

CONTACT DATA

Mr. Engineer, Inc.

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Project No. 21000

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under the authority of
Mr. Engineer, Inc.
Texas Firm Registration No. 13221

PROJECT DATA

T&G Health LLC
Dr. Uma Chintapalli & Dr. Shopana Ganpath
25663 Smotherman Road, Suite 400
City of Little Elm, Denton County, Texas

DOCUMENT DATA

#	ISSUANCE	DATE
0	Permit Set	2021.10.01
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HVAC PLAN

SCALE: AS NOTED

SHEET NO.

M-1

GENERAL MECHANICAL NOTES (APPLIES TO ALL M-SERIES SHEETS):

- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO INDICATE EACH AND EVERY FITTING, OFFSET OR OTHER APPURTENANCE NECESSARY TO COMPLETE THE SYSTEM. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIM/HER SELF WITH THESE DOCUMENTS AND INCLUDE IN HIS/HER BID ALL ITEMS NECESSARY IN ORDER TO PROVIDE THE OWNER WITH A COMPLETE AND OPERATIONAL SYSTEM. ANY DISCREPANCIES NOTED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER (IN WRITING) PRIOR TO THE BID DATE. AFTER THE BIDS ARE TURNED IN THE CONTRACTOR SHALL COMPLETE THE SYSTEMS AT NO ADDITIONAL COST TO THE OWNER.
- REASONABLE ATTEMPTS HAVE BEEN MADE IN THESE DOCUMENTS TO CONVEY THE DESIGN KNOWLEDGE AVAILABLE TO THE ENGINEER AND TO INDICATE PLACEMENT OF THE HVAC EQUIPMENT IN A DIAGRAMMATICAL NATURE. IN ACCORDANCE WITH LOCAL CODE AND THE REQUESTS OF THE OWNER, FINAL EXACT UNIT, DEVICE OR MATERIAL PLACEMENT IS COMPLETE RESPONSIBILITY OF THE CONTRACTOR. RECEIPT OF APPROVED SHOP DRAWINGS OR THE "SCALING" OF OUR DOCUMENTS, SHALL NOT RELIEVE THE CONTRACTOR OF HIS/HER CONTRACTUAL RESPONSIBILITY TO PROVIDE (BUT NOT LIMITED TO)---1) OWNER REQUESTED CLEARANCES 2) THE CLEARANCES REQUIRED BY THE MANUFACTURER 3) THE CLEARANCES REQUIRED BY CODE. 4) COORDINATION OF THE WORK OF OTHER TRADES. 5) COMPLETE CONTRACT IN EVERY RESPECT. SHOULD THE CONTRACTOR PLACE AN HVAC UNIT, DEVICE OR MATERIAL IN SUCH A MANNER AS TO CIRCUMVENT THE CLEARANCES NOTED ABOVE, THE UNIT, DEVICE OR MATERIALS SHALL BE RELOCATED AT THE CONTRACTOR'S SOLE EXPENSE AT NO COST TO THE OWNER.
- MECHANICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, SPECIFICATIONS AND ALL APPLICABLE FEDERAL, NATIONAL, STATE AND LOCAL GOVERNING CODES.
- ALL DUCTWORK SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
- UNITS AND EXHAUST FAN LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ROOF PENETRATIONS TO ACHIEVE APPROVED WATER-TIGHT FLASHING REQUIREMENTS.
- BALANCING DAMPERS SHALL BE PROVIDED AT EACH SUPPLY AIR DEVICE. PROVIDE OPPOSED DAMPER BLADES IN DIFFUSERS OR GRILLES AT GYP. BOARD CEILINGS.
- ALL ROUND DUCTWORK SHALL BE R-8 FLEX AS ACCEPTABLE BY LOCAL CODE.
- RECTANGULAR DUCTWORK SHALL BE GALVANIZED STEEL CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," CURRENT EDITION. ROUND DUCTWORK SHALL BE FLEX AS ACCEPTABLE BY LOCAL CODE.
- ALL WALL-APPLIED ITEMS (SUCH AS, BUT NOT LIMITED TO, THERMOSTATS, SENSORS, ANNUNCIATORS, AND DETECTORS) SHALL BE INSTALLED PLUMB, LEVEL, AND IN ALL THE LOCATIONS DESIGNATED IN THE DRAWINGS AND SPECIFICATIONS. ALL DEVICE COVERS AND TRIM SHALL FIT SNUGLY TO WALL SURFACES ON ALL SIDES. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF SENSORS AND/OR THERMOSTATS WITH ARCHITECT.
- SUPPORT ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. USE APPROPRIATE SUSPENSION HARDWARE AT RECOMMENDED LOCATIONS. SUPPORT ALL DUCT PER SMACNA "HVAC DUCT CONSTRUCTION STANDARDS."
- ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMAN LIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER AND ARCHITECT.
- CONTRACTOR SHALL COORDINATE, PROVIDE & INSTALL FIRE DAMPERS OR SMOKE DAMPERS AT ALL PENETRATIONS THRU FIRE OR SMOKE RATED ENVELOPE AS DEFINED BY ARCHITECT ON ARCHITECTURAL PLANS AND AS REQUIRED BY NATIONAL, STATE, AND/OR LOCAL GOVERNING CODES.
- CROSSING OF DUCTS WILL TYPICALLY REQUIRE THAT ONE DUCT BE ROUTED HIGH IN JOIST SPACE. CONTRACTOR SHALL INCLUDE IN BID COST OF JOIST ROUTING OF DUCTS AND SHALL SHOW COORDINATING ROUTING OF DUCTWORK ON SHOP DRAWINGS. RUN-OUTS TO DIFFUSER MAY BE RUN IN WEBBING OF JOISTS IF REQUIRED.
- THE TOPS OF ALL EQUIPMENT CURBS AND HOUSEKEEPING PADS SHALL BE LEVEL.

NOTES BY SYMBOL "O":

- EXISTING AHU AND DUCTWORK SHALL REMAIN, UNLESS NOTED OTHERWISE.
- RELOCATE EXISTING SUPPLY DIFFUSERS TO NEW CEILING GRID. EXTEND DUCTWORK AS REQUIRED. RE-BALANCE TO AIR VOLUME SPECIFIED.
- CONNECT TO EXISTING DUCT. REFER TO AIR DEVICE SCHEDULE FOR BRANCH DUCT/NECK SIZE.
- AVOID INSTALLATION OF DUCTWORK ABOVE LADDER ACCESS. FIELD COORDINATE INSTALLATION TO ENSURE ACCESS TO ALL EQUIPMENT.
- PROVIDE 6" Ø EXHAUST DUCT UP TO ROOF CAP. MAINTAIN 10' FROM ALL OUTSIDE AIR INTAKE OPENINGS.

AIR DEVICE SCHEDULE

MARK	DESCRIPTION	TITUS M#	FACE SIZE	NECK SIZE
S-1	2-WAY THROW SUPPLY GRILLE	272RL	8"x4"	6"
S-2	STEP-DOWN DIFFUSER	TMS	24"x24"	10"
R-1	EGG-CRATE RETURN GRILLE	50F	24"x24"	16"

NOTES:

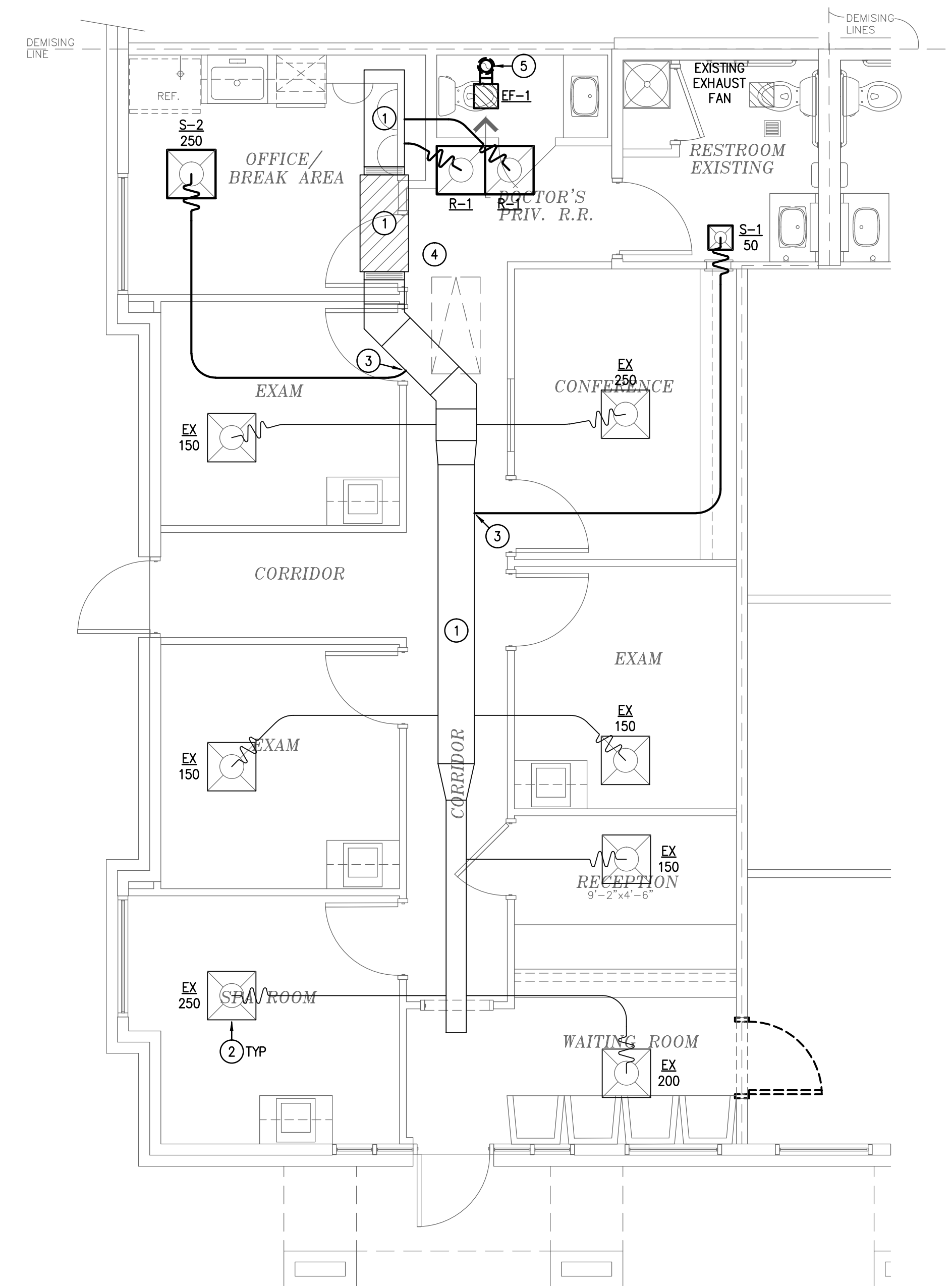
- PROVIDE MATCHING FRAME OR RAILS FOR ALL AIR DEVICES INSTALLED IN GYP. BOARD CEILINGS.
- DIFFUSERS SHALL BE WHITE, OR AS OTHERWISE DIRECTED BY THE OWNER AND ARCHITECT.
- PROVIDE VOLUME DAMPER IN DUCT OF ALL SUPPLY AND EXHAUST AIR DEVICES, ONE PER DEVICE.
- USE NECK SIZES LISTED, UNLESS OTHERWISE INDICATED ON PLAN.

EXHAUST FAN SCHEDULE

MARK	SERVICE	CFM	ESP	POWER	ELECT.	MANUF.	MODEL
EF-1	RESTROOM	70	0.25	18.1 W	120v/1ph	GREENHECK	SP-AP0511W

NOTES:

- PROVIDE MATCHING FACTORY CURB AND BACKDRAFT DAMPER.
- PROVIDE VARI-GREEN MOTOR WITH SPEED CONTROL DIAL.
- CONTROL FAN VIA INDEPENDENT WALL SWITCH.



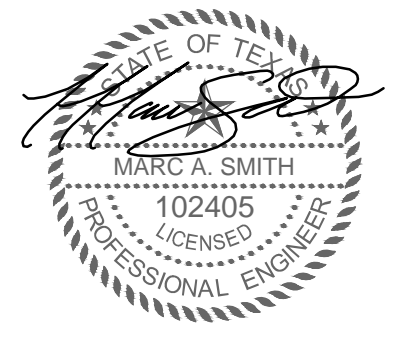
HVAC PLAN

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

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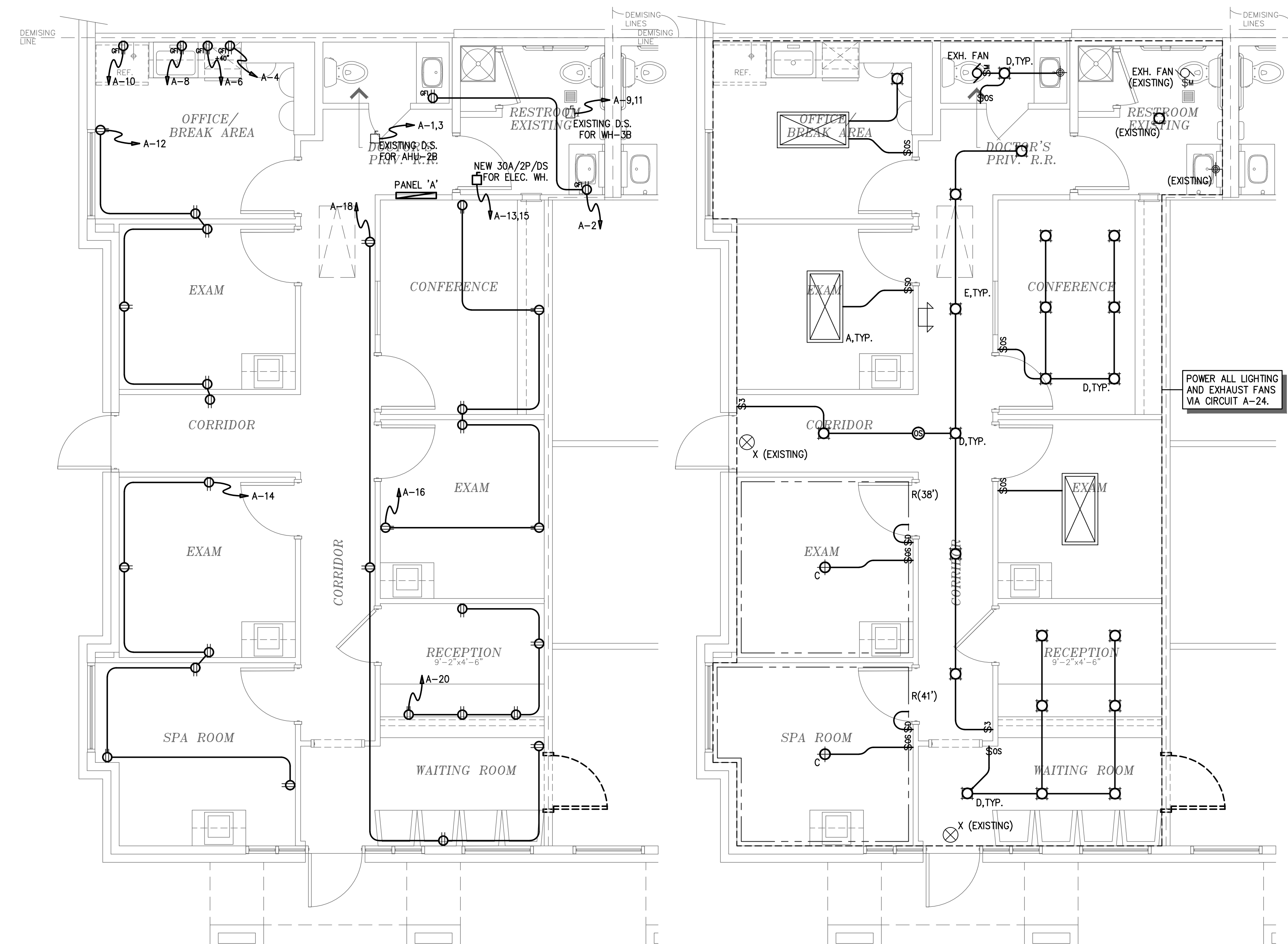
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City of Little Elm, Denton County, Texas

GENERAL ELECTRICAL NOTES (APPLIES TO ALL E-SERIES SHEETS):

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOOK THROUGH ALL DRAWINGS ASSOCIATED WITH THIS PROJECT. WORK ASSOCIATED WITH THE ELECTRICAL CONTRACTOR'S TRADE MAY BE SHOWN ON OTHER DRAWINGS. ANY ADDITIONAL COSTS RESULTING FROM THE FAILURE TO INCLUDE THESE ITEMS SHOWN ON OTHER DRAWINGS WILL BE INCURRED BY THE CONTRACTOR.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT EACH SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO BIDDING THIS PROJECT.
- CONTRACTOR SHALL SAW CUT AND PATCH ASPHALT, CONCRETE OR OTHER MATERIAL ENCOUNTERED AS REQUIRED TO INSTALL NEW UNDERGROUND RACEWAY. REFER TO ARCHITECTURAL SPECIFICATIONS REGARDING PATCHING REQUIREMENTS.
- THE CONTRACTOR SHALL NOT SCALE THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC IN NATURE AND DO NOT COMPLETELY DEPICT ALL EXISTING CONDITIONS IN THE AREA.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF NEW LAY-IN FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND MECHANICAL DIFFUSERS PRIOR TO INSTALLATION OF FIXTURES.
- ALL EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES.
- PROVIDE BLANK METAL COVERPLATE OVER ALL UNUSED OUTLET BOXES. PAINT COVERPLATE TO MATCH ADJACENT SURFACES.
- OUTLET MOUNTING HEIGHTS INDICATED ON THE DRAWINGS ARE APPROXIMATE. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH OTHER TRADES FOR EXACT HEIGHT REQUIRED. THIS REQUIREMENT ALSO APPLIES TO SWITCHES, TELEPHONE OUTLETS, DATA OUTLETS, HVAC SENSORS, ETC. ANY DEVICE THAT HAS TO BE RELOCATED DUE TO CONTRACTOR'S FAILURE TO COORDINATE LOCATION WITH COUNTERTOPS, CHALKBOARDS, TASKBOARDS, ETC. WILL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL COMPLY WITH THE NEC, LOCAL AND ALL APPLICABLE CODES.
- ALL RECEPTACLES TO BE 20A SPECIFICATION GRADE, HOMOY. WALL PLATES TO MATCH. ISOLATED GROUND DUPLEX RECEPTACLES (IG) WILL BE ORANGE BODY AND FACE PLATE.
- COORDINATE WORK WITH ALL OTHER TRADES GIVING SPECIAL CONSIDERATION TO WORK DONE ABOVE CEILING, OUTLET LOCATIONS AT MILLWORK, AND SWITCH LOCATIONS IN REGARDS TO DOOR SWINGS.
- WIRING SHALL BE #12 AWG COPPER, IN MINIMUM 3/4" MC CONDUIT WITH GROUND WIRE, UNLESS NOTED OTHERWISE. USE OF CONDUIT AS ONLY GROUND PATH IS UNACCEPTABLE.
- INSTALL WALL MOUNTED LIGHT FIXTURES, SWITCHES, OUTLETS, AND COMMUNICATION DEVICES IN STRICT COORDINATION WITH ARCHITECTURAL DETAILS, SECTIONS AND ELEVATIONS.
- FIRESTOPPING OF PENETRATIONS IN FIRE-RATED WALLS, FLOORS, ETC. SHALL BE DONE BY A FIRESTOPPING CONTRACTOR. ELECTRICAL CONTRACTOR SHALL MAKE REQUIRED PENETRATIONS IN RATED WALLS, FLOORS, ETC. NEATLY AND WITH A CUTTING TOOL. THE CONTRACTOR SHALL MAKE THE PENETRATIONS NO LARGER THAN NECESSARY, AND THE CONTRACTOR SHALL COORDINATE ALL SUCH PENETRATIONS WITH THE FIRE STOPPING CONTRACTOR BEFORE SUCH PENETRATIONS ARE MADE.
- REFER TO SPECIFICATIONS FOR ALL COMMUNICATION SYSTEM REQUIREMENTS. (IN LIEU OF SPECS: PROVIDE 3/4" MC W/PULLCORD FROM COMMUNICATION OUTLETS TO 6' ABOVE LAY-IN CEILING.
- SUPPORT ALL FIXTURES FROM STRUCTURE ABOVE. CEILING TILES OR PLASTER CEILING SHALL NOT SUPPORT FIXTURES.
- FINISHED FLOOR ELEVATIONS FOR OUTLETS AND OTHER DEVICES ARE TO CENTER OF BOX. WHERE MILLWORK IS PRESENT, BOTTOM OF BOX SHALL BE MINIMUM OF 2" ABOVE BACK - SPLASH, REGARDLESS OF DIMENSION SHOWN ON PLANS.
- SUPPORT HORIZONTAL RUNS OF EMT CONDUIT EVERY 10'-0" AND AT EVERY FITTING, BOX, PANEL, ETC.
- USE GLAND RING COMPRESSION THREADED FITTINGS WITH INSULATED THROAT FOR EMT CONDUIT. DOUBLE SET SCREW FITTINGS ARE ACCEPTABLE FOR 2-1/2" CONDUIT AND LARGER ONLY.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR THE MECHANICAL EQUIPMENT'S ELECTRICAL REQUIREMENTS, INCLUDING POWER, CONTROL, COMMUNICATION, AND MONITORING, OF EACH DEVICE PROVIDED AND/OR INSTALLED BY MECHANICAL CONTRACTOR.
- SUPPORT SYSTEM FOR PIPING MATERIALS AND EQUIPMENT SUPPORTED BY THE BUILDING STRUCTURE SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ARCHITECT FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. NO WIRE OR PERFORATED STRAP WILL BE PERMITTED FOR ANY HANGER OR SUPPORT.
- BEFORE INSTALLATION, EQUIPMENT AND DEVICES INCLUDING, BUT NOT LIMITED TO, ANY DEVICE WITH ELECTRICAL CONNECTIONS, DUCTWORK, INSULATION, PIPING, VALVES, AIR DEVICES, ETC., SHALL NOT BE STORED DIRECTLY ON GRADE OR ON A SLAB OR FLOOR BEFORE AND AFTER INSTALLATION. SUCH EQUIPMENT AND DEVICES SHALL BE PROTECTED FROM ENTRY OF DIRT, TRASH WATER (EXCEPT AS REQ'D), VERMIN, ETC.
- DEVICES THAT MIGHT CAUSE OR OPERATE WITH VIBRATION OR NOISE SHALL BE ISOLATED PER MANUFACTURER'S RECOMMENDATIONS AND/OR PER SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE ACTUAL LOCATIONS OF AIR DEVICES AND DUCTWORK WITH LIGHTS, CEILING PANELS, JOIST SPACING AND ARCHITECTURAL REFLECTED CEILING PLAN (REF. ELECTRICAL PLANS AND ARCHITECTURAL PLANS).
- PATCHING OR SEALING OF CUTS, PENETRATIONS, ETC. SHALL BE DONE BY CONTRACTOR PER INSTRUCTIONS FROM AND TO FINAL APPROVAL OF ARCHITECT OR ENGINEER. COORDINATE WITH GENERAL CONTRACTOR.
- FOR OUTDOOR EQUIPMENT ON GRADE, CONTRACTOR SHALL CONSTRUCT LEVEL 3000 PSI CONCRETE SLABS WITH FINISHED EDGES, WIRE REINFORCED, MINIMUM 3 1/2" THICK, AND MINIMUM 6" LARGER ON ALL SIDES THAN THE EQUIPMENT BEING SUPPORTED.
- CONTRACTOR SHALL MAKE NO PENETRATIONS WHATSOEVER OF WALLS FORMING PART OF A STAIRWELL, AN EXIT PASSAGEWAY, OR OTHER TWO-HOUR RATED WALLS. ALL CONDUITS SHALL RUN PARALLEL TO WALLS.
- PROVIDE THE OWNER WITH THREE (3) COPIES OF ALL INSTALLATION INSTRUCTIONS, PRODUCT DATA SUBMITTAL INFORMATION, WARRANTIES, CONTACT INFORMATION DURING WARRANTY PERIOD AND BALANCING REPORTS IN 3-RING BINDERS.
- ALL SYSTEMS AND COMPONENTS SHALL BE APPROVED FOR THE PURPOSE FOR WHICH INSTALLED. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND FROM ESTABLISHED AMERICAN SUPPLIERS UNLESS OTHERWISE INDICATED.
- THE ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE APPLICABLE AND ADOPTED PROVISIONS OF THE NATIONAL ELECTRICAL CODE AND BUILDING CODES AS INTERPRETED BY THE LOCAL JURISDICTION OF AUTHORITY, AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) REGULATIONS, CURRENT ADOPTED EDITION REGARDING MECHANICAL SYSTEMS, FIRE SYSTEMS AND ELECTRICAL SYSTEMS. ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH RULES, REGULATIONS AND ORDINANCES SHALL BE PROVIDED. WHERE THE DRAWINGS AND/OR SPECIFICATIONS INDICATE MATERIALS OR CONSTRUCTION IN EXCESS OF CODE REQUIREMENTS, THE DRAWINGS AND/OR SPECIFICATIONS SHALL GOVERN. THE CONTRACTOR SHALL HOLD AND SAVE THE OWNER, ARCHITECT AND ENGINEERS FREE AND HARMLESS FROM LIABILITY OF ANY NATURE OR KIND ARISING FROM HIS FAILURE TO COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.
- ALL EQUIPMENT PARAMETERS SHOWN ARE FOR PERFORMANCE AT SITE ALTITUDE. SUPPLIERS SHALL SELECT AND DEMONSTRATE THAT THEIR EQUIPMENT MEETS THE DESIGN CONDITIONS AT SITE ALTITUDE.
- THE CONTRACTOR SHALL COORDINATE WITH OWNER, ARCHITECT, AND ENGINEER ANY WORK THAT HAS THE POTENTIAL TO HINDER ELECTRICAL SERVICES TO AREA OUTSIDE OF THIS CONTRACT. ALL SHUT-DOWNS OR TIE-INS RELATING TO THESE SYSTEMS SHALL BE SCHEDULED AND SUBMITTED IN WRITING TO BE APPROVED BY THE OWNER'S FACILITY MANAGEMENT, OWNER, ARCHITECT, OR ENGINEER. CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE FOR PHASING OF CONSTRUCTION THAT INDICATES AREAS OF FIRST PRIORITY DURING EACH PHASE AND ANTICIPATED COMPLETION TIMES. SCHEDULES SHALL BE SUBMITTED A MINIMUM OF ONE WEEK PRIOR TO COMMENCING WORK. FACILITY MANAGEMENT, OWNER, ARCHITECT OR ENGINEER SHALL REVIEW THESE SCHEDULES AND NOTIFY CONTRACTOR OF ACCEPTANCE PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND PROVIDE A WRITTEN REPORT TO THE OWNER'S FACILITY MANAGEMENT, ARCHITECT OR THE ENGINEERING OFFICE. THIS REPORT SHALL DESCRIBE EXISTING DAMAGE OR OTHER CONDITIONS THAT MAY INTERFERE WITH THIS PROPOSED NEW WORK. THIS SITE SURVEY SHALL ALSO INCLUDE VERIFICATION OF SIZES, LOCATIONS, AND CONDITIONS OF EXISTING UTILITIES.
- ALL WORK SHALL CONFORM WITH FEDERAL, STATE, AND LOCAL CODES, RULES, AND REGULATIONS. ALL WORK SHALL BE PERFORMED BY A LICENSED CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE SYSTEMS SHALL BE INSTALLED COMPLETE AND FULLY OPERATIVE UNLESS OTHERWISE INDICATED.
- REQUIRED INSURANCE SHALL BE PROVIDED BY THIS CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF WORK. CONTRACTOR SHALL SECURE AND PAY ALL PERMITS, FEES, INSPECTIONS, AND TESTS UNLESS OTHERWISE INDICATED. COORDINATE WITH ARCHITECT, ENGINEER OR OWNER. SUBSTITUTIONS REQUESTED BY THE CONTRACTOR SHALL BE PAID FOR BY THE CONTRACTOR.
- USE THE FOLLOWING WIRING COLOR CODE:
 - FOR WIRE SIZES 10 AWG AND SMALLER, INSTALL WIRE COLORS IN ACCORDANCE WITH THE FOLLOWING:
 - BLACK AND RED FOR SINGLE PHASE CIRCUITS AT 120/240 VOLTS.
 - BLACK, RED, AND BLUE FOR CIRCUITS AT 120/208 VOLTS SINGLE OR THREE PHASE.
 - ORANGE, BROWN, AND YELLOW FOR CIRCUITS AT 277/480 VOLTS SINGLE OR THREE PHASE.
 - FOR WIRE SIZES 8 AWG AND LARGER, IDENTIFY WIRE WITH COLORED TAPE AT TERMINALS, SPLICES AND BOXES. COLORS ARE AS FOLLOWS:
 - BLACK AND RED FOR SINGLE PHASE CIRCUITS AT 120/240 VOLTS.
 - BLACK, RED, AND BLUE FOR CIRCUITS AT 120/208 VOLTS SINGLE OR THREE PHASE.
 - ORANGE, BROWN, AND YELLOW FOR CIRCUITS AT 277/480 VOLTS SINGLE OR THREE PHASE.
- NEUTRAL CONDUCTORS: WHITE FOR 208/120V CIRCUITS. GREY FOR 480/277V CIRCUITS.
- BRANCH CIRCUIT CONDUCTORS: INSTALL THREE OR FOUR WIRE HOME RUNS WITH EACH PHASE UNIQUELY COLOR CODED.
- FEDER CIRCUIT CONDUCTORS: UNIQUELY COLOR CODE EACH PHASE.
- GROUND CONDUCTORS:
 - FOR 6 AWG AND SMALLER: GREEN.
 - FOR 4 AWG AND LARGER: IDENTIFY WITH GREEN TAPE AT BOTH ENDS AND VISIBLE POINTS INCLUDING JUNCTION BOXES.
- SWITCHBOARDS, PANEL BOARDS AND TRANSFORMERS SHALL BE SQUARE-D, CUTLER-HAMMER OR SIMILAR APPROVED BY THE ENGINEER.
- THE ALARM SYSTEMS, IF SHOWN ON THESE PLANS, ARE FOR COORDINATION AND BIDDING ONLY. THE INFORMATION SHOWN DOES NOT NECESSARILY REPRESENT THE REQUIRED FINAL ALARM SYSTEM LAYOUT REQUIREMENTS. THE FINAL ALARM SYSTEM LAYOUT IS TO BE SUBMITTED FOR PERMIT PURPOSES, AT A LATER DATE BY LICENSED ALARM SYSTEM INSTALLER. THE ALARM SYSTEM LAYOUT SHOWN IS TO BE VERIFIED WITH THE LICENSED INSTALLER PRIOR TO INSTALLATION OF CONDUIT AND DEVICE BOXES. THE FINAL LOCATION OF ALL DETECTORS (EXISTING AND NEW), AUDIO AND VISUAL ALARMS, AND ANY OTHER ALARM EQUIPMENT IS THE RESPONSIBILITY OF THE LICENSED ALARM SYSTEM INSTALLER. EQUIPMENT SPECIFICATION - TYPE, SIZE, RATING, AND ANY OTHER REQUIRED INFORMATION FOR THE REVIEW OF THE ALARM PLANS FOR PERMIT PURPOSES, IS TO BE SUPPLIED BY THE LICENSED ALARM INSTALLER ON THE FINAL ALARM SYSTEMS PLANS.
- BURIED ELECTRICAL CONDUITS SHALL BE MARKED PER CODE REQUIREMENTS WITH UNDERGROUND WARNING TAPE 3" BELOW FINISHED GRADE. TAPE SHALL BE 4" WIDE COLORED RED WITH SUITABLE WARNING LEGEND PER ASME A13.1.



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

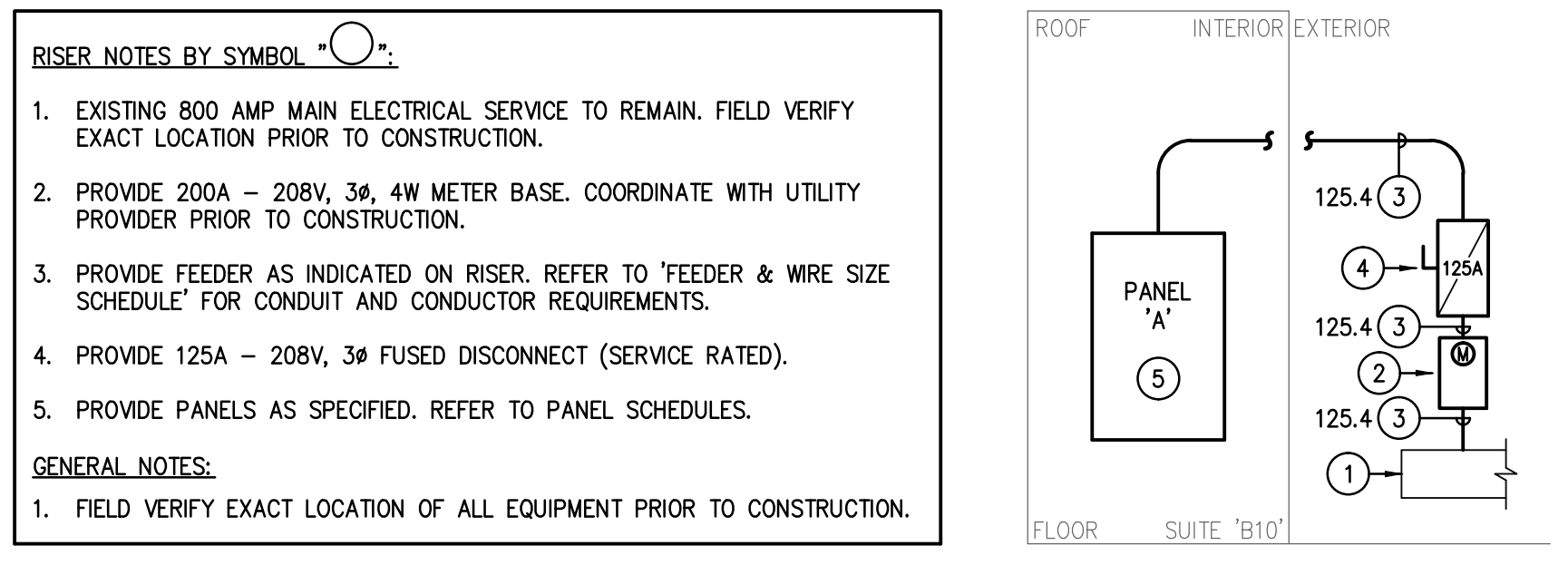
ELECTRICAL LIGHTING PLAN
SCALE: 1/4" = 1'-0"

PANELBOARD SCHEDULE & LOAD SUMMARY												
PANEL NAME		ENCLOSURE		NEMA 1		NEUTRAL BUS		YES				
MAIN BUS SIZE		MOUNTING		SURFACE		GROUND BUS		YES				
MCB SIZE		LOCATION		REFER TO PLAN		ISO GROUND BUS		NO				
VOLTAGE		FEED FROM		125A DISC SWITCH		200% NEUTRAL BUS		NO				
AIC RATING		T.B.D.		FEEDER SIZE		125.4		30				
CKT NO.	DESCRIPTION	LOAD (VA)	BREAKER (A/IR)	WIRE (AWG)	LOAD TYPE	PH	CKT NO.	DESCRIPTION	LOAD (VA)	BREAKER (A/IR)	WIRE (AWG)	LOAD TYPE
1	EXISTING AIR HANDLER	3000	40/2	40.2	5	A	2	RESTROOM GFI	1000	20/1	20.2	2
3		3000			5	B	4	MICROWAVE	1500	20/1	20.2	3
5	EXISTING COND. UNIT	3850	60/2	60.2	4	C	6	DISHWASHER	1500	20/1	20.2	3
7		3850			4	A	8	SINK DISPOSAL	1000	20/1	20.2	3
9	EXISTING ELECT. WATER HTR.	1250	20/2	20.2	3	B	10	REFRIGERATOR	1000	20/1	20.2	3
11		7700			3	C	12	GENERAL RECEPTACLES	1000	20/1	20.2	2
13	NEW ELECT. WATER HTR.	2250	30/2	30.2	3	A	14	GENERAL RECEPTACLES	1000	20/1	20.2	2
15		2250			3	B	16	GENERAL RECEPTACLES	1000	20/1	20.2	2
17						C	18	GENERAL RECEPTACLES	1000	20/1	20.2	2
19						A	20	GENERAL RECEPTACLES	1000	20/1	20.2	2
21						B	22	SPARE	0	20/1		
23						C	24	INTERIOR LIGHTING	1500	20/1	20.2	1
25						A	26					
27						B	28					
29						C	30					

PANELBOARD LOAD SUMMARY			
LOAD TYPES:	CONN. VA	FACTOR	DESIGN VA
1. LIGHTING	1500	1.25	1875
2. RECEPTACLES	6000	NEC 220-13	6000
3. MISCELLANEOUS	12000	1.00	12000
4. COOLING	7700	1.00	7700
5. HEATING	6000	0.00	0
6. KITCHEN EQUIPMENT	0	0.00	0
7. LARGEST MOTOR	5000	0.25	1250
TOTAL LOAD (VA)	38200		28825
TOTAL AMPERAGE	106.2		80.1

FEEDER & WIRE SIZE CHART			
REFERENCE TAG	FEEDER/WIRE SIZE	REFERENCE TAG	FEEDER/WIRE SIZE
15.2, 20.2	2#12, 1#12 G, 3/4" C	60.3	3#4, 1#10 G, 1" C
15.3, 20.3	3#12, 1#12 G, 3/4" C	60.4	3#4, 1#4 N, 1#10 G, 1-1/4" C
15.4, 20.4	3#12, 1#12 N, 1#12 G, 3/4" C	60.4i	3#4, 1#4 N, 1#10 IG, 1-1/4" C
15.4i, 20.4i	3#12, 1#12 N, 1#12 G, 1#12 IG, 3/4" C	60.4s	3#4, 1#4 N, 1-1/4" C
25.2, 30.2	2#10, 1#10 G, 3/4" C	125.3, 150.3	3#1/0, 1#6 G, 1-1/2" C
25.3, 30.3	3#10, 1#10 G, 3/4" C	125.4, 150.4	3#1/0, 1#1/0 N, 1#6 G, 2" C
25.4, 30.4	3#10, 1#10 N, 1#10 G, 3/4" C	125.4i, 150.4i	3#1/0, 1#1/0 N, 1#6 G, 1#6 IG, 2" C
25.4i, 30.4i	3#10, 1#10 N, 1#10 G, 1#10 IG, 3/4" C	125.4s, 150.4s	3#1/0, 1#1/0 N, 2" C
35.2, 40.2	2#8, 1#10 G, 3/4" C	200.3	3#3/0, 1#6 G, 2" C
35.3, 40.3	3#8, 1#10 G, 3/4" C	200.4	3#3/0, 1#3/0 N, 1#6 G, 2" C
35.4, 40.4	3#8, 1#8 N, 1#10 G, 3/4" C	200.4i	3#3/0, 1#3/0 N, 1#6 G, 1#6 IG, 2" C
35.4i, 40.4i	3#8, 1#8 N, 1#10 G, 1#10 IG, 1" C	200.4s	3#3/0, 1#3/0 N, 2" C

LUMINARY SCHEDULE			
MARK	DESCRIPTION	LITHONIA MODEL NUMBER	BULB(S)
A	2'x4' LED VOLUMETRIC TROFFER	2VTL2-40L-ADP-1P840	33.1W LED
C	CHANDELIER	- OWNER SPECIFIED -	150W, MAX
D	6" LED DOWNLIGHT	LDN6-40-25-L06-AR-LSS-120	28.3W LED
R	LED LINEAR ROPE	LUMINII LL48E-T-L0-30K	1.9W/FT LED
E	EMERGENCY FLOOD WITH 90 MIN. BATTERY BACK-UP.	ELM2-LED	LED
X	COMBINATION EXIT SIGN / EMERGENCY FLOOD WITH 90 MIN. BATTERY BACK-UP.	ECR-LED-M6	LED



ELECTRICAL RISER DIAGRAM
SCALE: NONE

DOCUMENT DATA

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0	Permit Set	2021.10.01
1		
2		
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4		
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ELECTRICAL PLAN

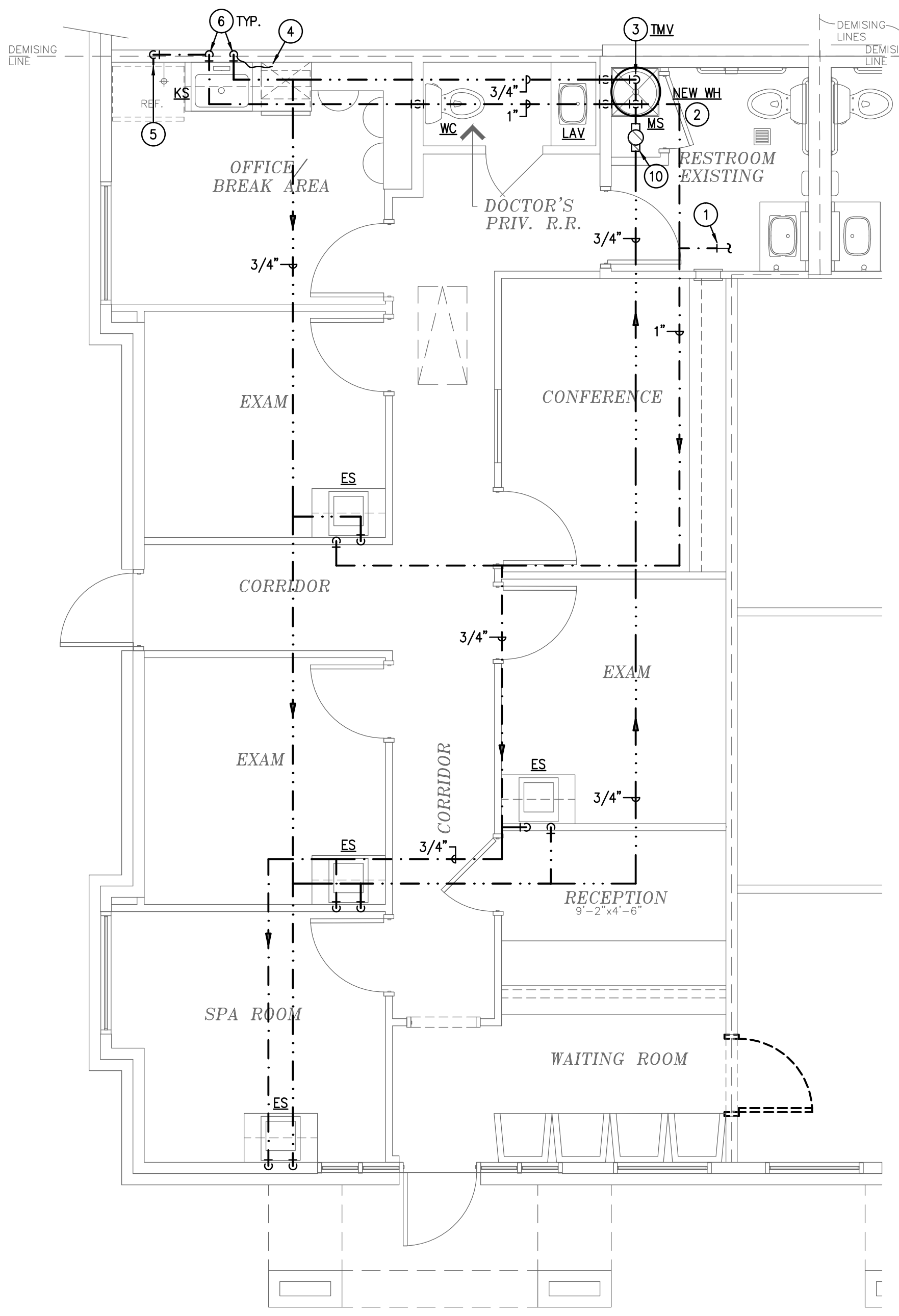
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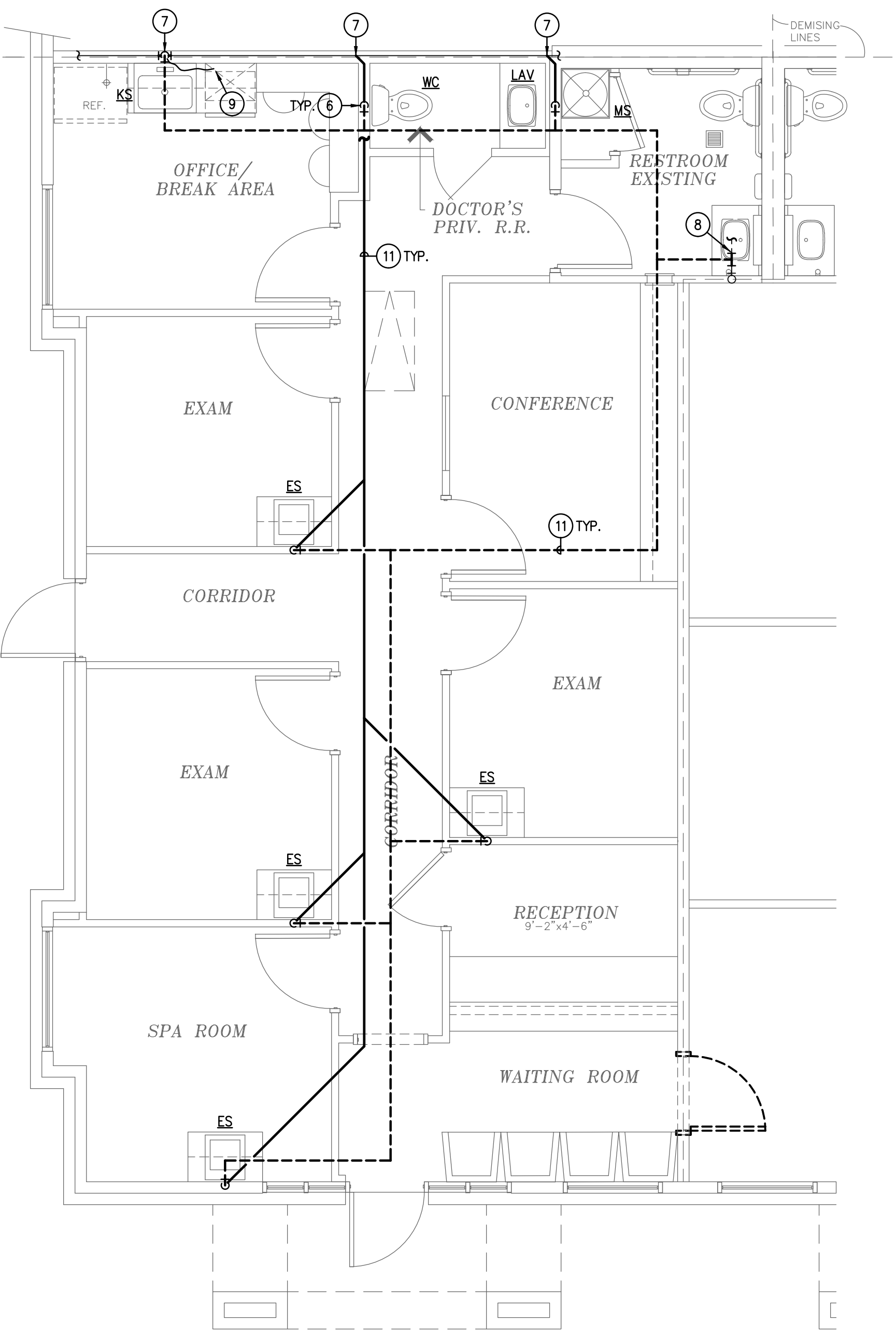
E-1

- NOTES BY SYMBOL "○":**
- CONNECT 1" DOMESTIC WATER TO STUB-OUT. FIELD VERIFY LOCATION.
 - WATER HEATER (WH) SHALL BE EQUAL TO A.O. SMITH MODEL ENL-50, 50 GAL, 4.5 KW HEAT, 208V/1PH, 30 MOC.P. INSTALL ABOVE CEILING. DISCHARGE T&P AND DRAIN AT TERMINAL OF EXISTING WATER HEATER. INSTALL PER MANUFACTURER RECOMMENDATIONS.
 - PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS MODEL "LFW170 CSUT" AT OUTLET OF WATER HEATER. SET MAX. TEMPERATURE TO 120°F. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 - EXTEND WATER LINE TO DISHWASHER PROVIDED BY MANUFACTURER.
 - EXTEND 1/2" CW TO RECESSED 1/4-TURN STOP VALVE.
 - REFER TO ROUGH-IN SCHEDULE FOR PIPING SIZES FOR EACH FIXTURE.
 - CONNECT TO EXISTING SANITARY SEWER. FIELD VERIFY EXACT SIZE, LOCATION, AND SLOPE.
 - CONNECT NEW 2" VENT TO EXISTING. FIELD VERIFY EXACT LOCATION.
 - INSTALL DRAIN HOSE FROM DISHWASHER PROVIDED BY MANUFACTURER.
 - CIRCULATING PUMP (CP) EQUAL TO TACO MODEL 2400-10-3P, 1/10 HP, 12 GPM @ 17 FT. HD, 120V/1P MOTOR.
 - ALL SANITARY SEWER SHALL BE 3", AND ALL VENT PIPING SHALL BE 2", UNLESS NOTED OTHERWISE.

FIXTURE	DESCRIPTION	CONNECTION SIZE (APPLIES TO ALL P-SHEETS)			
		W.	V.	C.W.	H.W.
WC	FLUSH-TANK WATER CLOSET	3"	2"	3/4"	-
LAV	COUNTER-TOP LAVATORY	2"	2"	1/2"	1/2"
KS	KITCHEN SINK	2"	2"	1/2"	1/2"
MS	MOP SINK	2"	2"	1/2"	1/2"
WH	WATER HEATER	3/4"	-	3/4"	3/4"

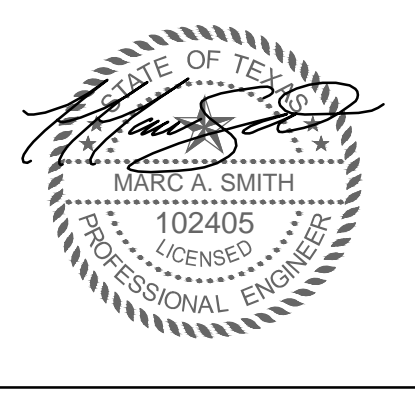


WATER DISTRIBUTION PLAN
SCALE: 1/4" = 1'-0"



SANITARY & VENT PLAN
SCALE: 1/4" = 1'-0"

CONTACT DATA
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Project No. 21000
This document is released for the purpose of Permit on
October 1, 2021
under the authority of
Mr. Engineer, Inc.
Texas Firm Registration No. 13221

PROJECT DATA

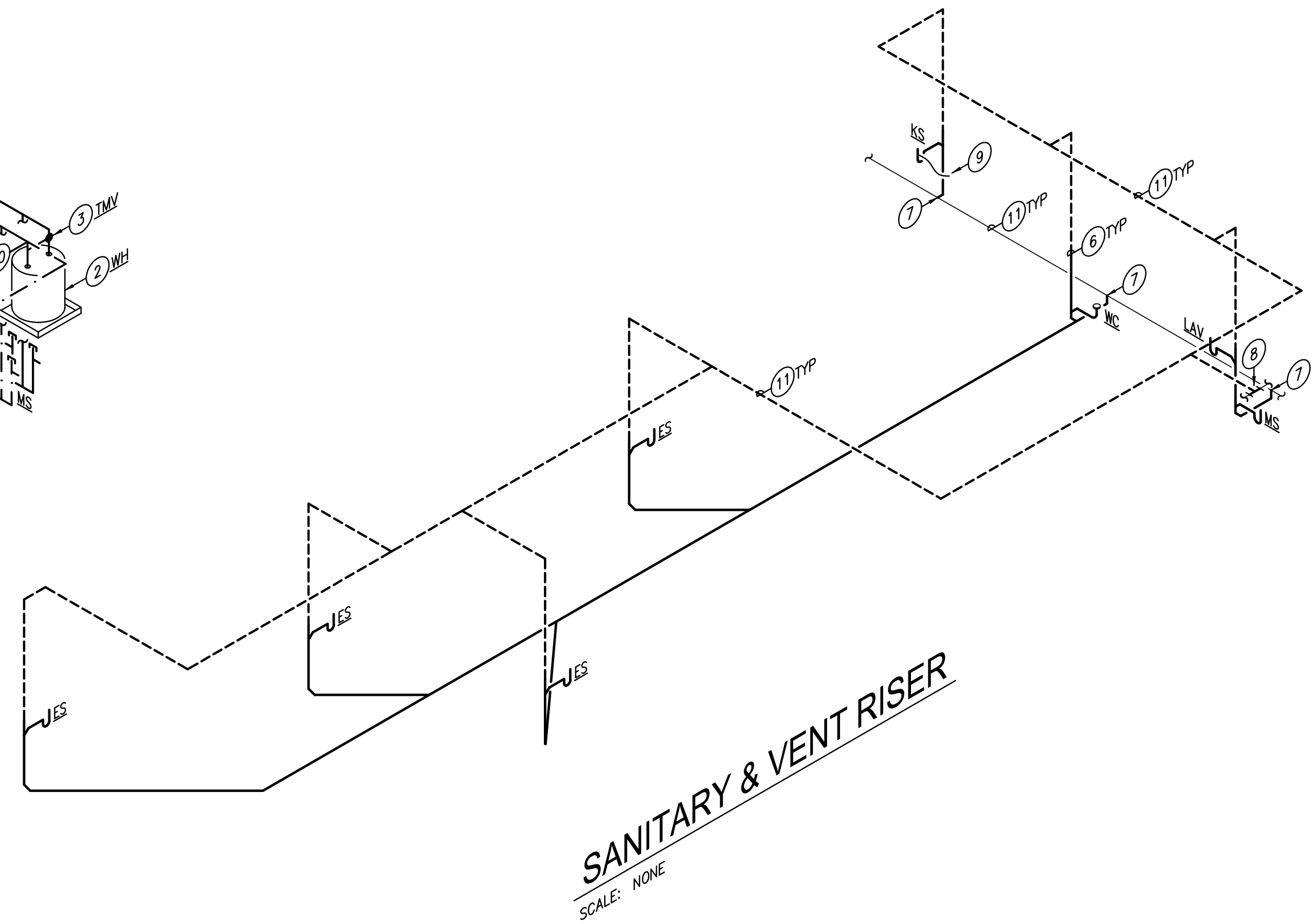
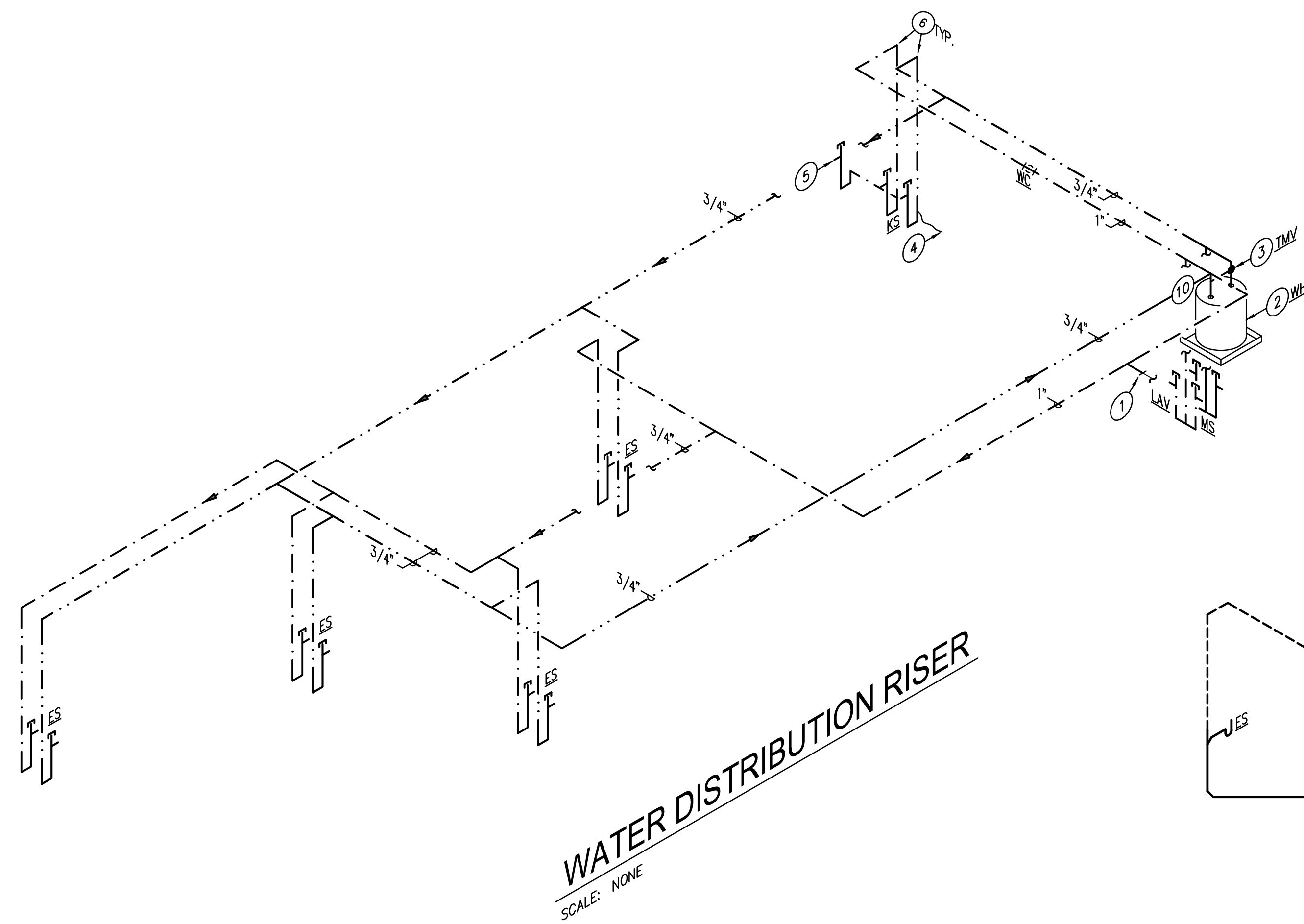
T&G Health LLC
Dr. Uma Chintapalli & Dr. Shopana Ganpath
25663 Smotherman Road, Suite 400
City of Little Elm, Denton County, Texas

DOCUMENT DATA

#	ISSUANCE	DATE
0	Permit Set	2021.10.01
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PLUMBING PLAN
SCALE: AS NOTED

SHEET NO.
P-1

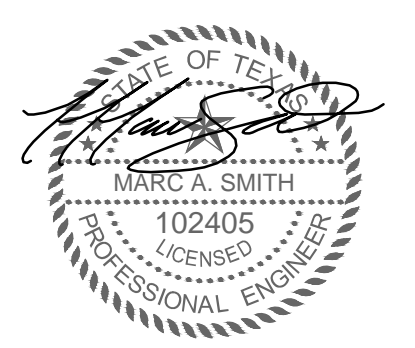


- GENERAL PLUMBING NOTES:** (APPLIES TO ALL P-SHEETS)
- ALL POTABLE WATER SYSTEMS SHALL USE LEAD-FREE PIPING, SOLDER, AND FLUX.
 - SUPPLY SYSTEMS SHALL USE DIELECTRIC ADAPTERS WHERE PIPES OF DISSIMILAR METALS ARE BEING CONNECTED.
 - THE POTABLE WATER SYSTEM SHALL BE PROPERLY DISINFECTED IN ACCORDANCE WITH FEDERAL SPECIFICATION BB-C-120. SUBSEQUENT TO THE DISINFECTION, CONTRACTOR SHALL SUBMIT WATER SAMPLES TO THE LOCAL HEALTH DEPARTMENT (LHD) FOR TESTING AND APPROVAL; LHD APPROVAL MUST BE ATTAINED BEFORE THE SYSTEM IS PUT INTO SERVICE.
 - ALL PIPING PENETRATING THE PLANE OF THE ROOF SHALL BE INSULATED WITH MINIMUM 1" THICK CONTINUOUS INSULATION FROM THE UNDERSIDE OF THE ROOF DECK, ALONG ALL LATERALS, TO 6" BELOW THE LAST ABOVE-CEILING VERTICAL ELBOW JOINT.
 - ALL VERTICAL PIPING PENETRATING THE ROOF SHALL BE BRACED HIGH AND LOW TO THE STRUCTURE TO PREVENT MOVEMENT, WHICH WOULD JEOPARDIZE THE INTEGRITY OF THE ROOF FLASHING.
 - ALL HORIZONTAL PIPING ON THE ROOF SHALL BE SUPPORTED IN METHODS, MANNERS AND AT SPACINGS APPROVED BY BOTH THE PIPE MANUFACTURER AND THE ROOF MANUFACTURER; SUPPORTS SHALL BE DESIGNED FOR UNBINDING SLIPPAGE OR WITH NON-CORRODING ROLLERS TO ALLOW FOR THERMAL MOVEMENT OF THE PIPING WITHOUT JEOPARDIZING THE ROOF SYSTEM.
 - THE BOTTOM ACCESS OF ALL GAS LEG DRIP PIPING SHALL BE MINIMUM 3" ABOVE ADJACENT HORIZONTAL SURFACE.
 - ALL DOMESTIC WATER, SANITARY, AND VENT PIPING SHALL BE SLEEVED THROUGH WALLS; SLEEVES SHALL BE SIZED TO ALLOW PASSAGE OF THE PIPE AND ITS FULL INSULATION THICKNESS PLUS ANULAR SPACE FOR INSTALLATION OF SAFING AND/OR SEALANT AS REQUIRED.
 - COORDINATE PROVISION FOR PROTECTING PIPING BENEATH HANDICAP LAVATORIES REQUIRED AND IDENTIFIED WITH TOILET ACCESSORIES.
 - NEATLY INSTALL WHITE MILDEW-RESISTANT SILICONE SEALANT BEAD AROUND THE PERIPHERY OF ALL PLUMBING FIXTURES IN CONTACT WITH WALLS AND/OR FLOORS.
 - ALL DIMENSION AND FIELD CONDITIONS SHALL BE CHECKED AND VERIFIED BY CONTRACTOR AT SITE, ALL NEW PIPING, EQUIPMENT, LOCATIONS, SIZES, SCALES, AND DIMENSION SHALL BE CHECKED AND VERIFIED AT SITE.
 - CONTRACTOR TO CHANGE LOCATION OF NEW PIPING, AS SHOWN, TO MEET FIELD CONDITIONS.
 - CONTRACTOR SHALL NOT SCALE DRAWINGS.
 - ANY PENETRATIONS OF THE CLG. WALLS OR FLOORS SHALL BE RESTORED TO THE ORIGINAL FIRE RATINGS, EXISTING CONDITIONS, SLEEVE, SEALED, AND ESCUTCHEON ED...
 - CONTRACTOR SHALL LAYOUT HIS WORK FROM ACTUAL FIELD MEASUREMENTS AND ACTUAL DIMENSIONS OF EQUIPMENT INSTALLED, ALL PIPING AND EQUIPMENT OF ALL TRADES SHALL BE PROPERLY COORDINATED AND SET TO MAINTAIN REQUIRED CLEARANCES. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL LOCATIONS SUBJECT TO APPROVAL OF ARCHITECT.
 - REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL WALLS, PARTITIONS, CEILING HEIGHTS, AND EQUIPMENT.
 - CONTRACTOR SHALL OBTAIN ALL DIMENSIONS AND STRUCTURAL AND ARCHITECTURAL DATA FROM THE ARCHITECTURAL DRAWINGS AND NOT FROM THE MECHANICAL DRAWINGS PRIOR TO BID SUBMITTED AND PERFORMING WORK TASK.
 - CONTRACTOR SHALL RUN LINES AS HIGH AS POSSIBLE.
 - REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF FLOOR DRAINS AND PLUMBING FIXTURES.
 - PRIOR TO BID SUBMITTAL THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ARCHITECTURAL DRAWINGS, CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS TO VERIFY FLOOR PLAN SCALE OF MECHANICAL DRAWINGS PRIOR TO ANY QUALITATIVE TAKE-OFF OF MATERIAL.
 - AVOID ROUTING ANY WATER-CARRYING PIPE WITHIN 42" OF ELECTRIC OR NETWORK ROOMS. IF PIPING IS ROUTED WITHIN 42", PROVIDE 'V' SHAPED, GALVANIZED, DRIP PANS WITH DRAIN LINES TO NEAREST INDIRECT WASTE UNDER ALL PIPING.

CONTACT DATA

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PROJECT DATA

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PLUMBING NOTES AND RISERS

SCALE: NONE

SHEET NO.

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