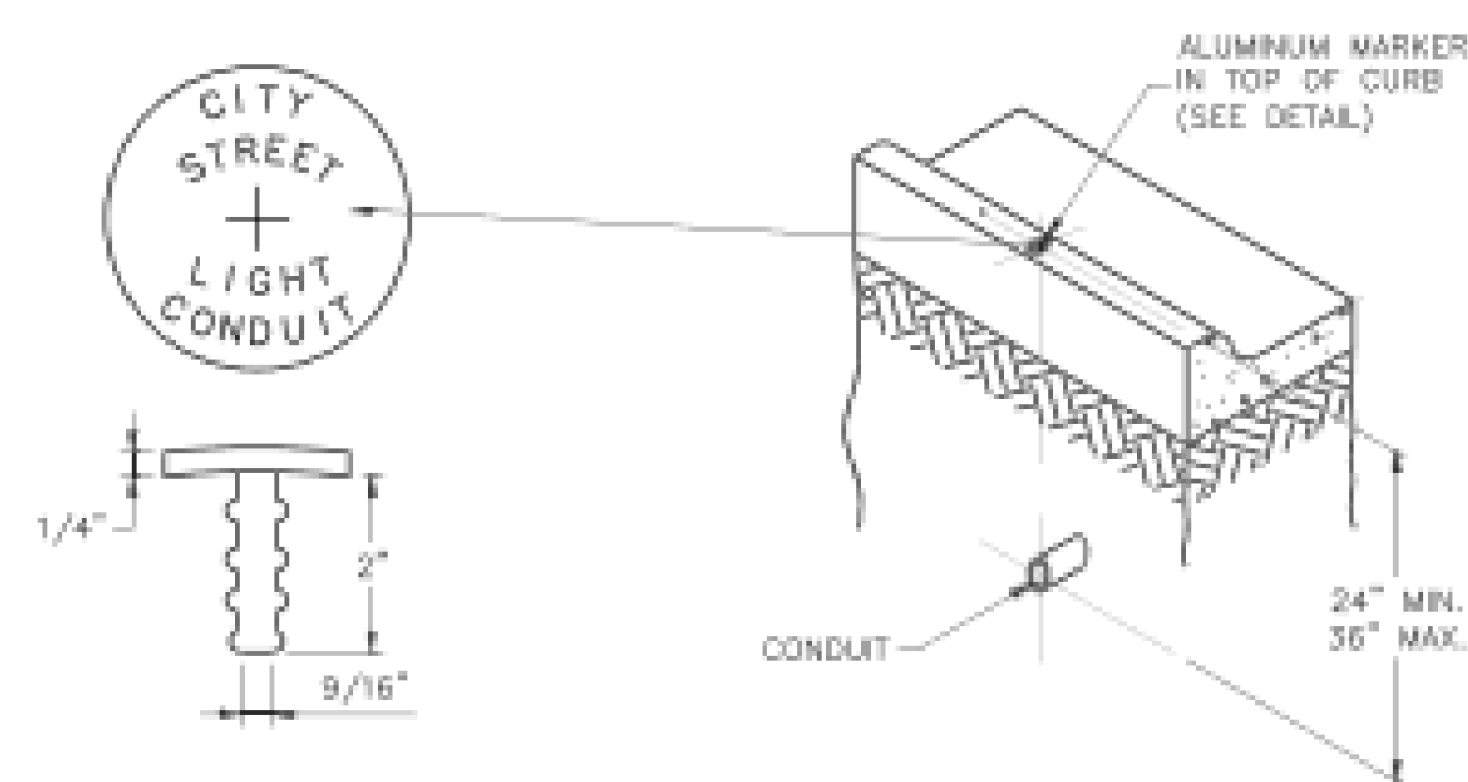
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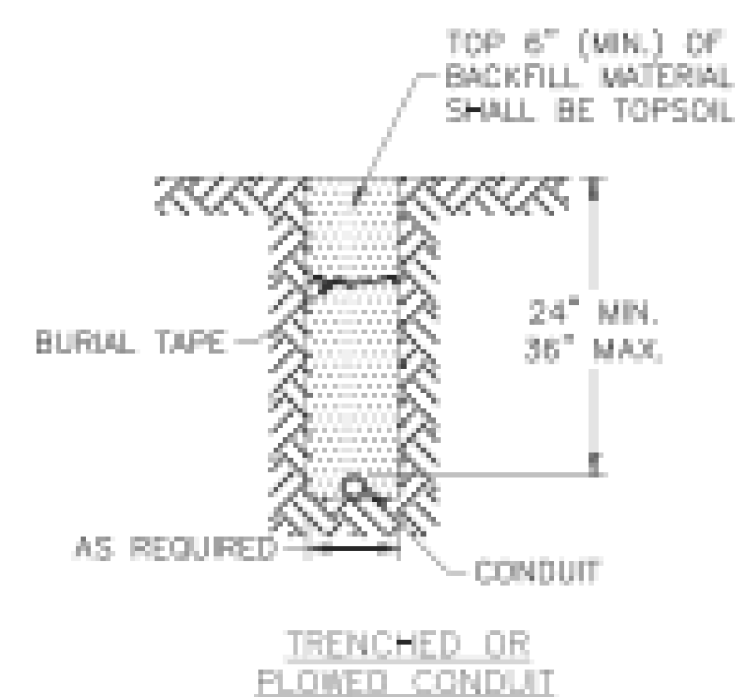
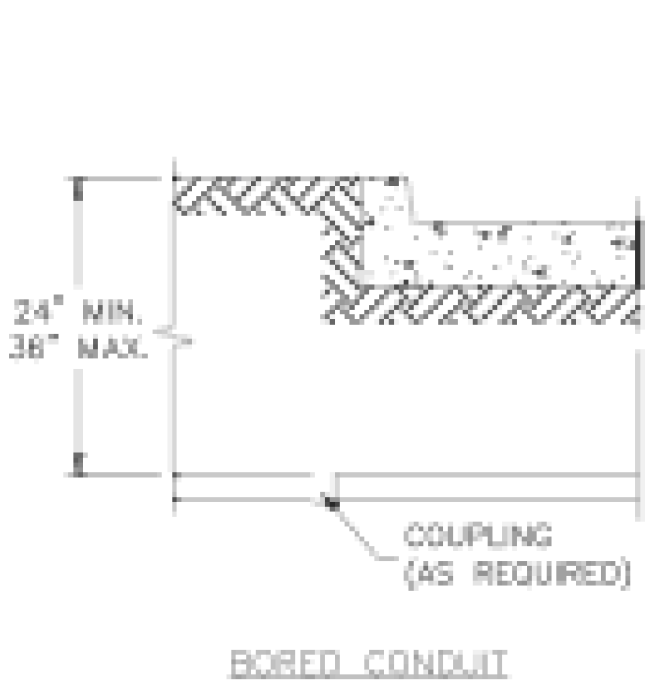
STREET LIGHT POLE IN MEDIAN



CONDUIT MARKING DETAIL

NOTES:

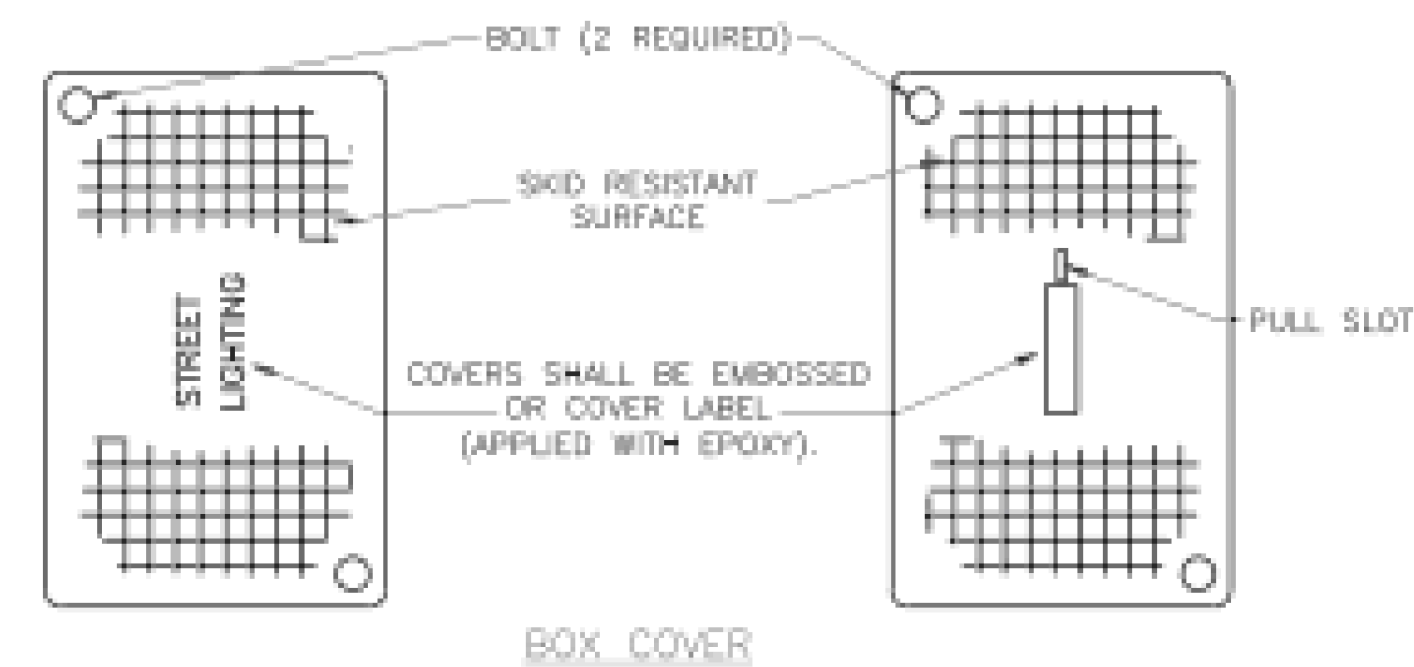
1. AN ALUMINUM MARKER SHALL BE PLACED IN THE TOP OF THE CURB DIRECTLY OVER THE CONDUIT.
2. MARKERS SHALL BE INSTALLED BY DRILLING THE CURB AND EPOXYING THE MARKER IN PLACE. IF INSTALLED IN A SIDEWALK OR CURB RAMP, THE TOP OF THE MARKER SHALL BE FLUSH WITH THE CONCRETE SURFACE.
3. NO DIRECT PAYMENT SHALL BE MADE FOR CONDUIT MARKERS; THEY ARE SUBSIDIARY TO THE INSTALLATION OF CONDUIT.



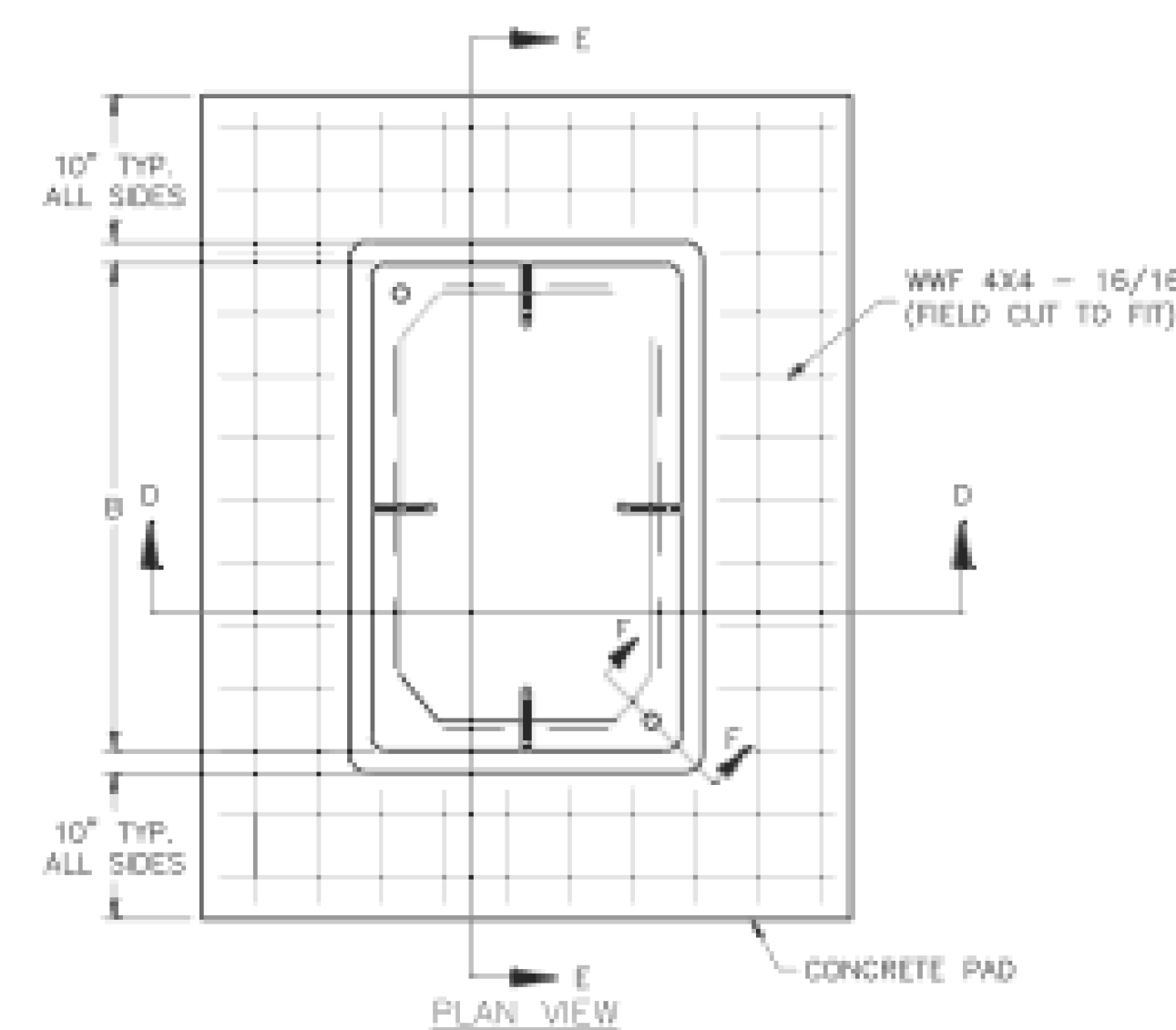
CONDUIT LOCATIONS

NOTES:

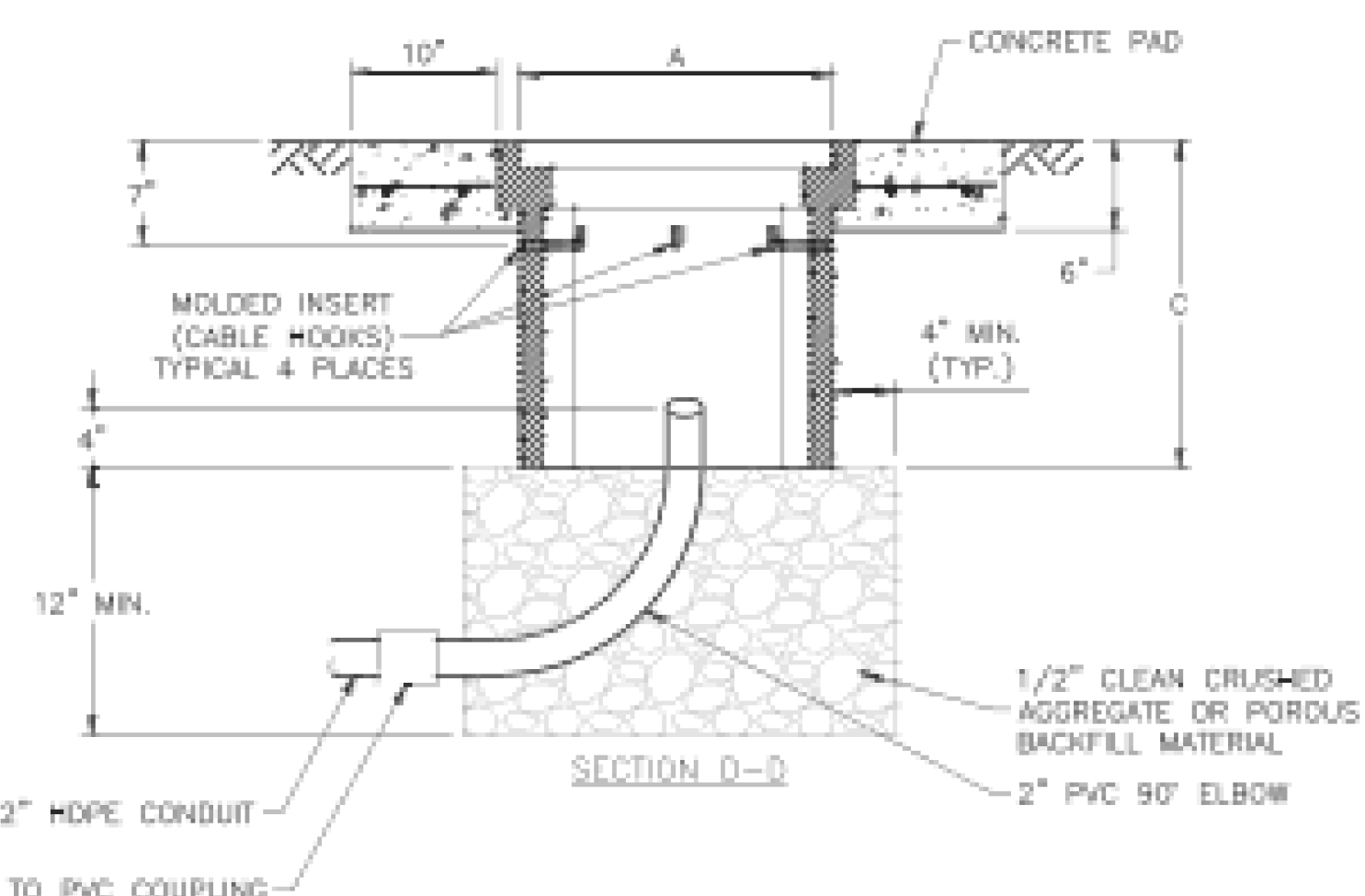
1. BACKFILL UNDER PAVED SURFACES SHALL BE FLOWABLE FILL.
2. THE CONDUIT SHALL NOT BE COVERED UNLESS INSPECTED AND APPROVED BY THE CITY ENGINEER, SO AS TO ENSURE PROPER DEPTH, CORRECT CONDUIT MATERIAL, AND PROPER CONDUIT END TREATMENT.



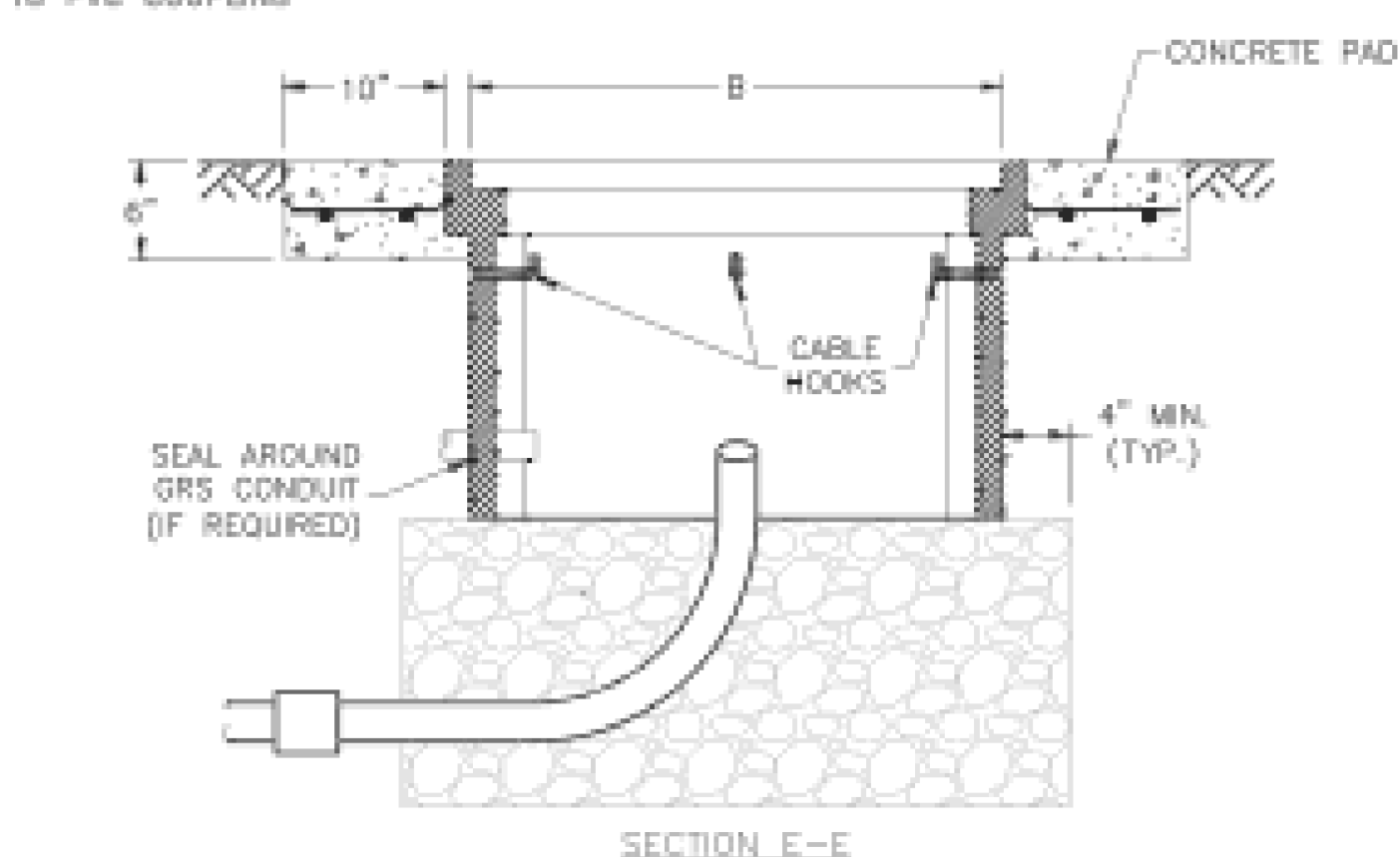
BOX COVER



PLAN VIEW

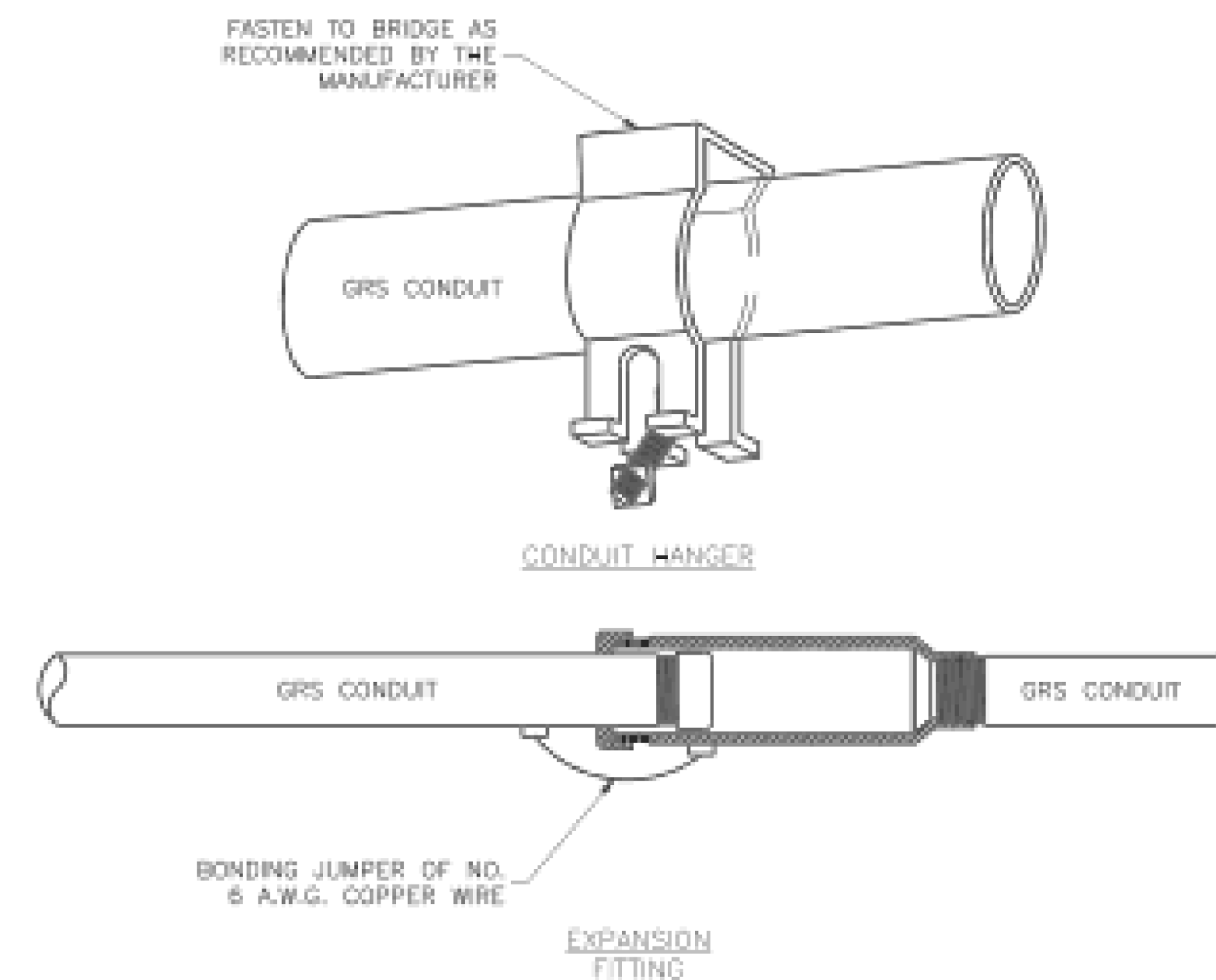


SECTION D-D



SECTION E-E

PULL OR JUNCTION BOX DETAILS



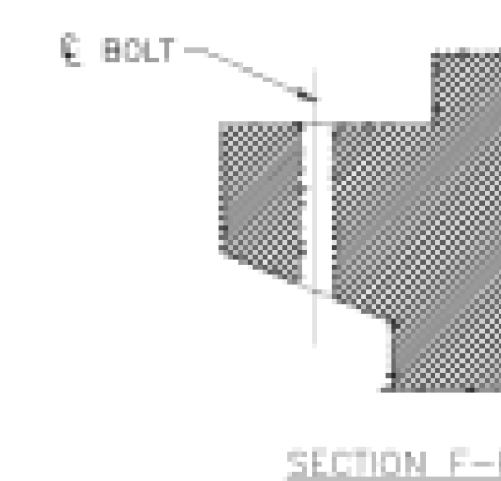
GRS CONDUIT DETAILS

NOTES:

1. ALL CONDUITS INSTALLED ABOVE GROUND SHALL BE GRS.
2. CONDUIT ATTACHED TO BRIDGES SHALL HAVE EXPANSION FITTINGS INSTALLED AT EACH END OF THE BRIDGE AND AT EACH EXPANSION JOINT ON THE BRIDGE.
3. ALL GRS CONDUITS SHALL BE ELECTRICALLY BONDED BY A GROUNDING BUSHING AND GROUND WIRE AS DETAILED.
4. INSTALL THE CONDUIT AND CONNECTOR ASSEMBLY TO PERMIT A 1/2" MINIMUM LONGITUDINAL TRAVEL IN EITHER DIRECTION.

NUMBER OF ENTERING/EXITING CONDUITS	BOX TYPE	MINIMUM BOX DIMENSIONS		
		A	B	C
1 - 2	TYPE 1 JUNCTION BOX	12"	12"	12"
3 - 4	TYPE 2 JUNCTION BOX	12"	18"	12"
> 4	CLASS 1 PULL BOX	17"	30"	22"

ALL DIMENSIONS SHOWN ARE NOMINAL



SECTION F-F

NOTES:

1. LIFT OPENING REQUIRED ON ALL COVERS.
2. PREFORMED BOX WALLS MAY BE EITHER FLARED OR VERTICAL. THE BOTTOM OF BOXES SHALL BE OPEN TO BELOW.
3. IF AN EXTENSION IS USED WITH A PREFORMED BOX, THE LIP OF THE EXTENSION MAY BE INTERIOR OR EXTERIOR. THE EXTENSION SHALL BE COMPATIBLE AND FROM THE SAME MANUFACTURER.
4. CABLE HOOKS ARE TO BE INCLUDED WITH CLASS 1 PULL BOXES ONLY.
5. A CLASS 1 PULL BOX SHALL BE INSTALLED ADJACENT TO EACH 4-CIRCUIT POWER SUPPLY.

LS LEE'S SUMMIT
MISSOURI

MUNICIPAL SITE LIGHTING DIVISION | 3075 SW MARKET STREET, JACKSON, MISSOURI 64403

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

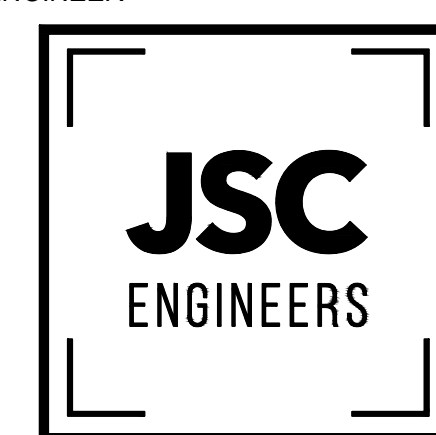
BOX AND CONDUIT DETAILS

PROJECT
SHEET NAME

Drawn By: JSC
Checked By: JSC
Date: 03/20/2024
Project:

SL-3

MEP ENGINEER



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MUNICIPAL SITE LIGHTING DETAILS

SCALE: N/A

1

REUNION AT BLACKWELL

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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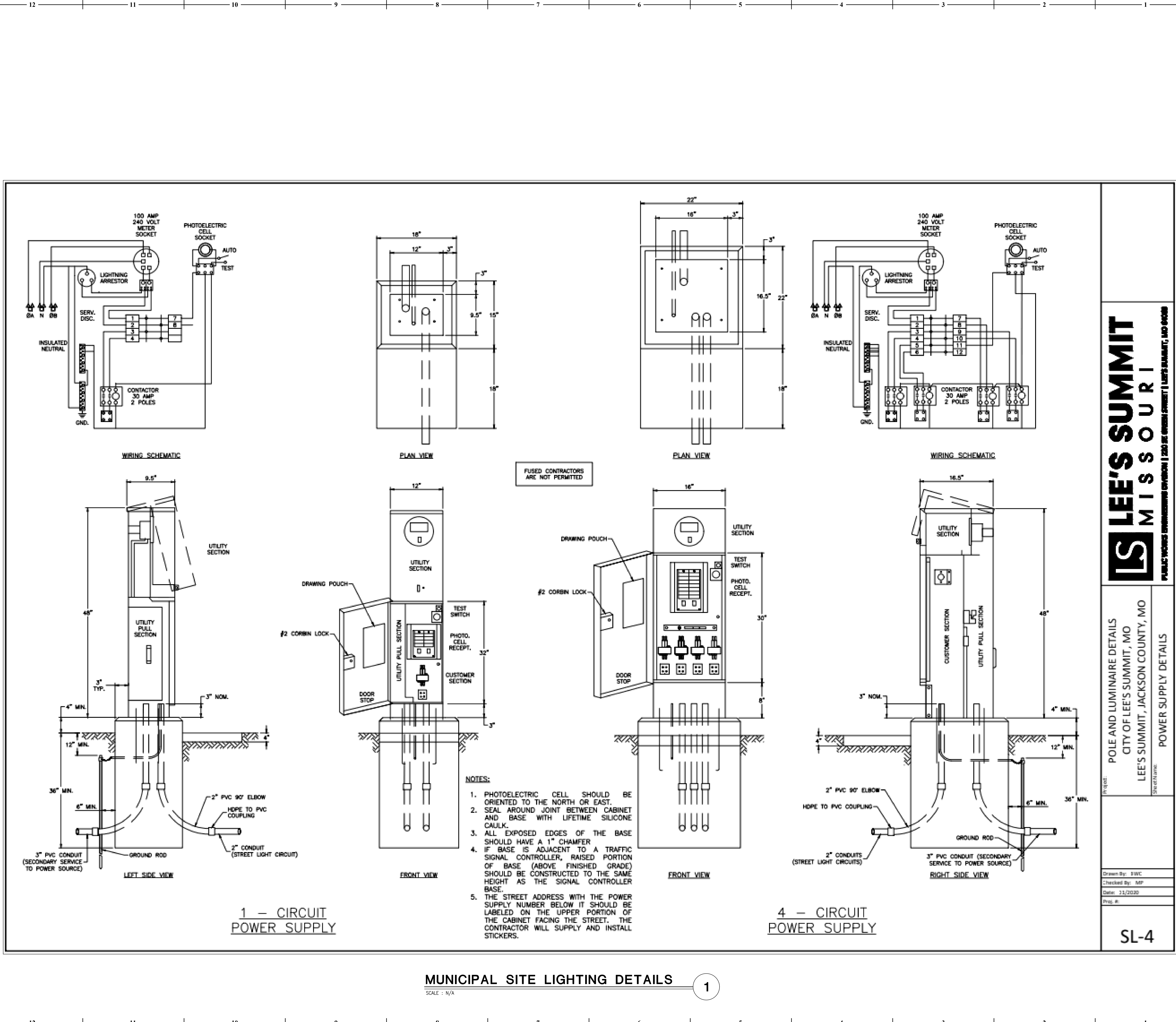
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ELECTRICAL SITE LIGHTING
DETAILS



REUNION AT BLACKWELL
SE SHENANDOAH DRIVE
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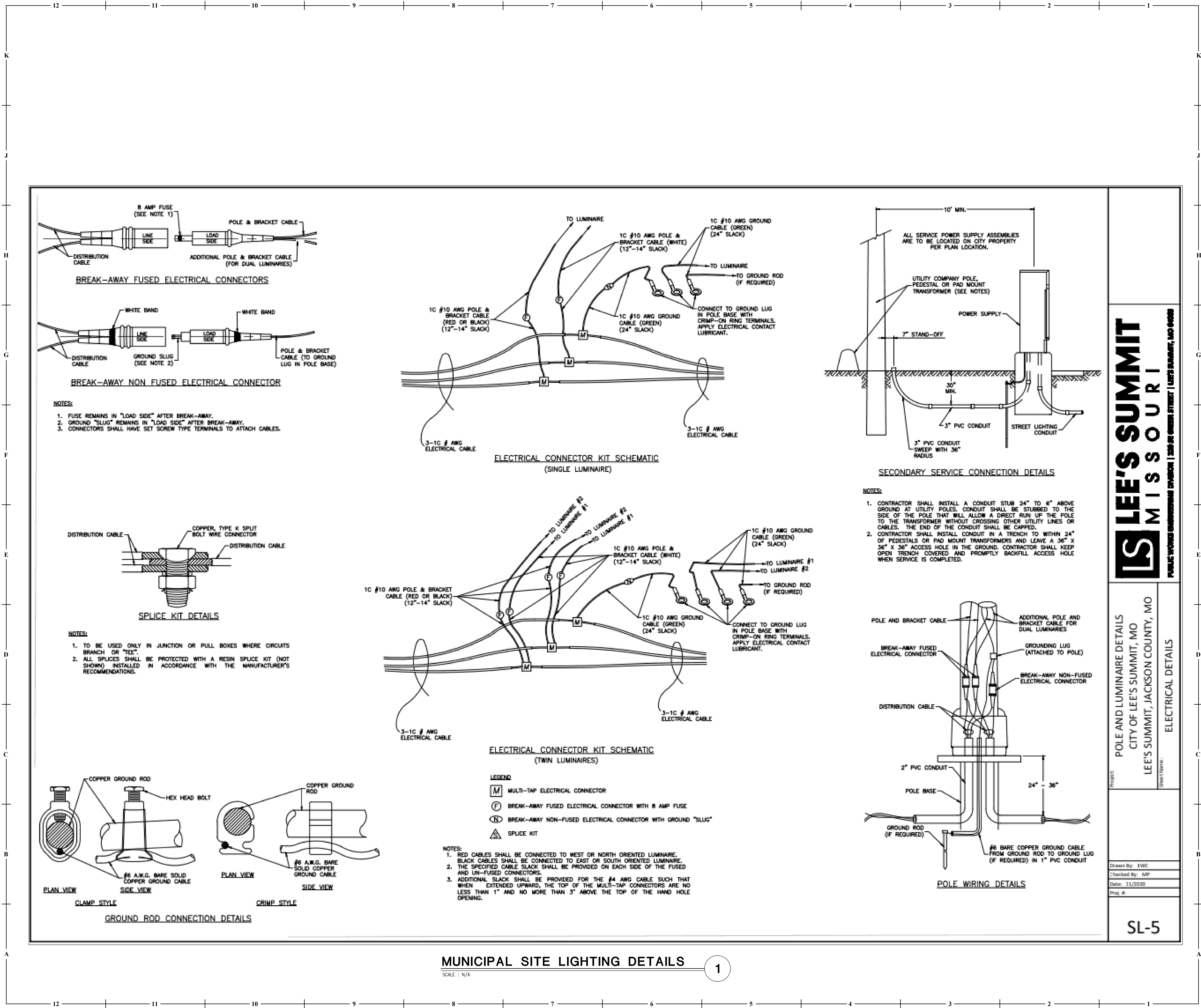
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JSC ENGINEERS
NUMBER
PC-012008786
EXPIRATION DATE
08-24-23
PROFESSIONAL SEAL

E100F
ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046



MUNICIPAL SITE LIGHTING DETAILS

REUNION AT BLACKWELL
SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

ELECTRICAL SITE LIGHTING
DETAILS

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SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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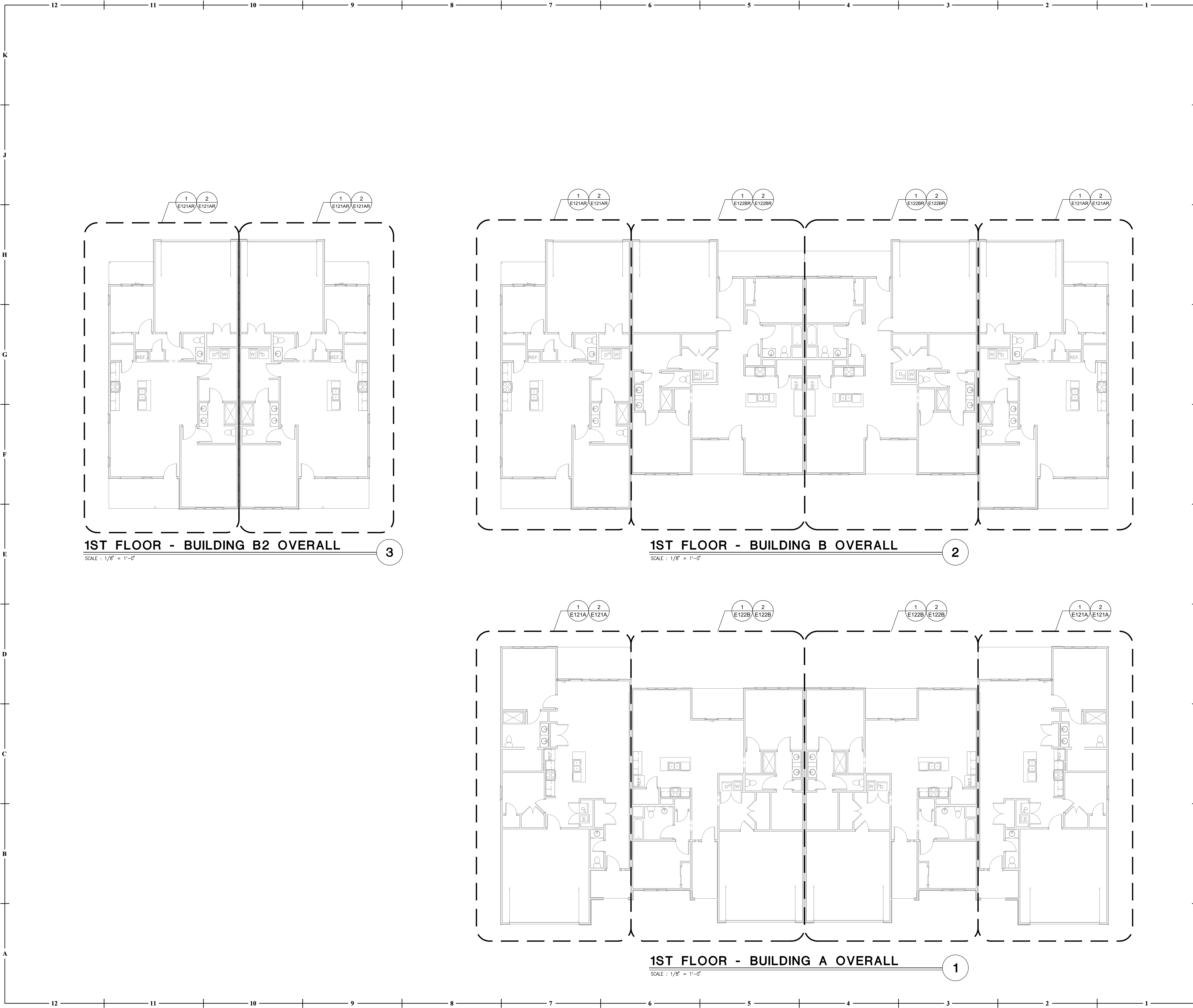
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ISSUE DATE: 08.24.23
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ELECTRICAL SITE LIGHTING
DETAILS



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REUNION AT BLACKWELL

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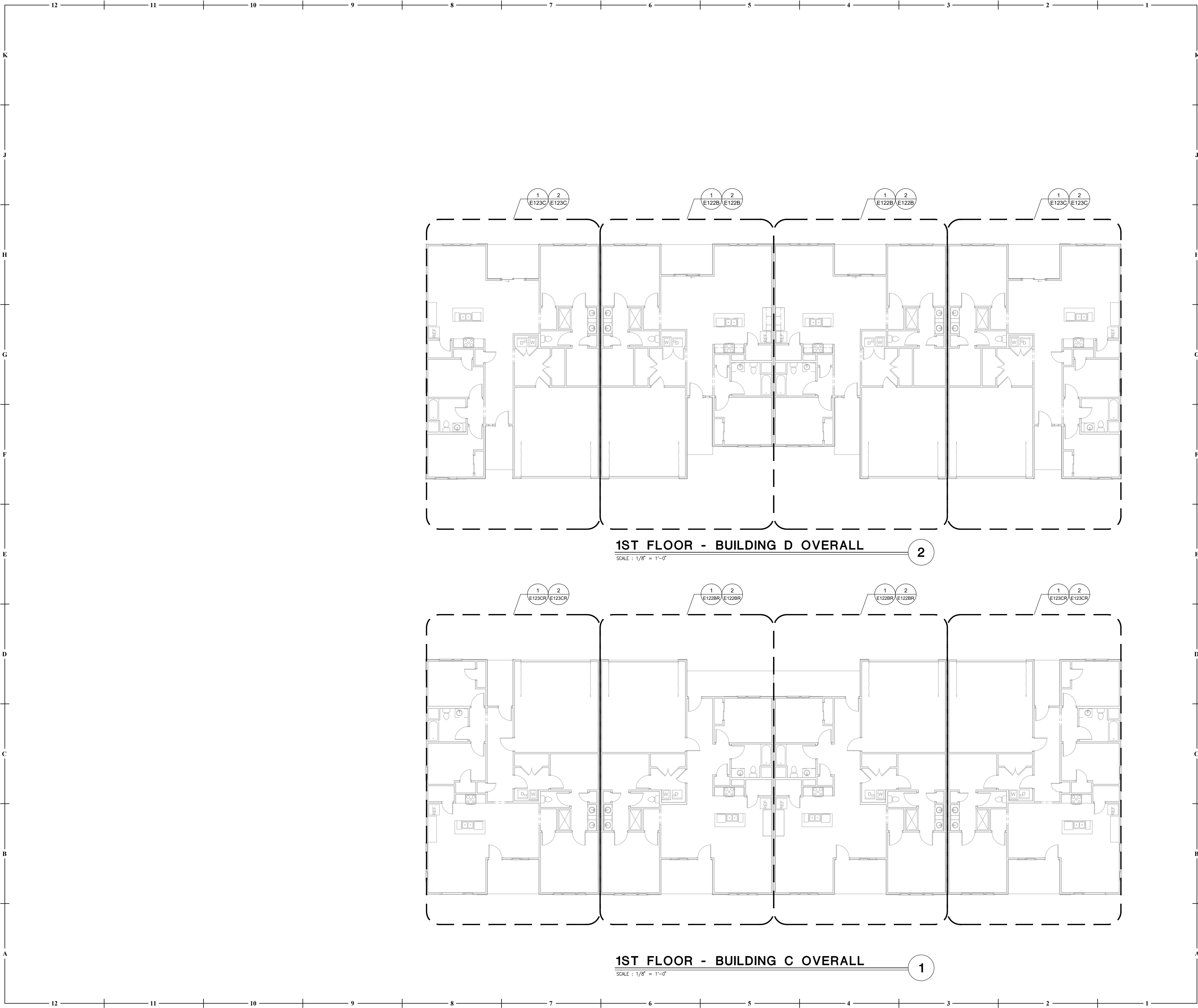
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PROFESSIONAL SEAL

JUSTIN R.
SMOTHERS
NUMBER
PE-2012003596
08-24-23
PROFESSIONAL SEAL

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

1ST FLOOR OVERALL PLANS
BUILDINGS A & B, B2



1ST FLOOR - BUILDING D OVERALL

SCALE : 1/8" = 1'-0"

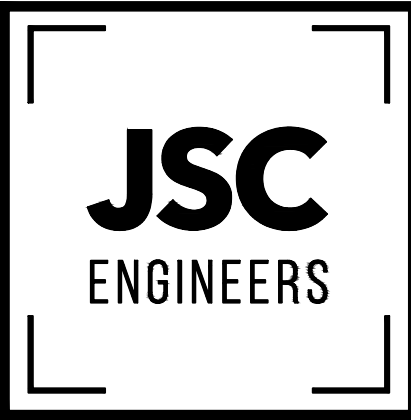
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1ST FLOOR - BUILDING C OVERALL

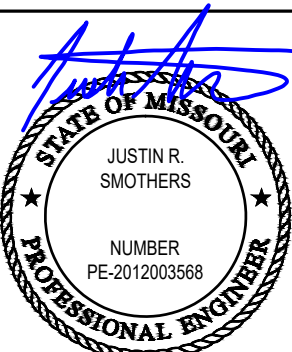
SCALE : 1/8" = 1'-0"

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1ST FLOOR OVERALL PLANS
BUILDINGS C & D

REUNION AT BLACKWELL

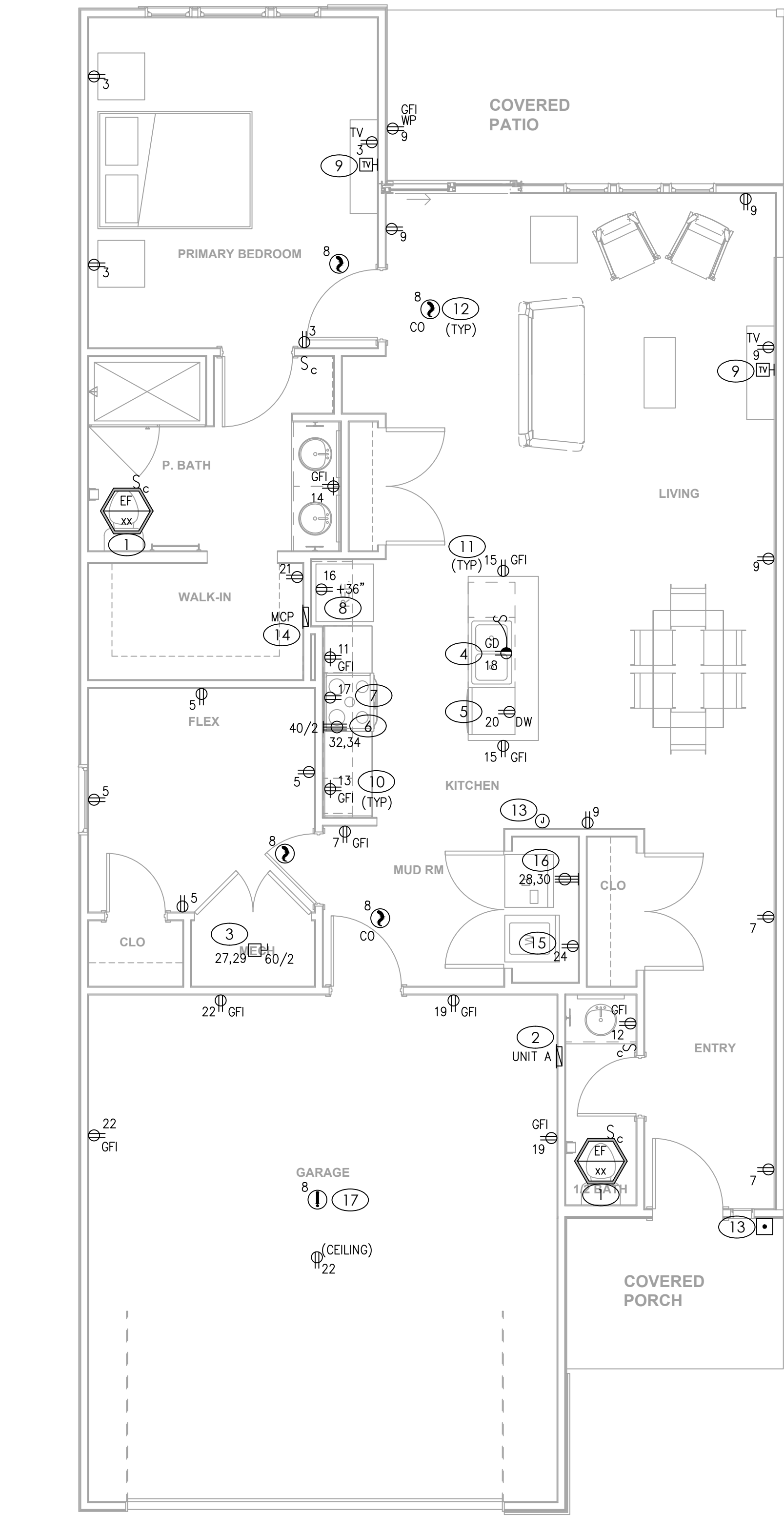
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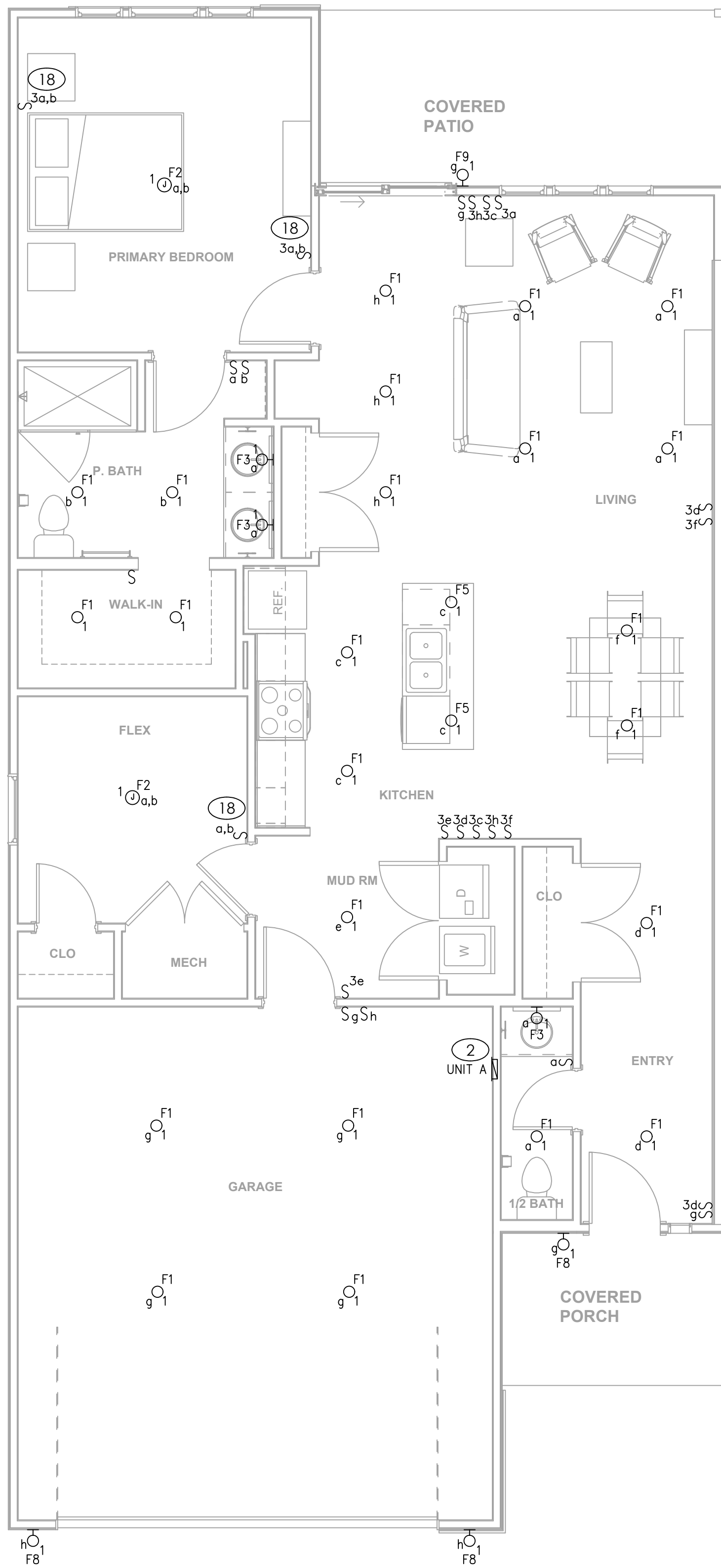




POWER - UNIT PLAN A

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

2



LIGHTING - UNIT PLAN A

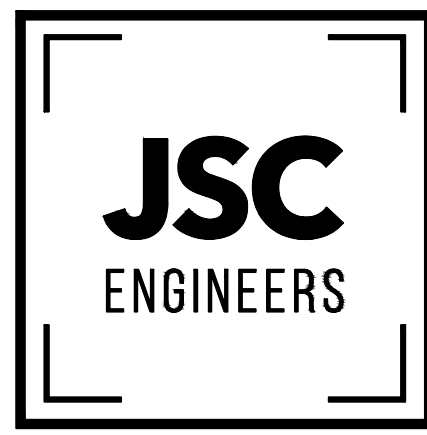
SCALE : 1/4" = 1'-0"

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KEYED PLAN NOTES

1. EXHAUST FAN DERIVES POWER FROM CIRCUIT SERVING LIGHTING FIXTURES IN ROOM.
2. NEW PANELBOARD. REFER TO SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULE.
3. MAKE CONNECTION TO DIVISION 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS. COORDINATE WORK WITH DIVISION 22/23 CONTRACTOR PRIOR TO CONSTRUCTION. DISCONNECT SWITCH SIZE AND CONNECTION STYLE ARE ASSUMED IN THIS DRAWING. REFER TO MECHANICAL & PLUMBING ENGINEERED DRAWINGS FOR EXACT EQUIPMENT SPECIFICATIONS & ELECTRICAL CONNECTION REQUIREMENTS.
4. GARBAGE DISPOSAL. 120V, 1/2 HP, CORD & PLUG CONNECTION TO HALF-SWITCHED AFCI RECEPTACLE MOUNTED BELOW SINK. PROVIDE 2 #12 CU, 1 #20U EGC AT HANDICAP UNITS. MOUNT SWITCH WITHIN LOWER CABINETS PER ADA GUIDELINES.
5. DISHWASHER RECEPTACLE. 120V, 6.2A. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION TO RECEPTACLE.
6. ELECTRIC COOKTOP. 208V, 1P, 8KW. PROVIDE HARD WIRED CONNECTION TO J-BOX IN CABINET. COORDINATE EXACT LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE LOCKABLE CIRCUIT BREAKER IN PANEL AS DISCONNECTING MEANS TO COMPLY WITH NEC 422.31(5). PROVIDE 3 #8 CU, 1 #10 CU EGC. PROVIDE RECEPTACLE TO MATCH PLUG ON UNIT IF UNIT INSTALLED IS CORD AND PLUG CONNECTED.
7. COMBINATION MICROWAVE AND EXHAUST HOOD. 120V, 15A MAX. COORDINATE EXACT LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION.
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9. TELEVISION. PROVIDE 120V DUPLEX RECEPTACLE, DATA OUTLET AND COAX CABLE (BOTH WIRED BACK TO LOW VOLTAGE STRUCTURED MEDIA ENCLOSURE). MOUNT BETWEEN 18" AND 66" AFF. VERIFY MOUNTING HEIGHT PRIOR TO ROUGH-IN.
10. FOR KITCHEN AND BATHROOM RECEPTACLES ABOVE COUNTER, COORDINATE LOCATION AND PLACEMENT PRIOR TO ROUGH-IN. IF FULL BACKSPLASH IS USED MOUNT RECEPTACLES VERTICALLY. IF FULL BACKSPLASH IS NOT USED MOUNT RECEPTACLES HORIZONTALLY ABOVE BACKSPLASH.
11. MOUNT ISLAND/PENSULA RECEPTACLES 12" MAX BELOW TOP OF COUNTER.
12. COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE SENSOR. 120V WITH BATTERY BACK-UP. DETECTORS SHALL BE INTERCONNECTED AND INSTALLED IN ACCORDANCE WITH IRC 314 AND 315.M IF 908.7, NFPA 72 & 74 WITH SPECIAL ATTENTION GIVEN TO THE LOCATION OF THE DETECTOR IN THE VICINITY OF RETURN AIR GRILLES. (PROVIDE SMOKE DETECTOR ONLY WHERE ALLOWED BY CODE).
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PROFESSIONAL SEAL

E121A

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

UNIT PLAN A
LIGHTING & POWER PLANS

REUNION AT BLACKWELL

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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POWER - UNIT PLAN A REVERSED

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

2

LIGHTING - UNIT PLAN A REVERSED

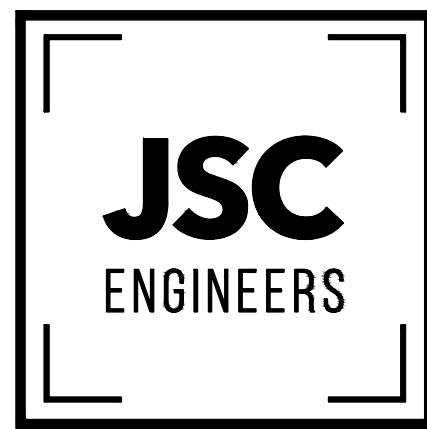
SCALE : 1/4" = 1'-0"

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E121AR

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

UNIT PLAN A REVERSED
LIGHTING & POWER PLANS

REUNION AT BLACKWELL

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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POWER - UNIT PLAN B

2

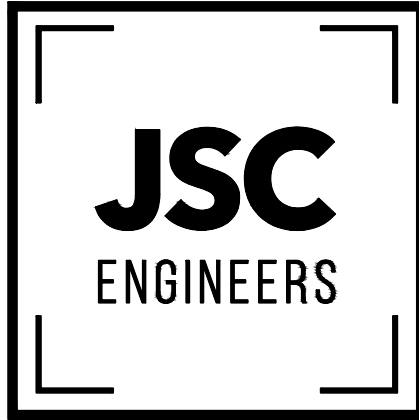
LIGHTING - UNIT PLAN B

1

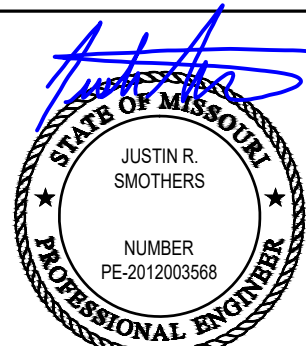
KEYED PLAN NOTES

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08-24-23
PROFESSIONAL SEAL

E122B

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

UNIT PLAN B
LIGHTING & POWER PLANS

REUNION AT BLACKWELL

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

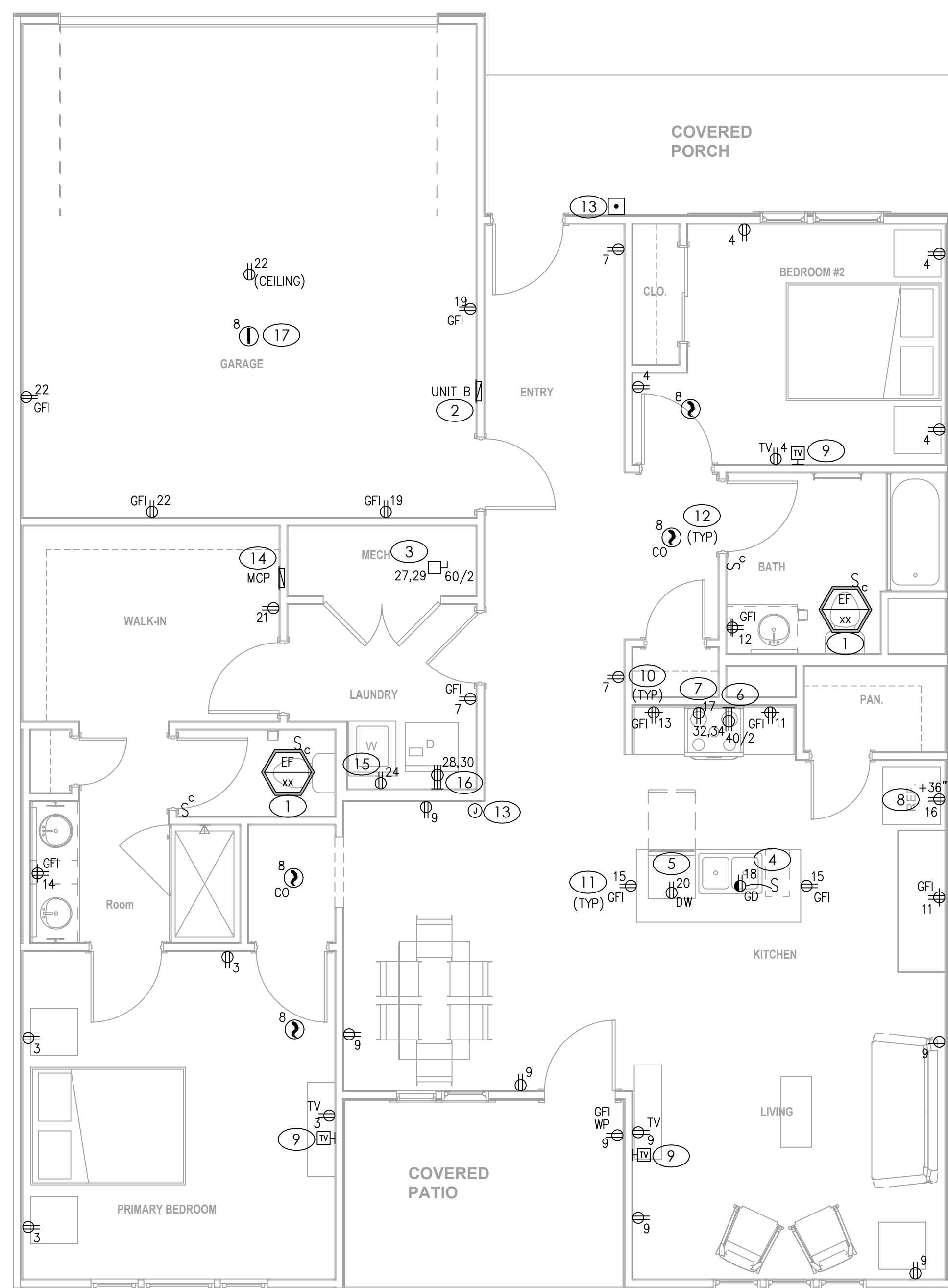
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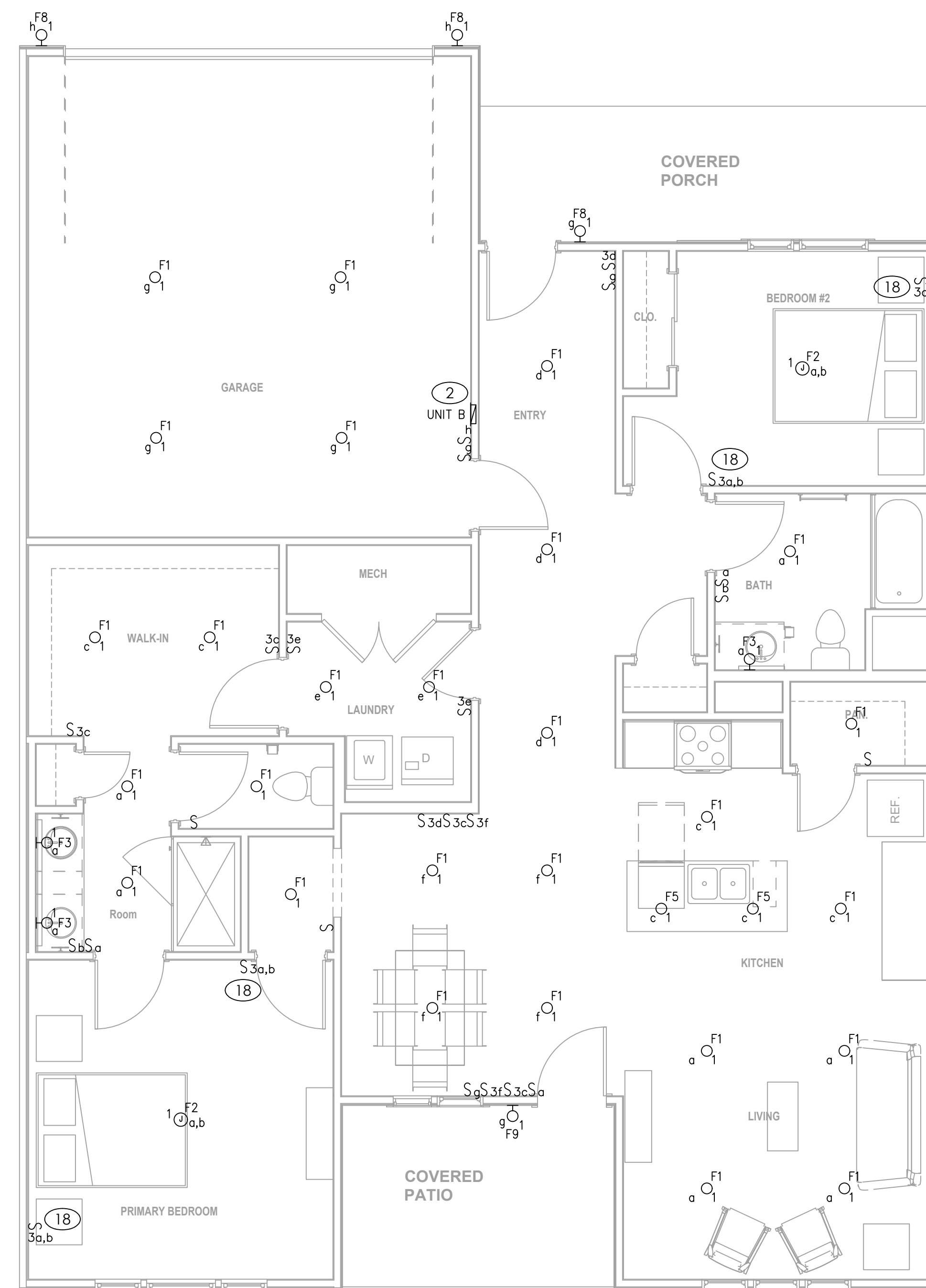


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SCALE : 1/4" = 1'-0"

2



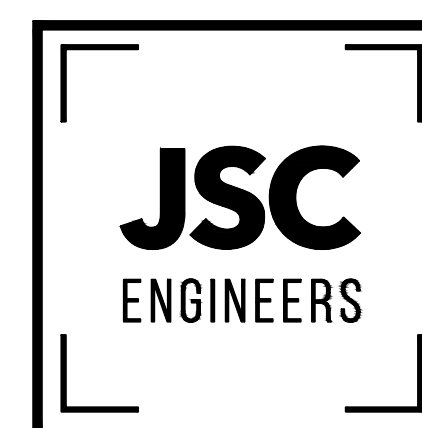
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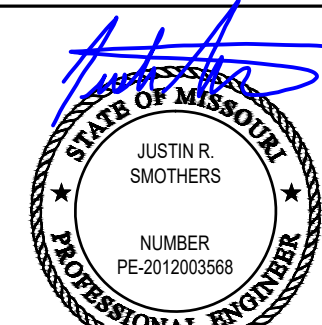
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4. GARBAGE DISPOSAL. 120V, 1/4 HP, CORD & PLUG CONNECTION TO HALF-SWITCHED AFC RECEPTACLE SIZE 12" BELOW SINK. PROVIDE 2 #12 CU, 1 #20 CGC EAT HANDICAP UNITS. MOUNT SWITCH WITHIN LOWER CABINETS PER ADA GUIDELINES.
5. DISHWASHER RECEPTACLE. 120V, 6.2A. PROVIDE 2 #12 CU, 1 #12 CGC ECG. CORD AND PLUG CONNECTION TO RECEPTACLE.
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MEP ENGINEER



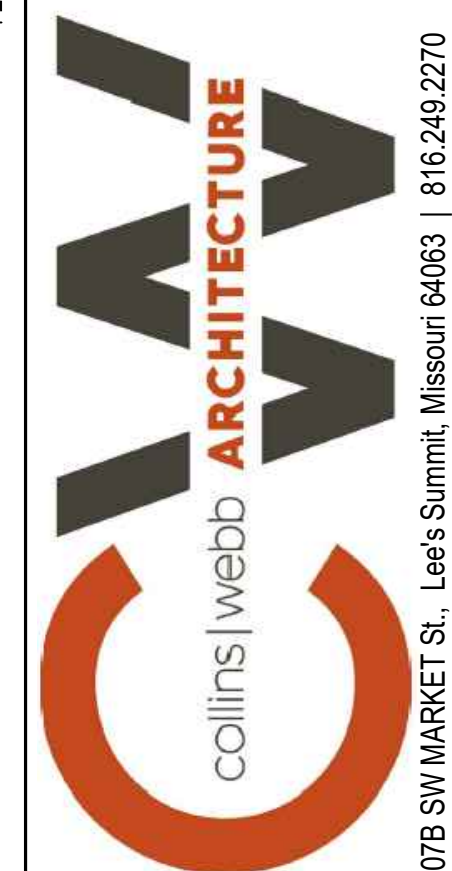
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08-24-21
PROFESSIONAL SEAL

E122BR

ISSUE DATE: 08.24.2011
JSC PROJECT #: 23-04

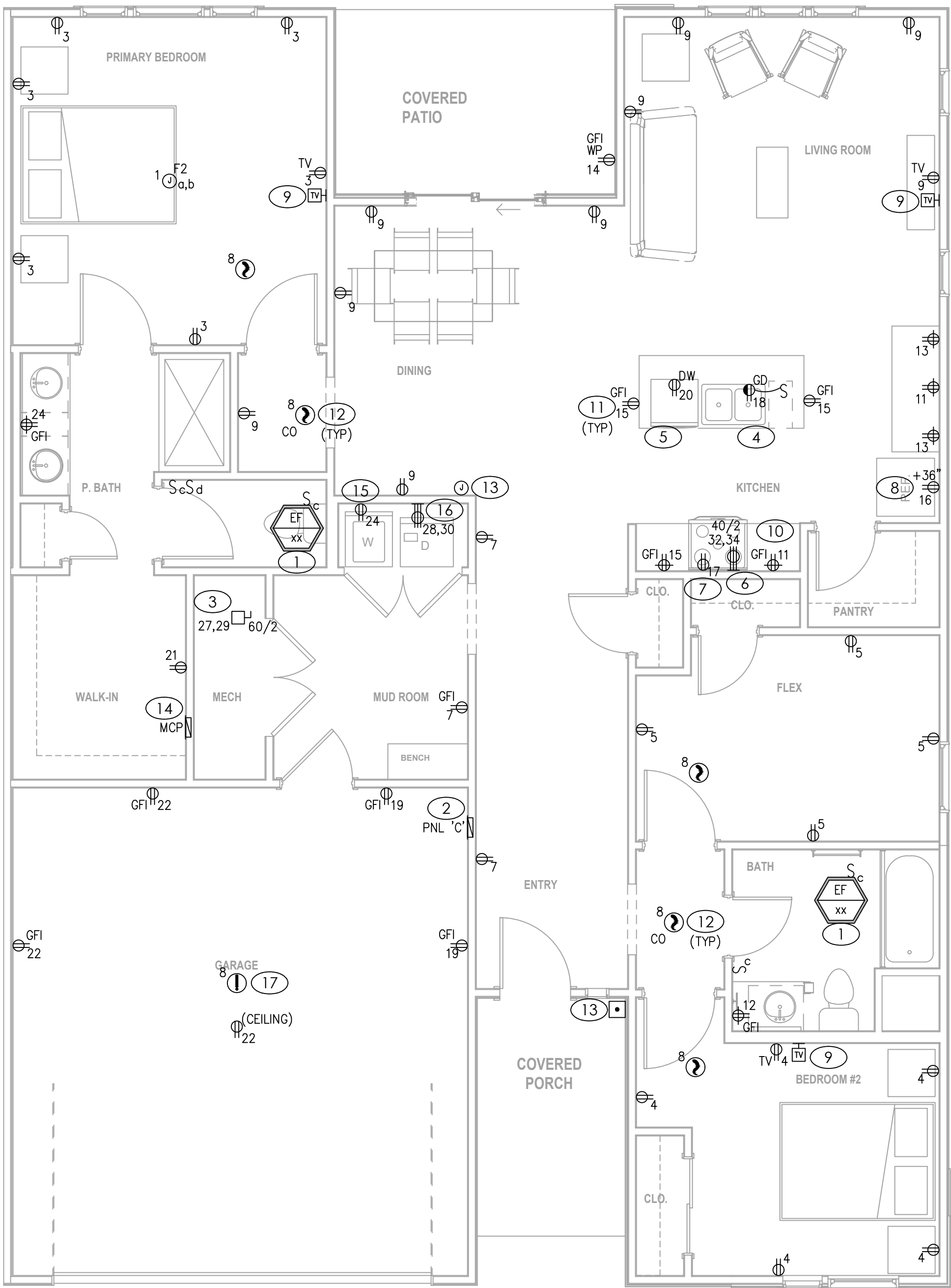
UNIT PLAN B REVERSED
LIGHTING & POWER PLANS

PERMIT DOCUMENTS

REUNION AT BLACKWELL
505 SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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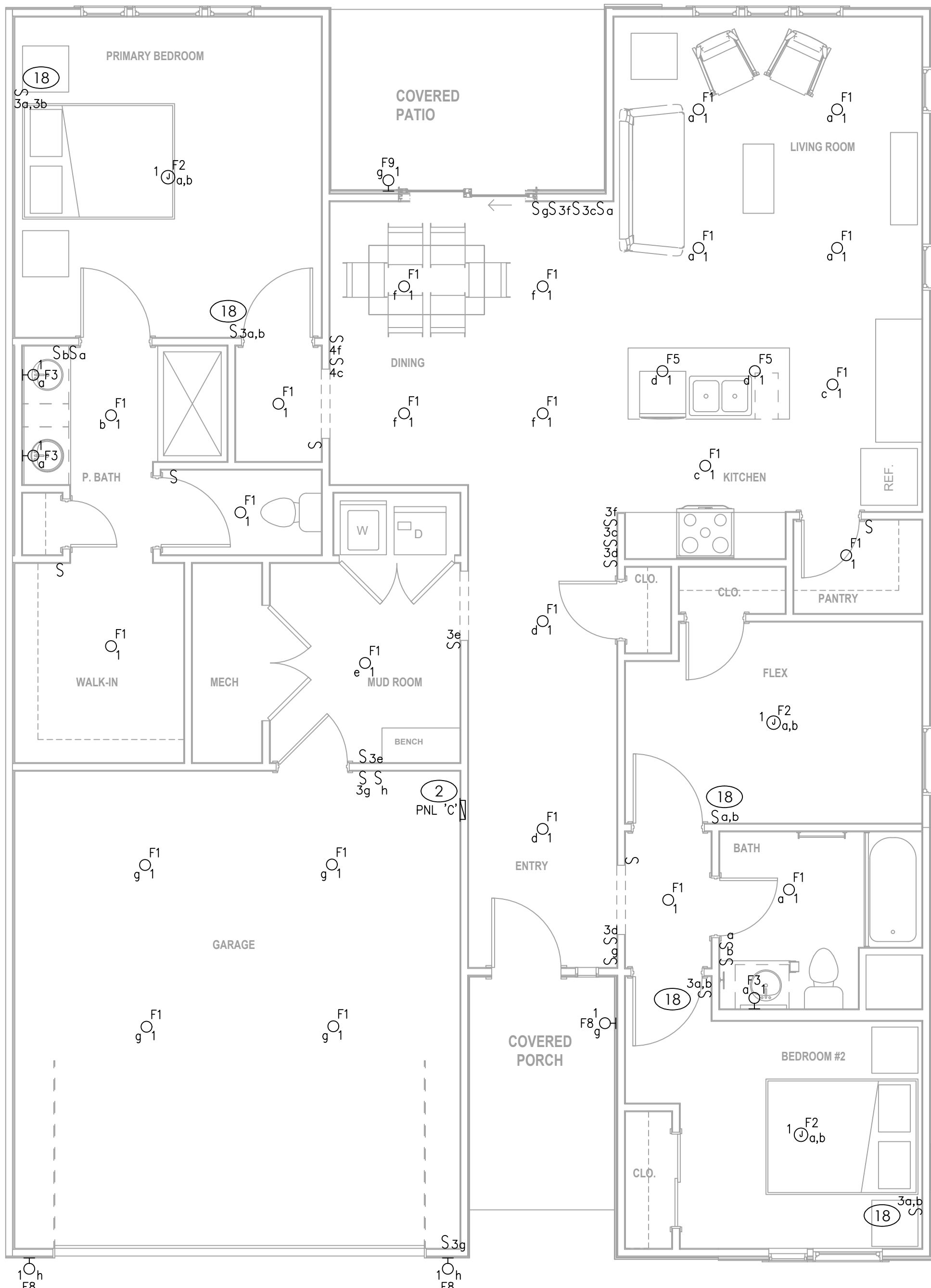
REVISION DATES



POWER - UNIT PLAN C

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

2



LIGHTING - UNIT PLAN C

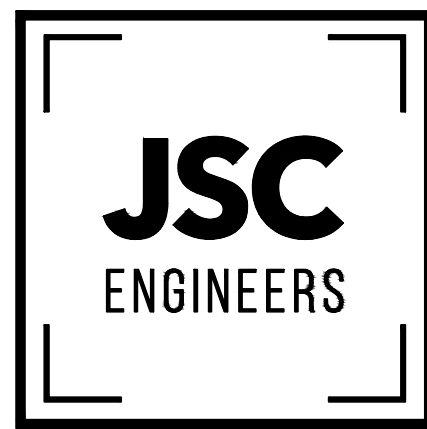
SCALE : 1/4" = 1'-0"

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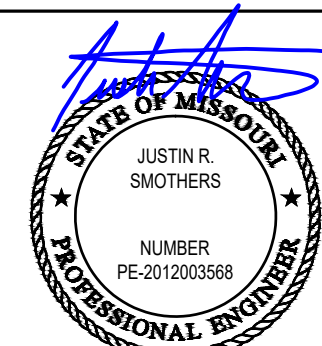
KEYED PLAN NOTES

- EXHAUST FAN DERIVES POWER FROM CIRCUIT SERVING LIGHTING FIXTURES IN ROOM.
- NEW PANELBOARD. REFER TO SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULE.
- MAKE CONNECTION TO DIVISION 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS. COORDINATE WORK WITH DIVISION 22/23 CONTRACTOR PRIOR TO CONSTRUCTION. DISCONNECT SWITCH SIZE AND CONNECTION STYLE ARE ASSUMED IN THIS DRAWING. REFER TO MECHANICAL & PLUMBING ENGINEERED DRAWINGS FOR EXACT EQUIPMENT SPECIFICATIONS & ELECTRICAL CONNECTION REQUIREMENTS.
- GARBAGE DISPOSAL. 120V, 1/2 HP, CORD & PLUG CONNECTION TO HALF-SWITCHED AFCI RECEPTACLE MOUNTED BELOW SINK. PROVIDE 2 #12 CU, 1 #20U EGC AT HANDICAP UNITS. MOUNT SWITCH WITHIN LOWER CABINETS PER ADA GUIDELINES.
- DISHWASHER RECEPTACLE. 120V, 6.2A. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION TO RECEPTACLE.
- ELECTRIC COOKTOP. 208V, 1P, 8KW. PROVIDE HARD WIRED CONNECTION TO J-BOX IN CABINET. COORDINATE EXACT LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE LOCKABLE CIRCUIT BREAKER IN PANEL AS DISCONNECTING MEANS TO COMPLY WITH NEC 422.31(5). PROVIDE 3 #8 CU, 1 #10 CU EGC. PROVIDE RECEPTACLE TO MATCH PLUG ON UNIT IF UNIT INSTALLED IS CORD AND PLUG CONNECTED.
- COMBINATION MICROWAVE AND EXHAUST HOOD. 120V, 15A MAX. COORDINATE EXACT LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION.
- REFRIGERATOR 120V, 12A MAX. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION.
- TELEVISION. PROVIDE 120V DUPLEX RECEPTACLE, DATA OUTLET AND COAX CABLE (BOTH WIRED BACK TO LOW VOLTAGE STRUCTURED MEDIA ENCLOSURE). MOUNT BETWEEN 18" AND 66" AFF. VERIFY MOUNTING HEIGHT PRIOR TO ROUGH-IN.
- FOR KITCHEN AND BATHROOM RECEPTACLES ABOVE COUNTER, COORDINATE LOCATION AND PLACEMENT PRIOR TO ROUGH-IN. IF FULL BACKSPLASH IS USED MOUNT RECEPTACLES VERTICALLY. IF FULL BACKSPLASH IS NOT USED MOUNT RECEPTACLES HORIZONTALLY ABOVE BACKSPLASH.
- MOUNT ISLAND/PENINSULA RECEPTACLES 12" MAX BELOW TOP OF COUNTER.
- COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE SENSOR. 120V WITH BATTERY BACK-UP. DETECTORS SHALL BE INTERCONNECTED AND INSTALLED IN ACCORDANCE WITH IRC 314 AND 315.M IF 908.7, NFPA 72 & 74 WITH SPECIAL ATTENTION GIVEN TO THE LOCATION OF THE DETECTOR IN THE VICINITY OF RETURN AIR GRILLES. (PROVIDE SMOKE DETECTOR ONLY WHERE ALLOWED BY CODE).
- PROVIDE LOW-VOLTAGE DOOR BELL SYSTEM WITH TRANSFORMER. PROVIDE LOW-VOLTAGE WIRING FROM TRANSFORMER TO PUSHBUTTON AND FROM PUSHBUTTON TO CHIME.
- LOW VOLTAGE STRUCTURED MEDIA ENCLOSURE. COORDINATE REQUIREMENTS. PROVIDE 120V DUPLEX RECEPTACLE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE 1 2" C TO LOCATION OF INCOMING COMMUNICATION FOR BUILDING.
- CLOTHES WASHER. 120V, 12.0A. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION. PROVIDE NEMA 5-20R RECEPTACLE.
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- DUAL SWITCH FOR SEPARATE CONTROL OF FIXTURE FAN AND LIGHT.

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08-24-23
PROFESSIONAL SEAL

E123C

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

UNIT PLAN C
LIGHTING & POWER PLANS

REUNION AT BLACKWELL

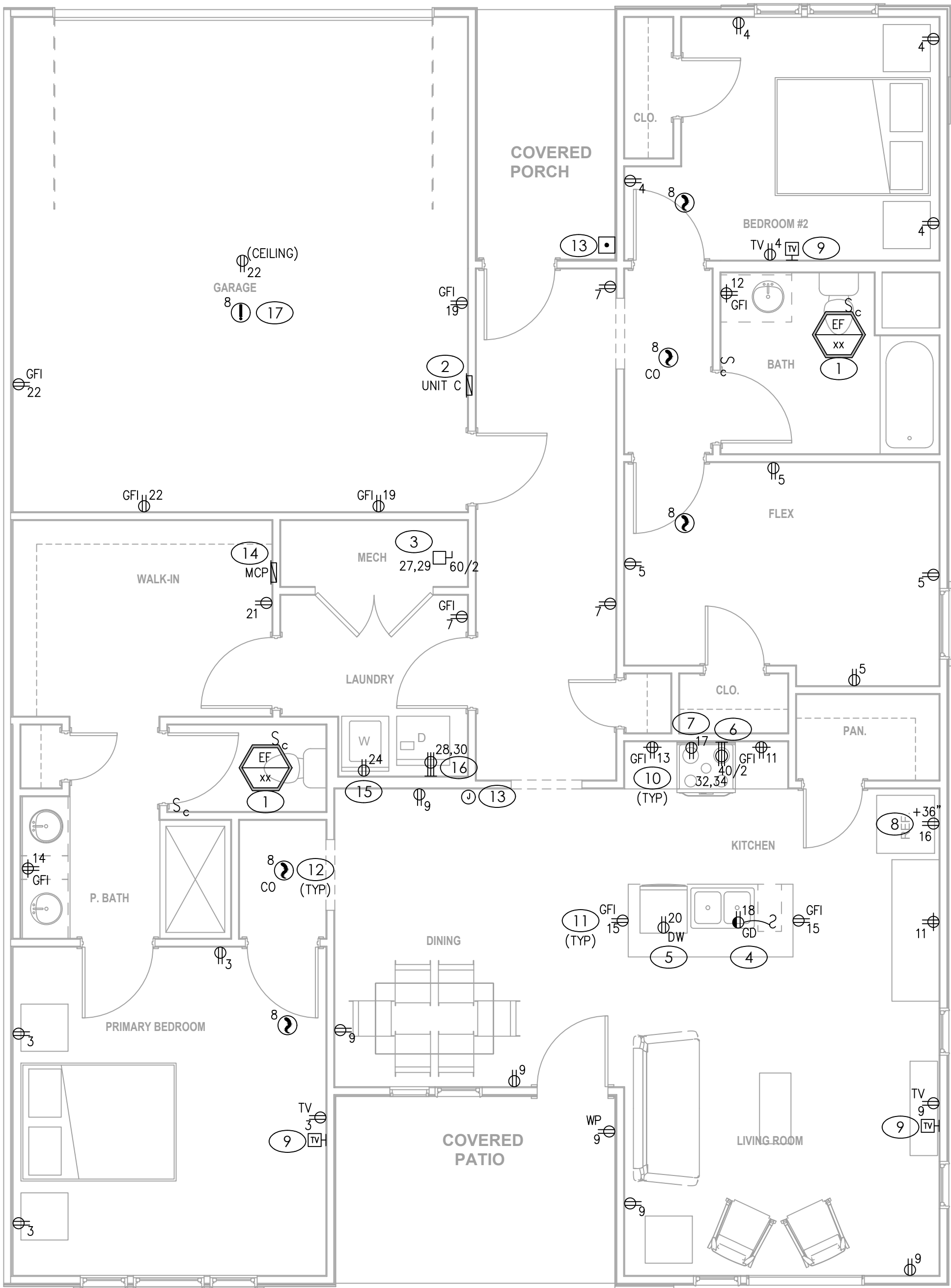
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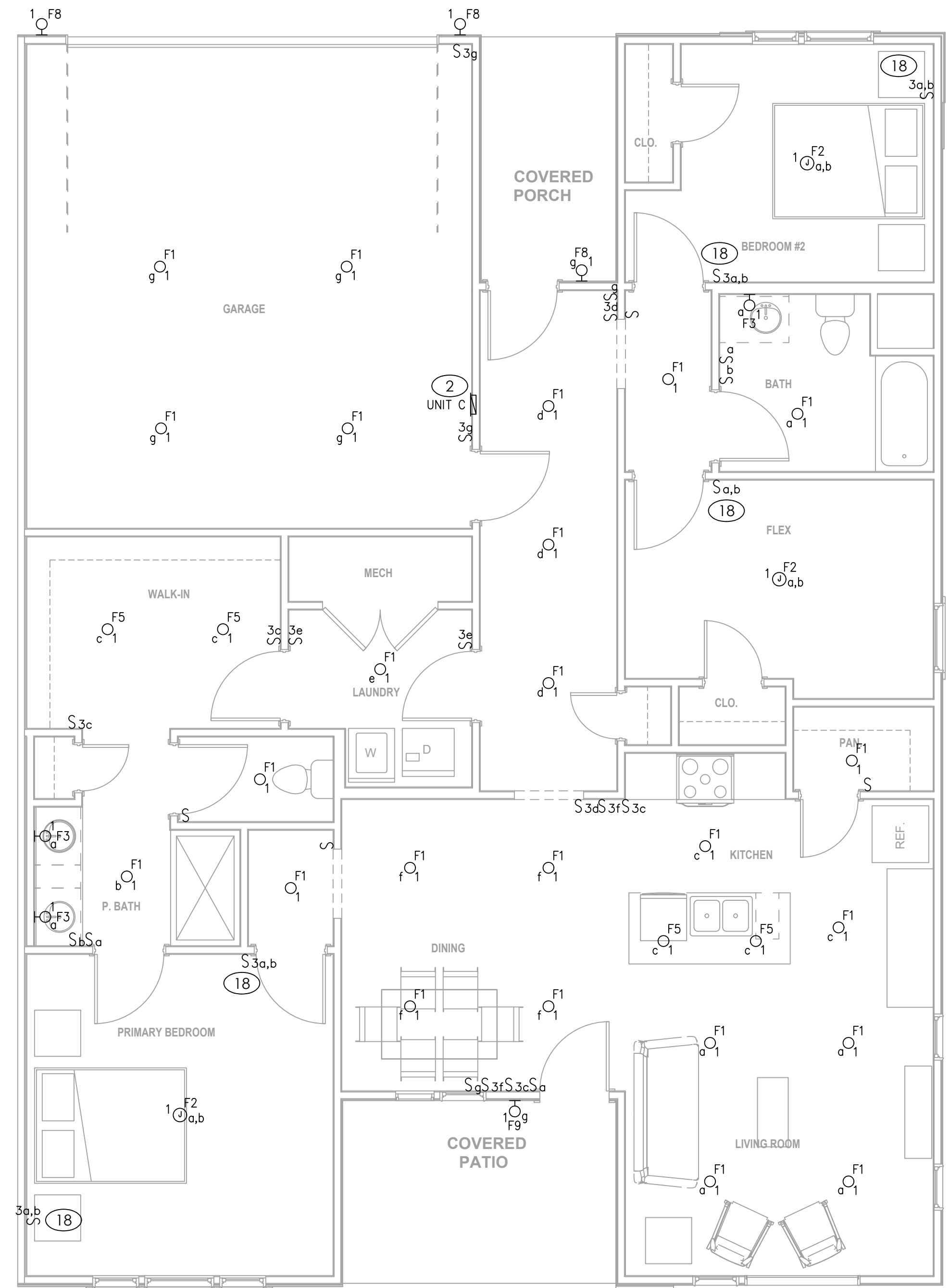




POWER - UNIT PLAN C REVERSED

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

2



LIGHTING - UNIT PLAN C REVERSED

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

1

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JUSTIN
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NUMBER
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08-24-23

PROFESSIONAL SEAL

E123CR

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

UNIT PLAN C REVERSED
LIGHTING & POWER PLANS

REUNION AT BLACKWELL

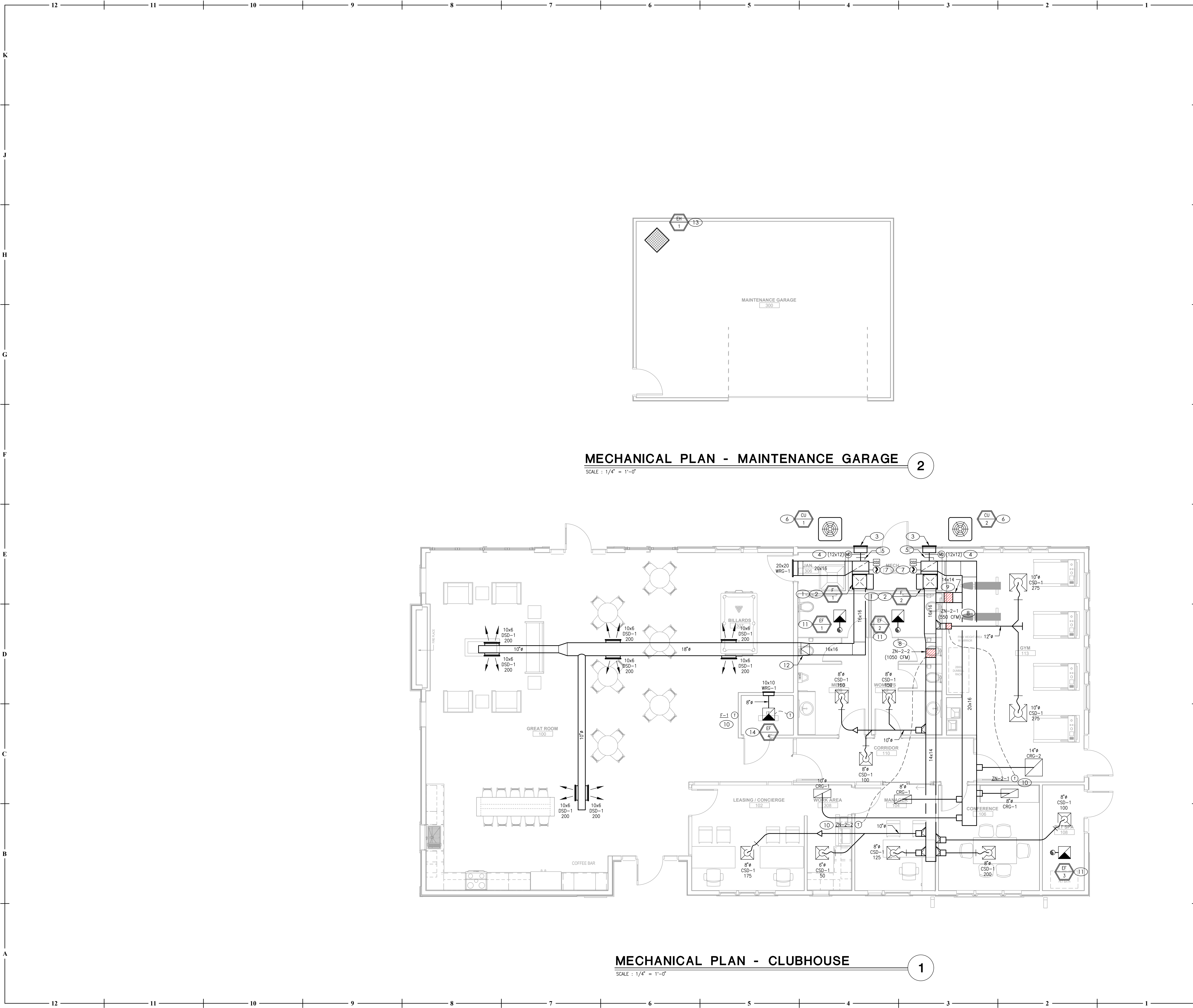
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GENERAL NOTES

A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.

B. COORDINATE INSTALLATION OF MECHANICAL AND PLUMBING SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION AND AVOID CONFLICTS. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. VERIFY DUCT SPACE AVAILABLE ABOVE ALL CEILINGS PRIOR TO ANY FABRICATION OF INSTALLATION.

C. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.

D. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.

E. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO EQUIPMENT OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

KEYED PLAN NOTES

1. FULL SIZE DUCT FROM COIL UP TO CEILING SPACE. CONTINUE DISTRIBUTION AS SHOWN.

2. PROVIDE CONCENTRIC VENT FOR FURNACE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ADHERE TO SIZE AND LENGTH LIMITATIONS. LOCATE VENT A MINIMUM OF 10'-0" FROM OUTSIDE AIR INTAKE. ROUTE TO NEAREST WALL OR ROOF. COORDINATE LOCATION WITH GC PRIOR TO INSTALLATION.

3. 18"x12" (WxH) LOUVER EQUAL TO RUSKIN MODEL ELF6375DX WITH INSECT SCREEN. PAINT LOUVER COLOR AS DIRECTED BY ARCHITECT OR OWNER. TRANSITION TO DUCT AS REQUIRED. LOCATE LOUVER A MINIMUM OF 10'-0" FROM ANY EXHAUST DISCHARGE.

4. PROVIDE GREENHECK VCD-23 CLASS 1A LOW LEAKAGE CONTROL DAMPER WITH 24V ACTUATOR AND LOW VOLTAGE TRANSFORMER. SIZE AS SHOWN. TRANSITION AS REQUIRED TO 12" OUTDOOR AIR DUCT AND CONTINUE TO RETURN AIR DUCT AT UNIT. PROVIDE RETURN AIR DUCT CO2 SENSOR. INTERLOCK CONTROL DAMPER WITH CO2 SENSOR TO OPEN DAMPER UPON DETECTION OF CO2 LEVELS ABOVE 800PPM. SEE DETAIL ON M001 FOR ADDITIONAL INFORMATION.

5. PROVIDE MANUAL BALANCING DAMPER. BALANCE TO OUTSIDE AIR CFM SHOWN ON FURNACE SCHEDULE.

6. CONDENSING UNIT LEVEL AT GRADE ON PRE-MANUFACTURED PAD. INSTALL PER MANUFACTURER'S INSTRUCTIONS MAINTAINING RECOMMENDED SERVICE CLEARANCES. ROUTE REFRIGERANT LINES THROUGH WALL. WEATHER SEAL REFRIGERANT LINE PENETRATIONS OF BUILDING. PROVIDE ALL RECOMMENDED VALVES, FILTERS, FITTINGS, ETC. AND MAKE ALL NECESSARY CONNECTIONS TO AIR HANDLING UNIT. COORDINATE EXACT LOCATION WITH BUILDING OWNER PRIOR TO INSTALLATION.

7. PROVIDE SMOKE DETECTOR IN RETURN AIR DUCT IN COMPLIANCE WITH NFPA 72. DUCT SMOKE DETECTORS SHALL BE INTERLOCKED TO SHUT DOWN ALL UNITS UPON DETECTION OF SMOKE.

8. PROVIDE ZONE DAMPER WITH TEMPERATURE SENSOR. SIZE DAMPER AS SHOWN AND VERIFY "(xxxx)" CFM CAPACITY WITH MANUFACTURER. DAMPER SHALL BE EQUAL TO ZONEX MODEL STMPD, STRD, OR STOD, WITH 24V ACTUATOR.

9. PROVIDE BYPASS DAMPER SIZED AS SHOWN. DAMPER SHALL BE EQUAL TO ZONEX MODEL STDBP, WITH 24V ACTUATOR. INTERLOCK WITH STATIC PRESSURE SENSOR PER MANUFACTURE'S INSTALLATION INSTRUCTIONS. INSTALL STATIC PRESSURE SENSOR AT LOCATION RECOMMENDED BY ZONE DAMPER SYSTEM.

10. LOCATE THERMOSTAT ON WALL AT 54" AFF. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.

11. ROUTE 8" DUCT UP FROM EXHAUST FAN TO ROOF WEATHER CAP. LOCATE DISCHARGE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE.

12. TRANSITION TO SPIRAL DUCT PRIOR TO ENTERING OPEN CEILING AREA.

13. SUSPEND UNIT HEATER FROM OVERHEAD STRUCTURE AS REQUIRED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

14. PROVIDE LINE VOLTAGE COOLING ONLY THERMOSTAT FOR EXHAUST FAN. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. DISCHARGE EXHAUST DUCT TO WALL GRILLE.

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STATE OF MISSOURI
JUSTIN SMOTHERS
NUMBER
PE-201206786
08-24-23
PROFESSIONAL SEAL

M101K
ISSUE DATE: 08.24.23
JSC PROJECT #: 23-086

MECHANICAL PLANS - CLUBHOUSE
AND MAINTENANCE GARAGE

REUNION AT BLACKWELL
SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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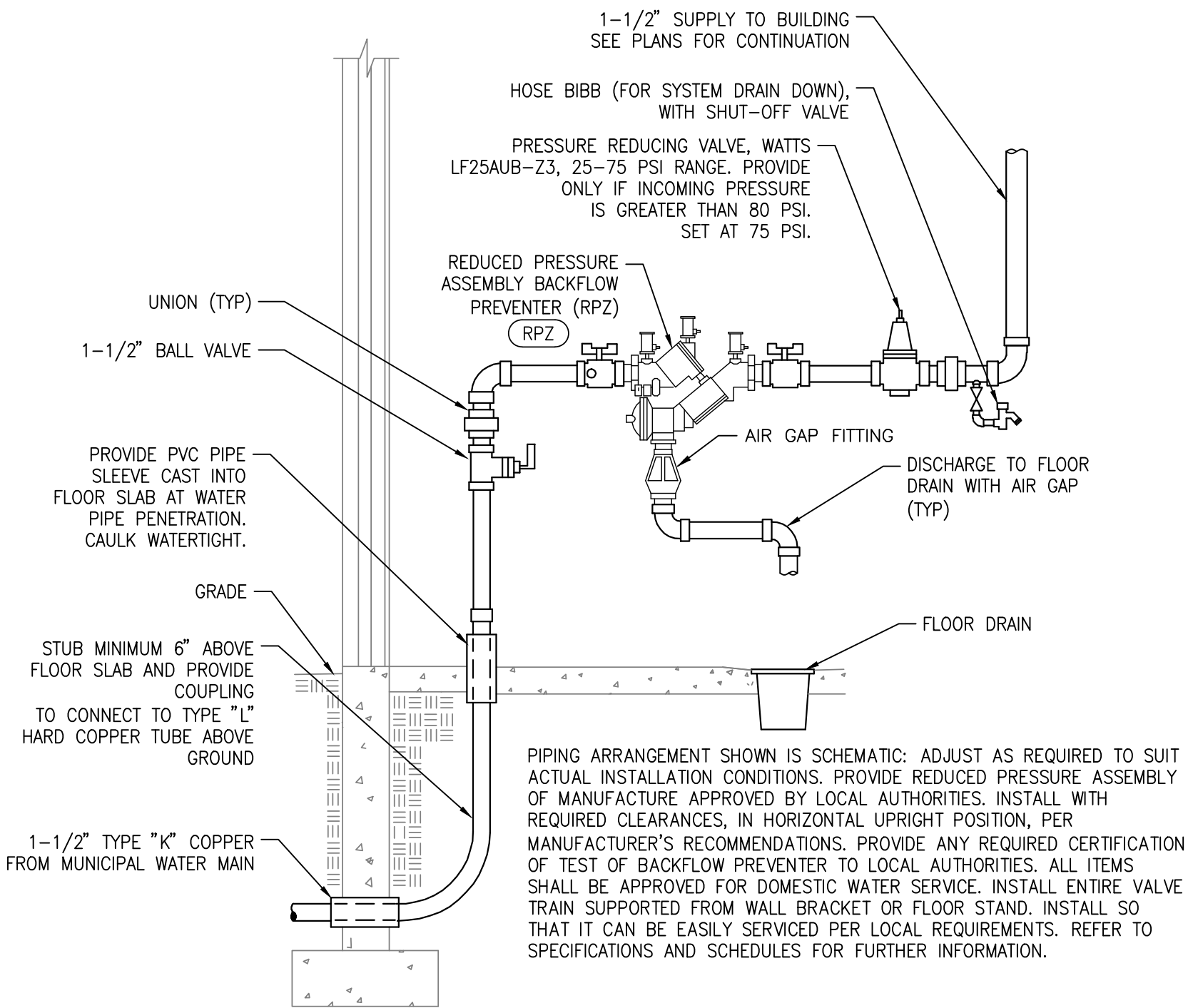
REVISION DATES:

COLLINS WEBB ARCHITECTURE
307B SW MARKET ST. Lee's Summit, Missouri 64063 | 816.245.2270
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PERMIT DOCUMENTS

PLUMBING FIXTURE SCHEDULE	
DF	DRINKING FOUNTAIN: ELKAY MODEL EH20 LZSTLRWSLK, BI-LEVEL ELECTRIC FILTERED WATER COOLER WITH BOTTLE FILLING STATION. ADA COMPLIANT, LIGHT GRAY, MOUNT AT HEIGHT DETERMIND BY ARCHITECT. 115V/1PH, 6.0 FLA, 370 WATTS, 104 LBS.
FD	FLOOR DRAIN: SIOUX CHIEF 833-23DRI, CAST IRON BODY AND CLAMPING COLLAR, ADJUSTABLE 6-1/2" ROUND NICKEL BRONZE STRAINER. PROVIDE TRAP GUARD COMPATIBLE WITH FIXTURE.
FS	FLOOR SINK: ZURN FD2376-NH3-H FLOOR SINK, 8" DEEP BODY, CLAMP COLLAR, ALUMINUM DOME STRAINER AND SQUARE GRATE.
IMB	ICE MAKER BOX: OATEY 39152, QUARTER TURN BRASS BALL VALVES, COPPER SWEAT CONNECTIONS, WATER HAMMER ARRESTORS.
LAV	HANDICAP ACCESSIBLE DROP IN LAVATORY, PROFLO MODEL PF20174WH, VITREOUS CHINA, WHITE, SELF-RIMMING COUNTER TOP, PROFLOW PFWS3006 ADA COMPLIANT FAUCET, 55 FLEX SUPPLY RISERS WITH CHROME PLATED STOP VALVES, P-TRAP WITH CLEANOUT AND ESCUTCHEONS. INSULATE WITH "HANDI-LAV-GLUARD" MODEL 102, OR EQUAL.
MS	MOP SINK: FIAT SB2424 OR EQUAL. 24"x24"x6" MOP BASIN WITH DRAIN, WALL MOUNT FAUCET, T&S B-0655-B5TR, WITH TWO HANDLES, VACUUM BREAKER AND 1/2" NPT THREAD. INSTALLATION BY PLUMBING CONTRACTOR.
RCP	HOT WATER RECIRCULATION PUMP: GRUNDOS UP 15-10 SU79/TLC. 6 GPM MAX, 5.25 FT HEAD, 120V/1 PH, 25W, STAINLESS STEEL HEAD, INTEGRAL TIMER. REDUCED PRESSURE ZONE BACKFLOW PREVENTER: WATTS LF009, 1-1/2", MEETING ASSE 1013. LEAD FREE CAST BRONZE BODY, QUARTER TURN TESTING COCKS, QUARTER TURN BALL VALVES, AND AIR GAP FITTING.
RPZ	DROP-IN SINK: AMERICAN STANDARD 18D8633221.075, SINGLE FAUCET HOLE, 33"x22", DOUBLE BOWL, SELF RIMMING, STAINLESS STEEL, WITH PULL-DOWN FAUCET (MOEN 87233). PROVIDE GARBAGE DISPOSAL (INSINKERATOR BADGER 5, 120V, 1/2 HP), FLEXIBLE SS RISERS WITH CHROME PLATED STOP VALVES, P-TRAP WITH CLEANOUT AND ESCUTCHEONS.
SINK	URINAL: KOHLER S-4991-ET, VITREOUS CHINA, WASHOUT WALL URINAL, 0.5 GALLONS PER FLUSH, 27 1/4" X 18 1/4", FURNISH WITH SENSOR ACTIVATED FLUSHOMETER (SLOAN G2 8186-1 FLUSH VALVE), VANDAL RESISTANT CHROME PLATED HOUSING, ADJUSTABLE TAILPIECE AND VANDAL RESISTANT OUTLET STRAINER. MOUNT ADA URINAL 17" FROM FINISHED FLOOR. TRIM: SUITABLE CARRIER WITH STANCHIONS TO FLOOR. PLUMBING CONTRACTOR TO INSTALL.
UR	FLOOR MOUNTED WATER CLOSET: AMERICAN STANDER MODEL 3043.001, 15" RIM HEIGHT WATER CLOSET, VITREOUS CHINA, 1.1GPF, ELONGATED BOWL, FURNISHED WITH ELECTRONIC FLUSH VALVE. PROVIDE WITH OPEN-FRONT SEAT, CHROME STOPS, C.P. FLEXIBLE RISER TUBE, BOLT CAPS AND ESCUTCHEON.
WC1	FLOOR MOUNTED WATER CLOSET: AMERICAN STANDARD MODEL 3043.001, 17" RIM HEIGHT, ADA COMPLIANT WATER CLOSET, VITREOUS CHINA, 1.1GPF, ELONGATED BOWL, FURNISHED WITH ELECTRONIC FLUSH VALVE. PROVIDE WITH OPEN-FRONT SEAT, CHROME STOPS, C.P. FLEXIBLE RISER TUBE, BOLT CAPS AND ESCUTCHEON.
WC2	ELECTRIC WATER HEATER: A.O.SMITH E6-30L45DVB, 28 GALLON CAPACITY, 3/4" CONNECTIONS, 20.7 GPH @ 90°F RISE, 240V/1PH, DUAL 4500W ELEMENTS, NON-SIMULTANEOUS OPERATION.
WH	

FIXTURE BRANCH CONNECTION SCHEDULE				
FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
DRINKING FOUNTAIN	1/2"	-	1-1/2"	1-1/2"
FLOOR DRAIN	-	-	3"	1-1/2"
FLOOR SINK	-	-	3"	2"
LAVATORY/SINK	1/2"	1/2"	1-1/2"	1-1/2"
MOP SINK	1/2"	1/2"	3"	2"
URINAL	3/4"	-	2"	2"
WATER CLOSET	1"	-	4"	2"
WATER HEATER	3/4"	3/4"	-	-
NOTE:	PIPE SIZES SHOWN ARE MINIMUM. MINIMUM SANITARY SIZE UNDERGROUND IS 2".			



DOMESTIC WATER SERVICE ENTRY

SCALE : NO SCALE

2

PLUMBING SPECIFICATIONS

1. GENERAL PROVISIONS:

A. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING SYSTEMS OUTLINED.

B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATIONS OF COMPLIANCE OR APPROVAL AS REQUIRED BY AUTHORITIES.

C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.

D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.

E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDamaged. ALL Damaged ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.

F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGs, AND ROOFs AS NECESSARY. PATCH AROUND ALL OPENINGs SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.

G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECT FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

H. INSPECTION OF THE SITE: THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MEP DRAWINGs, SPECIFICATIONs, DETAIL, AND THE SITE. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SPECIAL OR UNUSUAL PROBLEMS, CONFLICTs, OR OBSTRUCTIONs THAT AFFECT HIS BID.

I. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE MECHANICAL AND PLUMBING DRAWINGs ARE ESSENTIALLY DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS AND FITTINGs REQUIRED FOR INSTALLATION. DO NOT SCALE DRAWINGs. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONs AND DATA AS INDICATED ON THE DRAWINGs AND IN THE SPECIFICATION SECTIONs WHERE MECHANICAL WORK INTERFACES WITH OTHER TRADEs.

J. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMs INDICATED ON THE PLANS OR WITH CODE REQUIREMENTs, THE NOTE OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR HIGHER STANDARD SHALL PREVAIL.

K. INSTALL MATERIALS AND SYSTEMs IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONs AND APPROVED SUBMITTALs. INSTALL MATERIALs IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE FOR EXPOSED WORK. COORDINATE WITH WORK OF OTHER SECTIONs. COMPLY WITH APPLICABLE REGULATIONs AND CODE REQUIREMENTs. PROVIDE PROPER CLEARANCEs FOR SERVING.

L. INCLUDE ALL BASIC MATERIALs AND CONSTRUCTION METHODs INCLUDING PIPEs, PIPE FITTINGs, AND SPECIALTIEs AND SUPPORTING DEVICES, VALVEs, PIPE AND VALVE IDENTIFICATION, PUMPS, VIBRATION ISOLATION, ETC.

M. FURNISH ADEQUATE ACCESS PANELs AND DOORs TO ALLOW FOR FUTURE PIPING ALTERATIONs, REPLACEMENT, AND MAINTENANCE OF PIPING. PROPERLY IDENTIFY ALL ACCESS PANELs AND DOORs.

2. OPERATION AND MAINTENANCE MANUALs:

A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONs, WIRING DIAGRAMs, CATALOG CUTs, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONs, PARTs LISTs, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.

B. ALL LITERATURE AND INSTRUCTIONs SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATING AND MAINTENANCE MANUALs.

C. ALL LITERATURE LISTED ABOVE AND ALL PAPERs LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER AND CONTRACTORs.

3. MANUFACTURERs:

A. MANUFACTURERs, MODEL NUMBERs, ETC. INDICATED OR SCHEDULED ON THE DRAWINGs SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLEs, FIXTUREs, ETC. OF EQUAL QUALITY BY MANUFACTURERs SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTs OF THE PROJECT DESIGN.

B. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTs OF THE EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

4. PLUMBING:

A. PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.

B. ALL EXPOSED PIPE IN FINISHED AREAS SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.

C. PROVIDE CLEANOUTs AT EACH CHANGE IN DIRECTION AND AT 100 FOOT INTERVALs IN STRAIGHT RUNs.

D. PROVIDE ACCESS PANELs FOR ALL CONCEALED VALVEs AND TRAPs.

E. CLEANOUTs:

1. VINYL TILE FLOOR (FCO):JR SMITH #4140, OR EQUAL.

2. QUARRY TILE FLOOR (FCO):JR SMITH #4200, OR EQUAL.

3. CARPETED FLOOR (FCO):JR SMITH #4020-Y, OR EQUAL.

4. UNFINISHED FLOOR (FCO):JR SMITH #4020, OR EQUAL.

5. WALL (WCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.

6. GRADE (CCO):JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.

F. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPEs.

1. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.

2. INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL.

3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL.

G. PROVIDE DIELECTRIC UNIONs WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONs ON ALL PIPING CONNECTIONs TO HOT WATER HEATERs AND EXPANSION JOINTs.

H. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPEs.

1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE.

2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE.

5. PIPING:

A. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).

1. TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGs.

2. GATE VALVE: CRANE #428 OR EQUAL.

3. GLOBE VALVE: CRANE #7 OR EQUAL.

4. BALL VALVE: CRANE #332 OR EQUAL.

B. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND).

1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERING FITTINGs.

C. SANITARY SEWER AND VENTs (UNDERGROUND, INTERIOR TO BUILDING).

1. WASTE, DRAIN AND VENT PIPE AND FITTINGs, THROUGHOUT THE BUILDING BELOW THE BASE SLAB TO THE LOCATIONs NOTED OUTSIDE OF THE BUILDING SHALL BE ASTM D2665 POLYVINYL CHLORIDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT.

2. SEWER LINEs SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGs. THE EXACT LOCATIONs SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCEs AND SUFFICIENT SLOPE TO ENSURE DRAINAGE.

3. VENT STACKs SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4 POUND LEAD SHEETs TURNED DOWN INTO THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL DIRECTIONs FROM THE PIPE AT THE ROOF LINE. VENTs THROUGH ROOF SHALL NOT BE LESS THAN 3". PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF. WHERE APPLICABLE FOR ROOFING SYSTEM USED, PROVIDE FLASHING VIA PLEATED EPDM CONE IN LIEU OF LEAD. ALL VENT STACKs IN OR AT OUTSIDE WALLs SHALL BE OFFSET 1'-6" MINIMUM FROM OUTSIDE WALLs BEFORE GOING THROUGH THE ROOF, TO FACILITATE FLASHING.

D. CONDENSATE DRAIN AND INDIRECT WASTE (ABOVEGROUND)

1. DWV, WROUGHT COPPER, ANSI B-16.29.

E. NATURAL GAS PIPING:

1. SCHEDULE 40 BLACK STEEL PIPING, 2" AND SMALLER WITH SCREWED JOINTs AND 150 LB. MALLEABLE IRON SCREWED FITTINGs. PIPE 2-1/2" AND LARGER SHALL USE STANDARD WEIGHT BLACK STEEL WELDING FITTINGs WITH WELDED JOINTs.

2. GAS VALVEs SHALL BE ROCKWELL 142/143, PLUG VALVE.

3. SUPPORT PIPING AT INTERVALs NOT TO EXCEED THOSE LISTED IN TABLE 415.1 OF THE I.F.G.C. PROVIDE A.G.A. APPROVED SHUT OFF VALVEs AND DIRT LEGs AT CONNECTIONs TO ALL EQUIPMENT.

5. ALL ELEVATED PRESSURE GAS PIPING (GREATER THAN 14" W.C.) SHALL BE LABELED EVERY 40' WITH SIGNs INDICATING "ELEVATED PRESSURE".

6. EPOXY PAINT ALL EXTERIOR GAS PIPING TO PREVENT CORROSION.

F. ALL PIPE HANGERs AND SUPPORTs SHALL BE STANDARD PRODUCTs OF GRINNELL, FEE AND MASON, OR ANVIL. HANGER SPACING SHALL BE IN ACCORDANCE WITH MSS-SP-69.

6. SLEEVES

1. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION AND TO ACCOMMODATE PIPE INSULATION.

2. INTERIOR PARTITIONs: 16 GAUGE GALVANIZED STEEL, PACK BETWEEN PIPE AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.

3. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.

4. PLUMBING VENTs: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING CONTRACTOR TO MAINTAIN THE EXISTING ROOF WARRANTY. ALL PLUMBING VENT TERMINALs SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER.

H. PROVIDE CHROME PLATED ESCUTCHEONs ON ALL PIPE ENTERING FINISHED AREAS.

7. TESTING, BALANCING AND CLEANING:

A. ALL PIPING SHALL BE TESTED FOR LEAKs BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.

B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTEs, PER THE LOCAL PLUMBING CODE, WITH NO LEAKs.

C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURs, WITH NO LEAKs.

D. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMs, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMs, SHALL BE FLUSHED, STERILIZED AND CHLORINATED IN ACCORDANCE WITH THE HEALTH DEPARTMENT REGULATIONs. THE SYSTEMs SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVEs AND FAUCETs SHALL BE OPENED SEVERAL TIMEs TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURs AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED. IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION SAMPLEs OF WATER FROM THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.

E. NATURAL GAS SYSTEMs SHALL BE TESTED WITH COMPRESSED AIR AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE , BUT NOT LESS THAN 50 PSIG FOR A PERIOD OF 2 HOURs WITH NO LEAKs.

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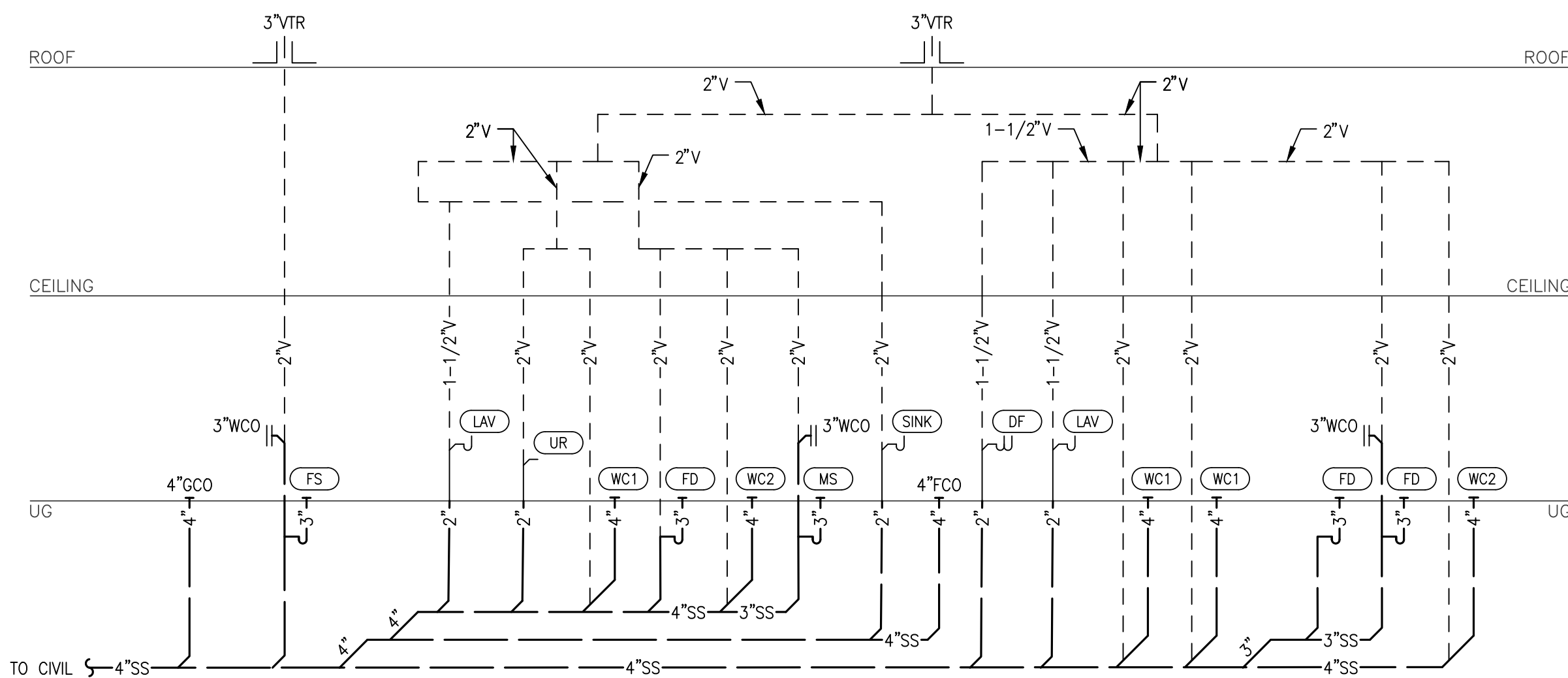
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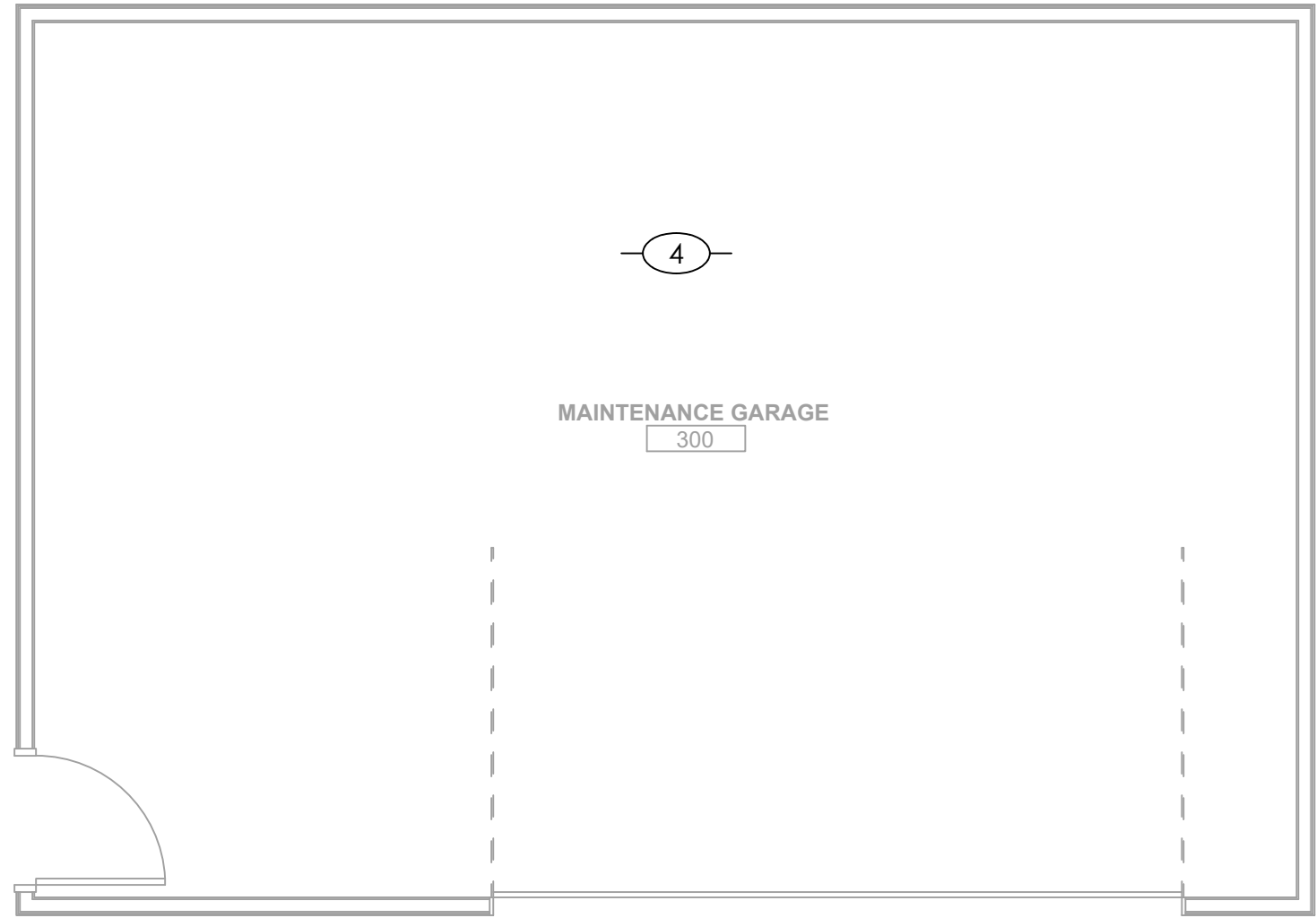
D. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMs, INCLUDING THOSE FOR COLD



WASTE & VENT RISER DIAGRAM

SCALE : NO SCALE

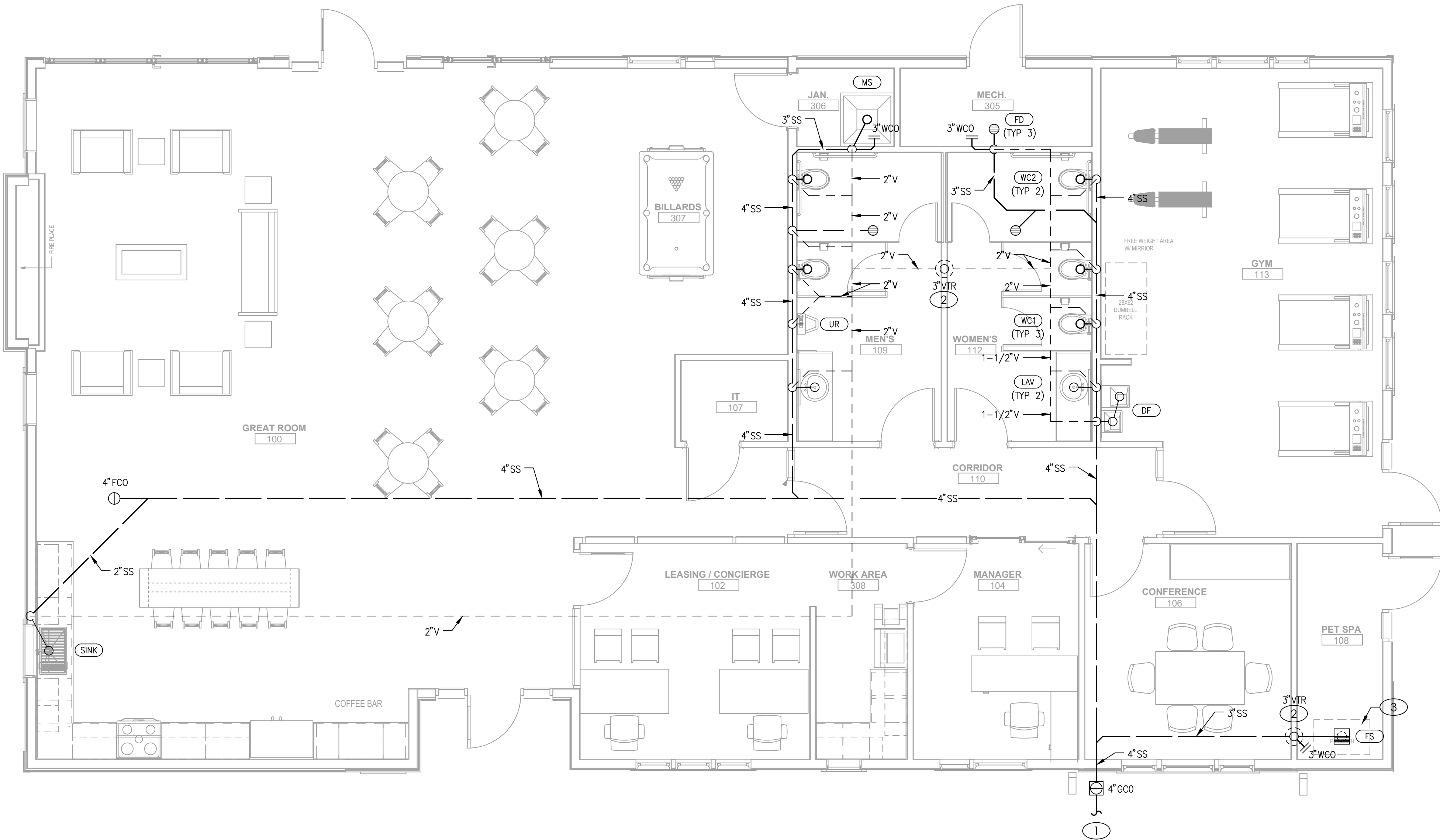
3



WASTE AND VENT PLAN - MAINTENANCE GARAGE

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

2



WASTE AND VENT PLAN - CLUBHOUSE

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

1

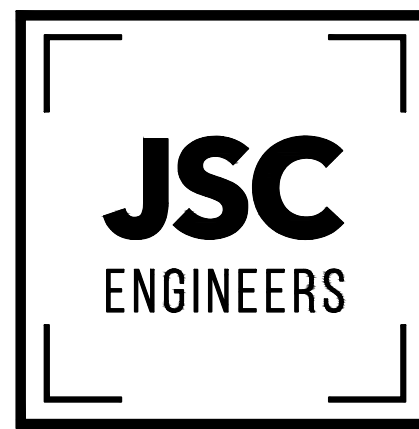
GENERAL NOTES

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- COORDINATE INSTALLATION OF PLUMBING SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION AND AVOID CONFLICTS. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE INSTALLATION PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.
- OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.

KEYED PLAN NOTES

- 4" SANITARY TO UTILITY SERVICE. CONTRACTOR SHALL WORK WITH LOCAL WASTE WATER AUTHORITY AND BEAR ALL COST FOR INSTALLATION OF A NEW SEWER LINE CONNECTING INTO THE SEWER MAIN FOR A COMPLETE INSTALLATION. REFER TO CIVIL PLANS FOR CONTINUATION.
- 3" VENT UP WALL TO 3" VTR. LOCATE VENT MIN. 10'-0" FROM ALL BUILDING OPENINGS AND MIN. 3'-0" FROM EDGE OF ROOF. SEAL PENETRATION WEATHER TIGHT. COORDINATE WITH MECHANICAL CONTRACTOR.
- OWNER PROVIDED FIXTURE. ROUTE DISCHARGE TO FLOOR SINK WITH ADEQUATE AIR GAP. PROVIDE HAIR STRAINER PRIOR TO DISCHARGE TO FLOOR SINK. INSTALL IN ACCESSIBLE LOCATION.
- NO WORK IN MAINTENANCE GARAGE.

MEP ENGINEER



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ISSUE DATE: 08.24.23
JSC PROJECT #: 23-086

WASTE AND VENT PLAN
CLUBHOUSE

REUNION AT BLACKWELL

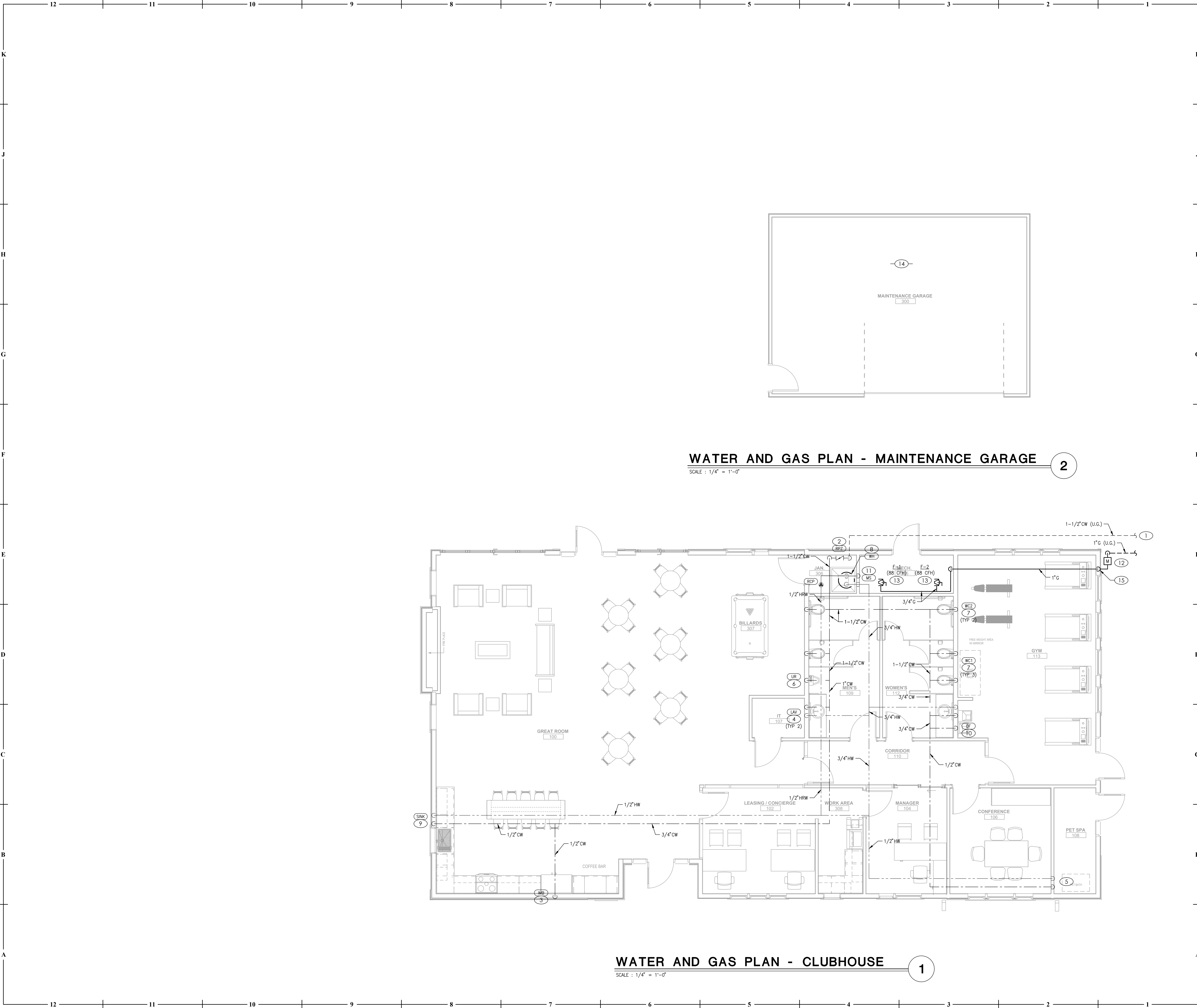
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WATER AND GAS PLAN - MAINTENANCE GARAGE

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

2

WATER AND GAS PLAN - CLUBHOUSE

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

1

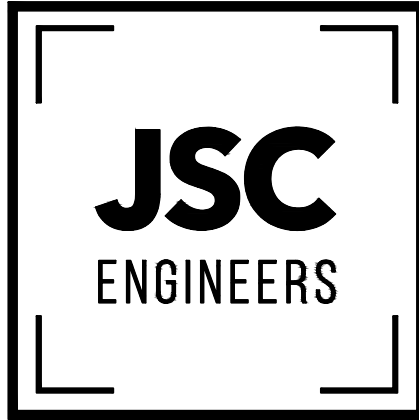
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- D. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.

KEYED PLAN NOTES

1. 1-1/2" DOMESTIC WATER SERVICE ENTRANCE. CONTRACTOR SHALL WORK WITH THE WATER COMPANY FOR THE INSTALLATION OF A NEW WATER MAIN ENTRANCE, INCLUDING TAP, METER, METER PIT, PIPING, ETC. FOR A COMPLETE INSTALLATION. SEE CIVIL PLANS FOR CONTINUATION AND LOCATION OF WATER METER.
2. PROVIDE 1-1/2" RPZ BACKFLOW PREVENTER. INSTALL 24" A.F.F. AND 6" FROM WALL. ROUTE DRAIN FROM RPZ TO FLOOR DRAIN. TERMINATE DRAIN WITH AIR GAP. SEE DOMESTIC WATER SERVICE ENTRY DETAIL.
3. 1/2"CW TO ICE MAKER OUTLET BOX. INSULATE ALL PIPING IN EXTERIOR WALL.
4. 1/2"CW AND 1/2"HW TO LAVATORY. PROVIDE THERMOSTATIC MIXING VALVE FOR FIXTURE EQUAL TO LEONARD MODEL 170. SET HOT WATER SUPPLY TEMPERATURE TO 110°F.
5. 1/2"CW AND 1/2"HW DOWN IN WALL TO OWNER PROVIDED FIXTURE. MAKE CONNECTION PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. 3/4"CW DOWN IN WALL TO URINAL.
7. 1"CW DOWN IN WALL TO WATER CLOSET.
8. MOUNT WATER HEATER ABOVE MOP SINK. CONNECT 3/4"CW AND 3/4"HW TO WATER HEATER. ROUTE 3/4" T&P RELIEF FROM WATER HEATER TO MOP SINK. DISCHARGE WITH ADEQUATE AIR GAP.
9. 1/2"HW AND 1/2"CW DOWN IN WALL AT LOCATION SHOWN. ROUTE PIPING UNDER COUNTER TO SINK. INSULATE ALL PIPING IN EXTERIOR WALL.
10. 1/2"CW DOWN IN WALL TO DRINKING FOUNTAIN.
11. 1/2"CW AND 1/2"HW DOWN IN WALL TO MOP SINK.
12. COORDINATE WITH GAS COMPANY FOR INSTALLATION OF TENANT METER WITH CAPACITY FOR 176 MCH @ 11" W.C. PLUMBING CONTRACTOR TO VERIFY ALL EQUIPMENT GAS CAPACITIES AND OPERATING PRESSURES PRIOR TO INSTALLATION OF ANY PIPING.
13. PROVIDE DIRT LEG AND SHUT-OFF VALVE PRIOR TO FINAL CONNECTION.
14. NO WORK IN MAINTENANCE GARAGE.
15. ROUTE 1" GAS PIPING UP INSIDE EXTERIOR WALL. ALL CONCEALED JOINTS ARE TO BE WELDED OR USE FITTINGS APPROVED FOR CONCEALED USE.

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WATER AND GAS PLAN
CLUBHOUSE

REUNION AT BLACKWELL

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LEE'S SUMMIT, MO 64063

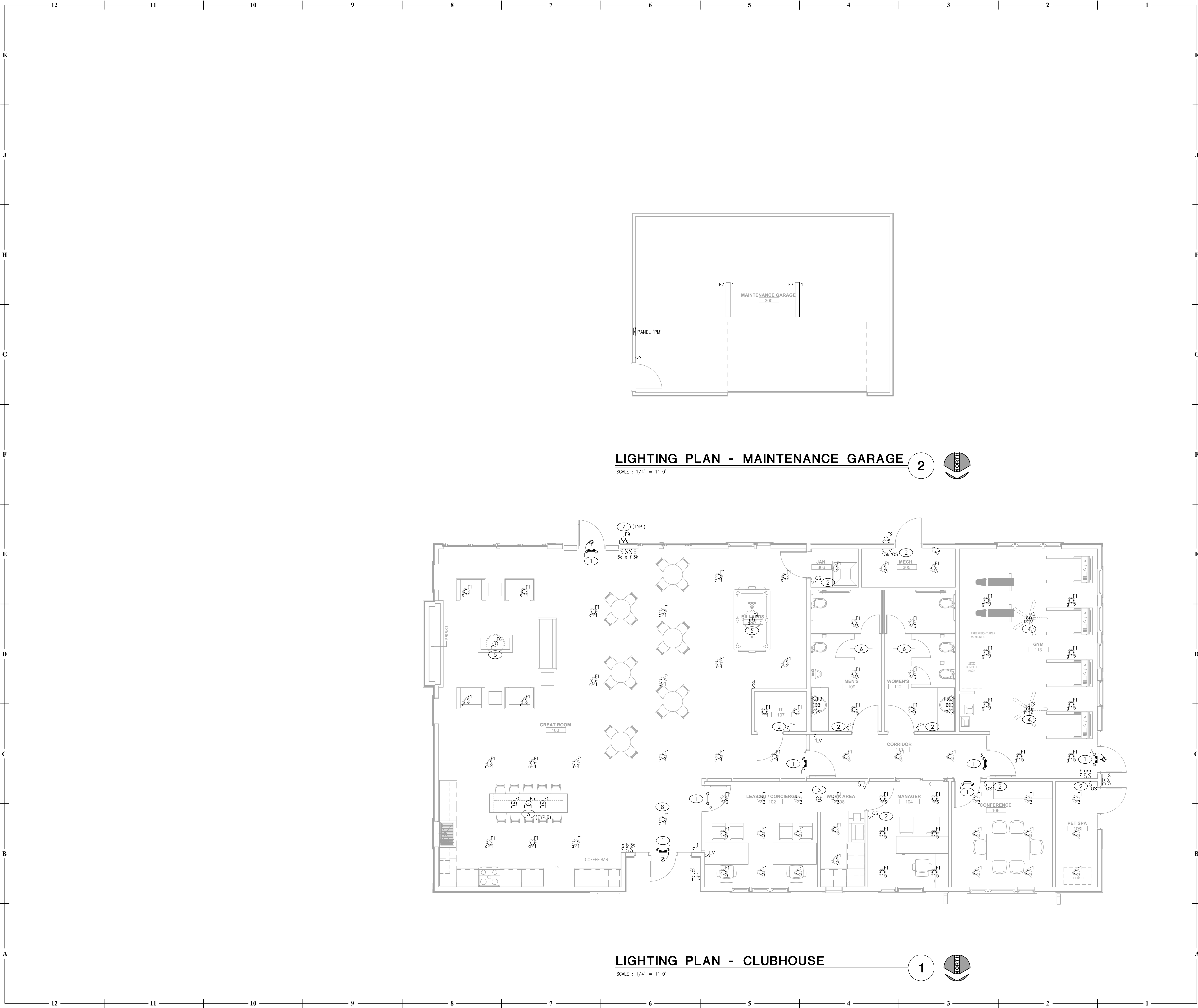
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KEYED PLAN NOTES

1. CONNECT EXIT/EMERGENCY LIGHT TO INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED HOT CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS.
2. WALL SWITCH OCCUPANCY SENSOR. SENSORWORX SWK-100 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND MAKE ALL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
3. CEILING MOUNTED OCCUPANCY SENSOR. SENSORWORX SWK-200 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND MAKE ALL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
4. PROVIDE AND SECURE STEEL JUNCTION BOX TO STRUCTURE FOR CEILING FAN PER NEC 422.18(A).
5. PROVIDE AND SECURE JUNCTION BOX IN CEILING FOR PENDANT MOUNTED LIGHT FIXTURE.
6. EXHAUST FAN DERIVES POWER FROM CIRCUIT SERVING LIGHTING FIXTURES IN ROOM.
7. ROUTE EXTERIOR LIGHTING THROUGH PHOTOCELL. MOUNT PHOTOCELL ON ROOF AND POINT NORTH.
8. WIRE NIGHTLIGHT FOR CONTINUOUS-ON OPERATION.

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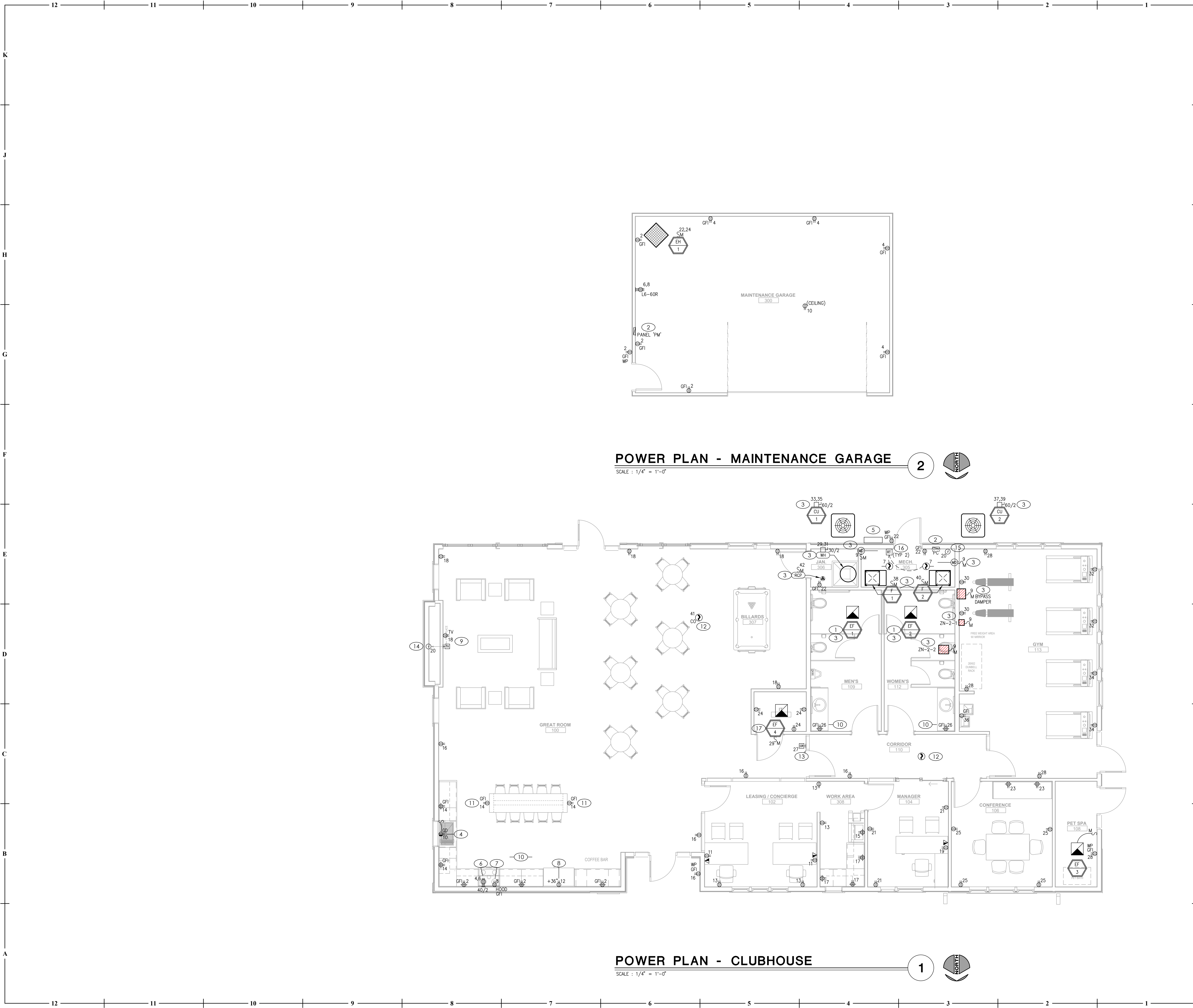
STATE OF MISSOURI
JUSTIN SMOTHERS
NUMBER
PE-2012001598
08-24-23
PROFESSIONAL SEAL

E101K
ISSUE DATE: 08.24.23
JSC PROJECT #: 23-086

LIGHTING PLAN - CLUBHOUSE
& MAINTENANCE GARAGE



PERMIT DOCUMENTS



KEYED PLAN NOTES

1. EXHAUST FAN DERIVES POWER FROM CIRCUIT SERVING LIGHTING FIXTURES IN ROOM.
2. NEW PANELBOARD, REFER TO SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULE, HOMERUN DESIGNATIONS FOR DEVICES AND FIXTURES IN THIS BUILDING ARE TO THIS PANEL.
3. MAKE CONNECTION TO DIVISION 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS. COORDINATE WORK WITH DIVISION 22/23 CONTRACTOR PRIOR TO CONSTRUCTION.
4. GARBAGE DISPOSAL, 120V, 1/2 HP, CORD & PLUG CONNECTION TO HALF-SWITCHED AFCI RECEPTACLE MOUNTED BELOW SINK. PROVIDE 2 #12 CU, 1 #20U EGC AT HANDICAP UNITS. MOUNT SWITCH WITHIN LOWER CABINETS PER ADA GUIDELINES.
5. ELECTRICAL SERVICE ENTRANCE EQUIPMENT. COORDINATE UTILITY TRANSFORMER LOCATION AND SECONDARY ROUTING TO BUILDING WITH UTILITY SERVICE PROVIDER PRIOR TO CONSTRUCTION. REFER TO SINGLE LINE DIAGRAM ON SHEET E200 FOR MORE INFORMATION.
6. ELECTRIC COOKTOP, 208V, 1P, 8KW. PROVIDE HARD WIRED CONNECTION TO J-BOX IN CABINET. COORDINATE EXACT LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE LOCKABLE CIRCUIT BREAKER IN PANEL AS DISCONNECTING MEANS TO COMPLY WITH NEC 422.31(5). PROVIDE 3 #8 CU, 1 #10 CU EGC. PROVIDE RECEPTACLE TO MATCH PLUG ON UNIT IF UNIT INSTALLED IS CORD AND PLUG CONNECTED.
7. COMBINATION MICROWAVE AND EXHAUST HOOD, 120V, 15A MAX. COORDINATE EXACT LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION.
8. REFRIGERATOR 120V, 12A MAX. PROVIDE 2 #12 CU, 1 #12 CU EGC. CORD AND PLUG CONNECTION.
9. TELEVISION. PROVIDE 120V DUPLEX RECEPTACLE, DATA OUTLET AND COAX CABLE (BOTH WIRED BACK TO IT ROOM). MOUNT BETWEEN 18" AND 66" AFF. VERIFY MOUNTING HEIGHT PRIOR TO ROUGH-IN.
10. FOR KITCHEN AND BATHROOM RECEPTACLES ABOVE COUNTER, COORDINATE LOCATION AND PLACEMENT PRIOR TO ROUGH-IN. IF FULL BACKSPLASH IS USED MOUNT RECEPTACLES VERTICALLY. IF FULL BACKSPLASH IS NOT USED MOUNT RECEPTACLES HORIZONTALLY ABOVE BACKSPLASH.
11. MOUNT ISLAND/PENINSULA RECEPTACLES 12" MAX BELOW TOP OF COUNTER.
12. COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE SENSOR, 120V WITH BATTERY BACK-UP. DETECTORS SHALL BE INTERCONNECTED AND INSTALLED IN ACCORDANCE WITH IRC 314 AND 315.M IF 908.7, NFPA 72 & 74 WITH SPECIAL ATTENTION GIVEN TO THE LOCATION OF THE DETECTOR IN THE VICINITY OF RETURN AIR GRILLES. (PROVIDE SMOKE DETECTOR ONLY WHERE ALLOWED BY CODE).
13. PROVIDE BACKBOX AND CONDUIT FOR CARD READER. COORDINATE EXACT REQUIREMENTS WITH ACCESS CONTROL CONSULTANT PRIOR TO CONSTRUCTION.
14. PROVIDE JUNCTION BOX AND HOMERUN CIRCUIT FOR GAS FIREPLACE CONTROLS. COORDINATE LOCATION OF JUNCTION BOX WITH FIREPLACE SUPPLIER.
15. JUNCTION BOX FOR CONNECTION TO BUILDING FIRE ALARM CONTROL PANEL BY OTHERS IF APPLICABLE. CONFIRM EXACT LOCATION WITH OWNER/FIRE ALARM CONTRACTOR ON SITE. MAKE CONNECTION ACCORDING TO MANUFACTURER'S LITERATURE AND NFPA REQUIREMENTS.
16. MAKE CONNECTION TO DUCT SMOKE DETECTOR BY OTHERS ACCORDING TO MANUFACTURER'S LITERATURE AND NFPA REQUIREMENTS. PROVIDE REMOTE TEST STATION WITH INDICATING LIGHT AT 48" AFF FOR CONNECTION TO DETECTOR.
17. WIRE EXHAUST FAN FOR CONTINUOUS-ON OPERATION. PROVIDE OVERRIDE-OFF MOTOR RATED DISCONNECT ABOVE CEILING AT DEVICE FOR MAINTENANCE.

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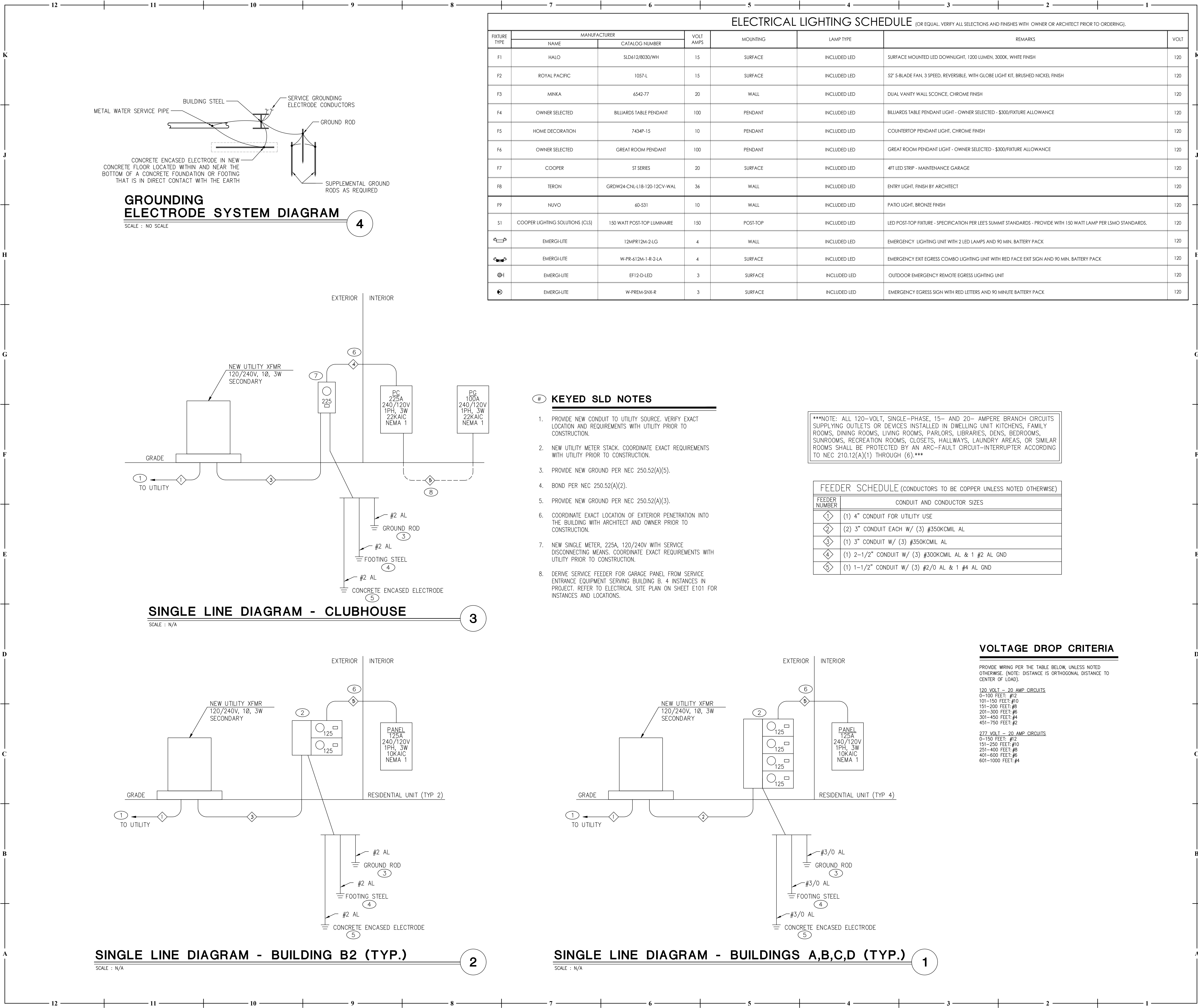
POWER PLAN - CLUBHOUSE & MAINTENANCE GARAGE

REUNION AT BLACKWELL
SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

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REUNION AT BLACKWELL

SE SHENANDOAH DRIVE
LEE'S SUMMIT, MO 64063

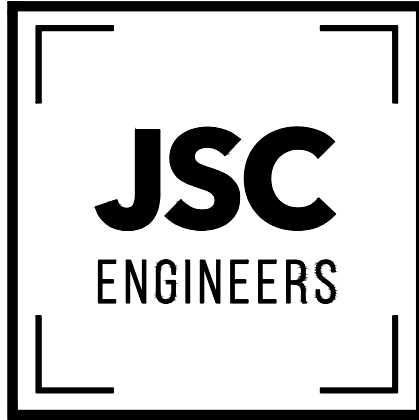
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08-24-23
PROFESSIONAL SEAL

E200

ISSUE DATE: 08.24.23
JSC PROJECT #: 23-046

ELECTRICAL SCHEDULES AND
DIAGRAMS

RESIDENTIAL UNIT ELECTRICAL LOAD CALCULATION							
UNIT FLOOR AREA NEC 220.80 "PART IV. OPTIONAL FEER AND SERVICE LOAD CALCULATIONS"							
UNIT	SF	(B)(1)	(B)(2)	(B)(3)	(B)(4)	*** (C)(1-6)	TOTAL VA
A/A REV	1230	3690VA	4500VA	6000VA	0VA	9000VA	23190VA
B/B REV	1450	4350VA	4500VA	6000VA	0VA	12500VA	27350VA
C/C REV	1584	4752VA	4500VA	6000VA	0VA	12500VA	27752VA

***HVAC DESIGN IS BY OTHERS - ELECTRICAL LOADING IS ASSUMED
- CONFIRM WITH MECHANICAL ENGINEERED DRAWINGS PRIOR TO CONSTRUCTION.

PANELBOARD: C (NEW)				FED FROM:		UTILITY		LINE-SIDE LUGS: MECHANICAL				
BUS AMPS: 150A				A/C RATING:		10000 FULLY RATED		EQUIPMENT GROUND BUS				
MAIN SIZE/TYPE: MLO				SERVES: BUILDING C								
VOLT/PHASE: 120/240V, 1PH, 3W				MOUNTING: RECESSED								
SECTION: 1				LOCATION: GARAGE								
CKT NO	DESCRIPTION	VOLTS/PHASE		WIRE NO	AMP	WIRE NO	AMP	VOLTS/PHASE		DESCRIPTION	CKT NO	
		A	B					A	B			
1	LTG - FIRST FLOOR	550	12	20	11	20	12	900		LTG - SECOND FLOOR	2	
3	RCPT - PRIMARY BEDROOM		900	12	20	11	20	720	720	RCPT - BEDROOM 1	4	
5	RCPT - BEDROOM 3		900	12	20	11	20	720		RCPT - BEDROOM 2	6	
7	RCPT - CORR / LAUNDRY / CORR. 1ST F		900	12	20	11	20	12	600	PWR - SMOKE / HEAT DETING ROOM	8	
9	RCPT - DINING / LIVING ROOM	1,440		12	20	11	20	12	180	RCPT - HALF-BATH GFI	10	
11	RCPT - KITCHEN COUNTER		1,200	12	20	11	20	12	1,800	RCPT - BATH GFI	12	
13	RCPT - KITCHEN COUNTER	1,200		12	20	11	20	12	1,800	RCPT - P. BATH GFI	14	
15	RCPT - KITCHEN ISLAND / COUNTER		1,800	12	20	11	20	12	600	RCPT - REFRIGERATOR	16	
17	RCPT - MICROWAVE / HOOD	1,500		12	20	11	20	12	1,200	RCPT - GARBAGE DISPOSAL	18	
19	RCPT - GARBAGE GFIS		360	12	20	11	20	12	600	RCPT - DISHWASHER	20	
21	RCPT - COMMUNICATIONS CABINET	200		12	20	11	20	12	360	RCPT - GARBAGE GFIS	22	
23	SPARE			20	11	20	12	1,800		RCPT - WASHER	24	
25	SPARE			20	11	20	12	2,500		SPARE	26	
27	PWR - AHU	4,500	8	40	2	2	30	10	2,500	PWR - DRYER	28	
29		4,500							2,500		30	
31	PWR - CU		4,500	8	40	2	2	40	8	3,000	PWR - RANGE	32
33		4,500								3,000		34
35	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	36
37	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	38
39	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	40
41	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	42
SUBTOTAL		14,790	14,160					10,660	11,820		SUBTOTAL	
TOTAL PHASE A - VA		25,450	LOAD	CONN. VA		DF	LOAD	CONN. VA		DF		
AMPS		212	COOLING	9,000		1.00	REFRIG			1.00		
TOTAL PHASE B - VA		25,880	HEATING	9,000		0	SIGN/DISP			1.25		
AMPS		217	LIGHTING	1,450		1.25	KITCHEN			1.00		
TOTAL PNLBD - VA		51,430	RECEPTACLES	31,380		1.0/5	EXISTING			1.00		
AMPS		214	MOTORS				LRG MOTOR			1.25	TOTAL DEMAND	
			LRG MOTOR				SHOW/WINDOW			1.25		32,103 VA
			MISC EQUIP	600		1.00	LTG TRACK			1.00		134 A

PANELBOARD NOTES

* = AFI-TYPE BREAKER

^ = HACR-TYPE BREAKER

= AFJFI-TYPE COMBO BREAKER

PANELBOARD NOTES
* = AFI-TYPE BREAKER
^ = HACR-TYPE BREAKER
= AFIGFI-TYPE COMBO BREAKER

PANELBOARD: B (NEW)				FED FROM:				UTILITY				LINE-SIDE LUGS: MECHANICAL			
BUS AMPS: 150A				A/C RATING: 10000 FULLY RATED								EQUIPMENT GROUND BUS			
MAIN SIZE/TYPE: MLO				SERVES: BUILDING B											
VOLTS/PHASE: 120/240V, 1PH, 3W				MOUNTING: RECESSED											
SECTION: 1				LOCATION: GARAGE											
CKT NO.	DESCRIPTION	VOLT/AMP/PHASE		WIRE NO.	BKR AMP	P	BKR AMP	WIRE NO.	BKR AMP	PHASE	VOLT/AMP/PHASE		DESCRIPTION	CKT NO.	
		A	B								A	B			
1	*LTG - FIRST FLOOR	550		12	20	1	11	20	12	900			*LTG - SECOND FLOOR	2	
3	*RCPT - PRIMARY BEDROOM		900	12	20	1	11	20	12	720			*RCPT - BEDROOM 1	4	
5	*RCPT - BEDROOM 3		900	12	20	1	11	20	12	720			*RCPT - BEDROOM 2	6	
7	*RCPT - CORR / LAUNDRY / CORR. 1ST F		900	12	20	1	11	20	12		600		*PWR - SMOKE / HEAT DETECTORS	8	
9	*RCPT - DINING / LIVING ROOM		1,440	12	20	1	11	20	12	180			*RCPT - HALF-BATH GFI	10	
11	*RCPT - KITCHEN COUNTER		1,200	12	20	1	11	20	12		1,800		*RCPT - BATH GFI	12	
13	*RCPT - KITCHEN COUNTER		1,200	12	20	1	11	20	12	1,800			*RCPT - P. BATH GFI	14	
15	*RCPT - KITCHEN ISLAND / COUNTER		1,800	12	20	1	11	20	12		800		*RCPT - REFRIGERATOR	16	
17	*RCPT - MICROWAVE / HOOD		1,500	12	20	1	11	20	12	1,200			*RCPT - GARBAGE DISPOSAL	18	
19	*RCPT - GARBAGE GFIS		360	12	20	1	11	20	12		600		*RCPT - DISHWASHER	20	
21	*RCPT - COMMUNICATIONS CABINET		200	12	20	1	11	20	12	360			*RCPT - GARBAGE GFIS	22	
23	*SPARE			20	11	20	12	12		1,800			*RCPT - WASHER	24	
25	*SPARE			20	11	20	12	12		2,500			*SPARE	26	
27	*PWR - AHU		4,500	8	40	2	2	30	10		2,500		PWR - DRYER	28	
29			4,500							2,500				30	
31	*PWR - CU			4,500	8	40	2	2	40	8		3,000	PWR - RANGE	32	
33			4,500								3,000			34	
35	PROVISIONAL SPACE						1	1					PROVISIONAL SPACE	36	
37	PROVISIONAL SPACE						1	1					PROVISIONAL SPACE	38	
39	PROVISIONAL SPACE						1	1					PROVISIONAL SPACE	40	
41	PROVISIONAL SPACE						1	1					PROVISIONAL SPACE	42	
SUBTOTAL			14,790		14,160						10,680	11,820	SUBTOTAL		
TOTAL PHASE A - VA		25,450	LOAD	CONN. VA		DF	LOAD		CONN. VA		DF				
AMPS		212	COOLING	9,000		1.00	REFRIG				1.00				
TOTAL PHASE B - VA		25,880	HEATING	9,000		0	SIGN/DISP				1.25				
AMPS		217	LIGHTING	1,450		1.25	KITCHEN				1.00				
TOTAL PNLBD - VA		51,430	RECEPTACLES	31,380		1.0/5	EXISTING								
AMPS		214	MOTORS			1.00	LRG MOTOR				1.25	TOTAL DEMAND			
			SUPP HEAT			1.00	SHOW/ANDW				1.25	32,103 VA			
			MISC EQUIP	600		1.00	LTG TRACK				1.00	134 A			
PANELBOARD NOTES															
* = ALF-TYPE BREAKER															
# = HACR-TYPE BREAKER															
® = AFFIG-TYPE COMBO BREAKER															

PANELBOARD NOTES
* = AFI-TYPE BREAKER
^ = HACR-TYPE BREAKER
= AFIGFI-TYPE COMBO BREAKER

PANELBOARD: A (NEW)				FED FROM:		UTILITY		LINE-SIDE LUGS: MECHANICAL				
BUS AMPS: 150A				A/C RATING:		10000 FULLY RATED		EQUIPMENT GROUND BUS				
MAIN SIZE/TYPE: MLO				SERVES: BUILDING A								
VOLTS/PHASE: 120/240V, 1PH, 3W				MOUNTING: RECESSED								
SECTION: 1				LOCATION: GARAGE								
CKT NO.	DESCRIPTION	VOLTS/PHASE/PSI		WIRE NO.	AMP	P	WIRE NO.	AMP	VOLTS/PHASE/PSI		DESCRIPTION	CKT NO.
		A	B						A	B		
1	*LTG - FIRST FLOOR	550		12	20	1	11	20	12	900	*LTG - SECOND FLOOR	2
3	*RCPT - PRIMARY BEDROOM		900	12	20	1	1	20	12	720	*RCPT - BEDROOM 1	4
5	*RCPT - BEDROOM 3		900	12	20	1	1	20	12	720	*RCPT - BEDROOM 2	6
7	*RCPT - CORR / LAUNDRY / CORR. 1ST F		900	12	20	1	1	20	12	600	*PWR - SMOKE / HEAT DETECTORS	8
9	*RCPT - DINING / LIVING ROOM	1,440		12	20	1	1	20	12	180	*RCPT - HALF-BATH GFI	10
11	*RCPT - KITCHEN COUNTER		1,200	12	20	1	1	20	12	1,800	*RCPT - BATH GFI	12
13	*RCPT - KITCHEN COUNTER	1,200		12	20	1	1	20	12	1,800	*RCPT - P. BATH GFI	14
15	*RCPT - KITCHEN ISLAND / COUNTER		1,800	12	20	1	1	20	12	800	*RCPT - REFRIG	16
17	*RCPT - MICROWAVE / HOOD	1,500		12	20	1	1	20	12	1,200	*RCPT - GARBAGE DISPOSAL	18
19	*RCPT - GARBAGE GFIS		360	12	20	1	1	20	12	600	*RCPT - DISHWASHER	20
21	*RCPT - COMMUNICATIONS CABINET	200		12	20	1	1	20	12	360	*RCPT - GARBAGE GFIS	22
23	*SPARE			20	11	1	1	20	12	1,800	*RCPT - WASHER	24
25	*SPARE			20	11	1	1	20	12	2,500	*SPARE	26
27	*PWR - AHU	4,500	8	40	2	2	30	10		1,500	PWR - DRYER	28
29									1,500			30
31	*PWR - CU		4,500	8	40	2	2	40	8	3,000	PWR - RANGE	32
33		4,500								3,000		34
35	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	36
37	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	38
39	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	40
41	PROVISIONAL SPACE					1	1				PROVISIONAL SPACE	42
SUBTOTAL		14,790	14,160						9,660	10,820	SUBTOTAL	
TOTAL PHASE A - VA		24,450	LOAD	CONN. VA		DF	LOAD		CONN. VA		DF	
AMPS		204	COOLING	9,000		1.00	REFRIG				1.00	
TOTAL PHASE B - VA		24,980	HEATING	9,000		0	SIGN/SDISP				1.25	
AMPS		208	LIGHTING	1,450		1.25	KITCHEN				1.00	
TOTAL PNLBD - VA		49,430	RECEPTACLES	29,380		1.00/5	EXISTING					
AMPS		209	MOTORS			1.00	LRG MOTOR				1.25	TOTAL DEMAND
			SUPP HEAT			1.00	SHOW/WDNDW				1.25	
			MISC EQUIP	600		1.00	LTG TRACK				1.00	31,103 VA
												130 A
PANELBOARD NOTES												
# = AFI-TYPE BREAKER												
# = HACR-TYPE BREAKER												
# = AFI/CI-TYPE COMBO BREAKER												

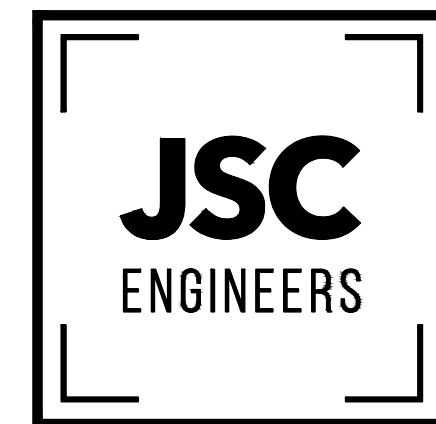
PANELBOARD NOTES
* = AFI-TYPE BREAKER
^ = HACR-TYPE BREAKER
= AFIGFI-TYPE COMBO BREAKER

PANELBOARD SCHEDULES

SCALE: 1/4"

1

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PANELBOARD SCHEDULES

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