



ISSUE	
11-30-10	ISSUED FOR PERMIT
01-05-11	DBR REVIEW COMMENTS
01-14-11	ISSUED FOR CONSTRUCTION



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CONSULTANTS  
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MEP Engineers

PROJECT NAME

**GUADALUPANA RESTAURANT**



PROJECT ADDRESS

20 WATERWAY  
THE WOODLANDS, TEXAS

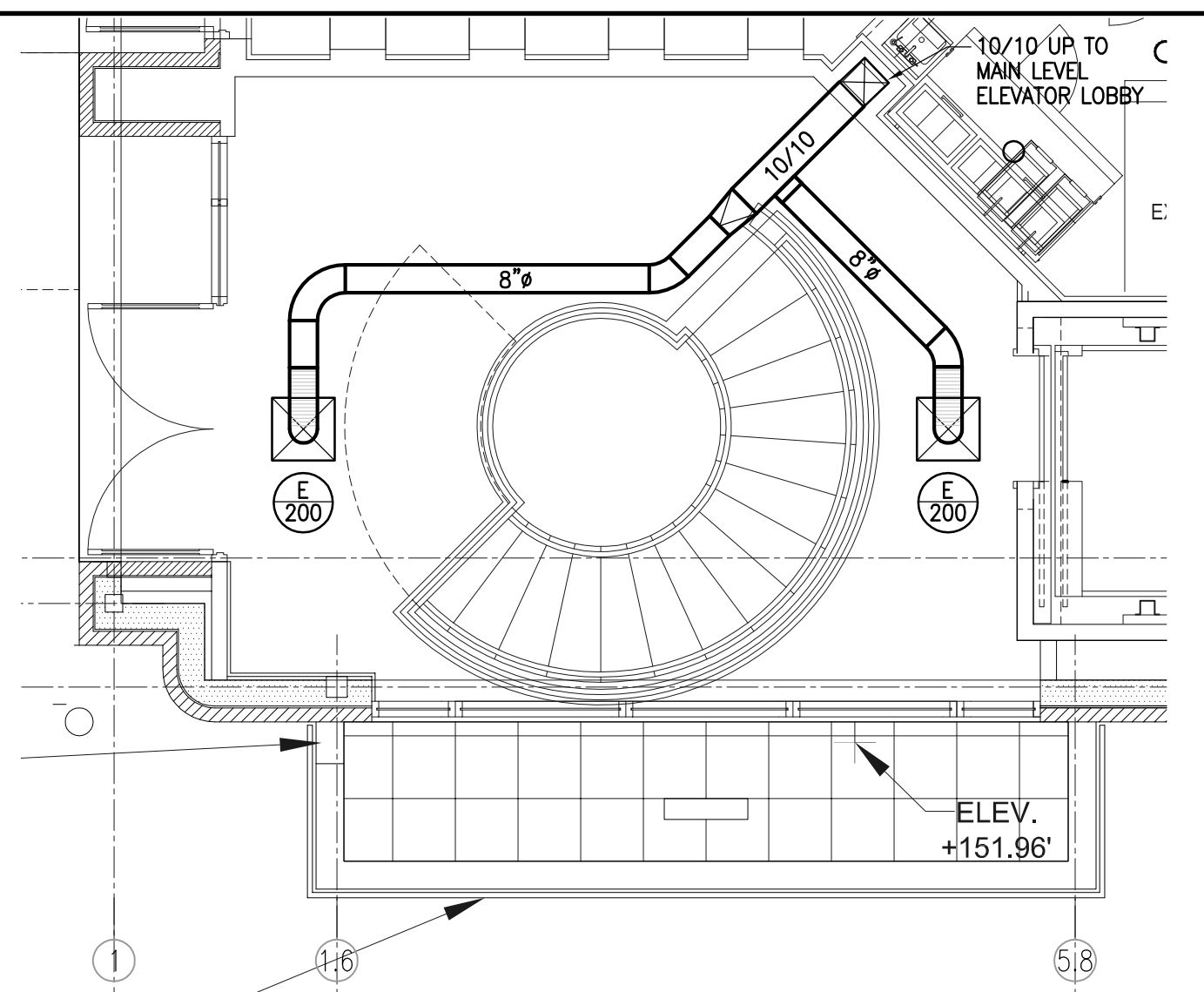
PROJECT NUMBER

SHEET NAME

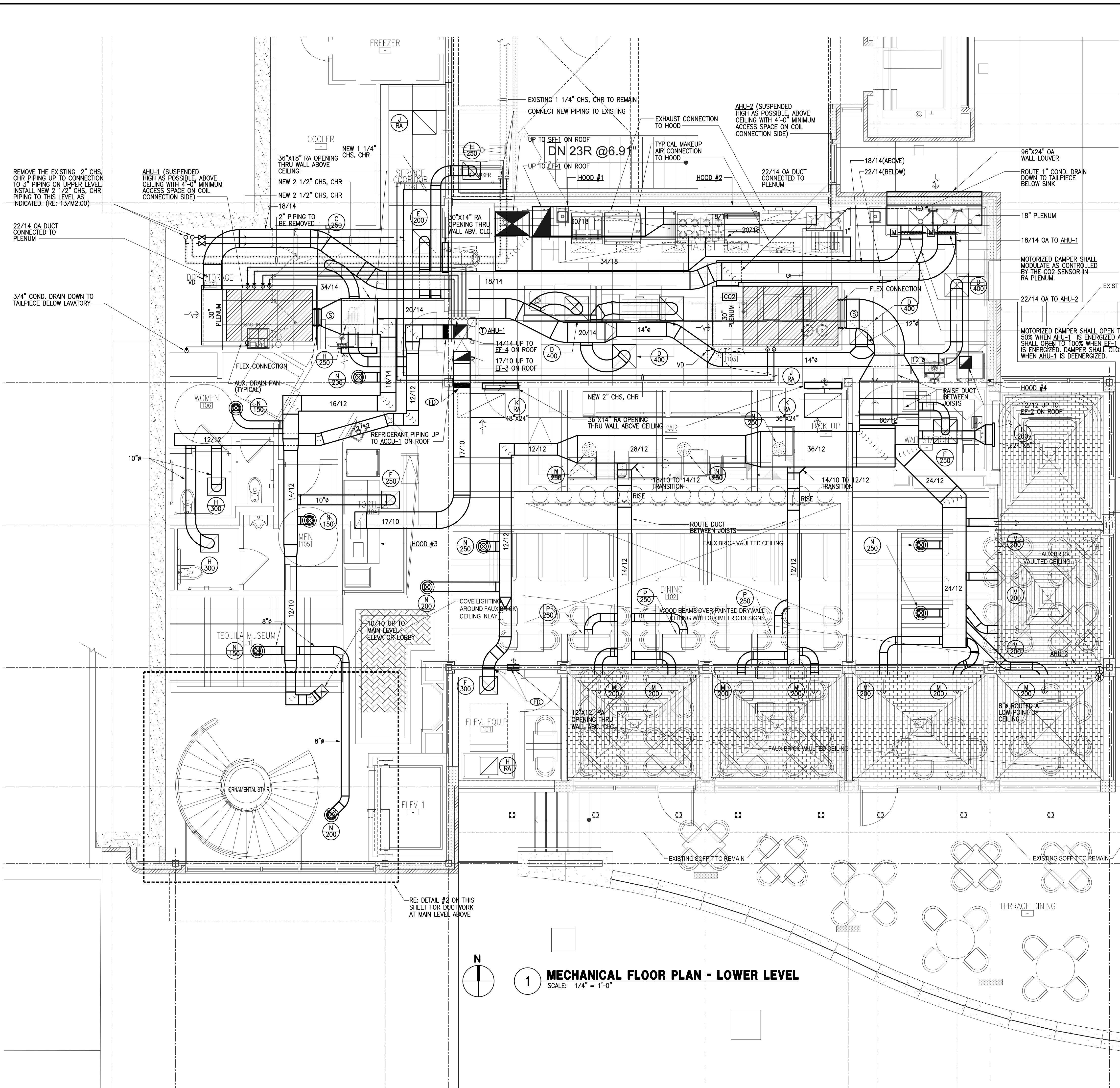
**MECHANICAL FLOOR PLAN**

SHEET NUMBER

**M1.00**



**2 MECHANICAL FLOOR PLAN - MAIN LEVEL**  
SCALE: 1/4" = 1'-0"



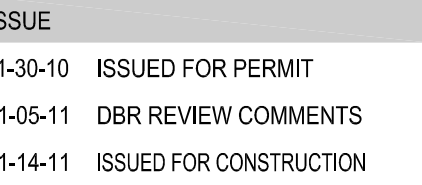
**1 MECHANICAL FLOOR PLAN - LOWER LEVEL**  
SCALE: 1/4" = 1'-0"

**KEY PLAN**



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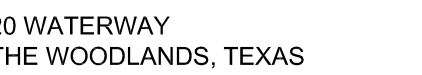




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RESTAURANT



## MECHANICAL ROOF PLAN

SHEET NUMBER



1

# MECHANICAL ROOF PLAN

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

## M1.01

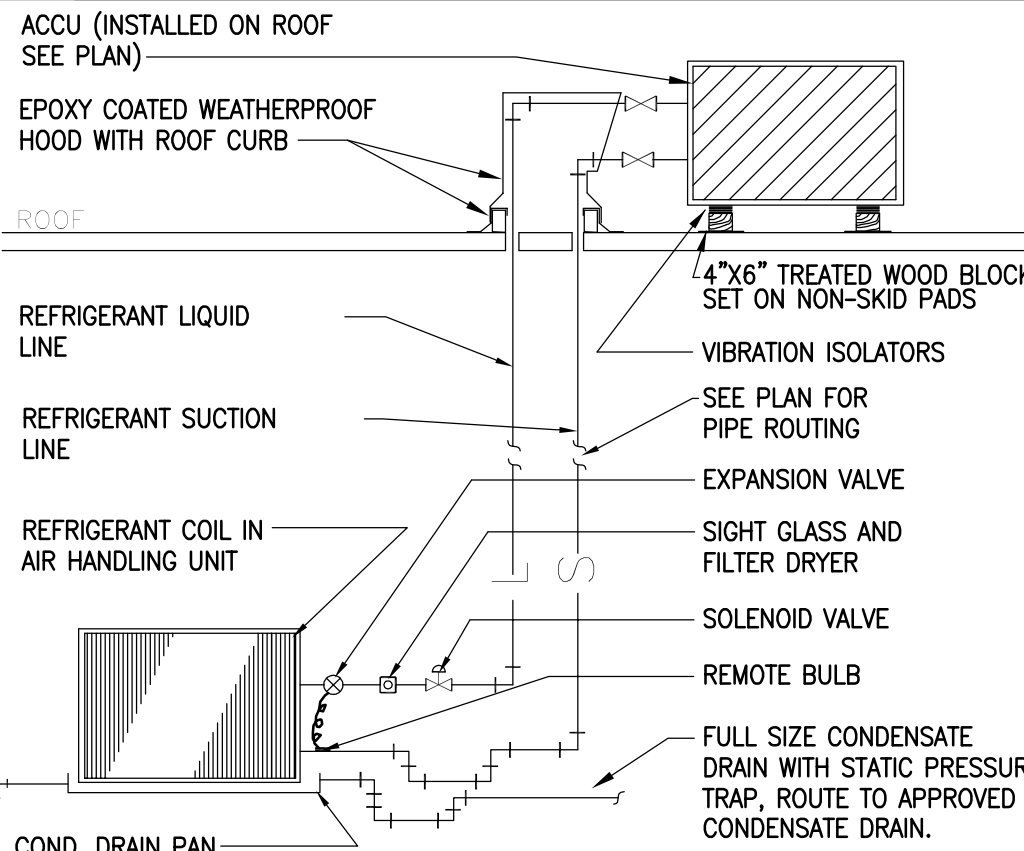


MECHANICAL GENERAL NOTES

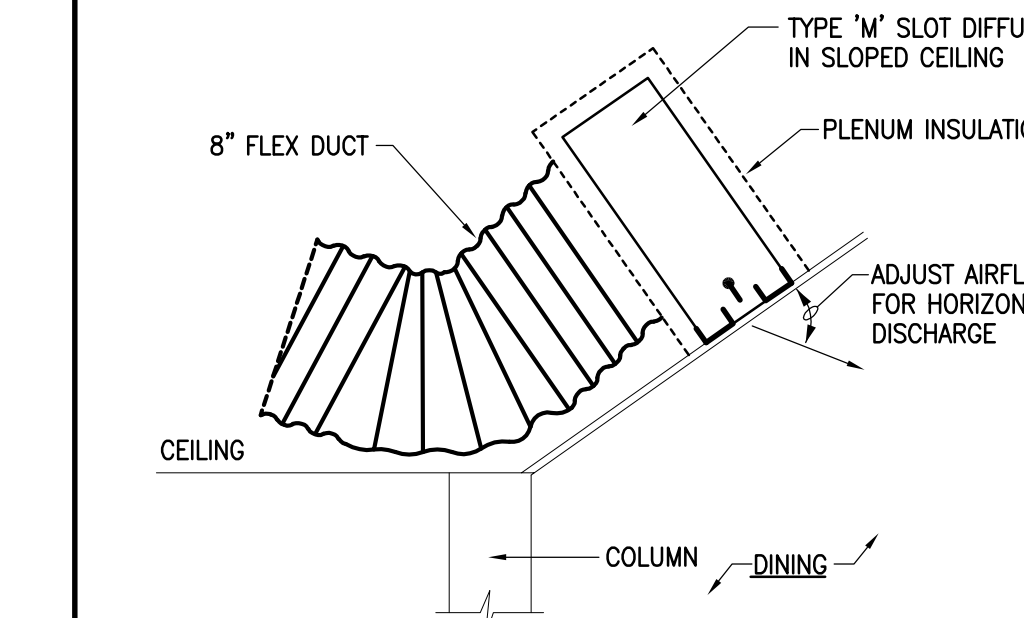
1. CODES, RULES AND REGULATIONS - DESIGN OF SYSTEM
- A) ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES AND CODES. CODES.
- B) WHEN THE DRAWINGS CALL FOR MATERIALS OR CONSTRUCTION OF A BETTER QUALITY OR LARGER SIZES THAN REQUIRED BY THE ABOVE MENTIONED CODES AND RULES, WORK SHALL BE AS SPECIFIED OR SHOWN RATHER THAN AS REQUIRED BY CODE. ALL ITEMS OR FEATURES OF THE MECHANICAL SYSTEMS REQUIRED BY CODE SHALL BE INCLUDED, EVEN THOUGH NOT SPECIFIED HEREIN.
- C) INSTALLATION OF THE SYSTEMS SHALL BE IN ACCORDANCE WITH THE ABOVE MENTIONED CODES AND REGULATIONS AND ALSO SHALL CONFORM TO GOOD, ACCEPTED MECHANICAL PRACTICES.
2. PROVIDE AND INSTALL VOLUME DAMPERS IN ALL BRANCH DUCTS.
3. FLEXIBLE CONNECTIONS AT SUPPLY AND RETURN AIR OPENINGS OF ALL AIR CONDITIONING UNITS.
4. FLEXIBLE DUCTS TO BE GLASS-FLEX 8"-0", MAXIMUM IN LENGTH, WHERE APPLICABLE.
5. COORDINATE EXACT LOCATION OF ALL AIR OUTLETS AND INLETS (DIFFUSERS, REGISTERS AND GRILLES) WITH APPROPRIATE ARCHITECTURAL PLAN, AND VERIFY THEIR LOCATION WITH ARCHITECT ON THE JOB SITE BEFORE INSTALLATION. COLOR AS DIRECTED BY OWNER.
6. AUTOMATIC TEMPERATURE CONTROL DEVICE FOR REGULATION OF SPACE TEMPERATURE SHALL BE CAPABLE OF BEING SET FROM 55 TO 85°F, AND HAVE THE ABILITY TO OPERATE THE HEATING AND COOLING IN SEQUENCE. CONTROL SHALL BE ADJUSTABLE TO PROVIDE A RANGE OF UP TO 5°F BETWEEN FULL HEATING AND FULL COOLING AND HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70°F, AND COOLING AT A TEMPERATURE NOT LESS THAN 78°F.
7. APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE FASTENED IN PLACE.
8. A MAINTENANCE LABEL SHALL BE AFFIXED TO MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNERS USE.
9. PROVIDE ACCESS PANEL FOR ALL CEILING MOUNTED EQUIPMENT & VOLUME DAMPERS.
10. PROVIDE MIN. 10'-0" SEPARATION BETWEEN POINT OF EXHAUST AND ANY FRESH AIR INTAKE, OR A/C UNIT OSA INTAKE.
11. PROVIDE FIRE DAMPER OR SMOKE/FIRE DAMPER WHERE DUCT PENETRATES FIRE RATED CEILING OR WALL IF APPLICABLE.
12. TRANSVERSE JOINTS FOR ALL AIR SUPPLY DUCTS INSTALLED WHERE AIR LEAKAGE WOULD BE NON-BENEFICIAL TO THE OCCUPIED AREA, TEMPERATURE REQUIREMENTS SHALL BE SEALED WITH APPROVED MASTIC OR TAPE.
13. ALL DUCT SIZES SHOWN ON THE FLOOR PLANS ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR SHALL ENLARGE DUCT SIZE IN ORDER TO ACCOMMODATE LINING INSIDE OF DUCT IF REQUIRED.
14. THE MECHANICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND FEES.
15. THE PROJECT SHALL BE AIR BALANCED AND A COPY OF THE FINAL REPORT SHALL BE PRESENTED TO THE TENANT AND OWNER.
16. ENERGY CONSERVATION STANDARDS FOR NEW NONRESIDENTIAL BUILDINGS HAVE BEEN REVIEWED AND DESIGN SUBSTANTIALLY CONFORMS TO THEM.
17. EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2,000 CFM SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT-OFF. THE SMOKE DETECTOR SHALL BE INSTALLED IN THE MAIN SUPPLY AIR DUCT DOWNSTREAM OF THE FILTERS OR THEY MAY BE INSTALLED IN EACH ROOM OR SPACE SERVED BY THE SUPPLY AIR DUCT. DETECTORS SHALL ALSO BE INSTALLED IN THE MAIN RETURN DUCT (IF REQ'D. BY THE LOCAL CODE) AHEAD OF OSA INTAKE. SEE CODE FOR EXEMPTIONS AND LOCAL AUTHORITY FOR CODE INTERPRETATION, OR AS INDICATED ON PLAN.
18. ALL EQUIPMENT AND APPLIANCES ARE LISTED PRODUCTS, AND WILL BE INSTALLED ACCORDING TO THEIR LISTING, AND ALL LISTING INFORMATION WILL BE AVAILABLE FOR INSPECTION.
19. DUCTWORK CONSTRUCTION DETAILS:
- A) MATERIAL: GAL. SHEET METAL GAGE 26 FOR UP TO 14" & GAGE 24 FOR UP TO 23" Ø DUCT.
- B) SUPPORT: UP TO 10" Ø DUCT SAME GAGE AS GAL. STEEL DUCT, 1" WIDE OR (NO. 18 GAGE GAL. STEEL WIRE) ON 10 FT. CENTERS, AND UP TO 40" SAME GAGE AS GAL. STEEL DUCT, 1" WIDE OR (NO. 8 GAGE GAL. STEEL WIRE) TIED TO 1" GAL. STEEL BAND AROUND DUCT ON 10 FT. CENTERS.
- C) HANGER: UP TO 36" Ø DUCT 1/4" ROUND ROD OR 1" x 1" x 1/8" ANGLE.
20. REFER TO DETAILS OR GUIDELINES FOR MECHANICAL CONSTRUCTION REQUIREMENTS. INSTALL IN FULL ACCORDANCE WITH PROPER CODES AND GUIDELINES.
21. COORDINATE IN THE FIELD THE EXACT LOCATION OF ALL CEILING MOUNTED GRILLES AND DIFFUSERS WITH LIGHT FIXTURES AND (ARCHITECTUAL) REFLECTED CEILING PLAN.
22. ALL EXTERIOR BRACKETS, CLAMPS, AND HANGERS SHALL BE HOT DIPPED GALVANIZED. COAT ALL CUT ENDS AND WELDS WITH "ZRC" COLD GALVANIZING COMPOUND.
23. SHOP PRIME ALL MISCELLANEOUS INTERIOR BRACKETS AND HANGERS UNLESS GALVANIZED OR STAINLESS STEEL.

CHILLED WATER SYSTEM GENERAL NOTES

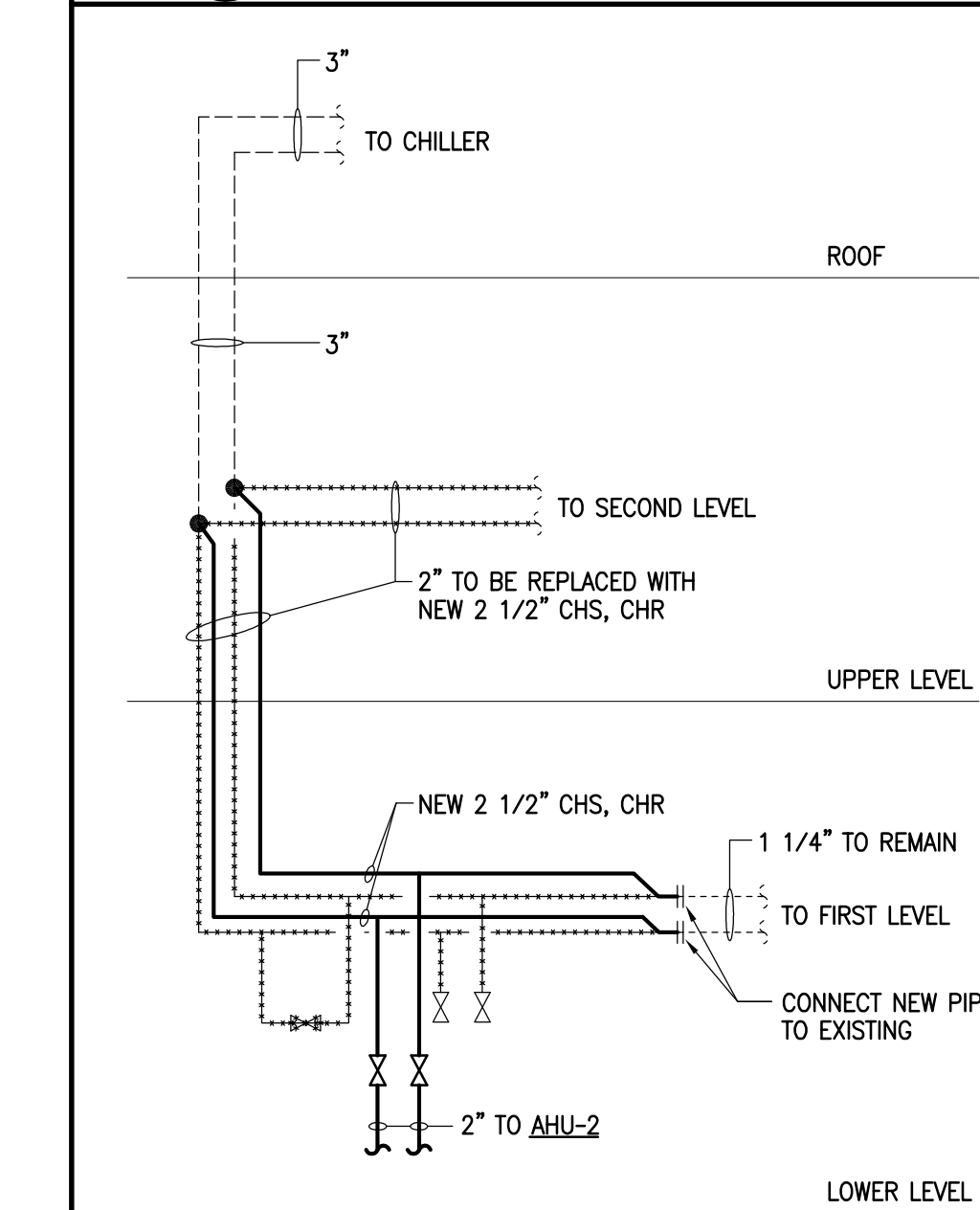
1. ALL MATERIALS SHALL COMPLY WITH EXISTING CENTER STANDARDS.
2. ALL CHILLED WATER PIPING SHALL BE BLACK SCHEDULE 40 STEEL PIPE CONFORMING TO ASTM A53 OR A120 WITH ANSI/ASTM B16.3 MALLEABLE IRON FITTINGS AND SCREWED JOINTS.
3. MODULATING CHILLED WATER CONTROL VALVES SHALL BE OF SAME MANUFACTURER AS EXISTING AT CENTER.
4. ALL VALVES SHALL BE OF SAME MANUFACTURER AS EXISTING IN CENTER. ALL VALVES IN INSULATED LINES SHALL HAVE EXTENDED STEMS BEYOND INSULATION.
5. CHILLED WATER PIPING SHALL BE INSULATED WITH INSULATION HAVING A CONDUCTIVITY (k) NOT EXCEEDING 0.27 BTU PER IN/H-SF-F WITH JACKET WITH VAPOR BARRIER. THICKNESS SHALL BE 1" FOR PIPE SIZES LESS THAN 1-1/2" AND 1-1/2" FOR PIPE SIZES 1-1/2" THROUGH 4".



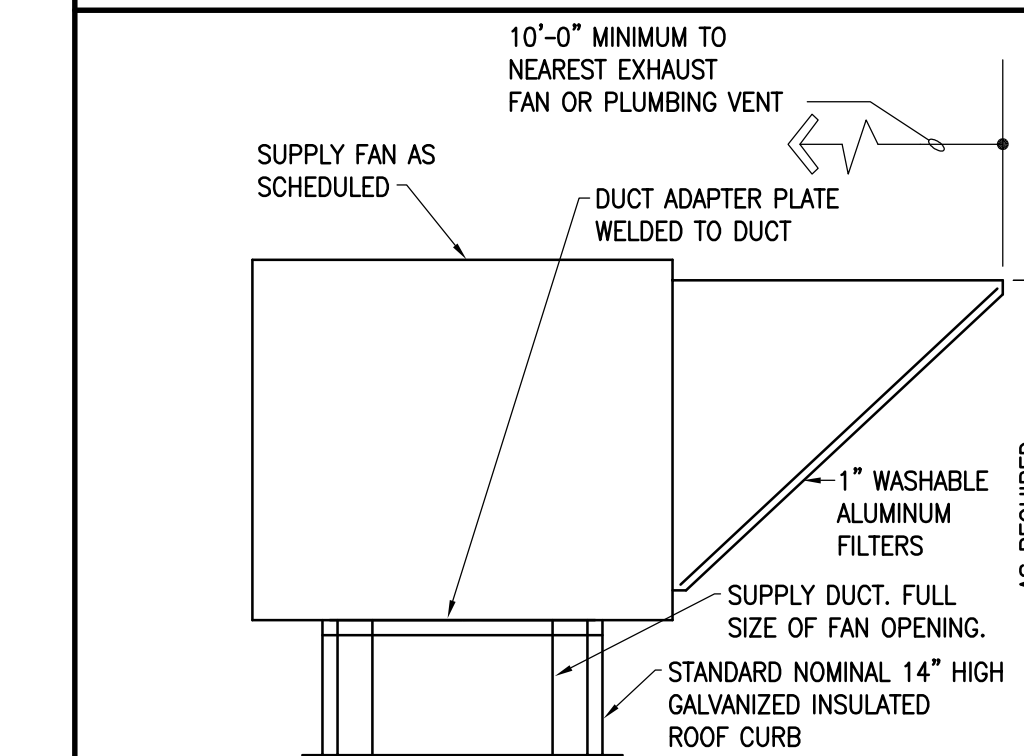
15 REFRIGERANT PIPING DETAIL  
SCALE: NO SCALE



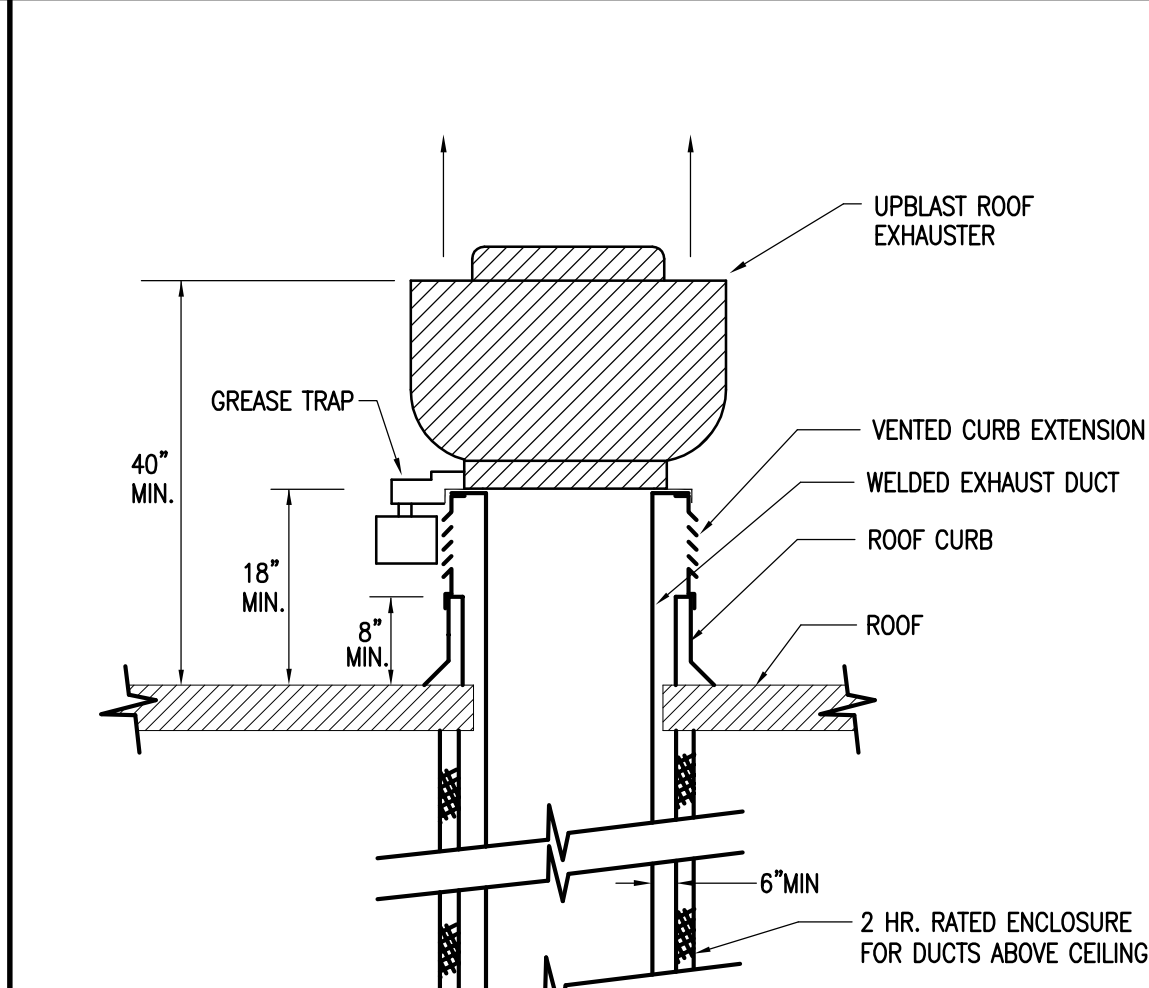
14 SLOT DIFFUSER DETAIL  
SCALE: NO SCALE



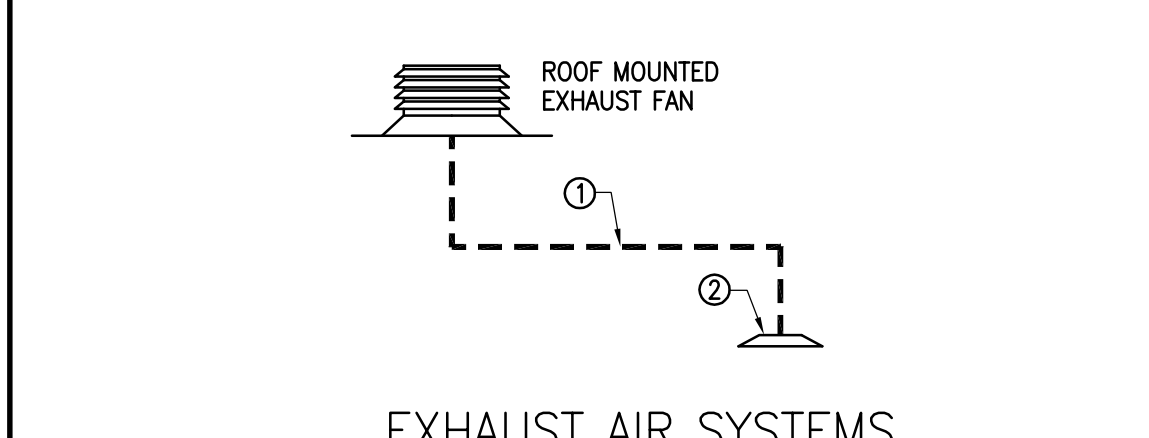
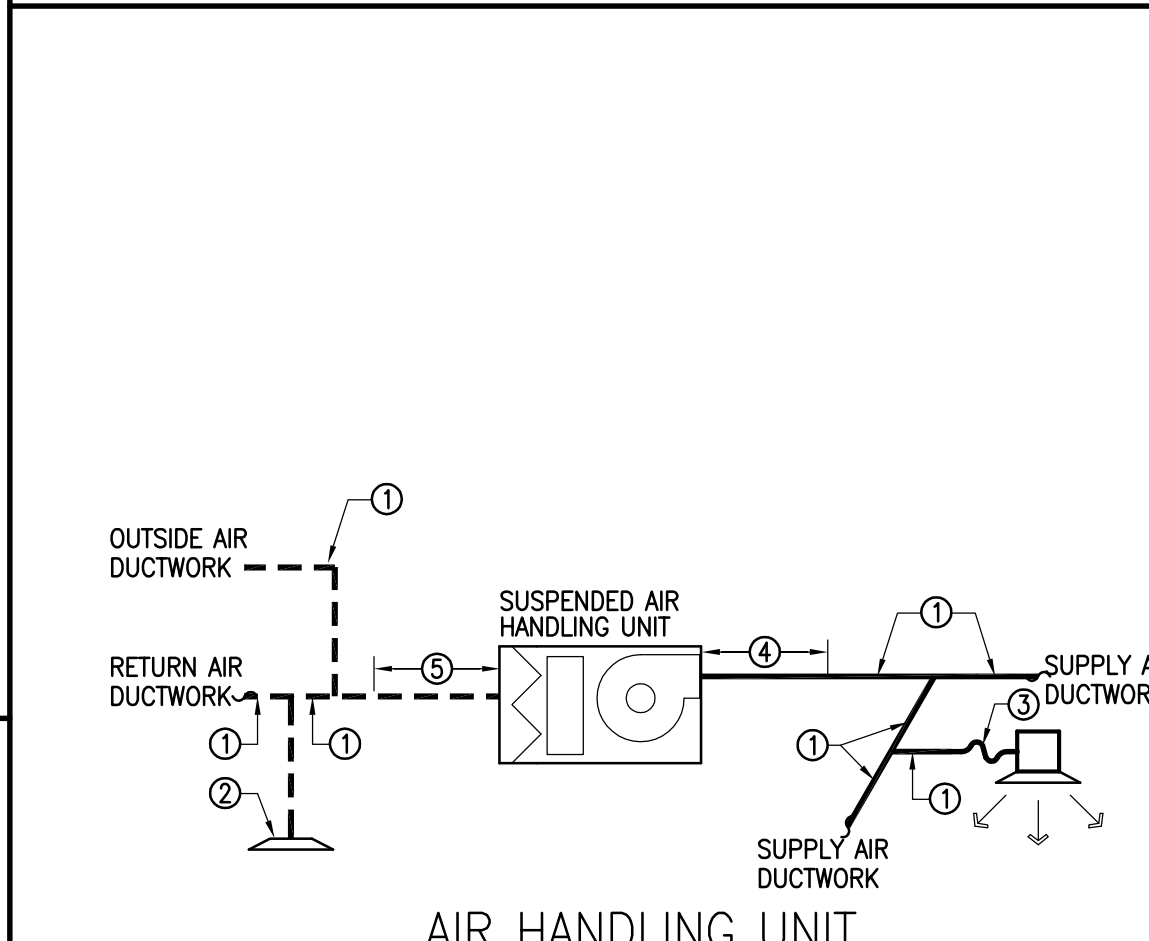
13 CHILLED WATER PIPING DIAGRAM  
SCALE: NO SCALE



12 ROOFTOP KITCHEN HOOD SUPPLY FAN  
SCALE: NONE

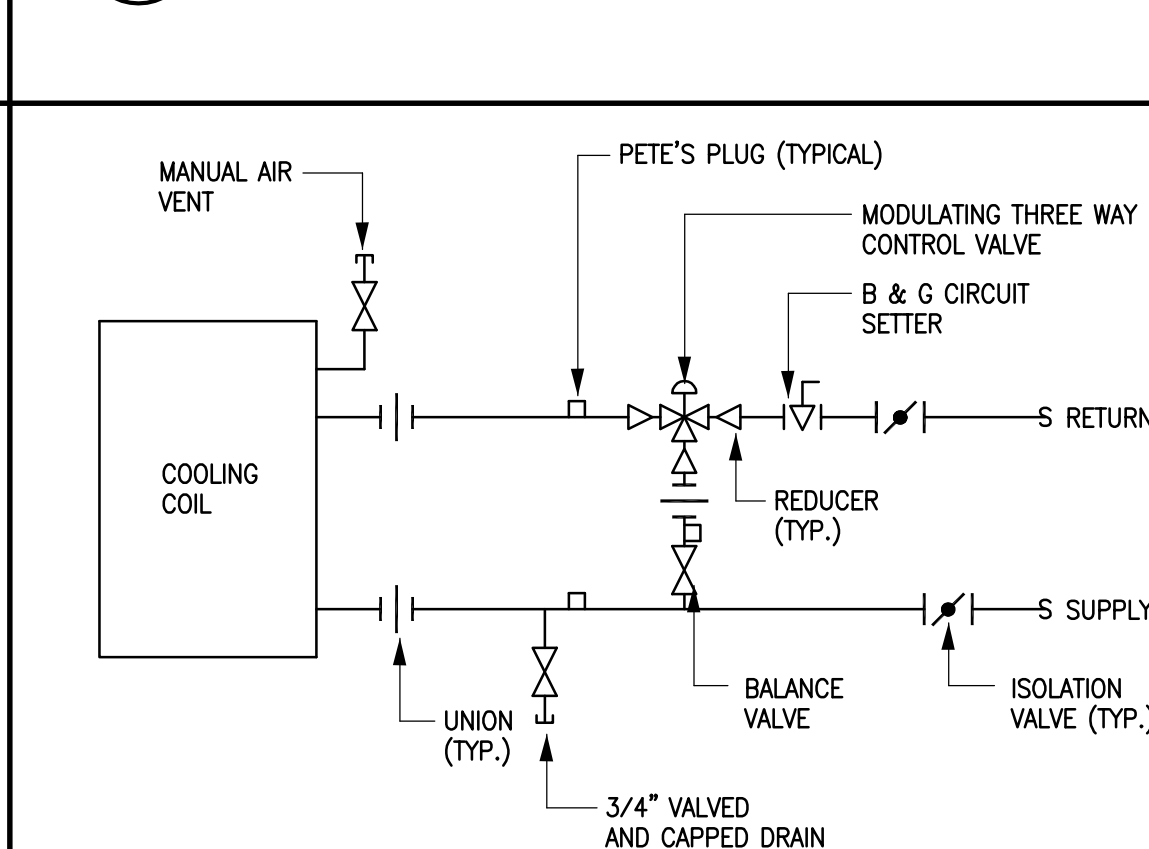


11 ROOFTOP KITCHEN HOOD EXHAUST FAN  
SCALE: NO SCALE

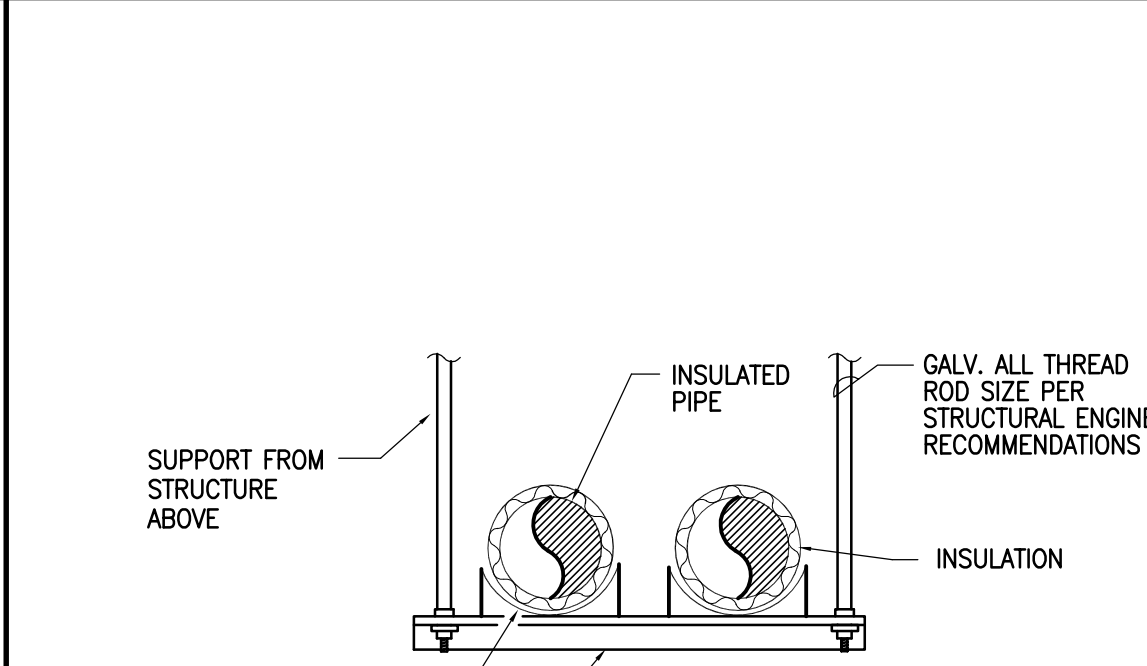


- NOTES
- ① SHEETMETAL DUCTWORK WITH EXTERNAL DUCTWORK INSULATION (MIN. R-6) AS SPECIFIED.
- ② EXTERNAL INSULATION (MIN. R-6) ON BACK PAN OF AIR DEVICE.
- ③ PREINSULATED FLEXIBLE DUCTWORK WITH R-6 INSULATION AS SPECIFIED.
- ④ SHEETMETAL DUCTWORK WITH EXTERNAL DUCTWORK INSULATION (MIN. R-6) AS SPECIFIED AND 1" THICK 1-1/2 LB LINER FROM AIR HANDLING UNIT DISCHARGE TO 10'-0" DOWNSTREAM.
- ⑤ SHEETMETAL DUCTWORK WITH EXTERNAL DUCTWORK INSULATION (MIN. R-6) AS SPECIFIED AND 1" THICK 1-1/2 LB LINER 10'-0" UPSTREAM OF ROOF TOP UNIT TO RETURN AIR INLET.

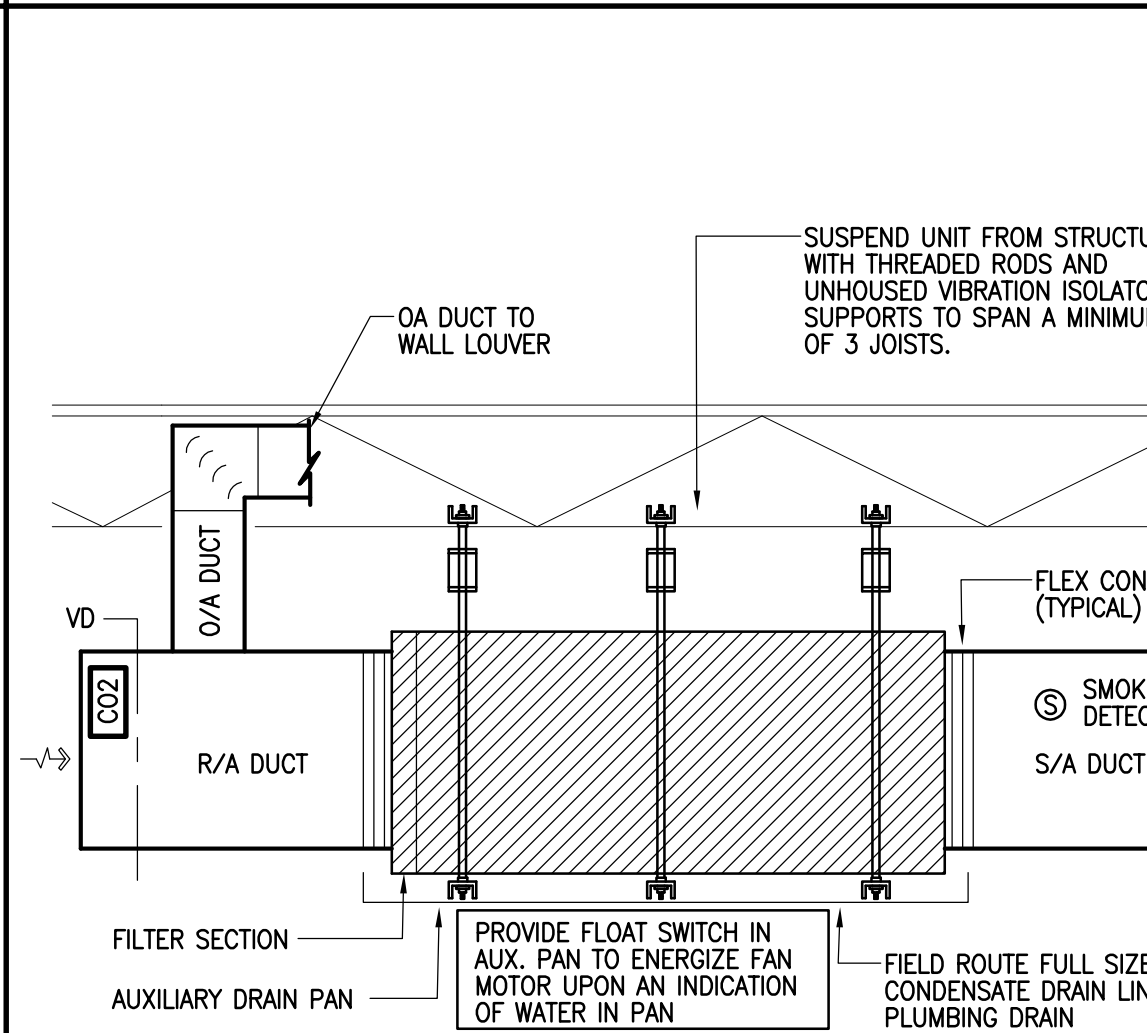
10 DUCT LINER & INSULATION DETAIL  
SCALE: NO SCALE



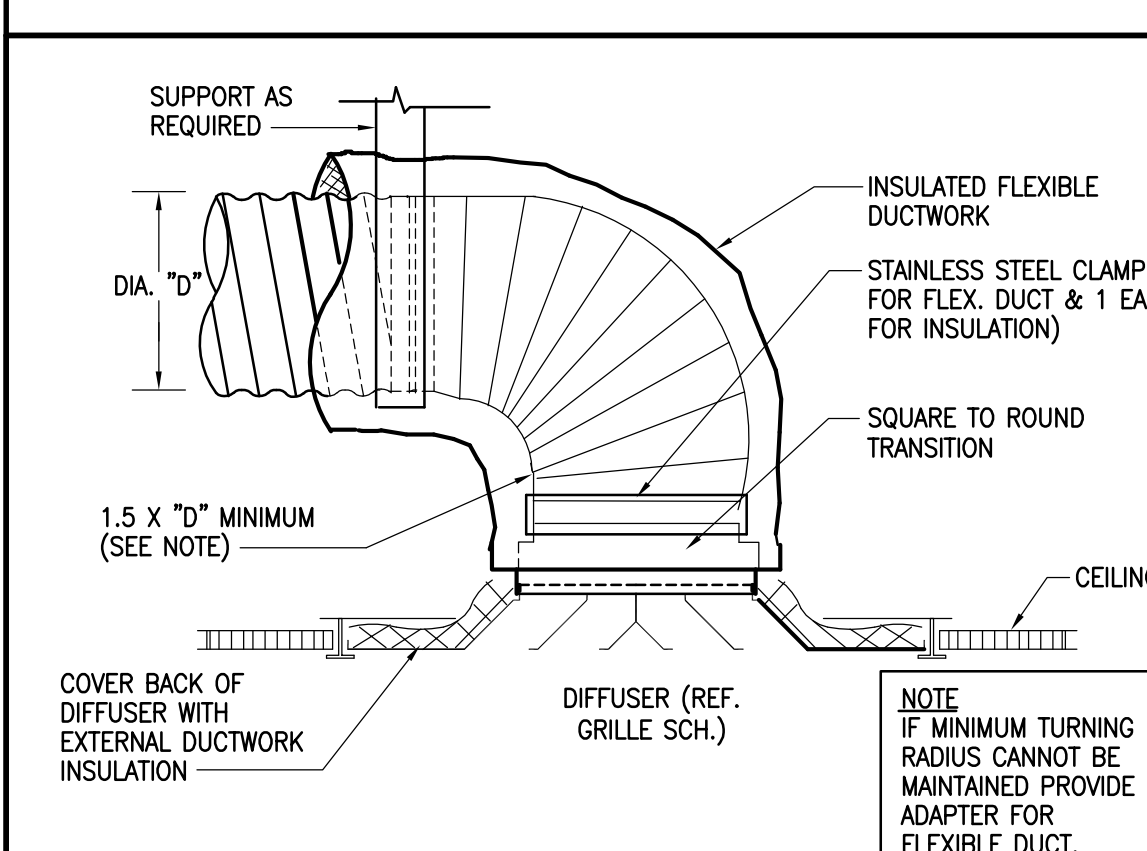
9 CHILLED WATER COOLING COIL DETAIL  
SCALE: NONE



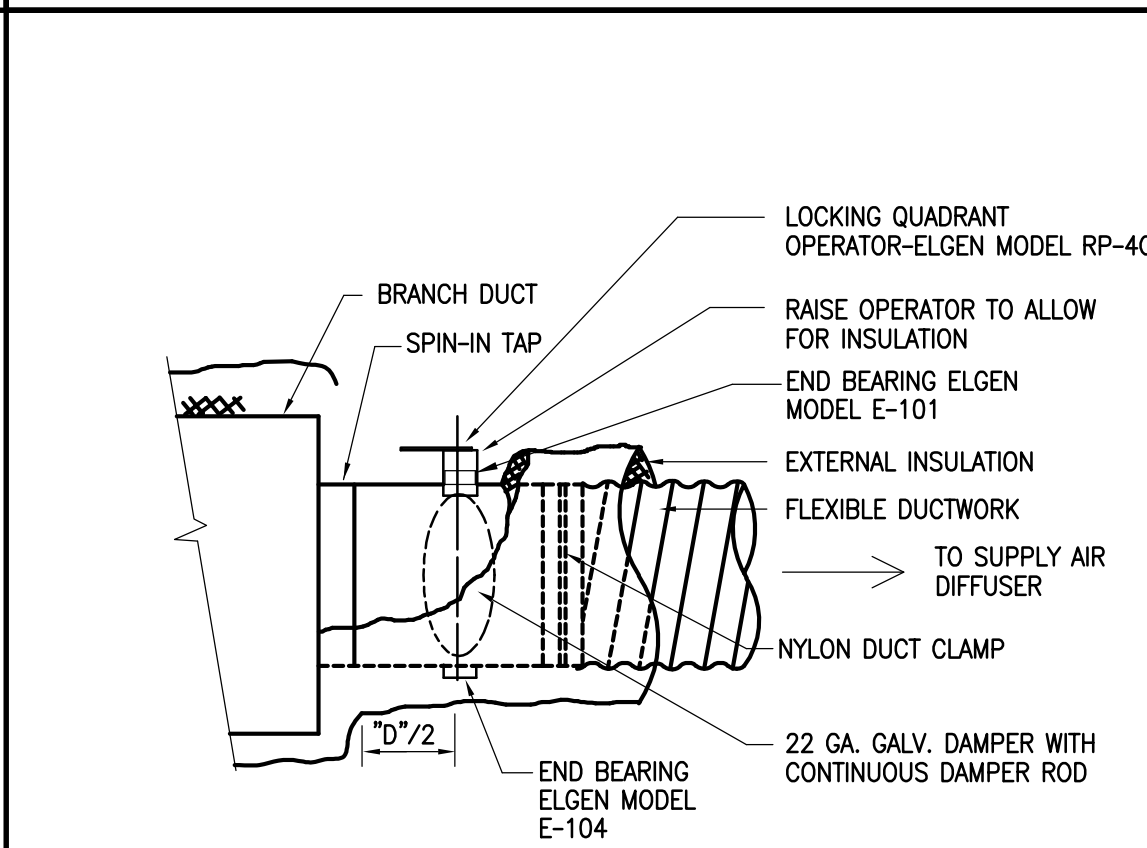
8 PIPE HANGER DETAIL  
SCALE: NONE



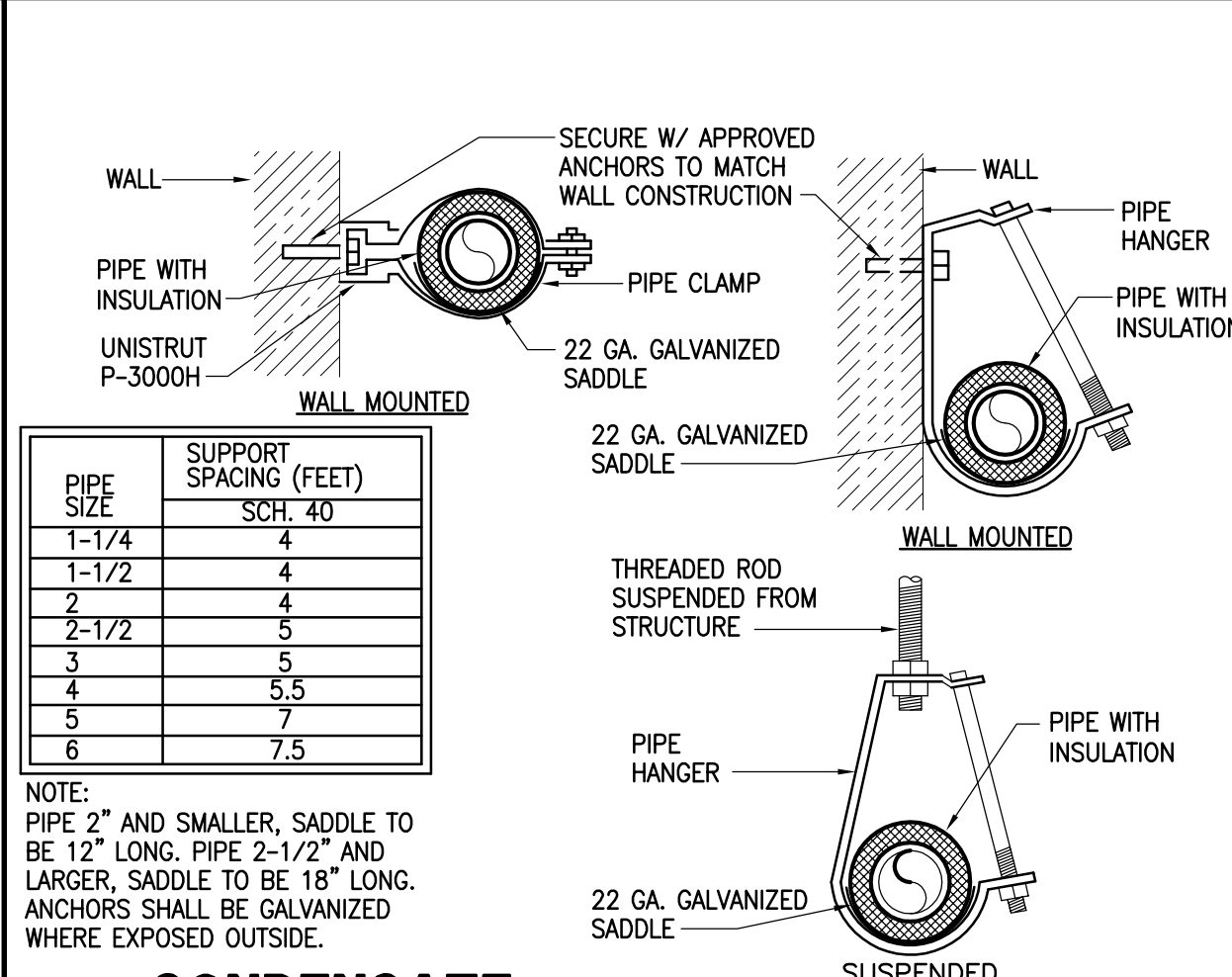
7 AIR HANDLING UNIT DETAIL  
SCALE: NONE



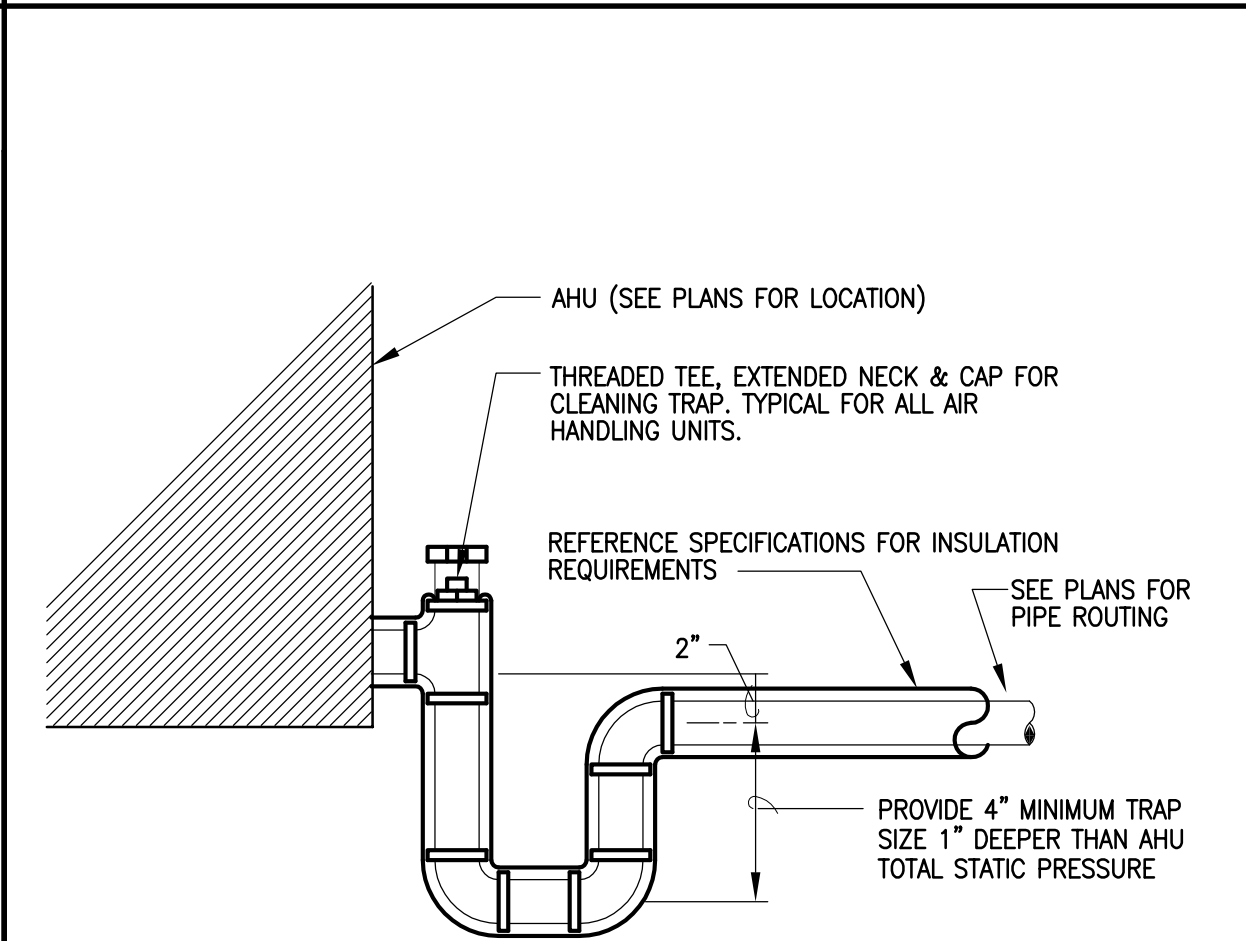
6 FLEX DUCT CONNECTION AT SUPPLY AIR DIFFUSER  
SCALE: NONE



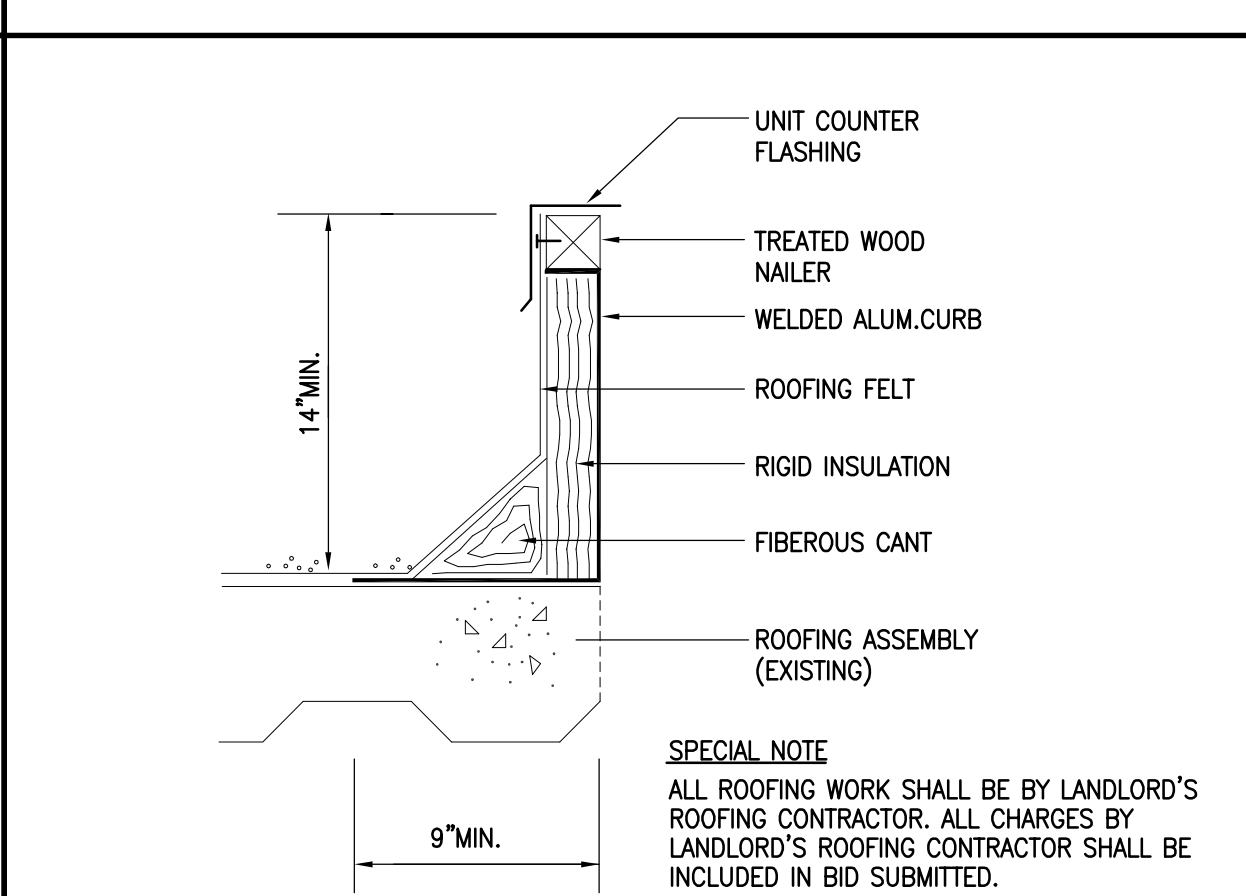
5 FLEXIBLE DUCT TAP  
SCALE: NONE



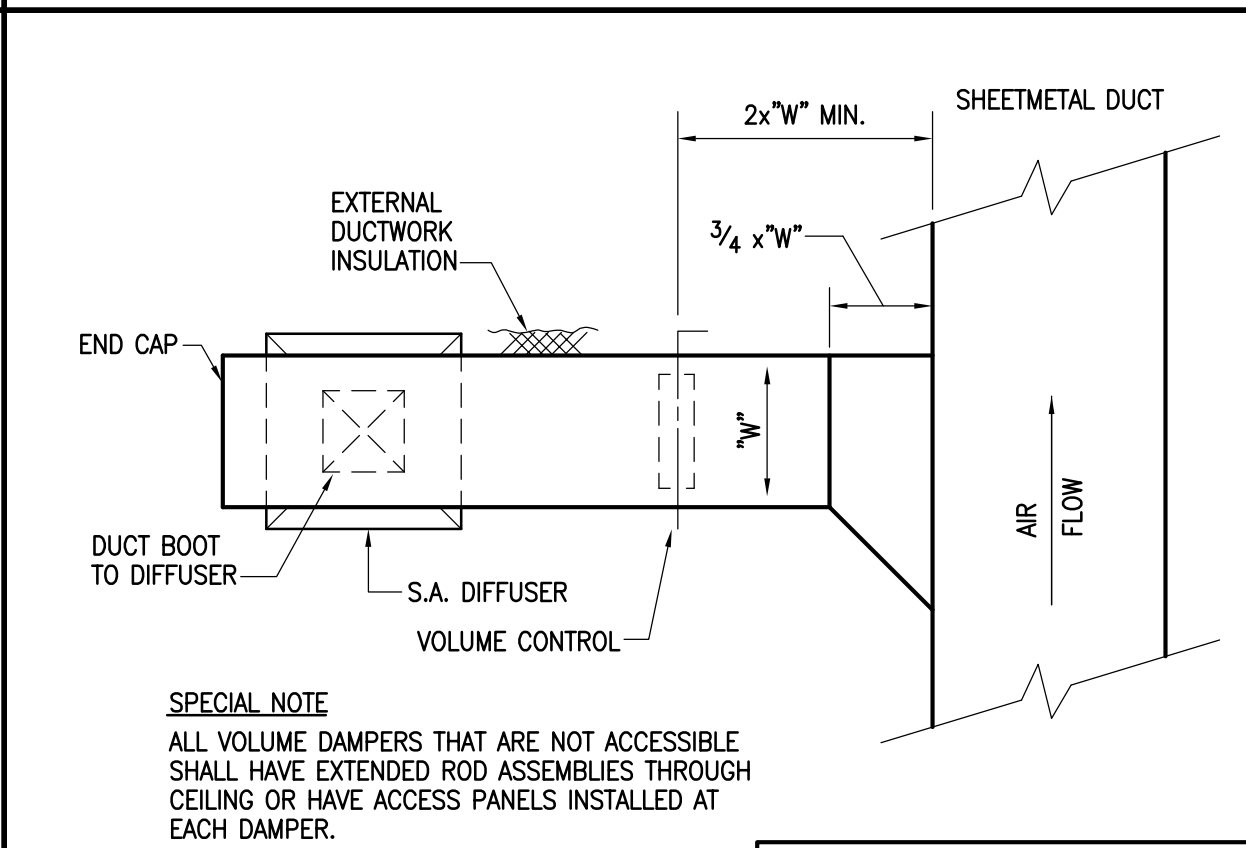
4 CONDENSATE DRAIN SUPPORT & INSULATION  
SCALE: NONE



3 CONDENSATE DRAIN PIPING AT AHU  
SCALE: NONE



2 ROOF CURB  
SCALE: NONE



1 RIGID DUCT TAP TO SUPPLY AIR DIFFUSER  
SCALE: NONE



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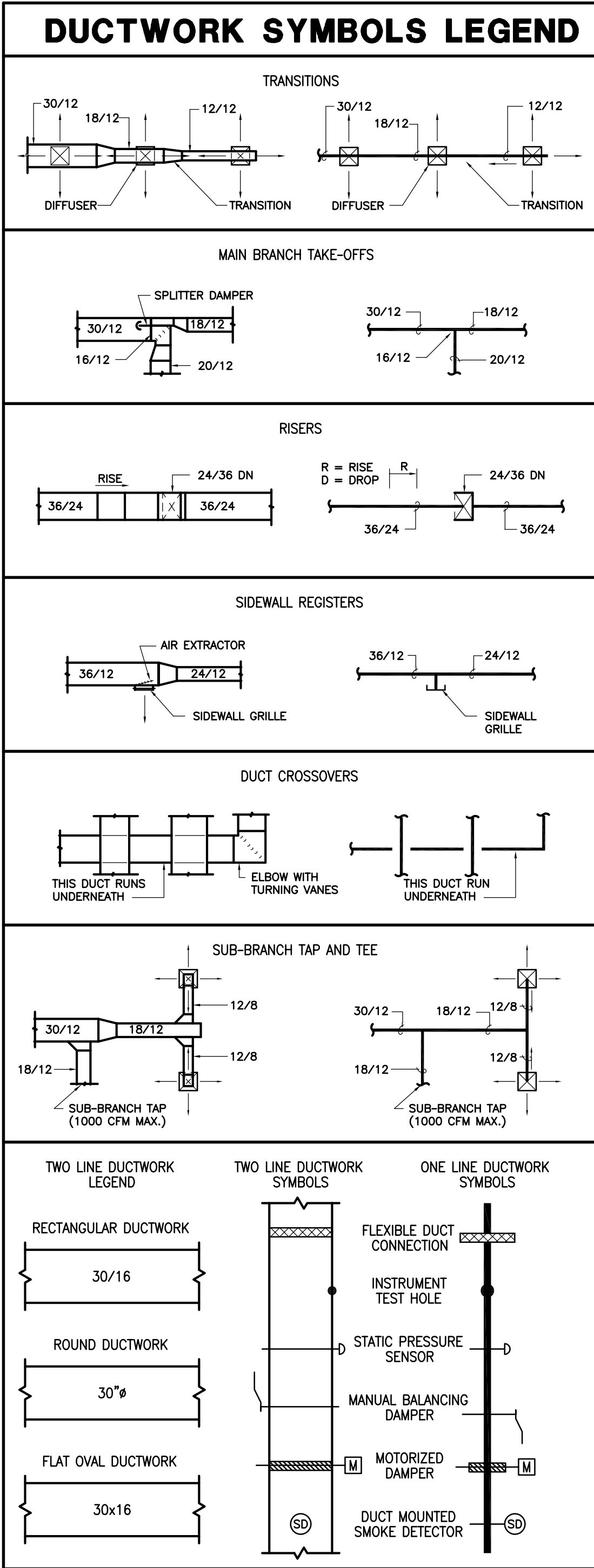
SHEET NAME

MECHANICAL  
DETAILS

SHEET NUMBER

M2.00





AIR HANDLING UNIT - CHILLED WATER COIL WITH ELECTRIC HEAT															
MARK	INDOOR AIR FAN					COOLING					ELECTRIC HEATING				
	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	AIR TEMP (°F) ENTERING DB/WB	AIR TEMP (°F) LEAVING DB/WB	MIN. TOTAL CAPACITY (BTUH)	MIN. SENSIBLE CAPACITY (BTUH)	MIN. CHW COIL ROWS/FINS	ENT. CHW TEMP (° F)	CHW FLOW (GPM)	CHW DELTA TEMP (° F)	MINIMUM CAPACITY (KW)	NUMBER OF STAGES
AHU-1	3700	1750	1.0	2	460/3/60	80	67	55	54	161,000	98,200	6/DX	42	-	15.0
AHU-2	5200	2260	1.0	5	460/3/60	80	67	55	54	224,900	151,200	6/8	42	37.5	45.0
REMARKS:															
GENERAL NOTES:															
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND UNIT MOUNTED ELECTRIC HEATERS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET THE TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICAL CONTRACTOR.															
2. MAXIMUM FACE VELOCITY OF CHILLED WATER COIL SHALL BE 500 FPM.															
REMARKS:															
1. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT.															
2. UNIT SHALL BE CARRIER 39LB08 OR APPROVED EQUAL.															
3. UNIT SHALL BE CARRIER 40RMS006 OR APPROVED EQUAL.															
4. UNITS SHALL BE SUSPENDED HORIZONTAL DRAW-THRU WITH FLAT FILTER SECTION DX OR CHILLED WATER COOLING COIL AS SCHEDULED, AND ELECTRICAL HEATING COIL IN THE REHEAT POSITION. ELECTRIC HEATING COILS IN AHU-1 & 2 SHALL HAVE SCR CONTROL.															
5. APPROXIMATE UNIT WEIGHTS: AHU-1 = 900lbs., AHU-2 = 2000 lbs.															

CONDENSING UNIT SCHEDULE															
UNIT NO.	CAPACITY	ELECTRICAL								MANUFACTURE	MODEL NO.	REMARKS			
		AMB. AIR	SST	V	P	HZ	MCA	MOCP				1. 800lbs.	2. R-410A	3. CONVENIENCE OUTLET	4. LOW AMBIENT CONTROL
ACCU-1	161.0 MBH	100°F	39.2°F	480/3	3	60	32.1	40		CARRIER	38AUD016 W/2-STAGE COOLING				

FAN AND OUTSIDE AIR INTAKE												
MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	CURRENT CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-1	EXHAUST HOODS#1 & #2	6725	952	2.25"	5	480/3/60	HOOD SWITCH	---	ROOF MOUNTED	CAPTIVEAIRE	---	1,3,4
EF-2	EXHAUST HOOD#4	525	1169	.5"	1/3	120/1/60	HOOD SWITCH	---	ROOF MOUNTED	CAPTIVEAIRE	---	1,2,4
EF-3	EXHAUST HOOD#3	1050	1341	1.0"	3/4	120/1/60	HOOD SWITCH	---	ROOF MOUNTED	CAPTIVEAIRE	---	1,2,4
SF-1	MAKE-UP AIR HOODS#1&#2	5380	876	1.25"	5	480/3/60	---	EF-1	ROOF MOUNTED	CAPTIVEAIRE	---	1,2,4
GENERAL NOTES:												
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, AND DAMPERS WHERE APPLICABLE.												
2. FAN SHALL BE CENTRIFUGAL WITH PREFABRICATED ROOF CURB.												
3. EF-1,2,3, AND SF-1 SHALL BE FURNISHED BY FOOD SERVICE CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. EF-4 SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR.												
REMARKS:												
1. ROOF MOUNTED CENTRIFUGAL FAN.												
2. PROVIDE WITH MOTORIZED DAMPER.												
3. FAN SHALL BE RATED FOR HIGH TEMPERATURE KITCHEN HOOD EXHAUST.												
4. FAN AND CURB PROVIDED BY KITCHEN HOOD SUPPLIER.												
5. FAN AND CURB INSTALLED BY MECHANICAL CONTRACTOR.												

AIR DEVICE SCHEDULE												
MARK	SERVICE	TYPE	DAMPER	CONSTRUCTION MATERIAL	FINISH COLOR	NECK SIZE	FACE SIZE	MANUFACTURER	MODEL NUMBER	AIR PATTERN	MOUNTING	REMARKS
A	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	6"x6"	24"x24"	METALAIRE	SERIES 5000	SEE PLAN	LAY-IN	LOUVER FACE DIFFUSER
B	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	8"x8"	24"x24"	METALAIRE	SERIES 5000	SEE PLAN	LAY-IN	LOUVER FACE DIFFUSER
C	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	10"x10"	24"x24"	METALAIRE	SERIES 5000	SEE PLAN	LAY-IN	LOUVER FACE DIFFUSER
D	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	12"x12"	24"x24"	METALAIRE	SERIES 5000	SEE PLAN	LAY-IN	LOUVER FACE DIFFUSER
E	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	8"x8"	18"x18"	METALAIRE	SERIES 5000	SEE PLAN	SURFACE	LOUVERED FACE DIFFUSER
F	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	10"x10"	18"x18"	METALAIRE	SERIES 5000	SEE PLAN	SURFACE	LOUVERED FACE DIFFUSER
G	SUPPLY AIR	DIFFUSER	OBD	STEEL	OFF-WHITE	12"x12"	18"x18"	METALAIRE	SERIES 5000	SEE PLAN	SURFACE	LOUVERED FACE DIFFUSER
H	RETURN OR EXHAUST AIR	GRILLE	OBD	STEEL	OFF-WHITE	12"x12"	N/A	METALAIRE	RH	SEE PLAN	SURFACE	45° DEFLECTION PARALLEL BLADE
J	RETURN AIR	GRILLE	N/A	STEEL	OFF-WHITE	20"x20"	N/A	METALAIRE	RH	SEE PLAN	LAY-IN	45° DEFLECTION PARALLEL BLADE
K	RETURN AIR	GRILLE	N/A	STEEL	OFF-WHITE	SEE PLAN	N/A	METALAIRE	RH	SEE PLAN	SURFACE	45° DEFLECTION PARALLEL BLADE
L	SUPPLY AIR	REGISTER	OBD	STEEL	STANDARD	SEE PLAN	N/A	METALAIRE	VHD	SEE PLAN	SURFACE	DOUBLE DEFLECTION
M	SUPPLY AIR	SLOT	OBD	ALUMINUM	STANDARD	8"φ	48"x2 1/2"	METALAIRE	6050 (2)1/2" SLOTS	N/A	SURFACE	ADJUST FOR HORIZONTAL AIR FLOW
N	SUPPLY AIR	DIFFUSER	OBD	ALUMINUM	PER ARCH	14"φ	10"	METALAIRE	300-2	N/A	SURFACE	ADJUST FOR AIR PATTERN
P	SUPPLY AIR	SLOT	OBD	ALUMINUM	STANDARD	10"φ	42"x 4-3/8"	METALAIRE	6100 (2)1" SLOT	N/A	SURFACE	ADJUST FOR HORIZONTAL AIR FLOW
GENERAL NOTES:												
1. DAMPERS NOTED AS U.L. SHALL BE A "U.L." CLASSIFIED CEILING RADIATION DAMPER WITH THERMAL BLANKET.												

DAMPER						
MARK	ACTUATOR	DUTY	BLADE ACTION	MANUFACTURER	MODEL NUMBER	REMARKS
D-1	MANUAL BALANCING	UNDER 9" WIDE	N/A	N/A	N/A	SEE SMACNA CONSTRUCTION DETAILS REFERENCED "TYPICAL CONSTRUCTION DETAILS FOR LOW VELOCITY DUCTS."
D-2	MANUAL BALANCING	OVER 9" WIDE	OPPOSED	RUSKIN	MD-35	MANUAL DAMPER WITH STANDARD CONSTRUCTION FEATURES AND VENTLOCK #637 LOCKING REGULATOR.
D-3	MOTORIZED	OVER 9" WIDE	OPPOSED	RUSKIN	CD-60	LOW LEAKAGE DAMPER WITH BLADE SEALS
NOTES:						
N/A - NOT APPLICABLE						

SYMBOL LEGEND	
SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
Ⓢ	KEY NOTE TAG
①	NOTE SPECIFIC TO DETAIL TAG
⚠	REVISION TAG
▨	NEW EQUIPMENT
DUCTWORK	
▨	SUPPLY AIR DUCTWORK
▨	RETURN AIR AND OUTSIDE AIR DUCTWORK
▨	EXHAUST AIR DUCTWORK
~	FLEXIBLE DUCTWORK
▨	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
▨	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
▨	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
FD	FIRE DAMPER
▨	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
▨	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS AND DAMPERS	
①	THERMOSTAT AND TEMPERATURE SENSOR VD MANUAL VOLUME DAMPER
②	HUMIDISTAT MD MOTORIZED DAMPER
③	SMOKE DETECTOR CO2 CARBON DIOXIDE DETECTOR
AIR DEVICES	
Ⓢ	AIR DEVICE TAG (REFER TO AIR DEVICE SCHEDULE)
▨	SUPPLY AIR GRILLE WITH FOUR-WAY THROW
▨	RETURN AIR GRILLE WITH SOUND BOOT
▨	EXHAUST AIR GRILLE
PIPING	
—○—	CONDENSATE DRAIN LINE

AIR BALANCE ANALYSIS				
DINING				
UNIT NO.	SUPPLY CFM	O.A.	EXHAUST	
AHU-2	5000	2280	-	
EF-4	-	-	1100	
EF-3	-	-	1050	
SUB-TOTAL	5000	2280	2150	
KITCHEN				
UNIT NO.	SUPPLY CFM	O.A.	EXHAUST	
AHU-1	3000	1750	-	
EF-1	-	-	6725	
SF-1	-	5380	-	
EF-2	-	-	525	
SUB-TOTAL	3000	7130	7250	
BALANCE OF MAKEUP AIR WILL BE PROVIDED FROM OUTSIDE AIR THRU AHU-2 SERVING THE DINING ROOM AREAS.				
AIR BALANCE SUMMARY - BUILDING				
AREA	SUPPLY	O.A.	EXHAUST	
DINING	5000	2280	2150	
KITCHEN	3000	7140	7250	
TOTAL	8000	9400	9400 (-0-)	

HOOD ANALYSIS				
KITCHEN HOOD NO.1				
UNIT NO.	MAKEUP	% MAKEUP	EXHAUST	
EF-1	-	-	3600	
SF-1	2880	-	-	
TOTAL	2880	80%	3600	
KITCHEN HOOD NO.2				
UNIT NO.	MAKEUP	% MAKEUP	EXHAUST	
EF-2	-	-	3125	
SF-2	2500	-	-	
TOTAL	2500	80%	3125	
DISHWASHER CONDENSATE HOOD #4 (CFM)				
UNIT NO.	MAKEUP	% MAKEUP	EXHAUST	
EF-2	-	-	525	
TOTAL	-	0%	525	
TORTILLA HOOD #3 (CFM)				
UNIT NO.	MAKEUP	% MAKEUP	EXHAUST	
EF-3	-	-	1050	
TOTAL	-	0%	1050	

BALANCE OF MAKEUP AIR WILL BE SUPPLIED THRU AIR HANDLING UNITS



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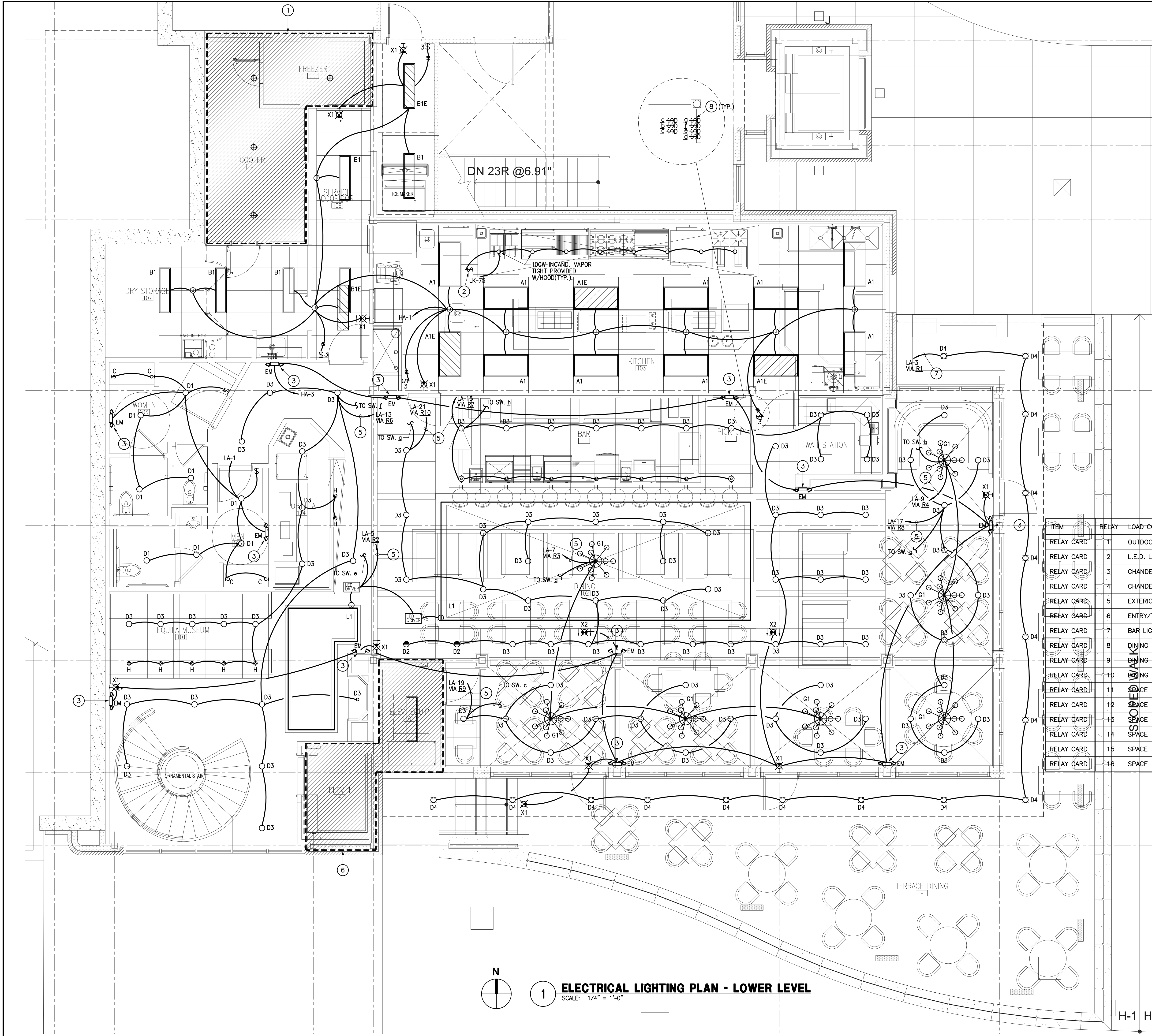
PROJECT NAME	
GUADALUPANA	RESTAURANT



PROJECT ADDRESS	
20 WATERWAY	THE WOODLANDS, TEXAS

PROJECT NUMBER	
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SHEET NAME	
MECHANICAL	SCHEDULES
SHEET NUMBER	
M3.00	



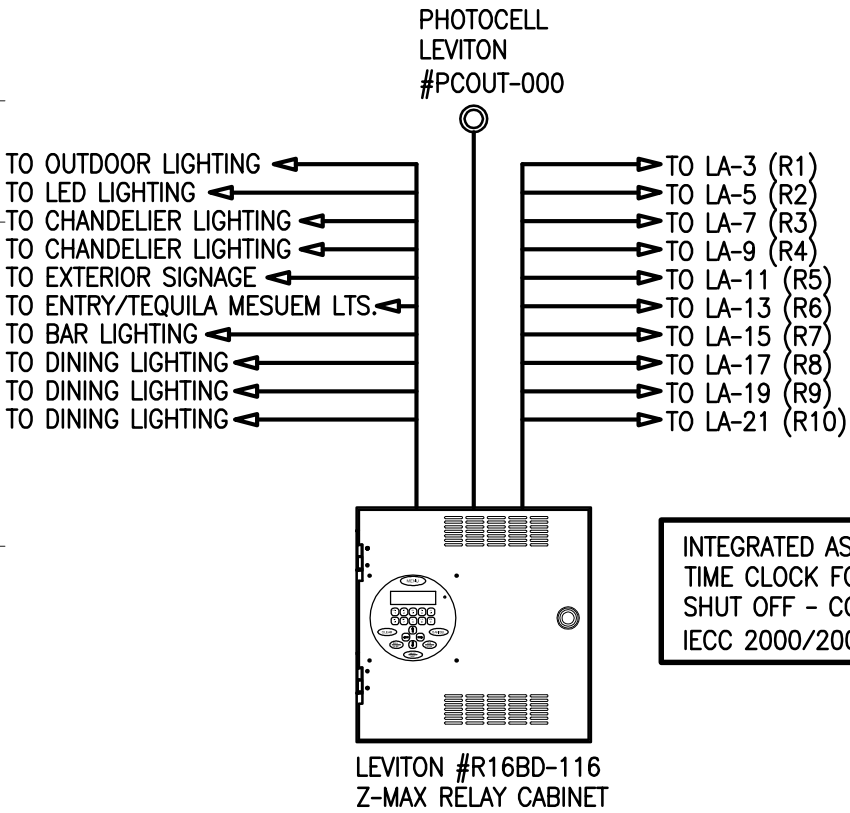


**ELECTRICAL KEYED NOTES:**

(FOR SHEET E1.00)

- 1 REFER TO SHEET E2.01 FOR COOLER LIGHTING REQUIRED.
- 2 HOOD LIGHT SWITCH PROVIDED BY HOOD MANUFACTURER.
- 3 MOUNT EMERGENCY LIGHTING UNIT AT 6" BELOW FINISHED CEILING.
- 4 NOT USED.
- 5 DINING LIGHTING - HOMERUN TO PANEL LA VIA RELAY PANEL B. PROGRAM RELAY ON THE FOLLOWING SCHEDULE: TURN ON VIA ASTRONOMICAL TIMECLOCK AT 5:30AM TURN OFF VIA ASTRONOMICAL TIMECLOCK AT 1:30AM. VERIFY THE SCHEDULING REQUIREMENTS WITH OWNER AND MAKE ADJUSTMENTS AS NECESSARY. IN THE EVENT ACCESS TO LIGHTING IS REQUIRED DURING SCHEDULED TIME-OUT OF CIRCUIT, OVERRIDE SHALL BE DONE AT THE RELAY PANEL.
- 6 REFER TO DETAIL 1 ON SHEET E2.00 FOR LIGHTING IN THIS AREA.
- 7 OUTDOOR LIGHTING - HOMERUN TO PANEL LA VIA RELAY PANEL B. PROGRAM RELAY ON THE FOLLOWING SCHEDULE: TURN ON VIA PHOTOCELL TURN OFF VIA TIMECLOCK VERIFY THE SCHEDULING REQUIREMENTS WITH OWNER AND MAKE ADJUSTMENTS AS NECESSARY.
- 8 PROVIDE "LEVITON" MONET PRE-SET DIGITAL SLIDE DIMMER. COORDINATE EXACT DIMMER WITH LOAD AND TYPE OF LIGHT FIXTURE PROVIDED.

PER N.E.C. 220.43(B) TRACK LIGHTING: DO NOT EXCEED 150 WATTS PER TWO FEET OF LINEAR TRACK OR 75 WATTS PER LINEAR FOOT. WHEN MULTI-CIRCUIT TRACK IS INSTALLED, THE LOAD SHALL BE DIVIDED EQUALLY BETWEEN THE TRACK CIRCUITS.

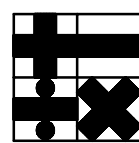


**2 Z-MAX STAND-ALONE RELAY SYSTEM**

SCALE: NONE

ITEM	RELAY	LOAD CONTROLLED	FIXTURE TYPE	VOLTAGE	LOAD
RELAY CARD	1	OUTDOOR LIGHTING	CERAMIC METAL HALIDE	120V/1Ø	800 W/VA
RELAY CARD	2	L.E.D. LIGHTING	L.E.D.	120V/1Ø	500 W/VA
RELAY CARD	3	CHANDELIER LIGHTING	INCANDESCENT	120V/1Ø	1000 W/VA
RELAY CARD	4	CHANDELIER LIGHTING	INCANDESCENT	120V/1Ø	800 W/VA
RELAY CARD	5	EXTERIOR SIGNAGE	L.E.D.	120V/1Ø	500 W/VA
RELAY CARD	6	ENTRY/TEQUILA MESUEM LTS.	MR16	120V/1Ø	1100 W/VA
RELAY CARD	7	BAR LIGHTING	INCANDESCENT	120V/1Ø	900 W/VA
RELAY CARD	8	DINING LIGHTING	MR16	120V/1Ø	1200 W/VA
RELAY CARD	9	DINING LIGHTING	MR16	120V/1Ø	1000 W/VA
RELAY CARD	10	DINING LIGHTING	MR16	120V/1Ø	1000 W/VA
RELAY CARD	11	SPACE	-	-	-
RELAY CARD	12	SPACE	-	-	-
RELAY CARD	13	SPACE	-	-	-
RELAY CARD	14	SPACE	-	-	-
RELAY CARD	15	SPACE	-	-	-
RELAY CARD	16	SPACE	-	-	-

**KEY PLAN**



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**CONSULTANTS**

**HOLSTE & ASSOCIATES**  
MEP Engineers

**PROJECT NAME**

**GUADALUPANA**  
**RESTAURANT**



**PROJECT ADDRESS**

20 WATERWAY  
THE WOODLANDS, TEXAS

**PROJECT NUMBER**

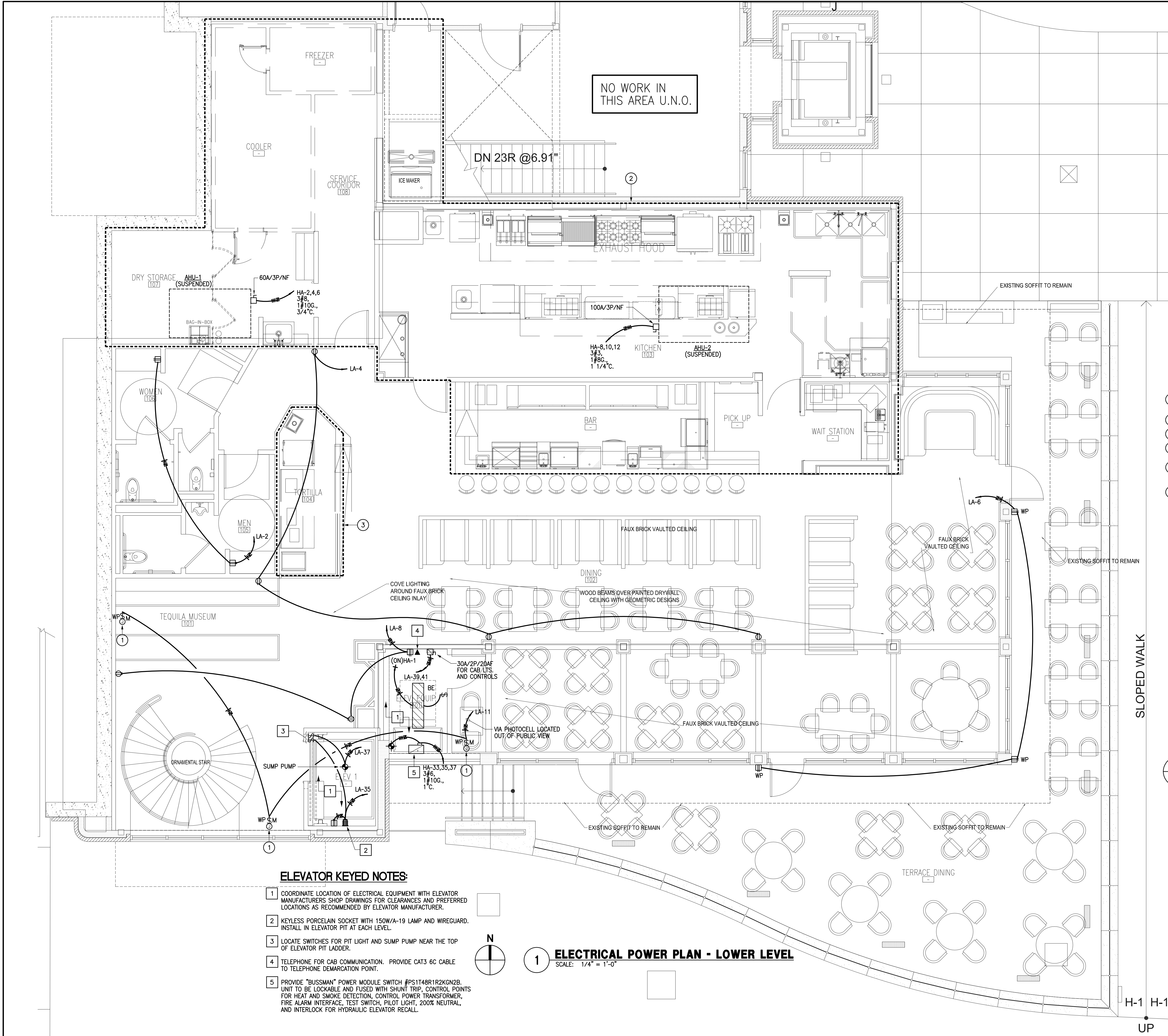
**SHEET NAME**

**ELECTRICAL**  
**LIGHTING PLAN**

**SHEET NUMBER**

**E1.00**





**ELECTRICAL GENERAL NOTES:**

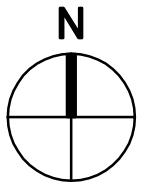
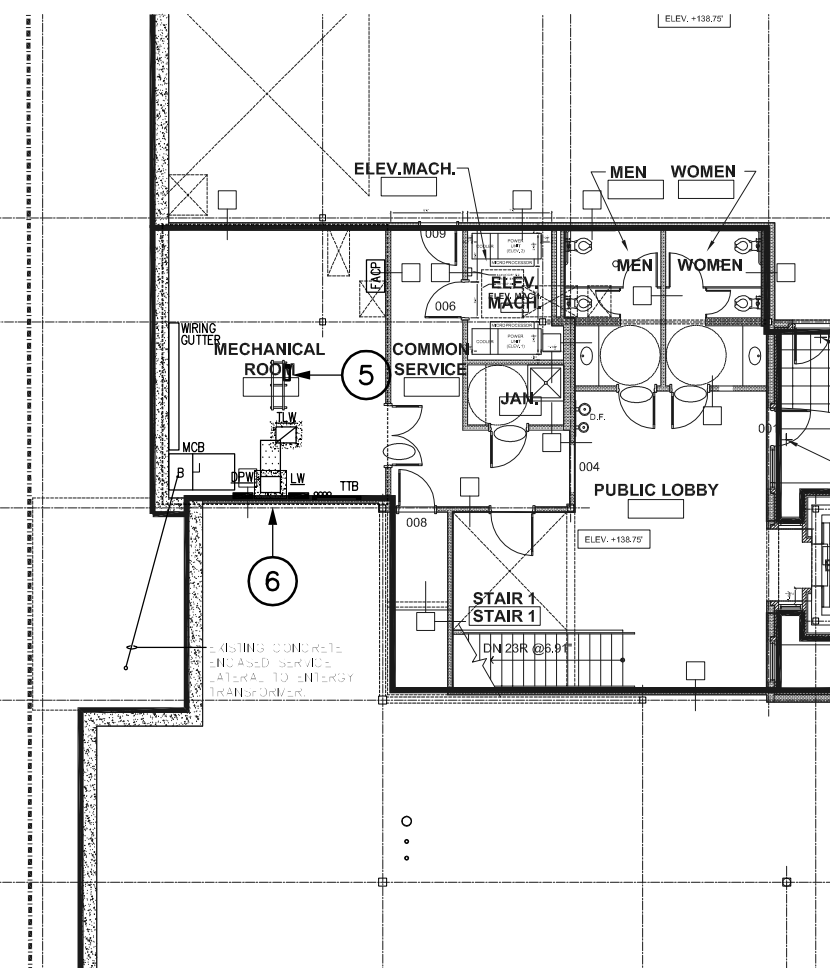
(FOR SHEET E2.00)

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL ELECTRICAL OUTLETS.
2. EACH CONDUIT SHALL BE LIMITED TO (3) CIRCUITS MAXIMUM.
3. NO MORE THAN THREE SINGLE PHASE CIRCUITS AND NO MORE THAN SIX CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN A SINGLE RACEWAY. WHEN FOUR, FIVE, OR SIX CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY, THEIR CURRENT CARRYING CAPACITIES SHALL BE DERATED AS REQUIRED BY THE NEC FOR NON-DIVERSIFIED LOADS. THE INSTALLED WIRE SIZE SHALL HAVE A NOMINAL AMPACITY RATING OF 125% OF THAT REQUIRED OR SPECIFIED WHEN FOUR OR MORE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE RACEWAY. NEUTRAL CONDUCTORS SHALL BE CONSIDERED A CURRENT CARRYING CONDUCTOR IN ALL NON-LINEAR LOADED CIRCUITS AS REQUIRED BY THE NEC.
4. VERIFY MOUNTING HEIGHTS OF RECEPTACLES WITH CASEWORK ELEVATIONS PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL DRAWINGS FOR ROOM ELEVATIONS FOR LOCATION AND COORDINATION OF ELECTRICAL OUTLETS. AT KNEESPACE LOCATIONS, LOCATE ELECTRICAL OUTLETS WITHIN KNEESPACE, UNLESS NOTED OTHERWISE. AT COUNTERS WITH OUT KNEESPACE, LOCATE OUTLETS HORIZONTALLY 6" ABOVE BACK SPLASH, UNLESS NOTED OTHERWISE.
5. ALL RECEPTACLE AND EQUIPMENT BRANCH CIRCUIT CONDUITS SHALL CONTAIN A GROUND WIRE, USING THE CONDUIT SYSTEM AS THE ONLY GROUND PATH IS NOT ACCEPTABLE.
6. ELECTRICIAN OF RECORD, & BONDED PER DIVISION D-"CONTRACT" SPECIFICATIONS, AND BE FAMILIAR & EXPERIENCED WITH SUCH WORK INDICATED HEREIN, & QUALIFIED BY MOST RECENT OSHA CERTIFICATION TO WORK ON ENERGIZED EQUIPMENT. REFER TO & COMPLY WITH OSHA 29CFR.1910 & 1926 ELECTRICAL SAFETY PORTIONS. CONSTRUCTION METHOD AND MEANS AND THEIR REQUIREMENTS. CONTRACTOR SHALL PROVIDE WORK WITHIN STANDARD OF CARE FOR PROFESSION.
7. MOUNT ALL RECEPTACLES AT +18" A.F.F. UNLESS OTHERWISE NOTED.
8. REFER TO SHEET E6.00 FOR SYMBOL LEGEND.
9. ALL ELECTRICAL WORK INCLUDED IN THIS PROJECT SHALL MEET THE REQUIREMENTS OF THE 2008 NATIONAL ELECTRICAL CODE (N.E.C.).
10. TEMPORARY POWER & HEAT ARE PROVIDED BY OTHERS.
11. REFER TO SHEET E2.01 FOR KITCHEN EQUIPMENT SCHEDULE.
12. COORDINATE ALL FINAL ROUGH-IN LOCATIONS OF TELEVISIONS WITH OWNER. PROVIDE CATV CABLING AND POWER AS REQUIRED.
13. REFER TO SHEET E2.02 FOR HVAC & ELECTRICAL EQUIPMENT LOCATED IN MEZZANINE ABOVE.
14. REFER TO SHEET E2.03 FOR HVAC & ELECTRICAL EQUIPMENT LOCATED IN MEZZANINE ABOVE.

**ELECTRICAL KEYED NOTES:**

(FOR SHEET E2.00)

- 1 FIELD VERIFY EXACT LOCATION AND ACCESS FOR TENANT SIGNAGE. PROVIDE PHOTOCELL ON/TIMECLOCK OFF FOR CONTROL OF SIGN.
- 2 REFER TO DETAIL #1 ON SHEET E2.01 FOR PLAN OF THIS AREA.
- 3 REFER TO DETAIL #2 ON SHEET E2.01 FOR PLAN OF THIS AREA.
- 4 NOT USED.
- 5 PROVIDE NEW ELECTRICAL METER AND DISCONNECT SWITCH MOUNTED ON EXISTING UNISTRUT RACK, LABEL SERVICE AS SUITE #100. REFER TO ONE-LINE DIAGRAM ON SHEET E3.00 FOR MORE INFORMATION.
- 6 ALL EXISTING EQUIPMENT IN THIS TO ROOM TO REMAIN UNLESS NOTED OTHERWISE.



**2 ELECTRICAL MECHANICAL ROOM PLAN**

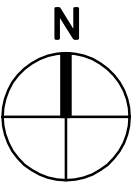
SCALE: 1/16" = 1'-0"

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**ELEVATOR KEYED NOTES:**

- 1 COORDINATE LOCATION OF ELECTRICAL EQUIPMENT WITH ELEVATOR MANUFACTURER'S SHOP DRAWINGS FOR CLEARANCES AND PREFERRED LOCATIONS AS RECOMMENDED BY ELEVATOR MANUFACTURER.
- 2 KEYLESS PORCELAIN SOCKET WITH 150W/A-19 LAMP AND WIREGUARD. INSTALL IN ELEVATOR PIT AT EACH LEVEL.
- 3 LOCATE SWITCHES FOR PIT LIGHT AND SUMP PUMP NEAR THE TOP OF ELEVATOR PIT LADDER.
- 4 TELEPHONE FOR CAB COMMUNICATION. PROVIDE CAT3 6C CABLE TO TELEPHONE DEMARCATION POINT.
- 5 PROVIDE "BUSSMAN" POWER MODULE SWITCH #PS1T48R1R2KGN2B. UNIT TO BE LOCKABLE AND FUSED WITH SHUNT TRIP, CONTROL POINTS FOR HEAT AND SMOKE DETECTION, CONTROL POWER TRANSFORMER, FIRE ALARM INTERFACE, TEST SWITCH, PILOT LIGHT, 200% NEUTRAL, AND INTERLOCK FOR HYDRAULIC ELEVATOR RECALL.



**1 ELECTRICAL POWER PLAN - LOWER LEVEL**

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



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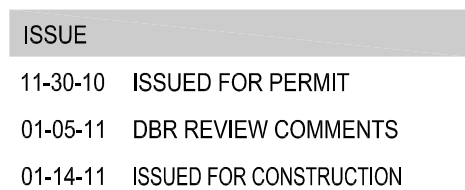
**SHEET NAME**

**ELECTRICAL  
POWER PLAN**

**SHEET NUMBER**

**E2.00**





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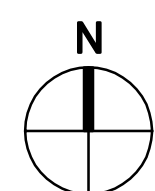
## ELECTRICAL KITCHEN PLAN

SHEET NUMBER

## E2.01

(FOR SHEET E2.01)

- ① 277/480V, 3ø, 4W PANELBOARD HA. REFER TO SHEET E3.00 FOR PANEL SCHEDULE INFORMATION.
- ② 120/208V, 3ø, 4W PANELBOARD LA. REFER TO SHEET E3.00 FOR PANEL SCHEDULE INFORMATION.
- ③ 120/208V, 3ø, 4W PANELBOARD LK (2-SECTION). REFER TO SHEET E3.00 FOR PANEL SCHEDULE INFORMATION.
- ④ 120/208V, 3ø, 4W PANELBOARD QA. REFER TO SHEET E3.00 FOR PANEL SCHEDULE INFORMATION.
- ⑤ 480Y: 120/208V, 3ø, 4W (150KVA) TRANSFORMER 1LA MOUNTED ON ROOF. REFER TO RISER DIAGRAM ON SHEET E3.00 FOR MORE INFORMATION.
- ⑥ LINE ENTIRE WALL WITH 3/4" THICK FIRE RETARDANT PLYWOOD TELEPHONE BACKBOARD. UTILIZE STEEL BUILDING STUB AND EXTEND (1) 1 1/2". FROM BUILDING TELEPHONE NETWORK DEMARCATION POINT. FIELD VERIFY EXACT LOCATION OF TELEPHONE COMPANY CABINET.
- ⑦ ALL 15A/1P AND 20A/1P RECEPTACLES WITHIN KITCHEN AND SERVING AREAS SHALL BE GFCI PROTECTED PER NEC.
- ⑧ PROVIDE EDWARDS LOW VOLTAGE PUSH BUTTON #603-L MOUNTED AT +48" A.F.G.
- ⑨ PROVIDE EDWARDS ADAPTBUZZER "340A SERIES" WITH 24V LOW VOLTAGE TRANSFORMER.
- ⑩ J-BOX FOR ALARM EQUIPMENT.
- ⑪ J-BOX FOR SECURITY EQUIPMENT.
- ⑫ PRE-WIRED ELECTRICAL PACKAGE PROVIDED BY HOOD MANUFACTURER. ADDITIONAL SHUNT TRIP BREAKERS SHALL BE PROVIDED BY CONTRACTOR. INTERLOCKING OF KITCHEN SUPPLY AND MUST GAS CONTROLLED BY PRE-WIRED ELECTRICAL PACKAGE. 3 PHASE MOTOR STARTERS SHALL BE PROVIDED FOR THE PRE-WIRED ELECTRICAL PACKAGE. COORDINATE/CONSULT WITH HOOD MANUFACTURER FOR MORE INFORMATION. REFER TO SHEET E1.00 FOR LIGHTING UNDER HOOD.
- ⑬ PROVIDE LEVITON #R1680-116 2-MAX RELAY CABINET B'. REFER TO DETAIL #2 ON THIS SHEET FOR MORE INFORMATION.



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



ELECTRICAL SCHEDULE							
NO.	VOLTS	PH.	LOAD	HEIGHT A.F.F.	LOC.	CONN.	REMARKS
C01	120	1	15.0 A	18"	WALL	DCO	GENERAL USE OUTLET
C02	120	1	15.0 A	50"	WALL	DCO	GENERAL USE OUTLET - MOUNT HORIZONTAL
C03	120	1	15.0 A	50"	WALL	DCO	GENERAL USE OUTLET - MOUNT HORIZONTAL
5	120	1	15.0 A	90"	WALL	DCO	FOR CARBONATORS
7	120	1	20.0 A	18"	WALL	DCO	FOR P.O.S. SYSTEM - N.I.K.E.C. - VERIFY REQUIREMENTS WITH OWNER
7.1	—	—	—	18"	WALL	J-BOX	EMPTY W/ PULL STRING, HOME RUN TO MNGR OFFICE. VERIFY WITH OWNER
8	120	1	8.0 A	108"	DFA	J-BOX	BTC ON WALK-IN LIGHT CIRCUIT/DOOR HEATER
8.1	120	1	4.4 A	108"	DFA	J-BOX	BTC ON WALK-IN COOLER COIL
11	208	1	18.1 A	72"	WALL	J-BOX	BTC ON ICE MACHINE. INTERCONNECT TO REMOTE CONDENSER LOCATED ON ROOF
14	120	1	16.7 A	48"	WALL	SCO	FOR MOBILE HEATED CABINET
15	120	1	20.0A	48"	WALL	DCO	C02
17	120	1	20.0 A (VERIFY)	48"	WALL	SCO	FOR TORTILLA PRESS
19	120	1	14.0 A	DFA	CEILING	J-BOX	BTC ON EXHAUST HOOD CONTROL PANEL FOR LIGHT CIRCUIT SEE MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION
19.1	208	3	4.0 A	DFA	CEILING	J-BOX	BTC ON CONTROL PANEL FOR EXHAUST FANS SEE MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION
20	120	1	4.7 A	18"	WALL	DCO	FOR REFRIGERATED PREP TABLE
21	208	1	18.1 A	36"	WALL	J-BOX	BTC ON MIXER
24	120	1	3.9 A	18"	WALL	DCO	FOR REFRIGERATED PREP TABLE
26	120	1	4.7 A	18"	WALL	DCO	FOR REFRIGERATED PREP TABLE
29	120	1	14.0 A	DFA	CEILING	J-BOX	BTC ON EXHAUST HOOD CONTROL PANEL FOR LIGHT CIRCUIT SEE MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION
29.1	208	3	4.0 A	DFA	CEILING	J-BOX	BTC ON CONTROL PANEL FOR EXHAUST FANS SEE MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION
30	120	1	20.0 A	DFA	CEILING	J-BOX	BTC ON EXHAUST MAIN COOLING FIRE SUPPRESSION SYSTEM (ON CIRCUIT) SEE MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION
31	120	1	1.0 A	18"	WALL	DCO	FOR FRYER
32	120	1	1.0 A	18"	WALL	DCO	FOR GRIDDLE
35	120	1	9.9 A	18"	WALL	DCO	FOR REFRIGERATED EQUIPMENT STAND
37	120	1	10.3 A	18"	WALL	DCO	FOR REFRIGERATED EQUIPMENT STAND
39	120	1	6.0 A EACH	24"/48"	WALL	TWO(2) DCO	FOR CONVECTION OVEN (4 REQ'D)
42	120/208	3	125.0 A	6"	FLOOR	J-BOX	FOR CHEF COUNTER LOAD CENTER
51	208	1	11.8A / 1 1/2 HP	18"	WALL	J-BOX	BTC ON DISPOSER THROUGH CONTROL PANEL
52	120	1	23.0 A (VERIFY)	66"	WALL	J-BOX	BTC ON DISHMACHINE - VERIFY REQUIREMENTS - N.I.K.E.C.
52.1	—	—	—	66"	WALL	CONDUIT	CONDUIT FOR INTERWIRING BETWEEN DISHMACHINE AND CONDENSATE HOOD FAN - VERIFY LOCATION OF FAN ON ROOF
52.3	120	1	4.1 A	—	ROOF	J-BOX	BTC ON CONDENSATE EXHAUST FAN - VERIFY REQUIREMENTS AND LOCATION
60	208	1	20.0 A	50"	WALL	SCO	FOR COFFEE BREWER - VERIFY REQUIREMENTS W/ OWNER - N.I.K.E.C.
61	120	1	20.0 A	18"	WALL	SCO	FOR TEA BREWER - VERIFY REQUIREMENTS W/ OWNER - N.I.K.E.C.
64	120	1	5.0 A	18"	WALL	SCO	FOR SODA DISPENSER - VERIFY REQUIREMENTS W/ OWNER - N.I.K.E.C.
65	120	1	1.0 A	50"	WALL	DCO	FOR MILK DISPENSER
66	120	1	4.0 A	50"	WALL	DCO	FOR COFFEE GRINDER
67	120	1	15.0 A	50"	WALL	SCO	FOR ESPRESSO MACHINE
69	120	1	2.2 A	18"	WALL	DCO	FOR UNDERCOUNTER REFRIGERATOR
70	120	1	20.0 A	18"	WALL	DCO	FOR P.O.S. SYSTEM - N.I.K.E.C. - VERIFY REQUIREMENTS WITH OWNER
70.1	—	—	—	18"	WALL	J-BOX	EMPTY W/ PULL STRING, HOME RUN TO MNGR OFFICE. VERIFY WITH OWNER
72	120	1	20.0 A	50"	WALL	SCO	FOR MARGARITA MACHINE - VERIFY REQUIREMENTS W/ OWNER - N.I.K.E.C.
76	120	1	8.2 A	18"	WALL	DCO	FOR GLASS CHILLER
78	208	3	38.0 A	18"	WALL	J-BOX	BTC ON DISHMACHINE - VERIFY REQUIREMENTS - N.I.K.E.C.
81	120	1	20.0 A	8"	WALL	J-BOX	BTC ON DCO ON BLENDER STATION
85	120	1	6.5 A	18"	WALL	DCO	FOR BACKBAR REFRIGERATOR
86	120	1	6.5 A	18"	WALL	DCO	FOR BACKBAR REFRIGERATOR

A	ALL ELECTRICAL OUTLETS SHOWN ON THIS PLAN ARE FOR FIXTURES SPECIFIED AS FURNISHED BY THE KITCHEN EQUIPMENT SUPPLIER. FOR FURTHER BUILDING ELECTRICAL REQUIREMENTS (TELEPHONES, CLOCKS, SIGNS, ETC.) SEE OTHER PLANS
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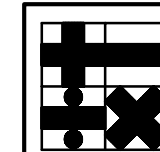
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| B | ALL DIMENSIONS GIVEN ARE IN INCHES TO 4'-0" AND ARE FROM CENTERLINES AND/OR FINISHED WALLS. ELEVATIONS GIVEN ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET. ALL ROUGH-INS SHOWN ARE TO BE RUN INSIDE WALLS (EXCEPT STUB-UPS). LOCATION INDICATES POINT OF EXIT FROM WALLS, CEILINGS OR FLOORS. ALL CONVENIENCE OUTLETS ARE TO SET HORIZONTALLY. ALL 120 VOLT OUTLETS NOT DESIGNATED WITH SPECIFIC LOADS TO BE RATED AT 20.0 AMPS. |
|---|---|

- |   |  |
|---|--|
| C | ELECTRICIAN TO CONNECT ALL ELECTRICAL EQUIPMENT AND FIXTURES AND DO ANY INTERNAL WIRING REQUIRED IN THE FIXTURES AS REQUIRED BY THE SPECIFICATIONS. ALL ELECTRICAL OUTLET COVER PLATES ARE TO BE STAINLESS STEEL AND ARE TO BE FURNISHED BY THE ELECTRICIAN, AS WELL AS THE RECEPTACLE, UNLESS OTHERWISE SPECIFIED IN THE ITEM SPECIFICATIONS. ALL DISCONNECT SWITCHES ARE TO BE FURNISHED AND INSTALLED BY THE ELECTRICIAN AT TIME OF INSTALLATION. |
|---|--|

- |   |  |
|---|--|
| D | ALL WORK TO BE PERFORMED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES RELATING TO HOOK-UP, INSTALLATION AND WIRING OF EQUIPMENT. OMISSIONS OR ERRORS ON THE SCHEDULE DO NOT RELIEVE THE ELECTRICIAN FROM COMPLETE FINAL CONNECTION RESPONSIBILITY. |
|---|--|

- |   |  |
|---|--|
| E | IF ELECTRICAL OUTLETS AND/OR RECEPTACLES ARE CHANGED FROM "STUB-UP" TO "WALL-MOUNTED", THE "WALL-MOUNTED" OUTLETS AND/OR RECEPTACLES ARE TO BE SET AT 12" A.F.F. |
|---|--|

①	JUNCTION BOX (J-BOX)	A	AMPERES
Ⓢ	CONDUIT	V	VOLTS
Ⓢ	STUB-UP	W	WATTS
Ⓢ	DUPLEX CONVENIENCE OUTLET (DCO)	PH	PHASE
Ⓢ	SINGLE CONVENIENCE OUTLET (SCO)	AFF	ABOVE FINISHED FLOOR
Ⓢ	SINGLE POWER OUTLET (SPO)	DFA	DOWN FROM ABOVE
Ⓢ	SINGLE POWER OUTLET (SPO)	ETC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
Ⓢ	LIGHT INDICATION	SU	STUB UP ABOVE FINISHED FLOOR
Ⓢ	BREAKER PANELBOARD		
Ⓢ	SWITCH AS NOTED	HP	HORSE POWER
Ⓢ	MOTOR	KW	KILLOWATTS
Ⓢ	HEATING ELEMENT	DC	DIRECT CONNECTION
EL	ELEVATION ABOVE FINISHED FLOOR	KES	KITCHEN EQUIPMENT SUPPLY



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CONSULTANTS  
**HOLSTE & ASSOCIATES**  
MEP Engineers

PROJECT NAME

**GUADALUPANA  
RESTAURANT**



PROJECT ADDRESS

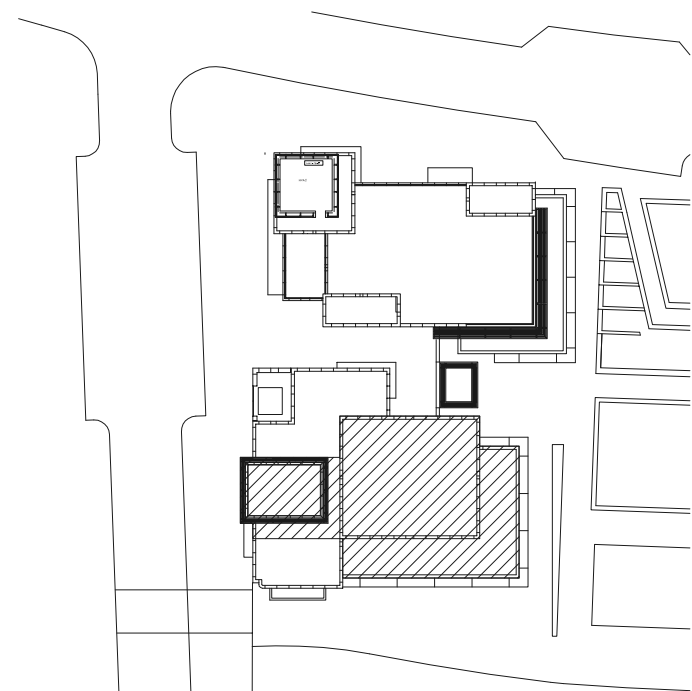
20 WATERWAY  
THE WOODLANDS, TEXAS

PROJECT NUMBER

SHEET NAME

**ELECTRICAL  
ROOF PLAN**

SHEET NUMBER

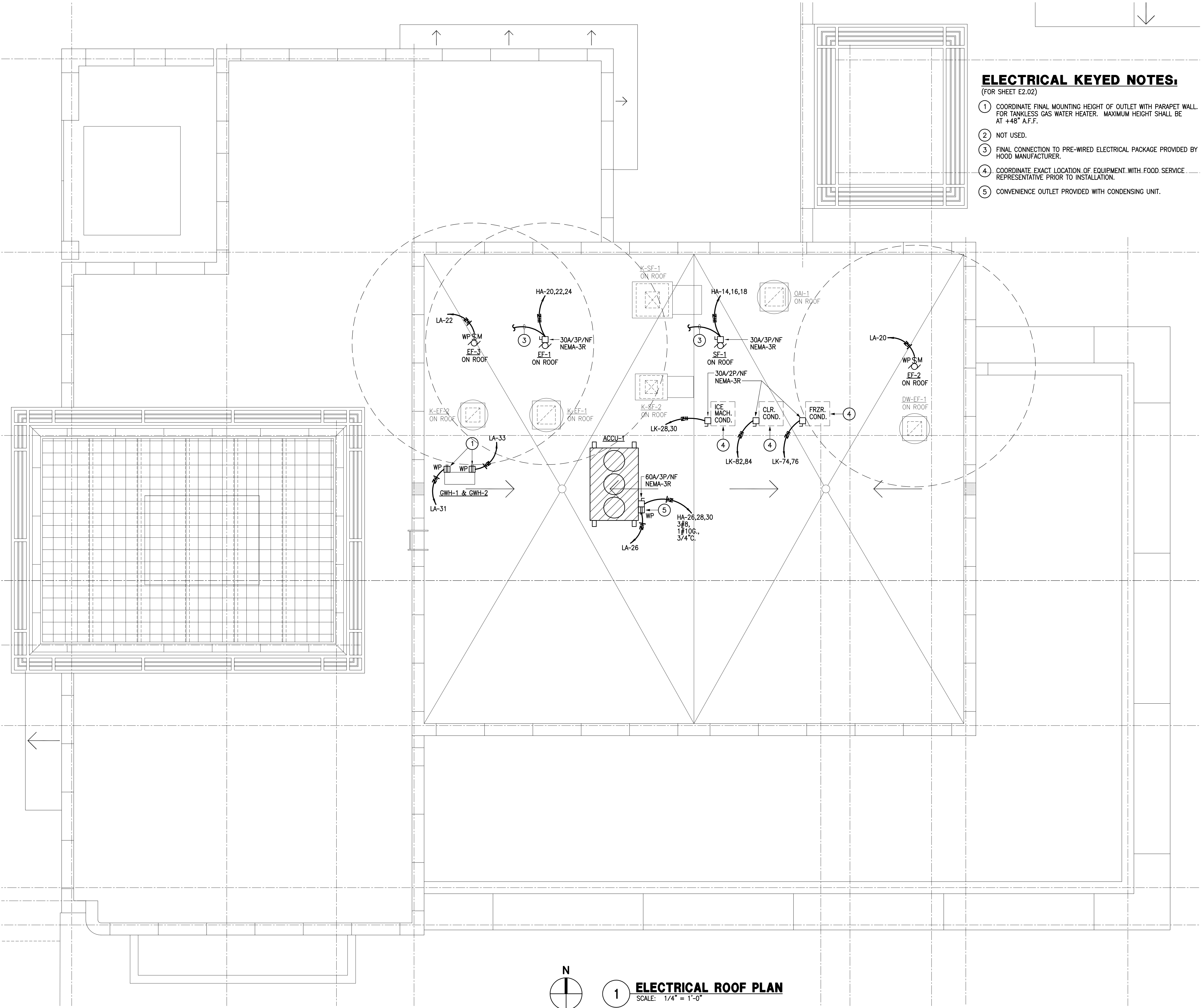


**KEY PLAN**

 Holste & Associates, Inc.  
Consulting Engineers - Texas Reg. E-5443  
6671 Southwest Frwy., Suite 850  
Houston, Texas 77074 (713) 995-1351  
www.holstemep.com

**ELECTRICAL KEYED NOTES:**

- (FOR SHEET E2.02)
- COORDINATE FINAL MOUNTING HEIGHT OF OUTLET WITH PARAPET WALL. FOR TANKLESS GAS WATER HEATER. MAXIMUM HEIGHT SHALL BE AT +48" A.F.F.
  - NOT USED.
  - FINAL CONNECTION TO PRE-WIRED ELECTRICAL PACKAGE PROVIDED BY HOOD MANUFACTURER.
  - COORDINATE EXACT LOCATION OF EQUIPMENT WITH FOOD SERVICE REPRESENTATIVE PRIOR TO INSTALLATION.
  - CONVENIENCE OUTLET PROVIDED WITH CONDENSING UNIT.



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





## ISSUE

11-30-10 ISSUED FOR PERMIT  
01-05-11 DBR REVIEW COMMENTS  
01-14-11 ISSUED FOR CONSTRUCTION



9575 Katy Frwy., #200  
Houston, Texas 77024  
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## CONSULTANTS

HOLSTE & ASSOCIATES  
MEP Engineers

## PROJECT NAME

GUADALUPANA  
RESTAURANT



## PROJECT ADDRESS

20 WATERWAY  
THE WOODLANDS, TEXAS

## PROJECT NUMBER

## SHEET NAME

ELECTRICAL  
RISER DIAGRAM

## SHEET NUMBER

E3.00

PANEL 'HA'										277/480V, 3ø, 4W	MOUNTING: RECESSED NEMA-1 65K ISCA
LOCATION: SERVICE CORRIDOR 108										400 AMP MLO	
CKT	LOAD	*	KVA	WIRE	BKR		BKR	WIRE	KVA	* LOAD	CKT
1	KITCHEN LIGHTING		1.3	#12	20/1		30/3	#10	17.8	1 AHU-1	2
3	EMERGENCY/EXIT LTG.	2	0.1	#12	20/1		-	-	-	-	4
5	ENTRY/TEQUILA MUSEUM		1.1	#12	20/1		-	-	-	-	6
7	DINING LIGHTING		2.0	#12	20/1		90/3	#3	51.3	1 AHU-2	8
9	DINING LIGHTING		1.3	#12	20/1		-	-	-	-	10
11	BAR LIGHTING		0.9	#12	20/1		-	-	-	-	12
13	SPARE		-	20/1			20/3	#12	6.3	SE-1	14
15	SPACE		-	-			-	-	-	-	16
17	SPACE		-	-			-	-	-	-	18
19	SPACE		-	-			20/3	#12	6.3	EF-1	20
21	SPACE		-	-			-	-	-	-	22
23	SPACE		-	-			-	-	-	-	24
25	SPACE		-	-			40/3	#8	26.7	1 ACCU-1	26
27	SPACE		-	-			-	-	-	-	28
29	SPACE		-	-			-	-	-	-	30
31	SPACE		-	-			-	-	-	SPACE	32
33	ELEVATOR (25HP)		35.0	#6	60/3		-	-	-	SPACE	34
35	---		-	-			-	-	-	SPACE	36
37	---		-	-			225/3	#4/0	120.8	XFMR ILA (150KVA)	38
39	SHUNT TRIP		-	-	ST		-	-	-	-	40
41	SHUNT TRIP		0.2	-	20/1		-	-	-	-	42
CONTINUOUS (LTG.) LOAD $4.9 \times 1.25 = 6.1$ MISC. LOAD $\times 1.0 = 264.4$ TOTAL KVA = 270.5											

## \* NOTES

- PROVIDE H.A.C.R. CIRCUIT BREAKER AT THIS LOCATION.
- PROVIDE CIRCUIT BREAKER WITH LOCK-ON DEVICE.
- CONTROLLED BY "LEVITON" D4208 DIMMING SYSTEM (TIMECLOCK OFF).

ELECTRICAL LOAD ANALYSIS	
PROJECT: LA GUADALUPANA MEXICAN CUISINE AND BAR	
LOCATION: 20 WATER WAY, SUITE 100 THE WOODLANDS, TX	
DESCRIPTION: NEW RESTAURANT BUILD-OUT	
VOLTAGE: 277/480V, 3ø, 4W	
LOAD DESCRIPTION	LOAD KVA
LIGHTING CONNECTED LOAD= $11.3 \text{ KVA AT } 1.25\% = <14.1>$	-
LIGHTING $3W \times 4,419 \text{ SQ. FT AT } 1.25\% =$	16.6
RECEPTACLES - FIRST 10 KW 1ST 50% OF REMAINDER AT 100% = 4.6	4.6
COMPUTERS AT 100% =	1.7
H.V.A.C. AT 100% =	109.7
25% LARGEST MOTOR = $6.3 \times .25 =$	1.6
MISCELLANEOUS AT 100% =	111.5
KITCHEN (NON CONTINUOUS) $22.6 \times 65\% =$	14.7
ELEVATOR (25HP) =	35.0
TOTAL ESTIMATED CONNECTED LOAD =	295.4
$295.4 \text{ KVA} / 480 / \sqrt{3} = \text{AMPS}$	355.5 AMPS
NEW FACILITY SERVICE SIZE = 400 AMPS AT 480V., 3ø, - 4W	
SPARE CAPACITY = 44.5 AMPS	

## (SECTION-1)

PANEL 'LK'										120/208V, 3ø, 4W	MOUNTING: RECESSED NEMA-1 (S.S) FRONT 10K ISCA
LOCATION: KITCHEN										400 AMP MCB W/ FEED THRU LUGS	
CKT	LOAD	*	KVA	WIRE	BKR		BKR	WIRE	KVA	* LOAD	CKT
1	CARBONATOR		0.8	#12	20/1		20/1	#12	0.4	RECEPTACLES	2
3	CARBONATOR		0.8	#12	20/1		20/1	#12	0.4	RECEPTACLES	4
5	MARGARITA MACHINE		1.5	#12	20/1		20/1	#12	0.4	RECEPTACLES	6
7	MARGARITA MACHINE		1.5	#12	20/1		20/1	#12	0.4	RECEPTACLES	8
9	BACKBAR REFRIGERATOR		0.8	#12	20/1		20/1	#12	0.4	RECEPTACLES	10
11	BACKBAR REFRIGERATOR		0.8	#12	20/1		20/1	#12	0.2	RECEPTACLE	12
13	MARGARITA MACHINE		1.5	#12	20/1		20/2	#12	2.5	DISPOSER	14
15	MARGARITA MACHINE		1.5	#12	20/1		-	-	-	-	16
17	BLENDER STATION		2.4	#10	30/1		30/1	#10	2.4	TORTILLA PRESS	18
19	GLASS CHILLER		1.0	#10	30/1		20/1	-	-	SPARE	20
21	EXPRESSO MACHINE		1.8	#12	20/1		125/3	#1	36.0	CHEF COUNTER LOAD CTR.	22
23	UNDERCOUNTER REFRIG.		0.3	#12	20/1		-	-	-	-	24
25	COFFEE GRINDER		0.5	#12	20/1		-	-	-	-	26
27	MILK DISPENSER		1.2	#12	20/1		20/2	#12	1.3	ICE MACHINE CONDENSER	28
29	SODA DISPENSER		0.7	#12	20/1		-	-	-	-	30
31	TEA BREWER		2.4	#10	30/1		20/2	#12	2.2	ICE MACHINE	32
33	MOBILE HEATED CABINET		2.0	#10	30/1		-	-	-	-	34
35	SPARE		-	20/1			30/2	#10	4.2	COFFEE BREWER	36
37	DISHMACHINE		13.7	#8	50/3		-	-	-	-	38
39	---		-	-	-		20/1	-	-	SPARE	40
41	---		-	-	-		20/1	-	-	SPARE	42
KITCHEN $\times .65\% =$ (SEE SECTION-2) MISC. LOAD $\times 1.0 =$ (SEE SECTION-2) TOTAL KVA = (SEE SECTION-2)											

## \* NOTES

- VERIFY EXACT AMPERAGE AND LOAD WITH KITCHEN EQUIPMENT SUPPLIER.

## (SECTION-2)

PANEL 'LK'										120/208V, 3ø, 4W	MOUNTING: RECESSED NEMA-1 (S.S) FRONT 10K ISCA
LOCATION: KITCHEN										400 AMP MLO	
CKT	LOAD	*	KVA	WIRE	BKR		BKR	WIRE	KVA	* LOAD	CKT
43	FIRE SUPPRESSION	1	1.8	#12	20/1		20/3	#12	4.5	1.2 DISH MACHINE	44
45	SHUNT TRIP		-	-	ST		-	-	-	-	46
47	FRYER	1	0.1	#12	20/1		-	-	-	-	48
49	SHUNT TRIP		-	-	ST		-	-	-	-	50
51	GRIDDLE	1	0.1	#12	20/1		30/1	#10	2.4	1 TORTILLA PRESS	52
53	SHUNT TRIP		-	-	ST		-	-	-	-	54
55	REFRIG. EQUIP. STAND	1	1.2	#12	20/1		30/1	#10	2.4	1 TORTILLA PRESS	56
57	SHUNT TRIP		-	-	ST		-	-	-	-	58
59	REFRIG. EQUIP. STAND	1	1.2	#12	20/1		20/1	#12	0.5	CO2	60
61	SHUNT TRIP		-	-	ST		-	-	-	-	62
63	GRIDDLE	1	0.1	#12	20/1		20/1	-	-	SPARE	64
65	SHUNT TRIP		-	-	ST		20/1	-	-	SPARE	66
67	CONVECTION OVEN		0.7	#12	20/1		20/1	-	-	SPARE	68
69	SHUNT TRIP		-	-	ST		20/1	#12	0.8	WALK-IN FRZR. HTR./LTS	70
71	CONVECTION OVEN	1	0.7	#12	20/1		20/1	#12	0.9	WALK-IN FRZR. COIL	72
73	SHUNT TRIP		-	-	ST		20/2	#12	0.5	2 FREEZER CONDENSER	74
75	HOOD LIGHTS		0.7	#12	20/1		-	-	-	-	76
77	SHUNT TRIP		-	-	ST		20/1	#12	0.9	WALK-IN CLR. HTR./LTS	78
79	RECEPTACLES		0.4	#12	20/1		20/1	#12	0.8	WALK-IN CLR. COIL	80
81	SPARE		-	-	20/1		20/2	#12	0.5	2 COOLER CONDENSER	82
83	SHUNT TRIP		0.2	#12	20/1		-	-	-	-	84
KITCHEN $22.6 \times .65\% = 14.7$ MISC. LOAD $\times 1.0 = 85.0$ TOTAL KVA = 99.7											

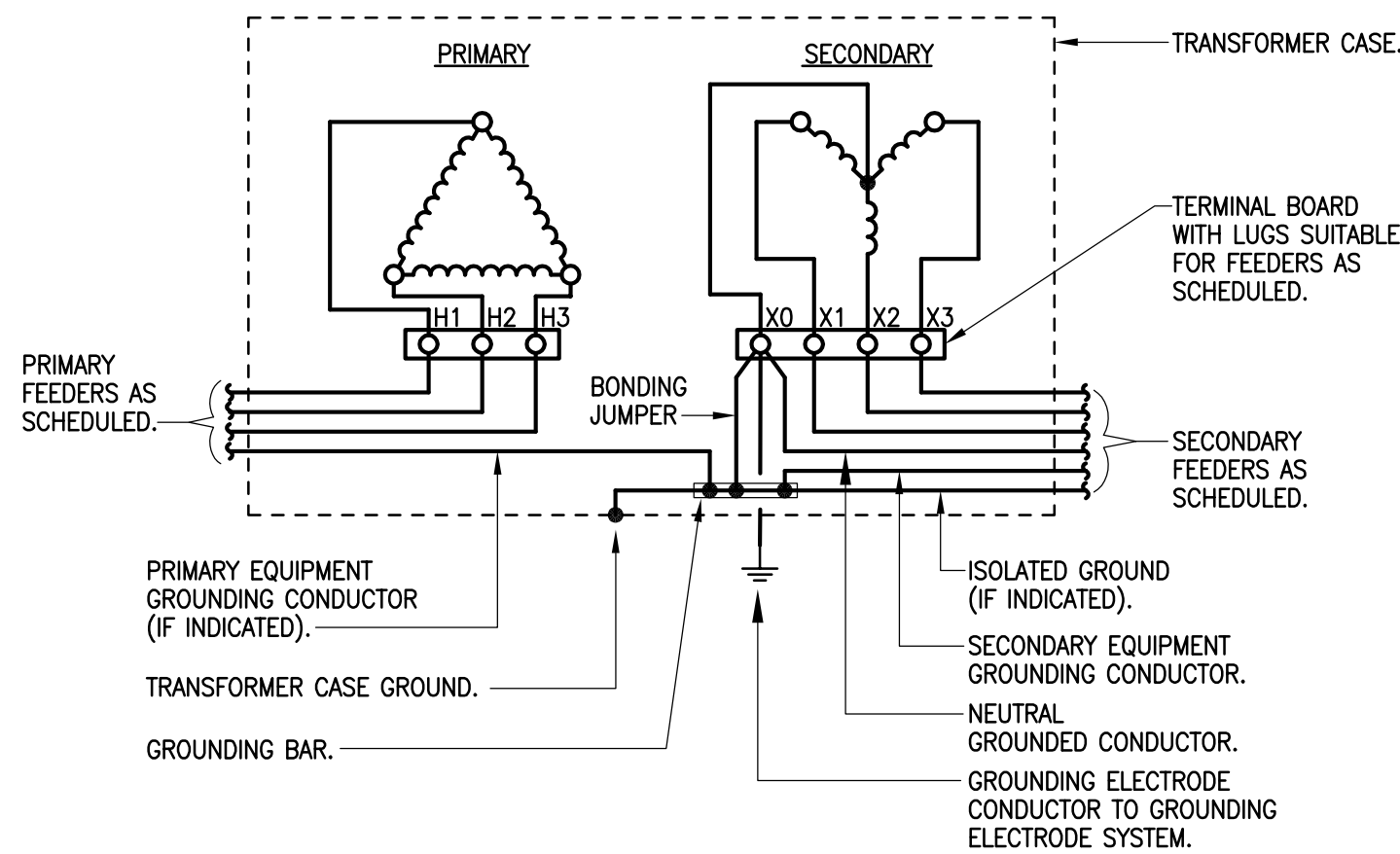
## \* NOTES

- PROVIDE SHUNT TRIP CIRCUIT BREAKER FOR THIS CIRCUIT.
- VERIFY EXACT AMPERAGE AND LOAD WITH KITCHEN EQUIPMENT SUPPLIER.

PANEL 'LA'										120/208V, 3ø, 4W	MOUNTING: RECESSED NEMA-1 10K ISCA
LOCATION: MEZZANINE										200 AMP MCB	
CKT	LOAD	*	KVA	WIRE	BKR		BKR	WIRE	KVA	* LOAD	CKT
1	RR AREA LIGHTING		0.6	#12	20/1		20/1	#12	0.4	RECEPTACLES	2
3	OUTDOOR LIGHTING	2	0.8	#12	20/1		20/1	#12	0.8	RECEPTACLES	4
5	LED LIGHTING		1	0.5	#10	20/1	20/1	#12	0.6	RECEPTACLES	6
7	CHANDELIER LIGHTING	1	1.0	#10	20/1		20/1	#12	0.6	RECEPTACLES	8
9	CHANDELIER LIGHTING	1	0.8	#10	20/1		20/1	-	-	SPARE	10
11	EXTERIOR SIGNAGE	2	0.9	#10	20/1		20/1	-	-	SPARE	12
13	SPARE		-	20/1			20/1	-	-	SPARE	14
15	SPARE		-	20/1			20/1	-	-	SPARE	16
17	DINING LIGHTING	1	1.2	#12	20/1		20/1	-	-	SPARE	18
19	SPACE		-	-			20/1	#12	0.2	EE-2 (DISHWASHER HOOD)	20
21	SPACE		-	-			20/1	#12	1.2	EE-3 (TORTILLA HOOD)	22
23	SPACE		-	-			20/1	#12	0.2	4 EE-4 (TOILET)	24
25	SPACE		-	-			20/1	#12	0.2	ROOF RECEPTACLE	26
27	SPACE		-	-			-	-	-	SPACE	28
29	SPACE		-	-			-	-	-	SPACE	30
31	GMH-1		0.5	#12	20/1		-	-	-	SPACE	32
33	GMH-2		0.5	#12	20/1		-	-	-	SPACE	34
35	ELEV. PIT LTS. & REC.		0.6	#12	20/1		-	-	-	SPACE	36
37	ELEV. SUMP PUMP		0.5	#12	20/1		100/3	#1	5.4	PANEL CA	38
39	ELEV. CAB LTS.		0.5	#12	20/1		-	-	-	-	40
41	ELEV. CONTROLS		0.5	#12	20/1		-	-	-	-	42
CONTINUOUS (LTG.) LOAD $9.9 \times 1.25 = 12.4$ MISC. LOAD $\times 1.0 = 12.2$ TOTAL KVA = 24.6											

## \* NOTES

- CONTROLLED BY "LEVITON" D4208 DIMMING SYSTEM (TIMECLOCK OFF).
- PROVIDE PHOTOCELL FOR ON/OFF CONTROL OF THIS CIRCUIT.
- COORDINATE ELECTRICAL CHARACTERISTICS WITH EQUIPMENT SUPPLIER PIOR TO ROUGH-IN.
- PROVIDE TIMECLOCK FOR ON/OFF CONTROL OF THIS CIRCUIT.

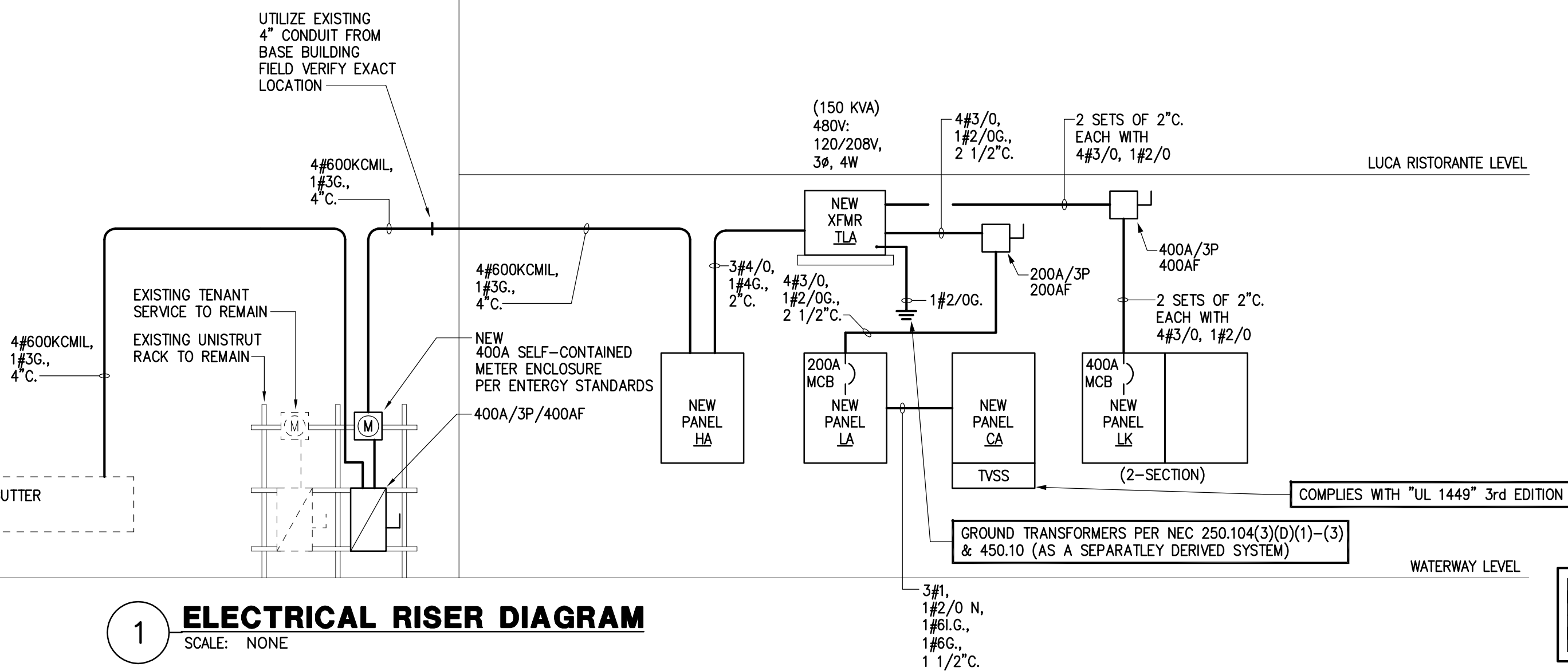


2

## TRANSFORMER GROUNDING DETAIL

SCALE: NONE

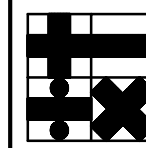
MAIN ELEC. RM.



1

## ELECTRICAL RISER DIAGRAM

SCALE: NONE



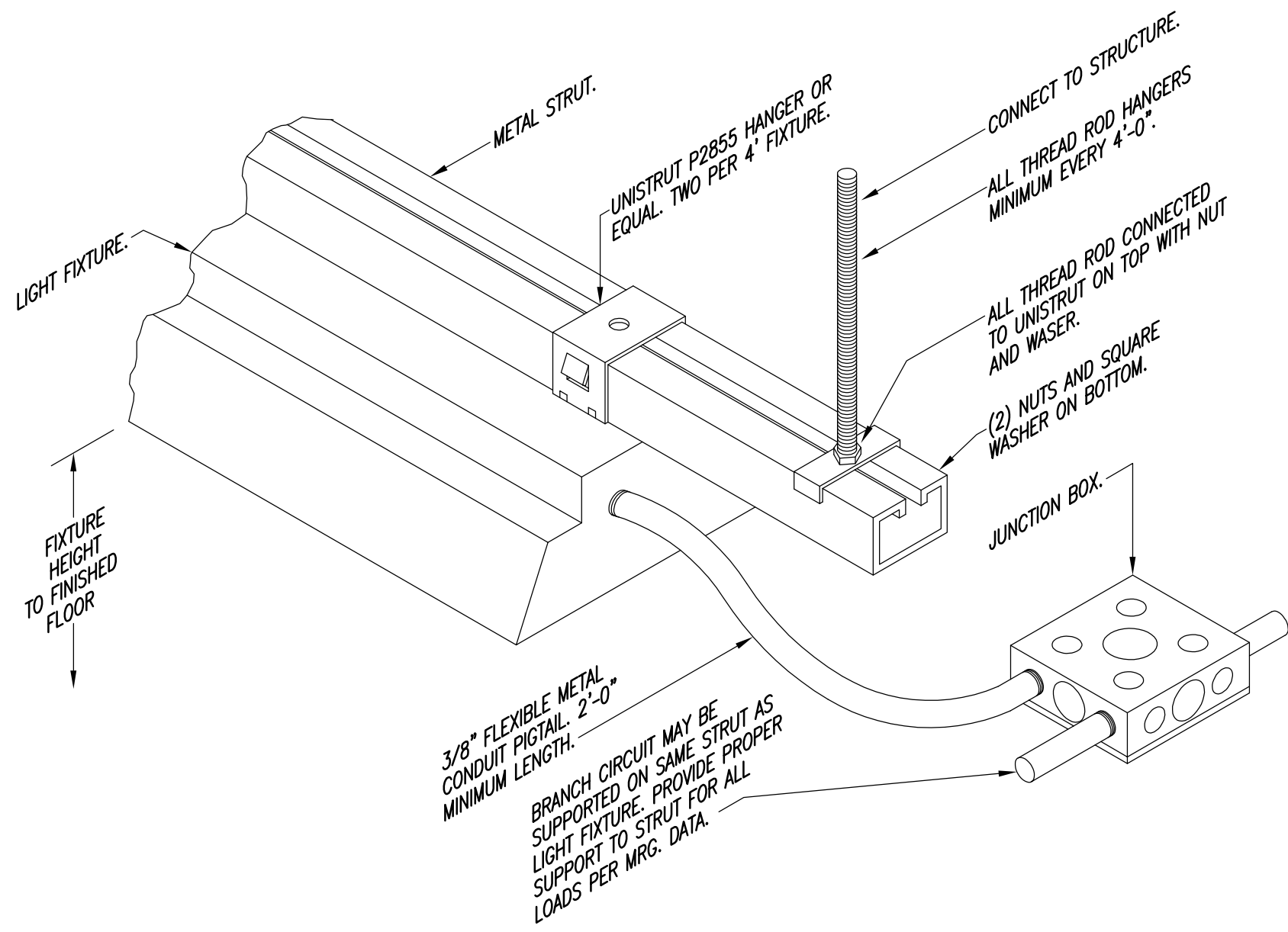
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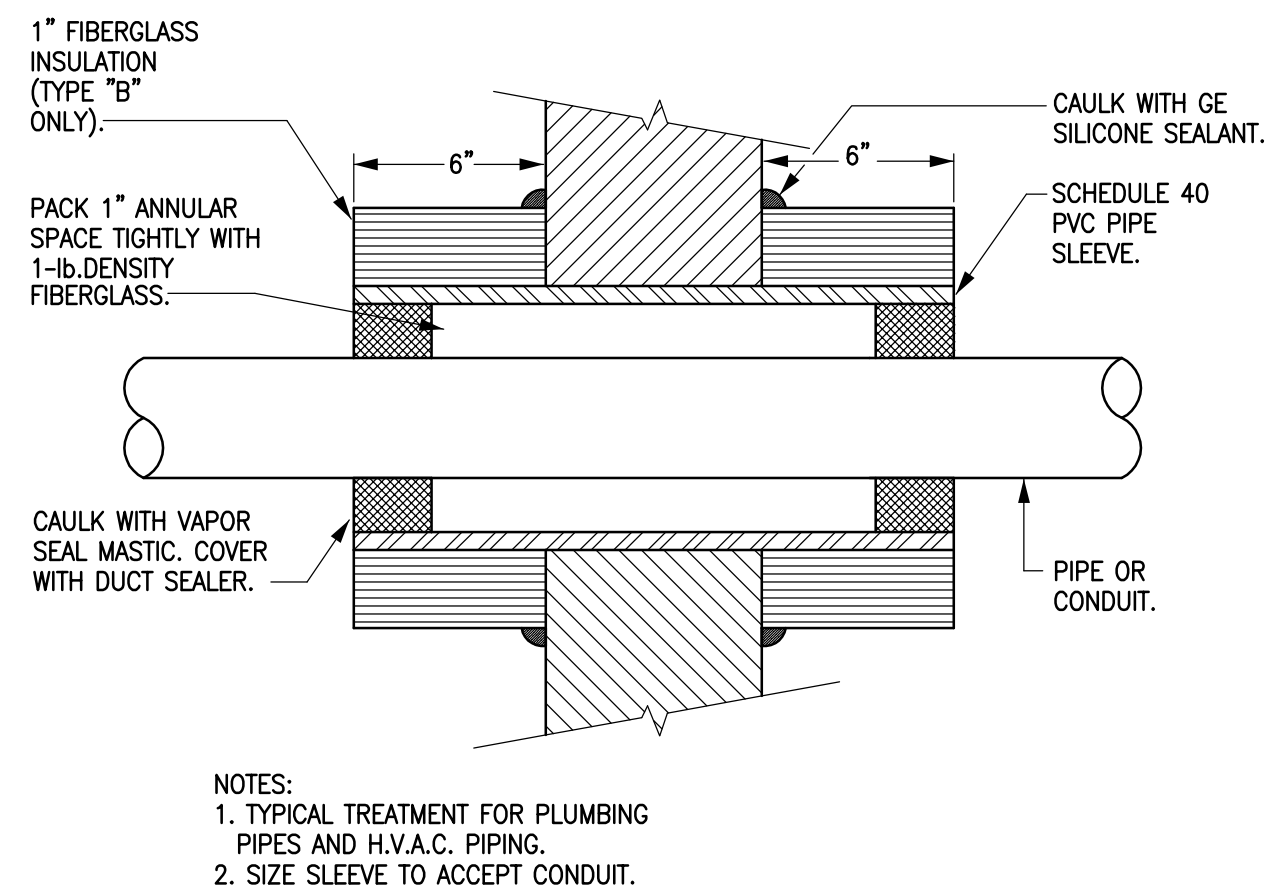


ISSUE

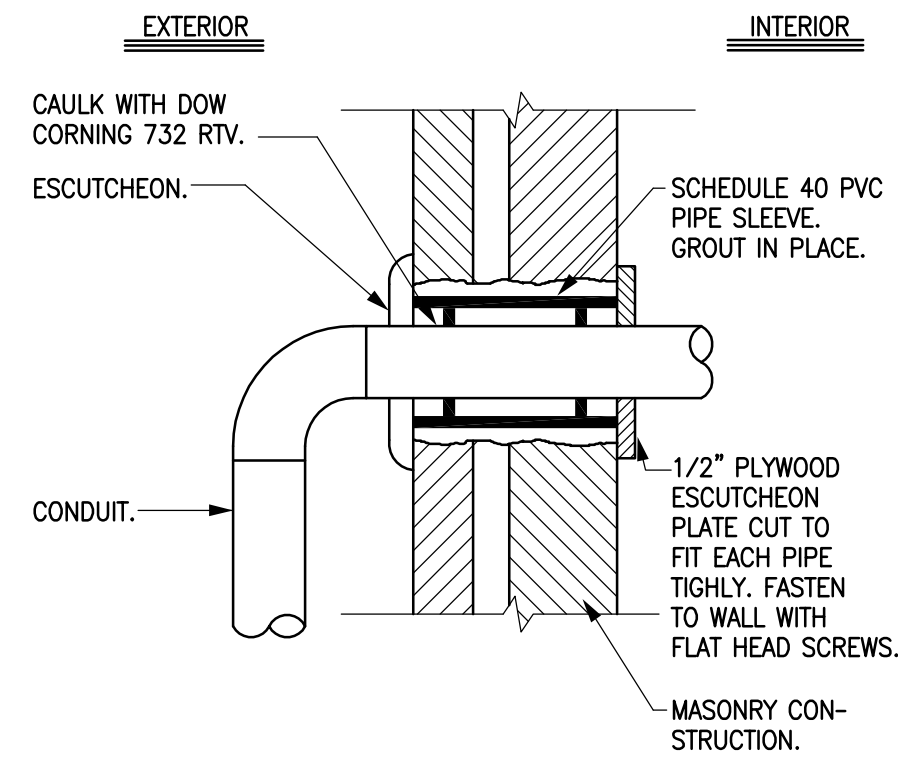
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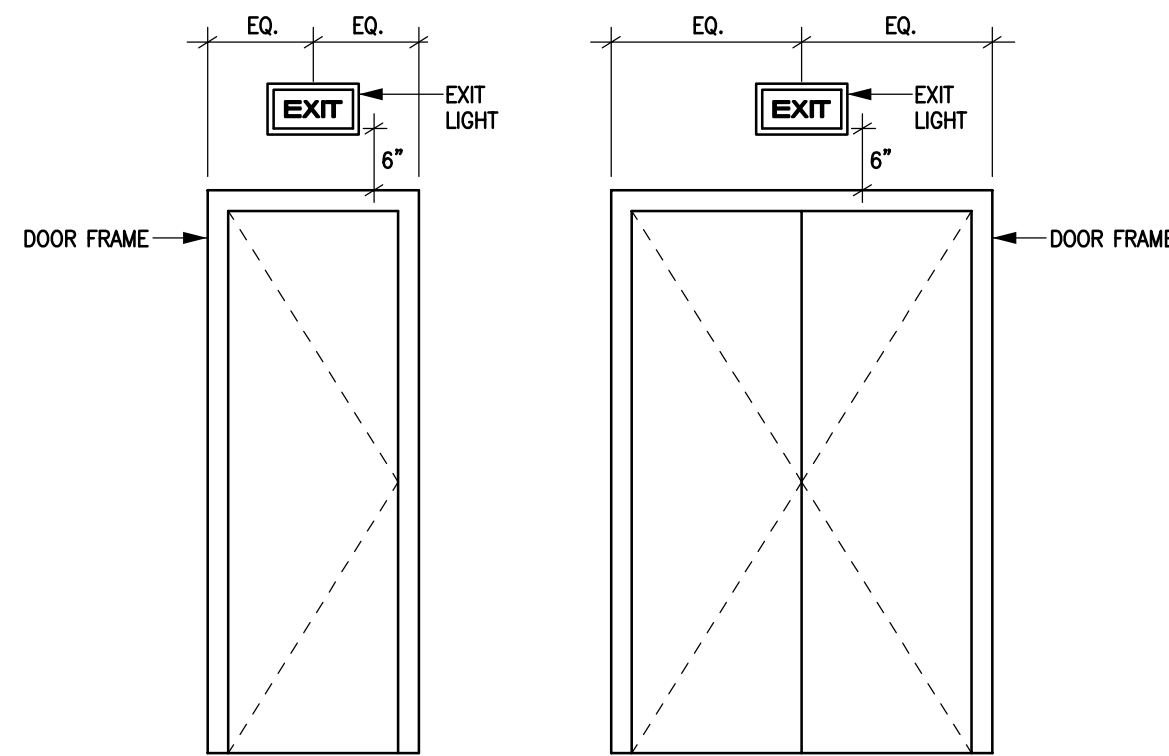
5 **LIGHT FIXTURE MOUNTING DETAIL**  
SCALE: NONE



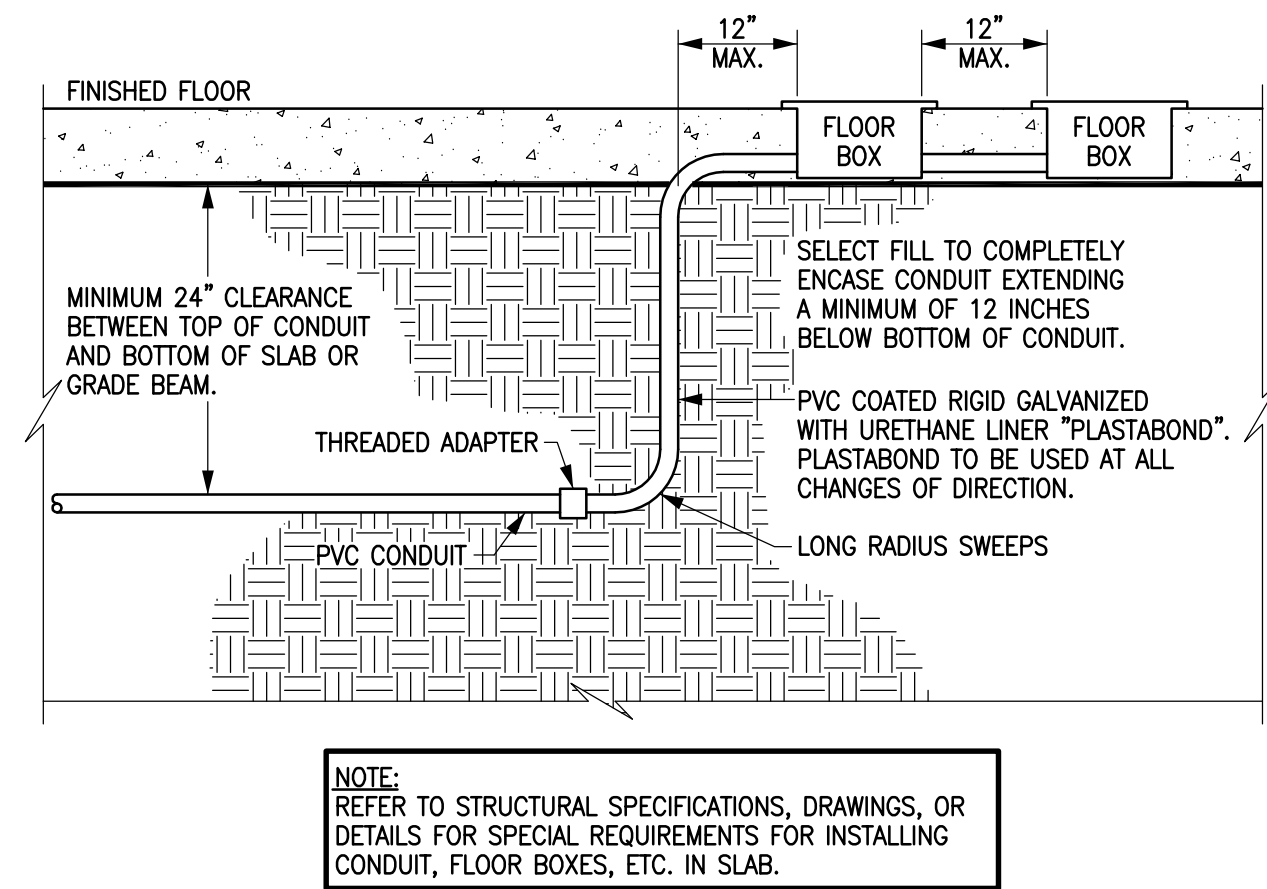
4 **CONDUIT SEALANT THRU EXTERIOR WALL**  
SCALE: NOT TO SCALE



3 **CONDUIT ENTRY THRU EXTERIOR WALL**  
SCALE: NONE



2 **TYPICAL EXIT SIGN LOCATION**  
SCALE: NONE



1 **CONDUIT/ FLOOR BOX**  
SCALE: NONE

CONSULTANTS

HOLSTE & ASSOCIATES  
MEP Engineers

PROJECT NAME

GUADALUPANA  
RESTAURANT



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20 WATERWAY  
THE WOODLANDS, TEXAS

PROJECT NUMBER

SHEET NAME

**ELECTRICAL  
DETAILS**

SHEET NUMBER

**E4.00**



LIGHTING FIXTURE SCHEDULE									
MARK	WATTS	NO.	MANUFACTURER AND CATALOG NUMBER	MOUNTING	LAMPS		VOLTS	REMARKS	
					NO.	TYPE			
A1	130	7	LITHONIA #ZSRTG432FWA12125VMVOLTGEB10PS1/4LG-A268	RECESSED	4	F032XP/ 835/ECO 35K	277	2'x4', 4-LAMP FLUORESCENT LAY-IN WITH .125" THICK ACRYLIC LENS & ADDITIONAL LENS GASKETING.	
A1E	130	3	LITHONIA #ZSRTG432FWA12125VMVOLTGEB10PS1/4LG-EL14SD-A268	RECESSED	4	F032XP/ 835/ECO 35K	277	SAME AS TYPE "A1" EXCEPT WITH EMERGENCY BATTERY PACK W/ 90 MIN. OF BACK-UP.	
A2	115	7	LITHONIA #ZSRTG332FWA12125VMVOLTGEB10PS1/4LG-A268	RECESSED	3	F032XP/ 835/ECO 35K	277	2'x4', 3-LAMP FLUORESCENT LAY-IN WITH .125" THICK ACRYLIC LENS & ADDITIONAL LENS GASKETING.	
A2E	115	3	LITHONIA #ZSRTG332FWA12125VMVOLTGEB10PS1/4LG-EL14SD-A268	RECESSED	3	F032XP/ 835/ECO 35K	277	SAME AS TYPE "A1" EXCEPT WITH EMERGENCY BATTERY PACK W/ 90 MIN. OF BACK-UP.	
B1	61	1	LITHONIA #DMW232MVOLTGEB10BRS-A268	SURFACE	2	F032XP/ 841/ECO 41K	277	4', 2-LAMP ENCLOSED FLUORESCENT	
B1E	61	1	LITHONIA #DMW232MVOLTGEB10BRS-A268	SURFACE	2	F032XP/ 841/ECO 41K	277	SAME AS TYPE "B" EXCEPT WITH EMERGENCY BATTERY PACK W/ 90 MIN. OF BACK-UP.	
C	60	4	TO BE SELECTED BY ARCHITECT AND PROVIDED AND INSTALLED BY CONTRACTOR	WALL	1	60W INCANDESCENT MAX.	120	DECORATIVE WALL SCONCE.	
D1	50	7	FOCAL POINT - I.D. ACCENT PINHOLE TRIM: #D1-RO-PIN-W-CL HOUSING: #FD4-MR-E1-RO-T-WR50	RECESSED	1	50W MR16 WIDE 40° BEAM	120	LOW VOLTAGE RECESSED PINHOLE LIGHT WITH WIDE BEAM SPREAD LAMP. (ROUND)	
D2	50	3	FOCAL POINT - I.D. WALL WASH TRIM: #D1-RO-PIN-W-CL HOUSING: #FD4-MR-E1-RO-T-WR50	RECESSED	1	50W MR16 WIDE 50° BEAM	277	LOW VOLTAGE RECESSED WALL WASHER LIGHT WITH WIDE BEAM SPREAD LAMP. (ROUND)	
D3	50	111	FOCAL POINT - I.D. ACCENT PINHOLE TRIM: #D1-RO-PIN-W-CL HOUSING: #FD4-MR-E2-RO-T-WR35	RECESSED	1	35W MR16 SPL10 10° BEAM	277	LOW VOLTAGE RECESSED PINHOLE LIGHT WITH NARROW BEAM SPREAD LAMP. (ROUND)	
D4	35	16	ZUMTOBEL #S4D4348S24422LC277	RECESSED	1	35WATT CMH 85CRI	277	4" DIAMETER CMH DOWNLIGHT CLEAR ALZAK REFLECTOR. EXTERIOR/EAVES LIGHTING.	
F	-	5	TO BE SELECTED BY ARCHITECT AND PROVIDED AND INSTALLED BY CONTRACTOR	PENDANT	-	-	120	CEILING FAN WITHOUT LIGHT KIT.	
G1	300	2	TO BE SELECTED BY ARCHITECT AND PROVIDED AND INSTALLED BY CONTRACTOR	PENDANT	-	300W INCANDESCENT MAX.	120	DECORATIVE CHANDELIER.	
H	20	5	TO BE SELECTED BY ARCHITECT AND PROVIDED AND INSTALLED BY CONTRACTOR	PENDANT	-	20W INCANDESCENT MAX.	120	DECORATIVE PENDANT.	
EM	-	9	LITHONIA #ELM627-B-N-SD-A268	WALL	2	9W KRYPTON	120/277	BLACK THERMOPLASTIC EMERGENCY LIGHTING UNIT WITH 90 MIN. OF BATTERY BACK-UP. MOUNT UNIT 6" BELOW CLG. UNLESS OTHERWISE NOTED.	
L1	100	1	GE "TETRA" LED	COVE	-	LED	120	PROVIDE DRIVER "GE" LED #74601 COORDINATE QUANTITY OF DRIVERS REQUIRED W/ EACH LENGTH REQUIRED.	
X1	3.5	-	LITHONIA #LRP1GC120/277-ELN-A268	UNIVERSAL	-	LED	120/277	SINGLE FACE EDGE LIT LED EXIT SIGN W/ GREEN LETTERING AND 90 MIN. OF BATTERY BACK-UP.	
X2	3.5	-	LITHONIA #LQMS1G120/277-ELN-A268	UNIVERSAL	-	LED	120/277	WHITE THERMOPLASTIC LED EXIT SIGN WITH 90 MIN. OF BATTERY BACK-UP.	

- NOTES:
- ALL LIGHT FIXTURES TO BE PROVIDED AS SPECIFIED NO SUBSTITUTIONS.
  - REFER TO ARCHITECT/OWNER FOR EXACT FINISH OF ALL LIGHT FIXTURES.

SYMBOL LEGEND	
SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
<b>LIGHTING (LETTER DENOTES TYPE - SEE LIGHT FIXTURE SCHEDULE)</b>	
	FLUORESCENT FIXTURE
	FLUORESCENT FIXTURE ON EMERGENCY CIRCUIT
	DOWNLIGHT FIXTURE
	LIGHT FIXTURE - WALL MOUNTED
	DOWNLIGHT FIXTURE ON EMERGENCY CIRCUIT
	LIGHT FIXTURE - WALL MOUNTED ON EMERGENCY CIRCUIT
	EXIT LIGHT-CEILING MTD WITH DIRECTIONAL ARROWS AS REQUIRED
	EXIT LIGHT-WALL MTD WITH DIRECTIONAL ARROWS AS REQUIRED
	EMERGENCY LIGHTING UNIT EQUIPMENT
<b>SWITCHES</b>	
	SINGLE POLE SWITCH
	2-POLE SWITCH
	3-WAY SWITCH
<b>RECEPTACLES AND OUTLETS</b>	
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX IN 2-GANG BOX WITH SINGLE COVER PLATE
	DOUBLE DUPLEX ISOLATED GROUND IN 2-GANG BOX WITH SINGLE COVER PLATE
	ISOLATED GROUND DUPLEX RECEPTACLE
	JUNCTION BOX
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
	FLUSH FLOOR JUNCTION BOX
	FLUSH FLOOR DUPLEX RECEPTACLE OUTLET WITH DATA
	TELEPHONE OUTLET, 1-GANG BOX WITH 3/4" CONDUIT TO ABOVE CEILING
	TELEPHONE/DATA OUTLET, 1-GANG BOX WITH 3/4" CONDUIT TO ABOVE CEILING WITH RJ11 OUTLET FOR TELEPHONE AND RJ45 OUTLET FOR DATA.
	CATV OUTLET
<b>MOTOR CONTROLLERS AND EQUIPMENT</b>	
	MOTOR, MAKE FINAL MOTOR CONNECTION
	DISCONNECT SWITCH AS REQUIRED
	MANUAL MOTOR SWITCH AS REQUIRED
<b>ELECTRICAL EQUIPMENT</b>	
	277/480 VOLT DISTRIBUTION OR PANELBOARD
	120/208 VOLT PANELBOARD
	TELEPHONE CABINET
	PLYWOOD TELEPHONE BACKBOARD
	DRY TYPE TRANSFORMER
<b>CIRCUITING</b>	
	CONDUIT
	CONDUIT IN/OR BELOW FLOOR, SLAB, OR GRADE
	3/4"C. UNLESS OTHERWISE NOTED; LONG HATCH, NEUTRAL; SHORT HATCH, PHASE; "Z" HATCH, INSULATED GROUND. NO HATCHES INDICATES 2 CONDUCTORS. ARROW INDICATES HOMERUN.
	PARTIAL ELECTRICAL HOME RUN
<b>SUBSCRIPTS AND ABBREVIATIONS</b>	
	NEXT TO ANY SYMBOL INDICATES FINAL ROUGH-IN FIELD COORDINATION BY CONTRACTOR WITH ARCHITECTURAL MILLWORK DRAWINGS AND OTHER TRADES

GENERAL NOTE:  
ALL EXTERIOR BUILDING ELECTRICAL EQUIPMENT TO BE WEATHERPROOF NEMA-3R MINIMUM UNLESS NOTED OTHERWISE.

SPECIFICATIONS
<p><b>GENERAL</b></p> <ul style="list-style-type: none"><li>VERIFY ALL DIMENSIONS AT THE JOB SITE AND FROM THE ARCHITECTURAL PLANS.</li><li>UNLESS OTHERWISE NOTED, CONTRACTOR AND SUBCONTRACTOR SHALL PAY FOR ALL PERMITS AND CHARGES REQUIRED AND SHALL COMPLY WITH ALL GOVERNING CODES AND ORDINANCES.</li><li>VISITING THE SITE: EACH BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND SHALL FULLY INFORM HIMSELF REGARDING THE FACILITIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR WORK OR MATERIAL OMITTED FROM THE BIDDER'S CONTRACT PROPOSAL DUE TO HIS FAILURE TO SO INFORM HIMSELF BY SUCH INVESTIGATION.</li><li>ALL CHANNELING AND PATCHING OF ROOF, FLOOR, CEILING AND WALLS SHALL BE GENERAL CONTRACTOR.</li><li>CONTRACTOR TO PROVIDE RECORD DRAWINGS TO OWNER.</li></ul> <p>FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS INDICATED ON PLANS. ELECTRICAL CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO ALL EQUIPMENT. MATERIAL SHALL BE AS FOLLOWS:</p> <p><b>CONDUIT:</b></p> <ul style="list-style-type: none"><li>ALL ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN CONDUIT COMPLYING WITH THE NATIONAL ELECTRICAL CODE. WHERE INSTALLED SUBJECT TO STRESS FROM COLLISION OR IMPACT, CONDUIT SHALL BE GALVANIZED RIGID STEEL. WHERE RIGID STEEL CONDUIT IS NOT REQUIRED, CONDUCTORS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING WITH ELECTRO-GALVANIZING OUT SIDE AND ENAMEL INSIDE. TUBING SHALL BE BY "TRIANGLE" OR AN APPROVED SUBSTITUTION. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED AT ALL MOTOR CONNECTIONS, OR WHERE MOVEMENT/VIBRATION IS A CONCERN. UNLESS NOTED OTHERWISE FLEXIBLE METAL CONDUIT MAY BE USED ONLY FOR CONNECTION TO LIGHTING FIXTURES, IN LENGTHS NOT TO EXCEED 6 (SIX) FEET. MINIMUM CONDUIT SIZE SHALL BE 1/2" INCH. MINIMUM SIZE FOR FLEXIBLE METAL CONDUIT SHALL BE 1/2" INCH. CONDUIT/ CONDUCTOR FILL SHALL CONFIRM TO NATIONAL ELECTRICAL CODE, LATEST EDITION.</li><li>CARLON PVC TYPE SCH. 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC SCH. 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB, OR IN TILT WALL PANELS. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.</li><li>A GROUND CONDUCTOR SHALL BE SUPPLIED IN NONMETALLIC CONDUIT OR E.M.T. UTILIZING SET SCREW TYPE CONNECTORS. THE GROUND CONDUCTOR SHALL BE BARE, STRANDED, ANNEALED COPPER.</li><li>CONDUIT TO BE SUPPORTED FROM JOIST. PROVIDED HANGERS, SUPPORTS AND FASTENINGS AS REQUIRED BY NATIONAL ELECTRICAL CODE DO NOT SUPPORT FROM ROOF DECK.</li></ul> <p><b>CONDUIT FITTINGS:</b></p> <ul style="list-style-type: none"><li>ALL CONDUIT FITTINGS SHALL BE STEEL, SET SCREW OR COMPRESSION TYPE, INSULATED THROAT, UL LISTED. FITTINGS SHALL BE AS MANUFACTURED BY APPLETON ELECTRIC, OZ GENCO CO., ARROW CONDUIT AND FITTINGS CORP., OR EQUAL.</li></ul> <p><b>CONDUCTORS:</b></p> <ul style="list-style-type: none"><li>ALL CONDUCTORS SHALL BE COPPER. EACH CONDUCTOR SHALL BE CONTINUOUS, WITHOUT WELD, SPLICE, OR JOINT THROUGHOUT ITS LENGTH, AND UNIFORM IN CROSS-SECTION. WIRE #6 AWG AND LARGER SHALL HAVE TYPE "THWN" INSULATION. WIRE #8 AWG AND SMALLER SHALL HAVE DUAL-RATED TYPE "THHN/THWN" INSULATION. MINIMUM WIRE SIZE, EXCEPT FOR CONTROL WIRING SHALL BE #12 AWG. ALL WIRING INSIDE LIGHTING FIXTURES SHALL BE TEMPERATURE RATED PER THE N.E.C. - 90 DEGREES C MINIMUM. BRANCH CIRCUIT WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS SHALL BE TEMPERATURE RATED FOR 90 DEGREES C.</li></ul> <p><b>DATA/TELEPHONE/CATV CABLING:</b></p> <ul style="list-style-type: none"><li>ALL WIRING ABOVE CEILING SHALL BE PLENUM RATED OR INSTALLED IN CONDUIT. CONTRACTOR TO PROVIDE WIRING FROM EACH DEVICE TO PLYWOOD BACKBOARD LOCATED IN OFFICE.</li></ul> <p>DATA CABLE SHALL BE CAT5. TELEPHONE CABLE SHALL BE CAT3 OR BETTER. CATV CABLE SHALL BE CO-AX.</p> <p><b>WIRING DEVICES:</b></p> <ul style="list-style-type: none"><li>ALL WIRING DEVICES TO BE 'LEVITON' DECORA SERIES. THIS INCLUDES SWITCHES, DIMMERS, RECEPTACLES, AND TELEPHONE/DATA OUTLETS.</li><li>ALL ISOLATED GROUND RECEPTACLES SHALL BE ORANGE 'IG 5-20R', ALL OTHERS TO BE GREY '5-20R'.</li><li>ALL COVERPLATES TO BE 'LEVITON' DECORA SERIES WITH STAINLESS-STEEL FINISH. (VERIFY EVERY DEVICE AND COVERPLATE FINISH ON THIS PROJECT WITH OWNER.</li></ul> <p><b>LIGHTING PANELBOARDS:</b></p> <ul style="list-style-type: none"><li>1. 120/208V, 3-PHASE' 4-WIRE, 120/240V, 1-PHASE, 3-WIRE OR 277/480V, 3-PHASE, 4-WIRE: FURNISH AND INSTALL AS SHOWN ON PLANS, LIGHTING PANELBOARDS BY SQUARE 'D' TYPE 'NQOD', STYLE "Q", OR EQUAL WITH BOLT ON CIRCUIT BREAKERS OR AN APPROVED SUBSTITUTION. ADDITIONAL BREAKERS FOR EXISTING PANELBOARDS SHALL BE OF TYPE MATCHING THE EXISTING BREAKERS.</li><li>2. PROVIDE TYPED DIRECTORY CARDS UNDER PLASTIC ON ALL DOORS OF PANELS.</li></ul> <p><b>SAFETY SWITCHES:</b></p> <ul style="list-style-type: none"><li>SAFETY SWITCHES SHALL BE FURNISHED AND INSTALLED AT ALL LOCATIONS INDICATED ON PLANS OR REQUIRED BY THE NATIONAL ELECTRICAL CODE. ALL SWITCHES SHALL BE HEAVY DUTY TYPE AND SHALL HAVE CLIPS FOR REJECTION TYPE FUSES AND SHALL BE BY SQUARE 'D', G.E., OR EQUAL. FOR THE VOLTAGE AND LOAD INVOLVED. PROVIDE A COMPLETE SET OF FUSES IN ALL FUSED SWITCHES. FUSES SHALL BE CLASS AK-1 (BUSSMAN "LOW PEAK") FOR CIRCUITS UP TO 600 AMPS AND CLASS L (BUSSMAN "HI-CAP" KRP-C) FOR CIRCUITS ABOVE 600 AMPS.</li></ul> <p><b>TRANSFORMERS:</b></p> <ul style="list-style-type: none"><li>FURNISH AND INSTALL G.E. TYPE "QL" OR EQUAL DRY TYPE TRANSFORMER WITH 2 1/2# CAPACITY TAPS ON THE PRIMARY WINDING (TWO ABOVE AND FOUR BELOW NORMAL VOLTAGE). TRANSFORMER SHALL BE RATED FOR 150° C. RISE ABOVE 40° C. AMBIENT DURING USE AND HAVE AN INSULATION SYSTEM RATED TO WITHSTAND 220° C..</li></ul>

ISSUE	
11-30-10	ISSUED FOR PERMIT
01-05-11	DBR REVIEW COMMENTS
01-14-11	ISSUED FOR CONSTRUCTION

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**HOLSTE & ASSOCIATES**  
MEP Engineers

PROJECT NAME  
**GUADALUPANA**  
RESTAURANT



PROJECT ADDRESS  
20 WATERWAY  
THE WOODLANDS, TEXAS

PROJECT NUMBER  
---  
SHEET NAME  
**ELECTRICAL**  
**SPECIFICATIONS**  
SHEET NUMBER

**E5.00**





ISSUE

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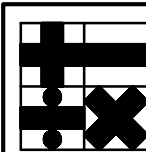
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**PLUMBING  
FLOOR PLAN**

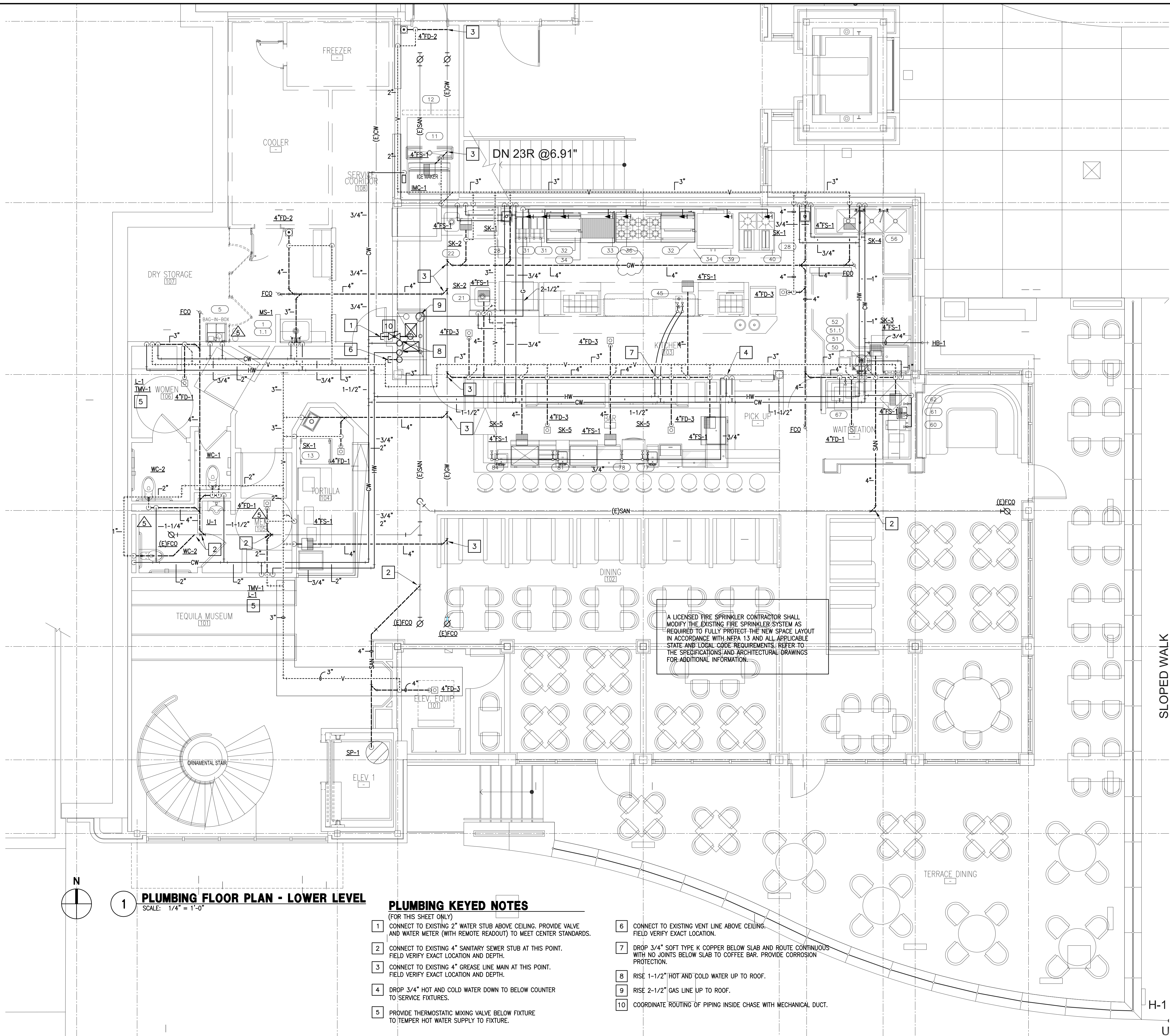
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**P1.00**

**KEY PLAN**



Holste & Associates, Inc.  
Consulting Engineers - Texas Reg. F-5443  
6671 Southwest Frwy., Suite 850  
Houston, Texas 77074 (713) 995-1351  
www.holstemep.com



**1 PLUMBING FLOOR PLAN - LOWER LEVEL**  
SCALE: 1/4" = 1'-0"

**PLUMBING KEYED NOTES**

- (FOR THIS SHEET ONLY)
- CONNECT TO EXISTING 2" WATER STUB ABOVE CEILING. PROVIDE VALVE AND WATER METER (WITH REMOTE READOUT) TO MEET CENTER STANDARDS.
  - CONNECT TO EXISTING 4" SANITARY SEWER STUB AT THIS POINT. FIELD VERIFY EXACT LOCATION AND DEPTH.
  - CONNECT TO EXISTING 4" GREASE LINE MAIN AT THIS POINT. FIELD VERIFY EXACT LOCATION AND DEPTH.
  - DROP 3/4" HOT AND COLD WATER DOWN TO BELOW COUNTER TO SERVICE FIXTURES.
  - PROVIDE THERMOSTATIC MIXING VALVE BELOW FIXTURE TO TEMPER HOT WATER SUPPLY TO FIXTURE.

- CONNECT TO EXISTING VENT LINE ABOVE CEILING. FIELD VERIFY EXACT LOCATION.
- DROP 3/4" SOFT TYPE K COPPER BELOW SLAB AND ROUTE CONTINUOUS WITH NO JOINTS BELOW SLAB TO COFFEE BAR. PROVIDE CORROSION PROTECTION.
- RISE 1-1/2" HOT AND COLD WATER UP TO ROOF.
- RISE 2-1/2" GAS LINE UP TO ROOF.
- COORDINATE ROUTING OF PIPING INSIDE CHASE WITH MECHANICAL DUCT.





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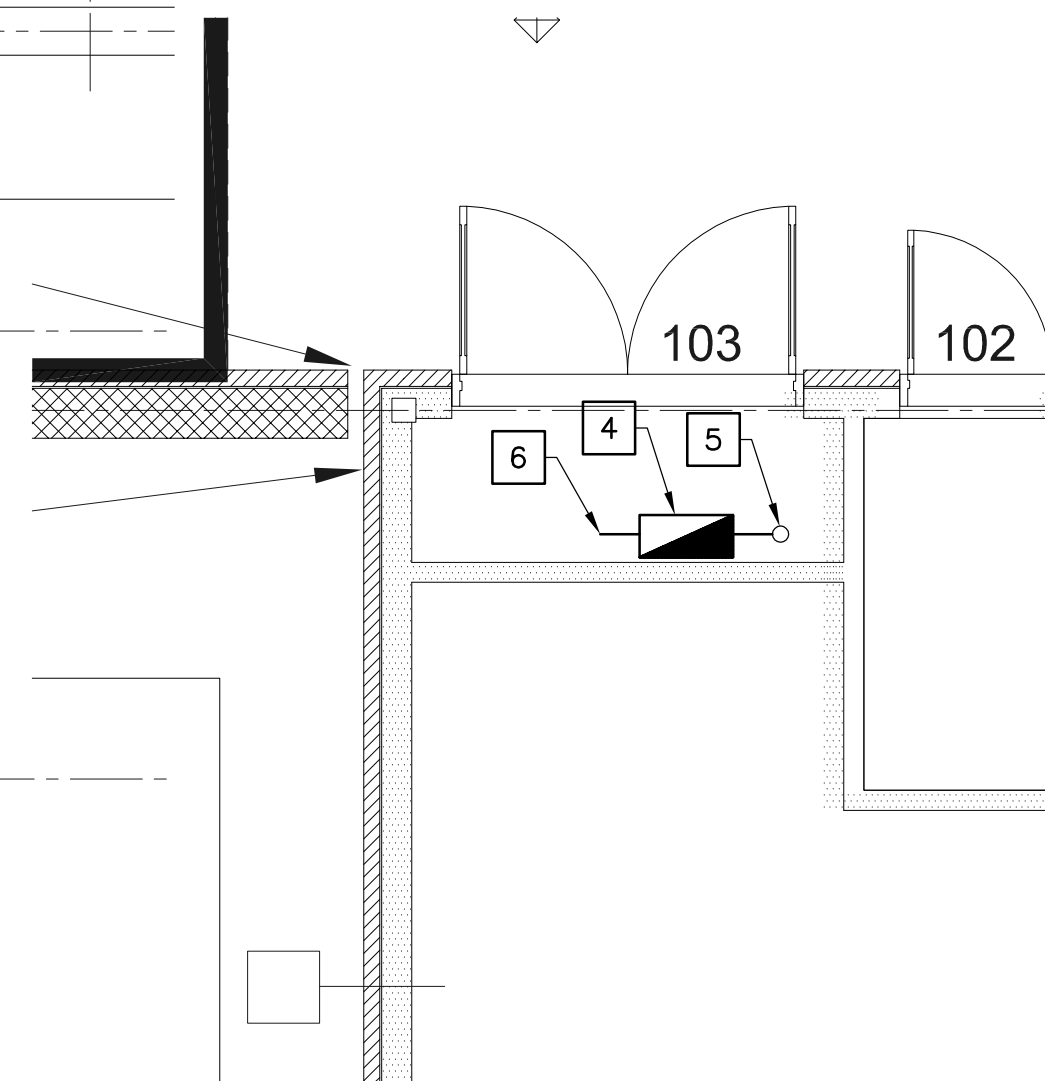
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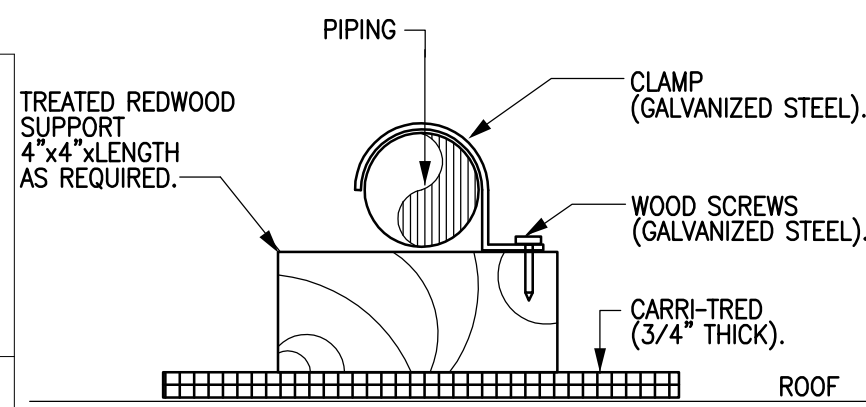
**PLUMBING ROOF**  
**PLAN**

SHEET NUMBER

**P1.01**

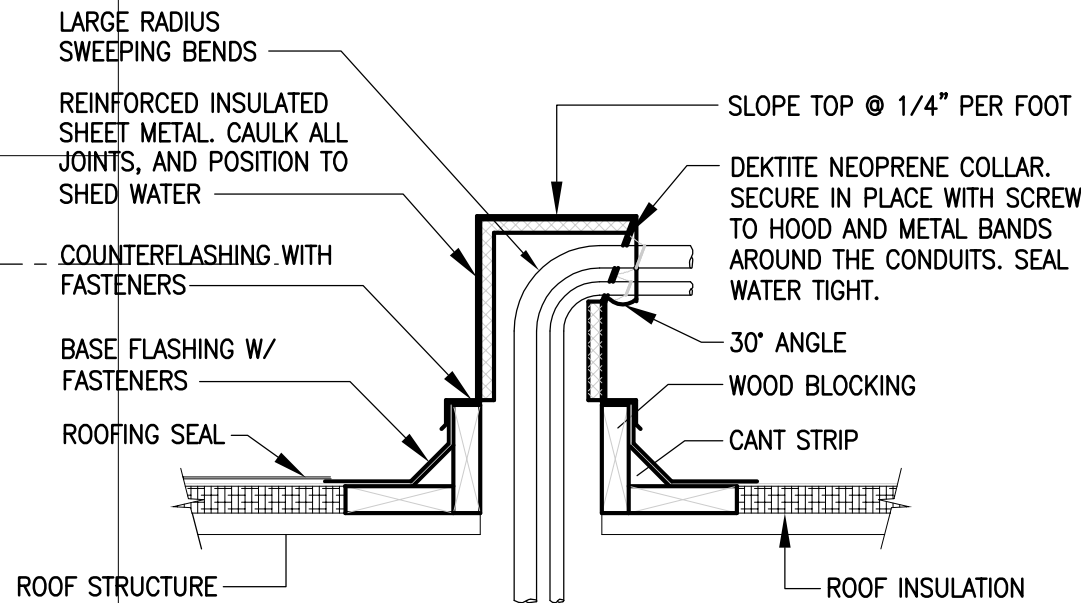


**2 PLUMBING PLAN**  
SCALE: 1/4" = 1'-0"



NOTE:  
PROVIDE THIS MOUNTING AT MAXIMUM 8'-0" O.C. AND AT  
EACH CHANGE OF CONDUIT DIRECTION.

**3 PIPING SUPPORT ON ROOF DETAIL**  
SCALE: NONE

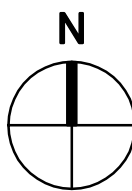


**4 PIPING PENETRATION THRU ROOF DETAIL**  
SCALE: NONE

**PLUMBING KEYED NOTES**

(FOR SHEET ONLY)

- 1** 2" GAS TO SERVE WATER HEATER. PROVIDE GAS PRESSURE REGULATOR PER MANUFACTURER'S RECOMMENDATIONS (IF REQUIRED) AND SHUT OFF VALVE.
- 2** DROP 2-1/2" GAS LINE DOWN TO FIRST FLOOR.
- 3** DROP 1-1/2" HOT AND COLD WATER DOWN TO FIRST FLOOR.
- 4** NEW NATURAL GAS SERVICE, METER WITH REMOTE READ OUT, AND REGULATOR SET. COORDINATE METER LOCATION AND INSTALLATION IN ADVANCE WITH LOCAL GAS PROVIDER. MAKE ADJUSTMENTS AS REQUIRED. TOTAL CONNECTED LOAD: 1778 CFH AT 4 OUNCES OUTLET PRESSURE. COORDINATE EXACT LOCATION OF TENANT GAS METER WITH LANDLORD PROJECT MANAGER PRIOR TO ANY ROUGH-INS BEING DONE TO AVOID RELOCATION AT CONTRACTORS EXPENSE. LABEL NEW GAS SERVICE AS "GAS SERVICE #2".
- 5** ROUTE NEW GAS PIPING SECURED TO THE EXTERIOR WALL AND UP TO THE ROOF. ROUTE GAS PIPING OVER ROOF AS INDICATED. PROVIDE PIPE SUPPORTS PER DETAIL LOCATED ON 8'-0" CENTERS AND AT ALL CHANGES IN DIRECTION.
- 6** CONNECT TO EXISTING GAS MANIFOLD.
- 7** FIELD COORDINATE WITH OTHER TENANTS, EQUIPMENT AND GAS LAYOUT.




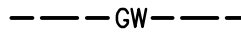
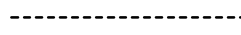
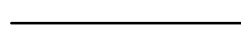
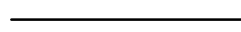
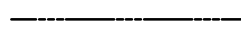



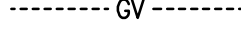
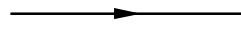
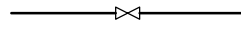
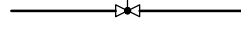
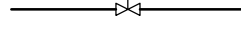



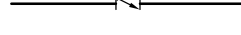


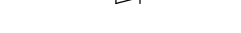










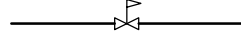
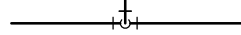
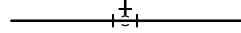
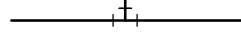


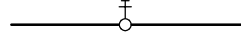


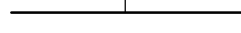

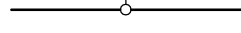

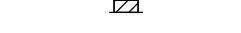




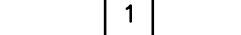




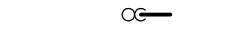

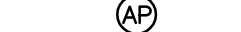
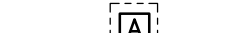
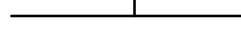

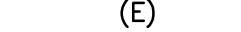
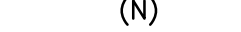

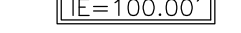
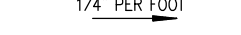

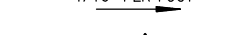


**1 PLUMBING ROOF PLAN**  
SCALE: 1/4" = 1'-0"

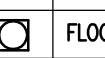
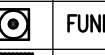
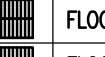
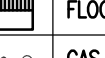
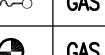
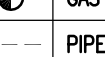
**KEY PLAN**





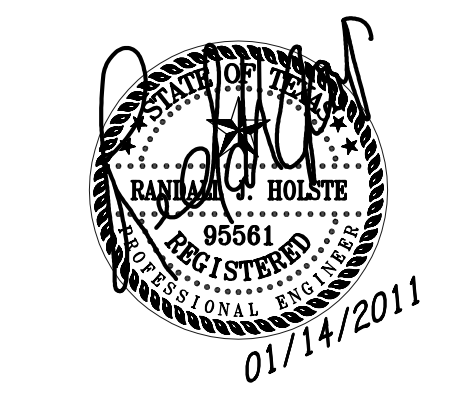
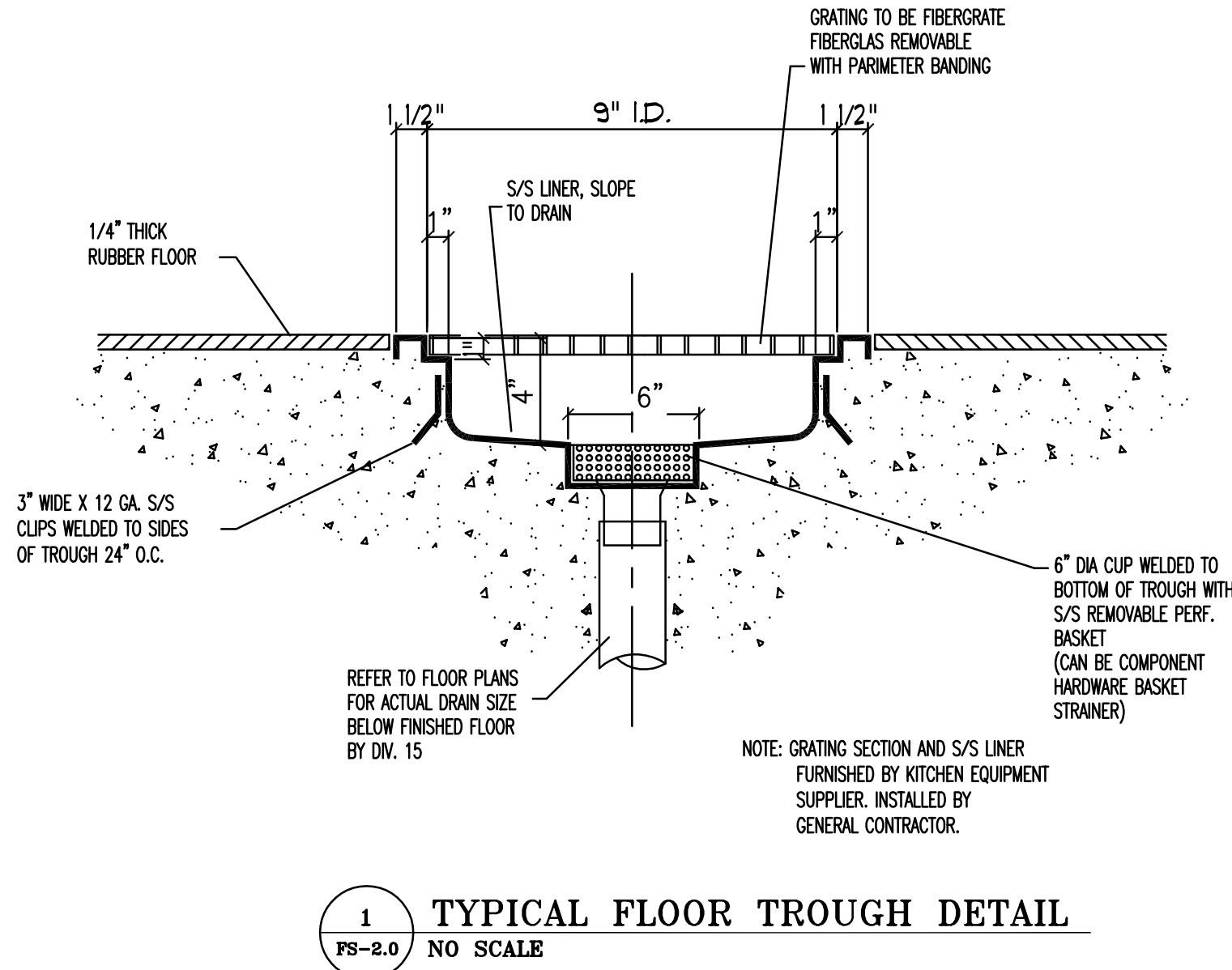
PLUMBING LEGEND	
SYMBOL	DESCRIPTION
	SANITARY OR WASTE PIPING ABOVE GRADE (SAN)
	SANITARY OR WASTE PIPING BELOW GRADE (SAN)
	GREASE WASTE PIPING (GW)
	GREASE WASTE PIPING BELOW GRADE (GW)
	VENT PIPING ABOVE OR BELOW GRADE (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	HOT WATER RETURN PIPING (HWR)
	TEMPERED WATER (TW)
	TRAP PRIMER LINE (TP)
	NATURAL GAS PIPING (G)
	GAS VENT PIPING (GV)
	FLOW DIRECTIONAL ARROW
	SHUT-OFF VALVE
	BALANCING VALVE (BV)
	SOLENOID VALVE (SV)
	BALL VALVE (BV)
	BUTTERFLY VALVE
	GAS PLUG VALVE (GPV)
	HORIZONTAL SWING CHECK
	UNION
	Y-STRAINER
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	REDUCED PRESSURE BACKFLOW PREVENTER (RP2)
	PIPING DOWN
	RISE OR DROP PIPING
	PIPING UP -OR- PIPING UP & DOWN
	CAP ON END OF PIPE
	CLEANOUT (WALL OR CEILING) (CO)
	FLOOR CLEANOUT (FCO)
	EXTERIOR CLEANOUT WITH 18"x18"x4" CONCRETE PAD (ECO)
	TWO-WAY CLEANOUT (PROVIDE 18"x24"x4" CONCRETE PAD OUTSIDE)
	PRESSURE REDUCING VALVE (PRV)
	BRANCH CONNECTION OUT OF TOP
	BRANCH CONNECTION OUT OF BOTTOM
	BRANCH CONNECTION OUT OF SIDE
	WYE & 1/8TH BEND BRANCH CONNECTION
	WYE BRANCH CONNECTION
	HOSE BIBB
	PRESSURE GAUGE WITH COCK
	THERMOMETER
	GAS PRESSURE REGULATOR
	TEST COCK
	GAS METER
	WALL HYDRANT
	VALVE IN RISE
	ASME TEMPERATURE & PRESSURE RELIEF VALVE
	VACUUM RELIEF VALVE
	ANGLE VALVE
	REFER TO KEYED NOTE
	FLOOR SINK (FS)
	FLOOR DRAIN (FD)
	FLOOR DRAIN WITH P-TRAP (FD)
	FLOOR DRAIN WITH P-TRAP AT 45° ANGLE (FD)
	HUB DRAIN (HD)
	ACCESS PANEL FOR TRAP PRIMER
	ACCESS PANEL LOCATION SYMBOL
	SHOCK ABSORBER WITH ACCESS PANEL
	AIR CHAMBER
	EXISTING
	NEW
	CONNECT NEW TO EXISTING
	INVERT ELEVATION
	QUARTER OF AN INCH SLOPE
	1/8TH OF AN INCH SLOPE
	1/16TH OF AN INCH SLOPE
	DELTA CHANGE SYMBOL
	RISER FLAG

NOTE: NOT ALL SYMBOLS MAY APPLY TO THIS PROJECT.

PLUMBING SYMBOLS/ABBREVIATIONS			
●	HOT WATER	FD	FLOOR DRAIN
●	COLD WATER	FFD	FUNNEL FLOOR DRAIN
●	DRAIN	FS	FLOOR SINK
○	CONNECTION	HD	HUB DRAIN
	FLOOR DRAIN AS NOTED	SS	STEAM SUPPLY
	FUNNEL DRAIN AS NOTED	SR	STEAM RETURN
	FLOOR SINK FULL GRATE	EL	ELEVATION ABOVE FINISHED FLOOR
	FLOOR SINK HALF GRATE	SU	STUB UP ABOVE FINISHED FLOOR
	GAS SUPPLY	GPH	GALLONS PER HOUR
	PIPE ROUTING	GPM	GALLONS PER MINUTE
HW	HOT WATER	PSI	POUNDS PER SQUARE INCH
CW	COLD WATER	BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
DR	DRAIN	DFA	DOWN FROM ABOVE
AFF	ABOVE FINISHED FLOOR		
BFF	BELOW FINISHED FLOOR		

PLUMBING NOTES	
A	PLUMBER TO CONNECT ALL WATER LINES, GAS LINES, WASTE LINES, ETC. TO FULLY CONNECT ALL EQUIPMENT AND RUN CONDENSATE LINES FROM UNITS TO DRAINS AND THESE LINES TO BE NO SMALLER THAN THE STUB- OUT OF THE FIXTURE. PLUMBER TO PROVIDE SHUT OFF VALVES ON ALL WATER AND GAS LINES, ALL VALVES, CUT-OFFS, TRAPS, HYDROSTATIC SHOCK ELIMINATORS, PRESSURE REGULATORS AND MATERIALS NECESSARY TO CONNECT ALL LINES, UNLESS OTHERWISE SPECIFIED IN THE ITEM SPECIFICATIONS. FAUCETS, DRAIN OUTLET FITTINGS IN FIXTURES, AND SPECIALTY ITEMS ARE TO BE FURNISHED BY THE KITCHEN EQUIPMENT SUPPLIER AS OUTLINED IN THE ITEM SPECIFICATIONS. ALL WORK TO BE PERFORMED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES RELATING TO INSTALLATION AND HOOKUP OF EQUIPMENT OMISSIONS OR ERRORS ON THE SCHEDULE DO NOT RELIEVE THE PLUMBING CONTRACTOR FROM COMPLETE FINAL PLUMBING RESPONSIBILITY.
B	ALL OUTLETS AND CONNECTIONS SHOWN RELATE TO KITCHEN EQUIPMENT ONLY. REFER TO ARCHITECTURAL/ENGINEERING PLANS FOR ADDITIONAL REQUIREMENTS.
C	ALL DIMENSIONS GIVEN ARE FROM COLUMN CENTERLINES AND/OR FINISHED WALLS AND ARE IN INCHES TO 4'-0". ELEVATIONS GIVEN ARE FROM FINISHED FLOORS. ALL ROUGH-INS SHOWN ARE TO BE RUN INSIDE WALLS (EXCEPT STUB-UPS) LOCATIONS INDICATE POINT OF EXIT FROM WALLS, CEILINGS OR FLOORS.
D	ALL FLOOR DRAINS TO SET 1/2" BELOW FINISHED FLOOR UNLESS OTHERWISE NOTED. DO NOT SLOPE FLOORS SO CLOSE TO DRAINS AS TO CREATE "PITS" OR "DIPS" IN FLOOR. MINIMUM RADIUS OF SLOPE TO BE 24" FROM CENTERLINE OF DRAIN.

PLUMBING SCHEDULE						
NO.	UTILITY	SIZE	HEIGHT A.F.F.	LOCATION	BTU/hr	REMARKS
FS	FLOOR SINK	3"	FLUSH	FLOOR		HALF-GRATE - TO RECEIVE INDIRECT WASTE FROM EQUIPMENT
FD	FLOOR DRAIN	3"	-1/2"	FLOOR		AREA FLOOR DRAIN - SEE DETAIL
FFD	FUNNEL FLOOR DRAIN	3"	FLUSH	FLOOR		TO RECEIVE INDIRECT WASTE FROM EQUIPMENT - 4" HIGH FUNNEL
1	HOT & COLD WATER	1/2"	36"	WALL		BTC ON MOP SINK FAUCET
1.1	DRAIN	2"	1"	FLOOR		BTC ON MOP SINK WASTE
5	COLD WATER	3/4"	90"	WALL		BTC ON SODA SYSTEM - VERIFY REQUIREMENTS
11	COLD WATER	1/2"	90"	WALL		BTC ON ICE MACHINE. INTERCONNECT THRU FILTER
12	DRAIN	2"	-6"	FLOOR		BTC ON FLOOR TROUGH WASTE - SEE DETAIL
21	HOT & COLD WATER	1/2"	12"	WALL		BTC ON FAUCET
22	HOT & COLD WATER	1/2"	12"	WALL		BTC ON FAUCET
28	HOT & COLD WATER	1/2"	20"	WALL		BTC ON HAND SINK FAUCET
	DRAIN	1 1/2"	16"	WALL		BTC ON HAND SINK WASTE
FGAS	NATURAL GAS	3/4"	24"	WALL	100,000	CAP FOR FUTURE
31	NATURAL GAS	3/4"	36"	WALL	122,000 EACH	BTC ON FRYER (2 REQ'D)
32	NATURAL GAS	3/4"	36"	WALL	90,000 EACH	BTC ON GRIDDLE (2 REQ'D)
33	NATURAL GAS	3/4"	36"	WALL	120,000	BTC ON CHARBROILER
34	NATURAL GAS	3/4"	60"	WALL	35,000 EACH	BTC ON SALAMANDER (2 REQ'D)
36	NATURAL GAS	3/4"	36"	WALL	224,000	BTC ON EIGHT-BURNER RANGE
39	NATURAL GAS	3/4"	24"/48"	WALL	100,000	BTC ON DOUBLE CONNECTION OVEN
40	NATURAL GAS	3/4"	36"	WALL	120,000	BTC ON TACO RANGE
45	HOT & COLD WATER	1/2"	6"	FLOOR		BTC ON FAUCET
50	HOT & COLD WATER	1/2"	12"	WALL		BTC ON FAUCET
51	COLD WATER	1/2"	12"	WALL		BTC ON DISPOSER
51.1	DRAIN	3"	16"	WALL		BTC ON DISPOSER
52	HOT WATER (140° F)	3/4"	60"	WALL		BTC ON DISHMACHINE
60	COLD WATER	1/2"	48"	WALL		BTC ON COFFEE BREWER - VERIFY REQUIREMENTS
61	COLD WATER	1/2"	48"	WALL		BTC ON TEA BREWER - VERIFY REQUIREMENTS
62	COLD WATER	1/2"	12"	WALL		BTC ON WATER FILL FAUCET
67	COLD WATER	1/2"	48"	WALL		BTC ON ESPRESSO MACHINE
77	HOT & COLD WATER	1/2"	9"	WALL		BTC ON FAUCET
78	HOT WATER (140° F)	3/4"	12"	WALL		BTC ON DISHMACHINE
81	HOT & COLD WATER	1/2"	9"	WALL		BTC ON FAUCET
84	HOT & COLD WATER	1/2"	9"	WALL		BTC ON FAUCET



ISSUE	
11-30-10	ISSUED FOR PERMIT
01-05-11	DBR REVIEW COMMENTS
01-14-11	ISSUED FOR CONSTRUCTION

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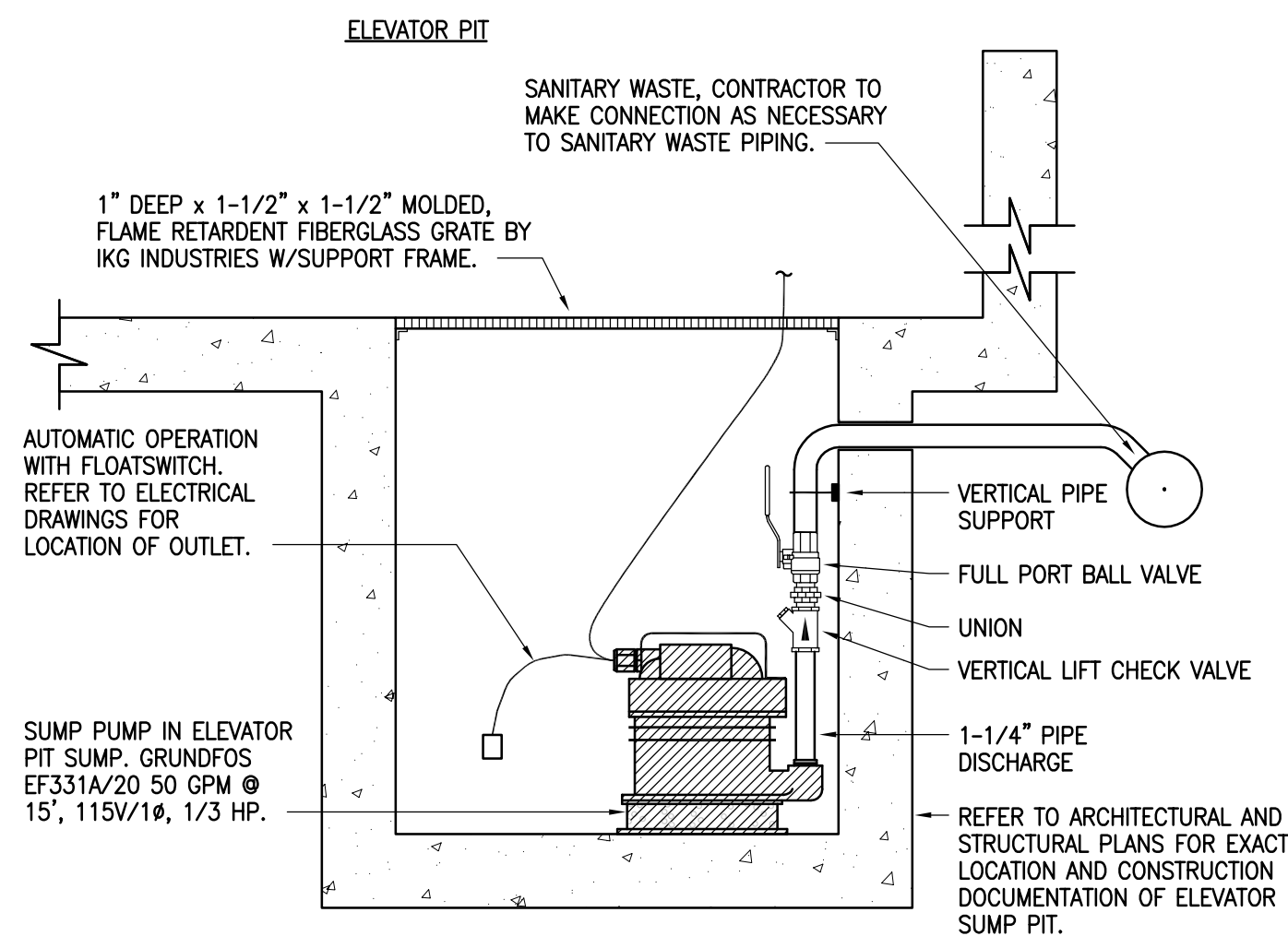
PROJECT NAME  
**GUADALUPANA**  
RESTAURANT



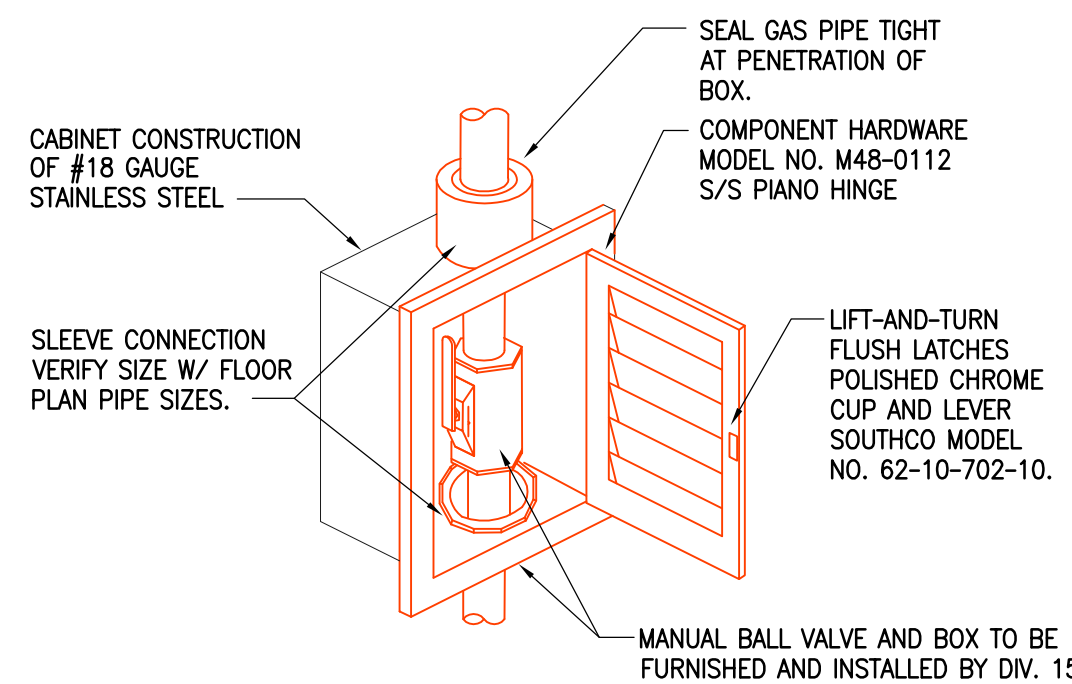
PROJECT ADDRESS  
20 WATERWAY  
THE WOODLANDS, TEXAS

PROJECT NUMBER  
—  
SHEET NAME  
**PLUMBING**  
**SCHEDULES**  
SHEET NUMBER



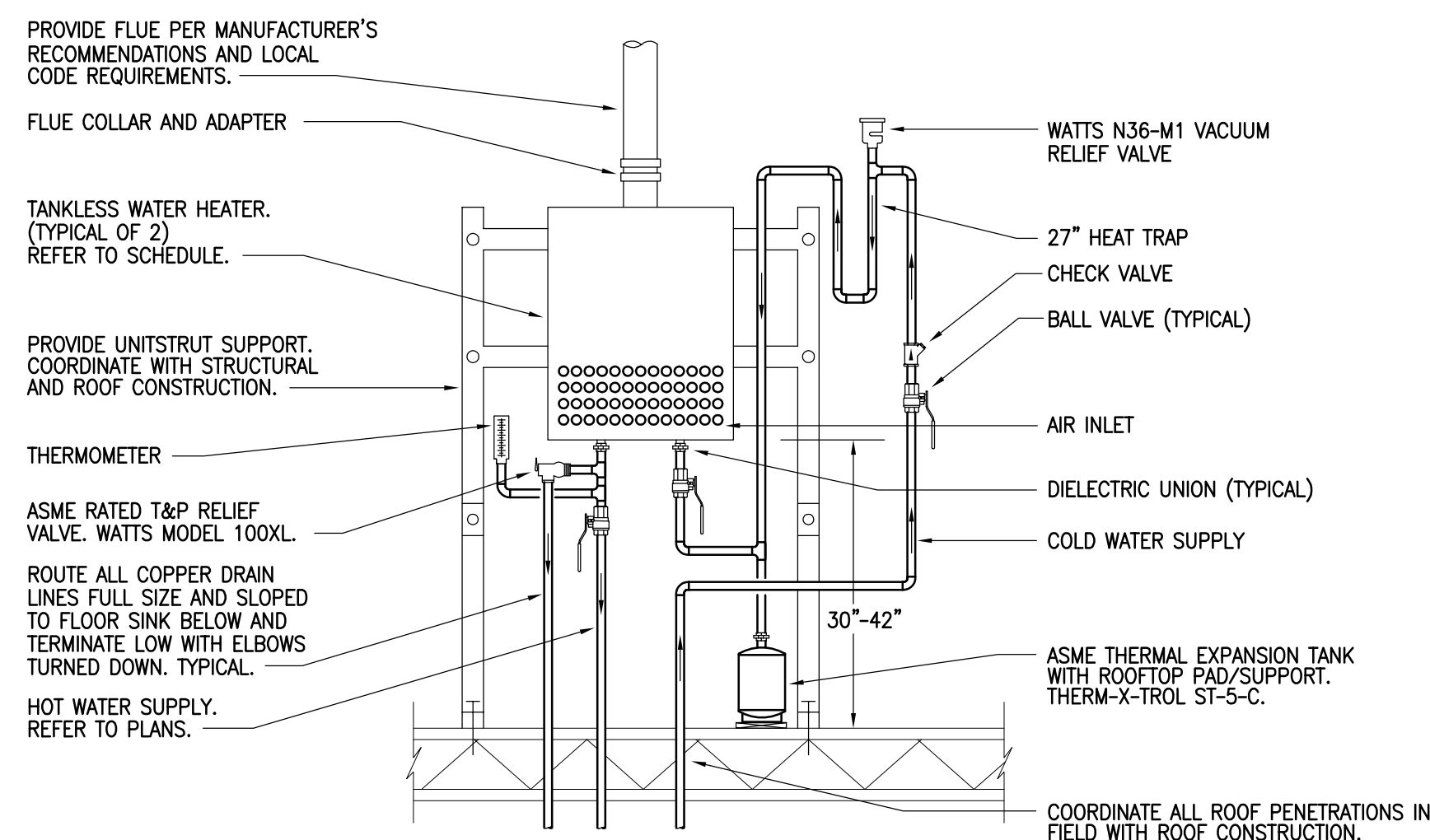


**10 ELEVATOR PIT SUMP PUMP (SP-1)**  
SCALE: NONE



NOTE: INSTALL MANUAL VALVE IN BOX UPSTREAM OF ANSUL VALVE.

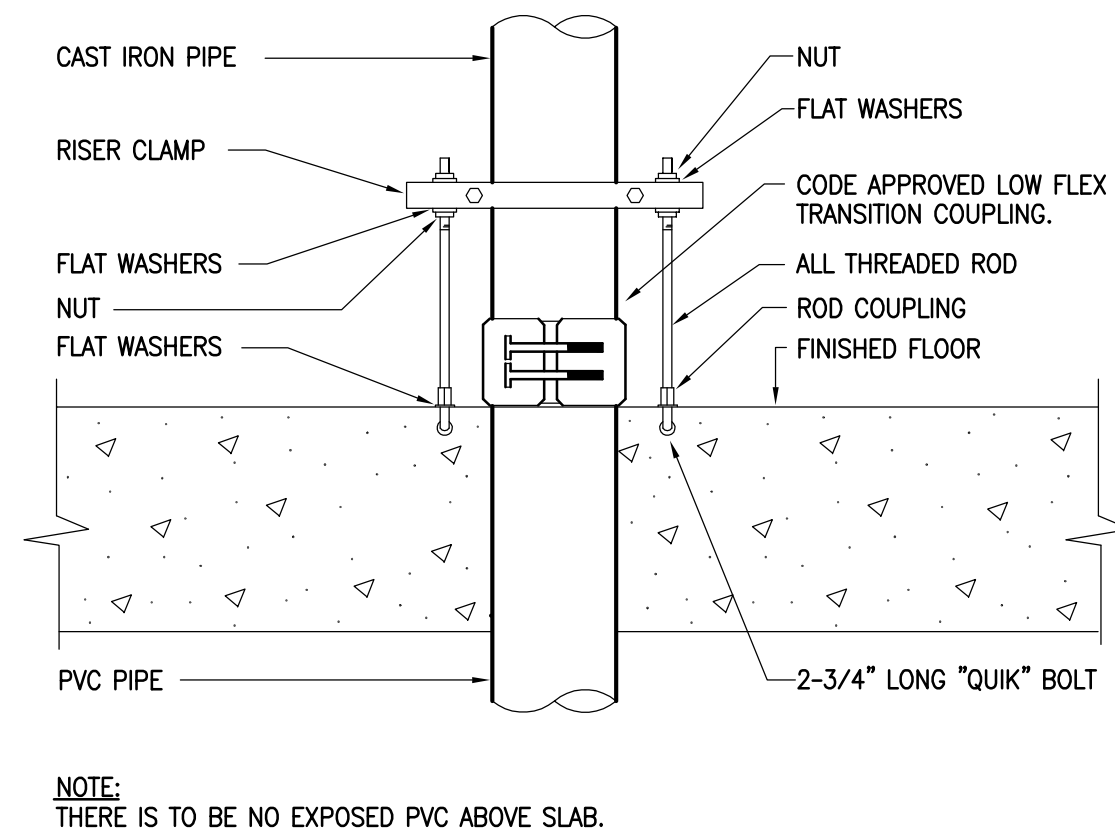
**9 KITCHEN MANUAL VALVE BOX**  
SCALE: NONE



NOTES:

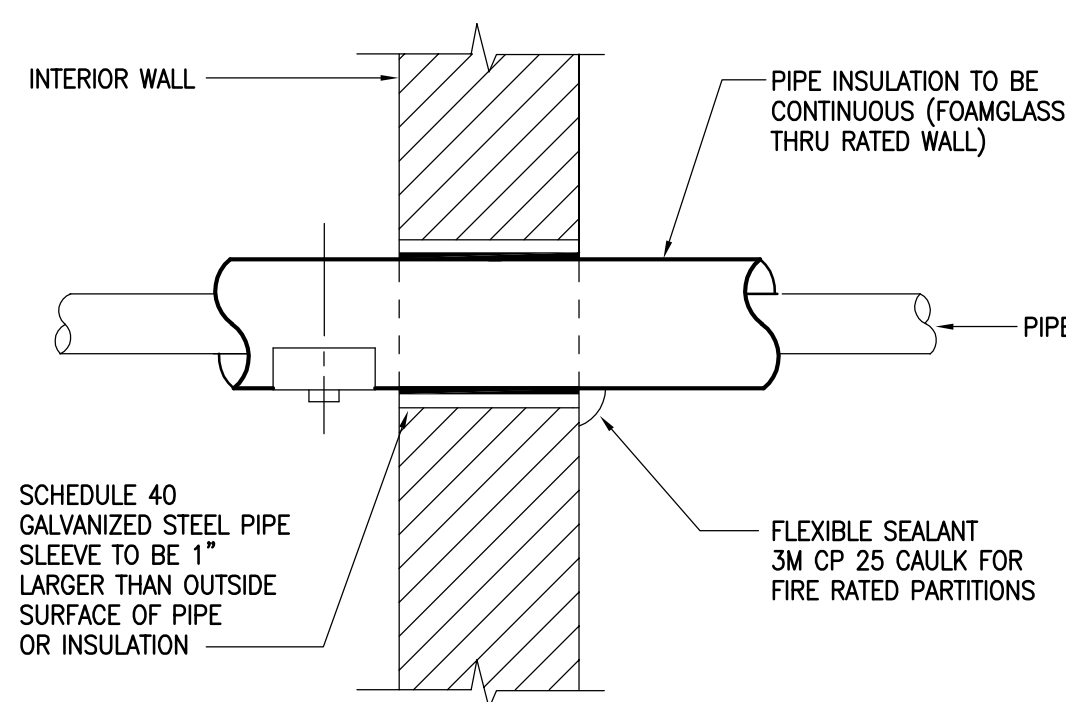
1. PROVIDE UNIT IN READILY ACCESSIBLE LOCATION, IN COMPLIANCE WITH LOCAL CODES. COORDINATE FINAL LOCATION AND INSTALLATION WITH ARCHITECT AND/OR OWNER.
2. PROVIDE 1" PIPE INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.28 BTU PER INCH/HR x S.F. x F OF ALL DOMESTIC WATER PIPING. PROVIDE JACKETING FOR ALL EXPOSED PIPING.

**8 WATER HEATER TYPICAL WATER PIPING**  
SCALE: NONE

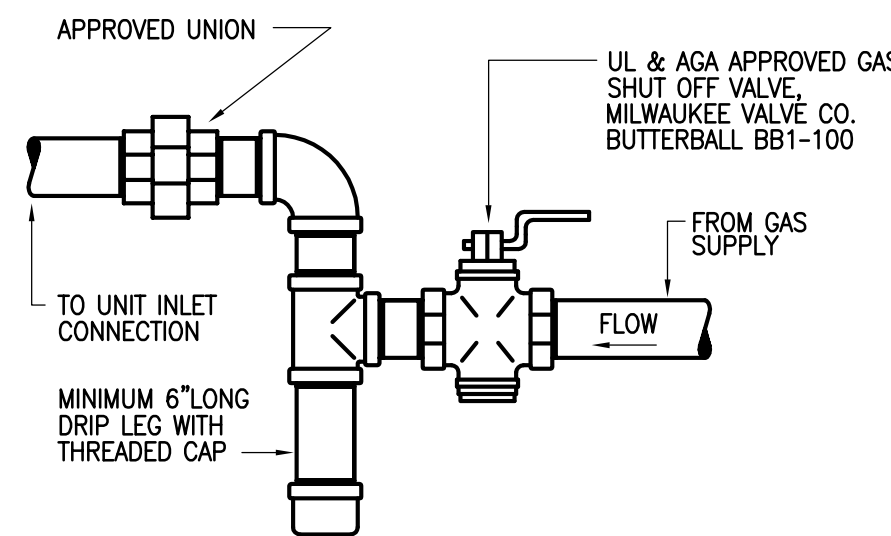


NOTE: THERE IS TO BE NO EXPOSED PVC ABOVE SLAB.

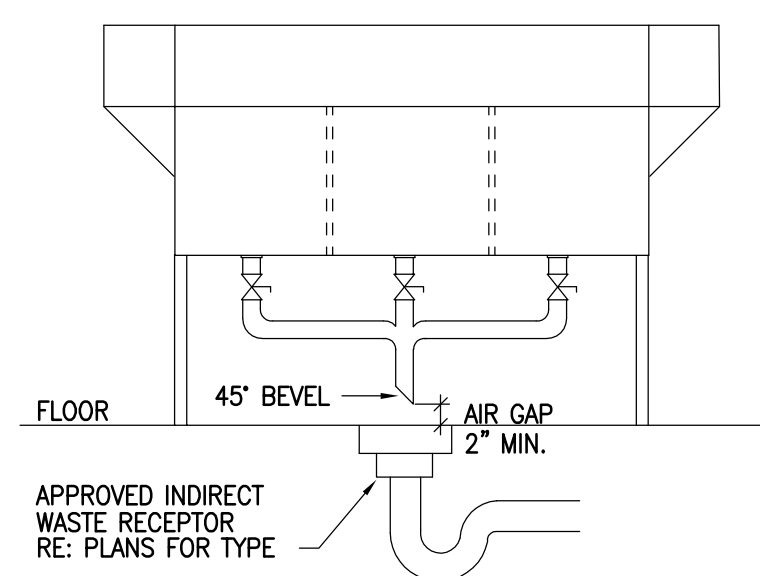
**7 CAST IRON TO PVC PIPE TRANSITION**  
SCALE: NONE



**6 INTERIOR WALL PENETRATION**  
SCALE: NONE

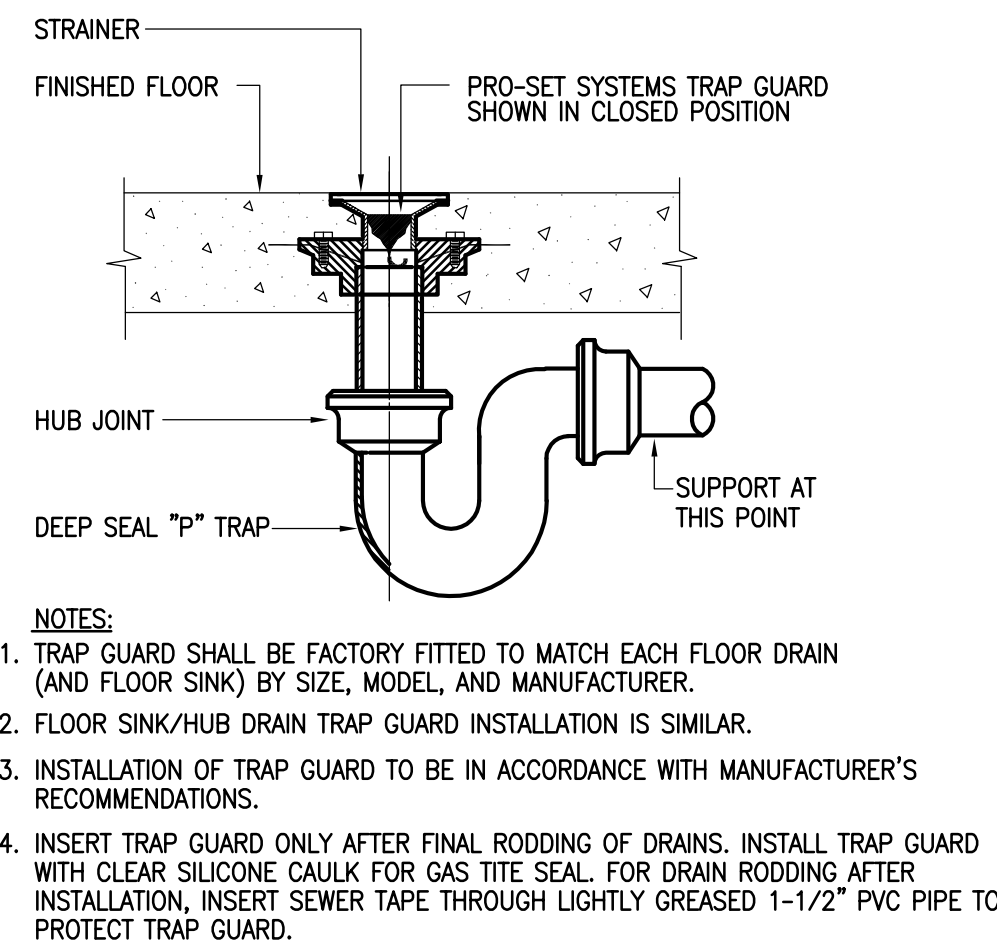


**5 GAS CONNECTION TO EQUIPMENT**  
SCALE: NONE



NOTE: INDIRECT WASTE PIPING FOR OTHER SINKS/EQUIPMENT IS SIMILAR.

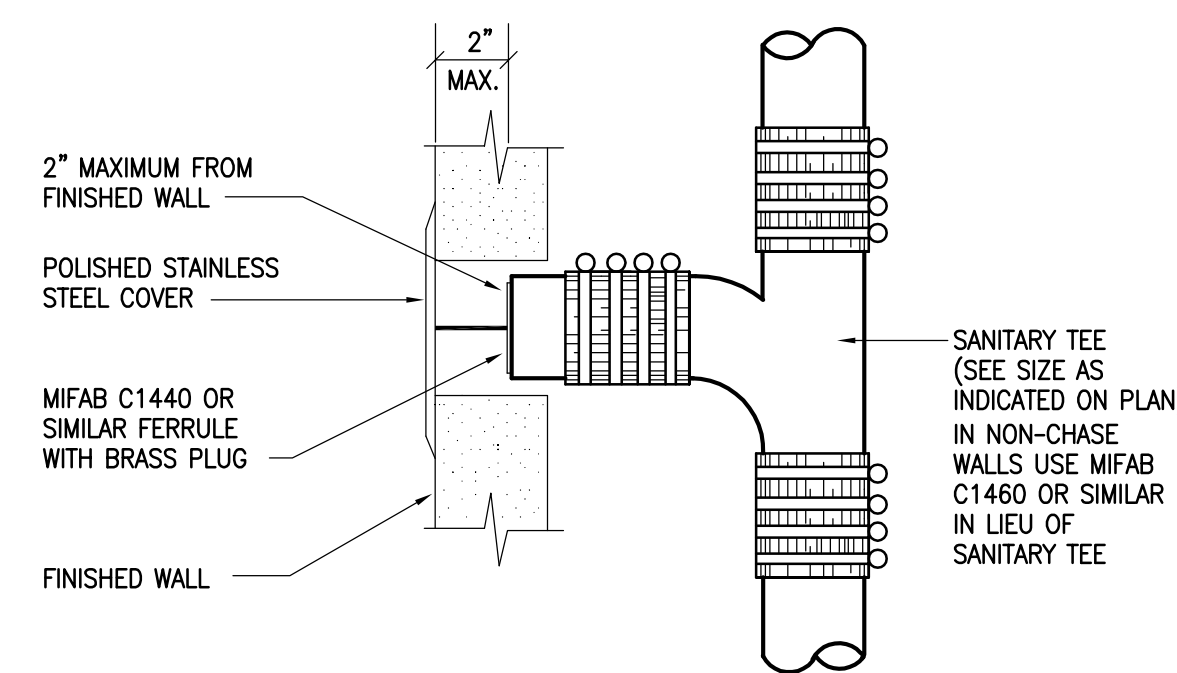
**4 THREE COMPARTMENT SINK**  
SCALE: NONE



NOTES:

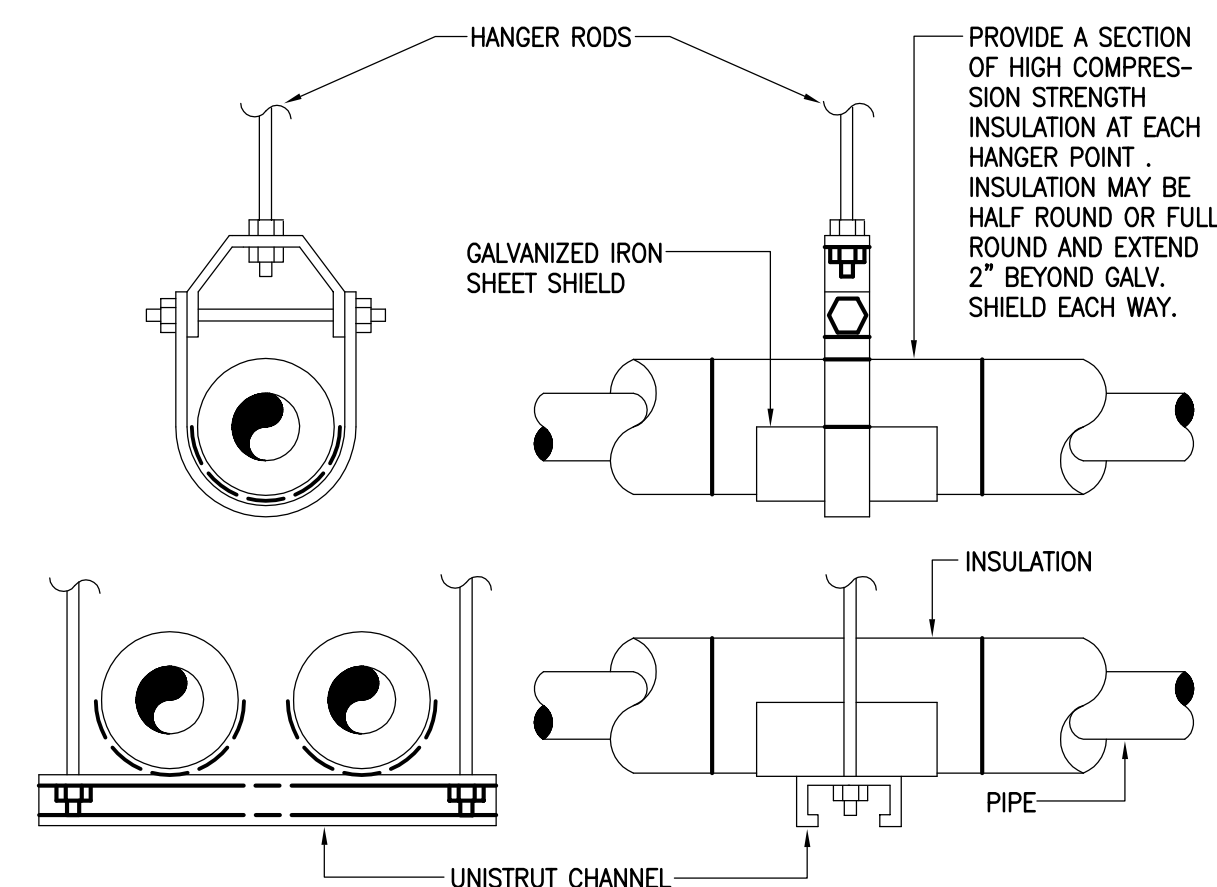
1. TRAP GUARD SHALL BE FACTORY FITTED TO MATCH EACH FLOOR DRAIN (AND FLOOR SINK) BY SIZE, MODEL, AND MANUFACTURER.
2. FLOOR SINK/HUB DRAIN TRAP GUARD INSTALLATION IS SIMILAR.
3. INSTALLATION OF TRAP GUARD TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. INSERT TRAP GUARD ONLY AFTER FINAL RODDING OF DRAINS. INSTALL TRAP GUARD WITH CLEAR SILICONE CAULK FOR GAS TITE SEAL. FOR DRAIN RODDING AFTER INSTALLATION, INSERT SEWER TAPE THROUGH LIGHTLY GREASED 1-1/2 inch PVC PIPE TO PROTECT TRAP GUARD.

**FLOOR DRAIN WITH TRAP SEAL PROTECTION**  
SCALE: NONE



**2 WALL CLEANOUT**  
SCALE: NONE

MINIMUM DIMENSIONS OF GALVANIZED SHEETMETAL PROTECTION SHIELDS AT PIPE HANGERS		
NOMINAL SIZE PIPE	SHIELD LENGTH MIN. (IN.)	GAUGE THICKNESS
1/2" & 3/4"	12	18
1" - 2-1/2"	12	18
3" - 4"	12	18
6"	12	16



**1 HANGER FOR WATER PIPING**  
SCALE: NONE



**GAS PIPE CALCULATIONS**

**1 PSI SERVICE**

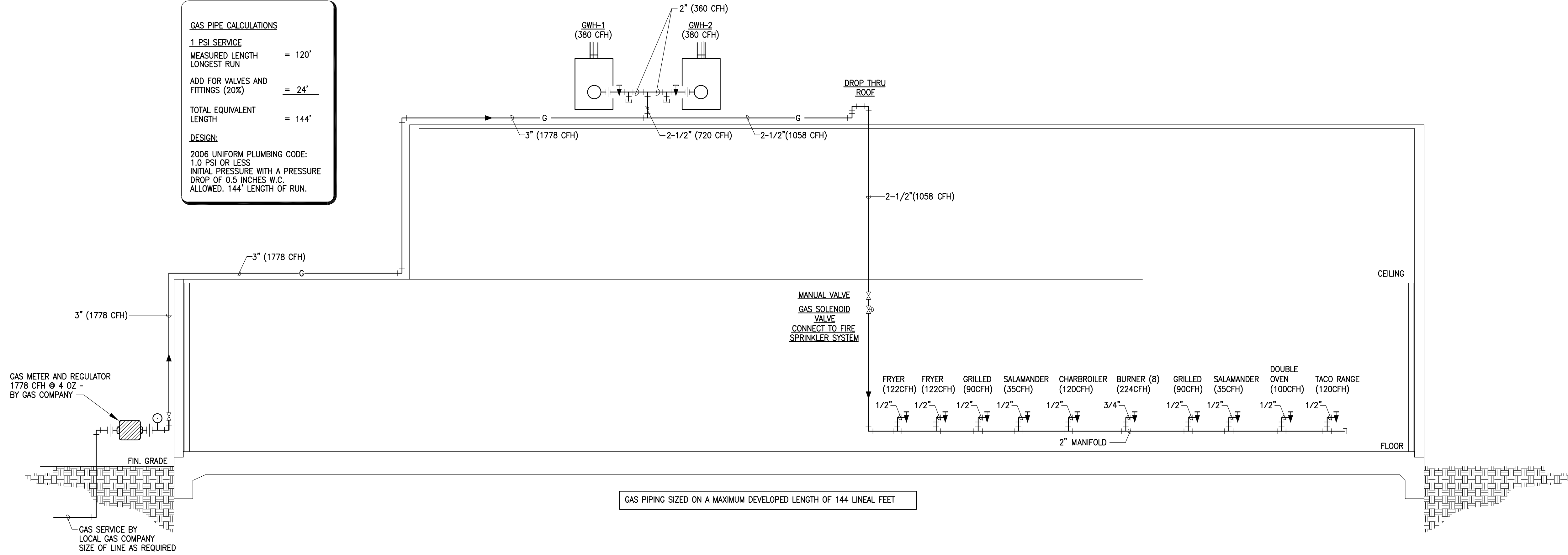
MEASURED LENGTH = 120'  
LONGEST RUN

ADD FOR VALVES AND FITTINGS (20%) = 24'

TOTAL EQUIVALENT LENGTH = 144'

**DESIGN:**

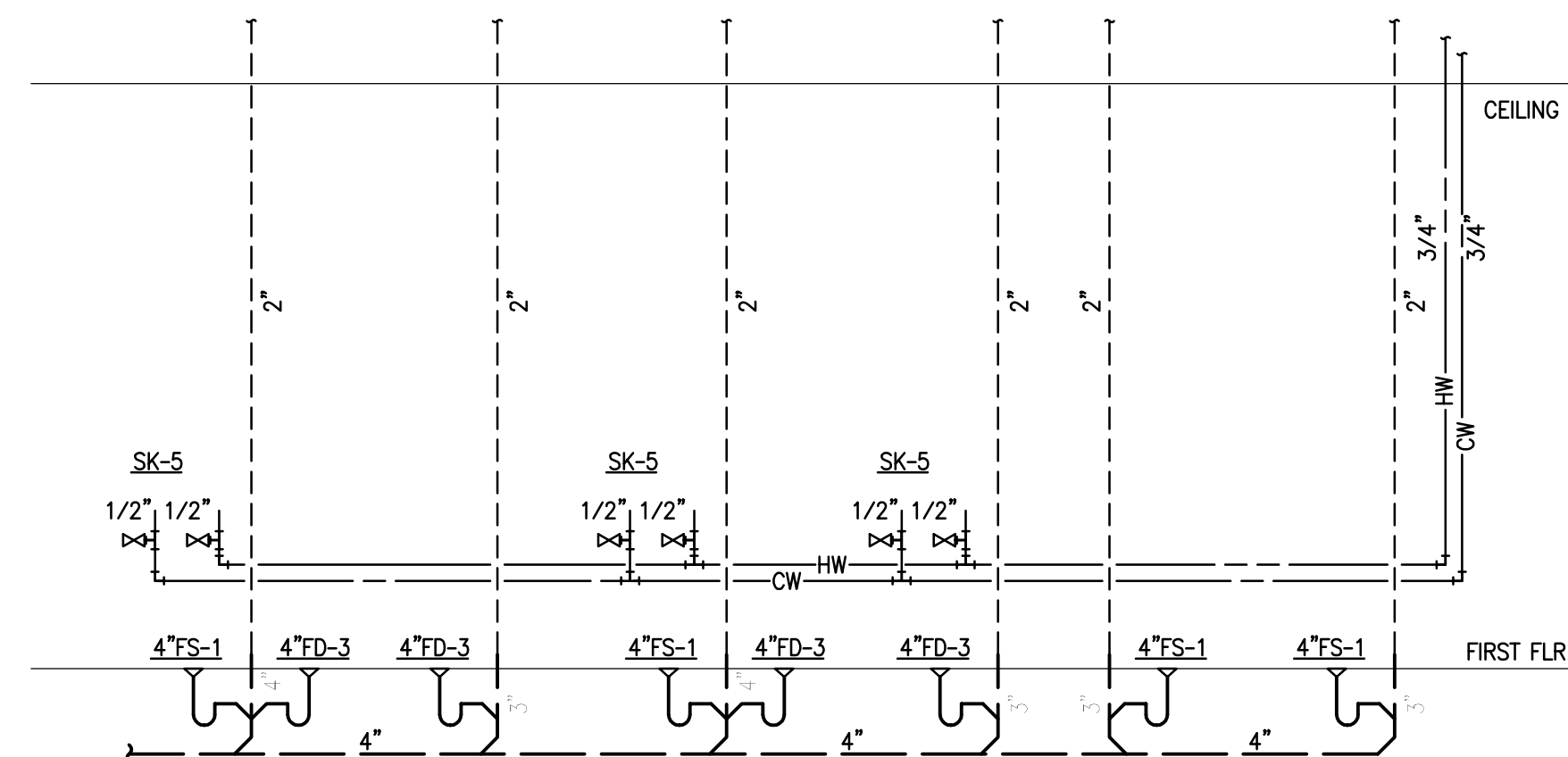
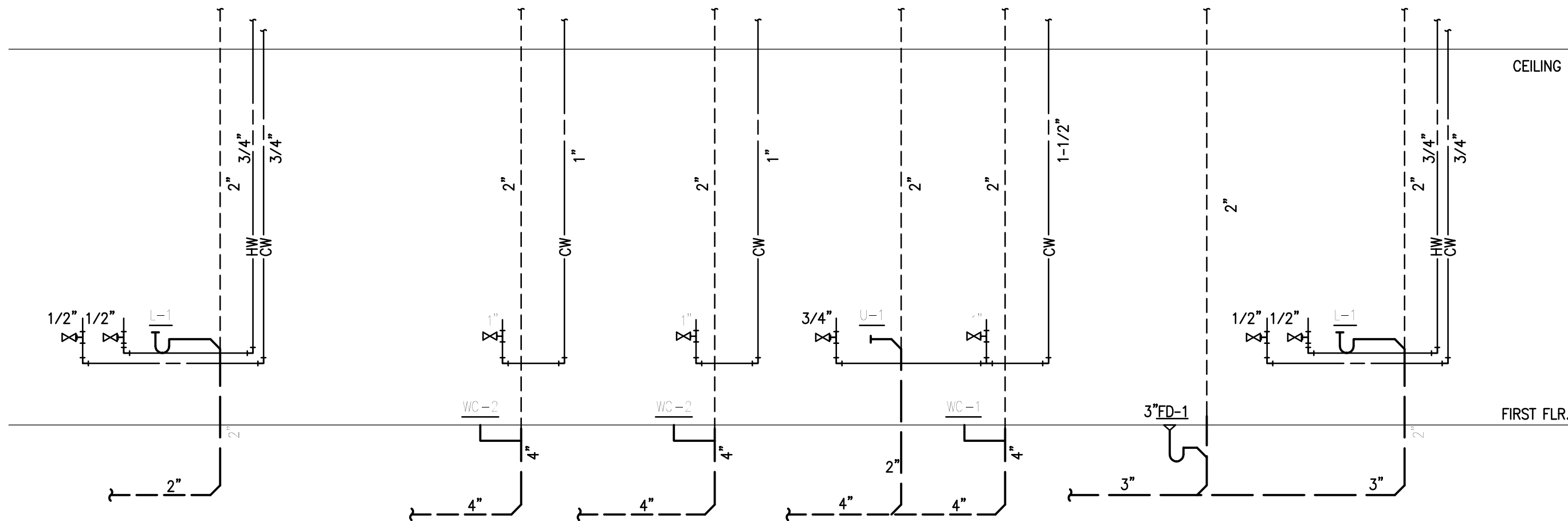
2006 UNIFORM PLUMBING CODE:  
1.0 PSI OR LESS  
INITIAL PRESSURE WITH A PRESSURE  
DROP OF 0.5 INCHES W.C.  
ALLOWED. 144' LENGTH OF RUN.



GAS PIPING SIZED ON A MAXIMUM DEVELOPED LENGTH OF 144 LINEAL FEET

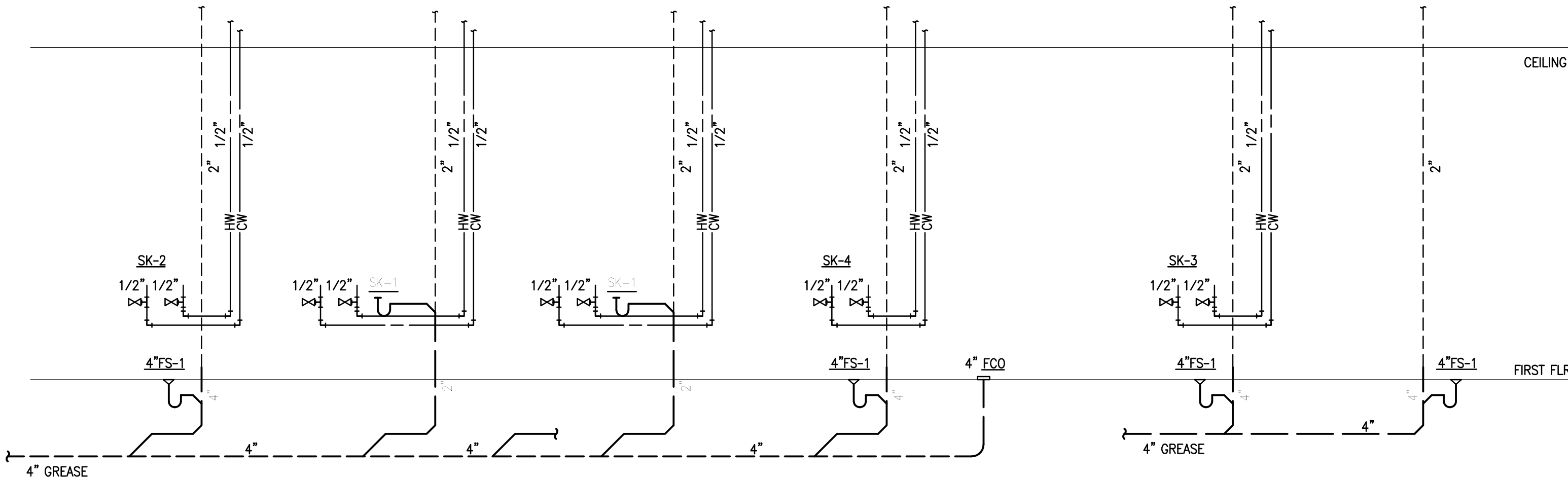
**1 NATURAL GAS RISER**

SCALE: NONE



**2 PLUMBING RISER DIAGRAM**

SCALE: NONE



**ISSUE**

11-30-10 ISSUED FOR PERMIT  
01-05-11 DBR REVIEW COMMENTS  
01-14-11 ISSUED FOR CONSTRUCTION

**CONSULTANTS**

**HOLSTE & ASSOCIATES**  
MEP Engineers

**PROJECT NAME**

**GUADALUPANA**  
RESTAURANT

**PROJECT ADDRESS**

20 WATERWAY  
THE WOODLANDS, TEXAS

**PROJECT NUMBER**

**SHEET NAME**

**PLUMBING GAS**  
**RISER & DETAILS**

**SHEET NUMBER**

**P4.00**



PLUMBING SCOPE & SPECIFICATION

THE WORK OF THIS SECTION SHALL INCLUDE, BUT NOT BE LIMITED TO:

- A. A DOMESTIC HOT AND COLD WATER DISTRIBUTION SYSTEM TO SERVE ALL FIXTURES. AND EQUIPMENT.
- B. SANITARY SOIL, WASTE AND VENT AND GREASE WASTE AND VENT SYSTEMS TO SERVE ALL FIXTURES AND EQUIPMENT.
- C. CONNECT TO EXISTING COLD WATER, SANITARY, AND GREASE WASTE MAINS.
- D. A NATURAL GAS DISTRIBUTION SYSTEM TO SERVE ALL GAS-FUELED EQUIPMENT. COORDINATE WITH BASE BUILDING DRAWINGS NATURAL GAS TO ESTABLISH A NEW GAS SERVICE COMPLETE WITH METER AND REGULATOR SET.

DRAWINGS ARE DIAGRAMMATIC; CONFIRM DIMENSIONS AND LOCATIONS IN THE FIELD, ADVISE OF MAJOR DISCREPANCIES.

GUARANTEE LABOR AND MATERIALS FOR ONE YEAR.

ADHERE TO APPLICABLE LOCAL CODES AND REGULATIONS, WHICH INCLUDE BUT ARE NOT LIMITED TO CITY OF THE WOODLANDS (2003 INTERNATIONAL PLUMBING CODE, WITH AMENDMENTS).

PRODUCE RECORD DRAWINGS.

CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND PAY ALL FEES.

VALVES

VALVES SHALL BE MANUFACTURED BY NIBCO, HAMMOND, POWELL, STOCKHAM, WATTS OR EQUIVALENT APPROVED BY THE ENGINEER.

BALL VALVES SHALL HAVE CAST BRONZE BODY, BLOWOUT PROOF STEMS, FULL SIZE PORT, 316 STAINLESS STEEL TRIM, TEFLON SEAT AND SEAL AND THRUST WASHERS. VALVES 2" AND SMALLER SHALL BE NIBCO T-565-70-66 OR APPROVED EQUIVALENT.

UNIONS

UNIONS IN COPPER OR BRASS LINES SHALL BE BRASS, THREADED PATTERN UNIONS.

EXCAVATION

EXCAVATE TRENCHES FOR UNDERGROUND PIPING TO THE REQUIRED DEPTH.

CUT THE BOTTOM OF THE TRENCH OR EXCAVATION TO UNIFORM GRADE.

EXCAVATE 6" BELOW GRADE, FILL WITH BEDDING MATERIAL (SAND) AND TAMP WELL.

LAY OUT ALIGNMENT OF PIPE TRENCHES TO AVOID OBSTRUCTIONS. PROVIDE ASSURANCE THAT PROPOSED ROUTE OF PIPE WILL NOT INTERFERE WITH BUILDING FOUNDATION BEFORE ANY CUTTING IS BEGUN. SHOULD INTERFERENCE BE FOUND, CONTACT THE ARCHITECT/ENGINEER BEFORE PROCEEDING.

BACKFILL

BACKFILL SHALL NOT BE PLACED UNTIL THE WORK HAS BEEN INSPECTED, TESTED AND APPROVED. USE SUITABLE FRIBLE SOILS AS BACKFILL MATERIAL. DO NOT USE PEAT, SILT, MUCK, DEBRIS OR OTHER ORGANIC MATERIALS. DEPOSIT BACKFILL IN UNIFORM LAYERS.

PLACE BACKFILL MATERIAL IN UNIFORM LAYERS, 8" MAXIMUM LOOSE MEASURE. COMPACT TO NOT LESS THAN 95% OF MAXIMUM SOIL DENSITY AS DETERMINED BY ASTM D698 STANDARD PROCTOR.

PLUMBING PIPING HANGER SPACING

MAXIMUM SPACING SHALL BE 10 FOOT.

CLEANING, TESTING AND ADJUSTING

THIS CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, INSTRUCTIONS, AND SUPERVISION REQUIRED FOR THE PERFORMANCE OF ALL TESTS, CLEANING, AND MAKING NECESSARY ADJUSTMENTS TO OPERATION OF ALL FIXTURES AND EQUIPMENT.

PIPING INSULATION

ALL COLD WATER PIPING, FITTINGS AND VALVES SHALL BE INSULATED WITH NOMINAL 1/2" WALL THICKNESS IMCOLOCK PIPE INSULATION, OR AN APPROVED EQUAL HAVING FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DENSITY OF 50 OR LESS WHEN TESTED BY ASTM E-84 METHOD.

IMCOLOCK PIPE INSULATION MAY BE SLIPPED ONTO THE PIPE PRIOR TO CONNECTION OR APPLIED AFTER THE PIPE IS INSTALLED, AT THE CONTRACTOR'S OPTION. ALL BUTT JOINTS AND MITER JOINTS SHALL BE CLOSED USING IMCOA'S FUSE SEAL JOINING SYSTEM OR FACTORY APPROVED CONTACT ADHESIVE. IMCOLOCK PIPE INSULATION SHALL BE INSTALLED ACCORDING TO THE PROCEDURES OUTLINED BY THE MANUFACTURER.

FITTING COVER INSULATION SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDED PROCEDURES. SWEAT FITTINGS SHALL BE INSULATED WITH MITER CUT PIECES OF IMCOLOCK PIPE INSULATION THE SAME SIZE AS ON ADJACENT PIPING. THREADED FITTINGS SHALL BE INSULATED WITH SLEEVED FITTING COVERS FABRICATED FROM MITER CUT PIECES OF IMCOLOCK PIPE INSULATION ACCORDING TO THE MANUFACTURER'S SLEEVING SIZE RECOMMENDATIONS AND SHALL BE OVERLAPPED 2" AND SEALED TO THE ADJACENT PIPE INSULATION. ALL VALVES SHALL BE INSULATED WITH CUT PIECES OF IMCOLOCK PIPE INSULATIONS. ALL JOINTS AND MITER CUT PIECES ARE TO BE SEALED USING IMCOA'S FUSE SEAL JOINING SYSTEM OR FACTORY APPROVED CONTACT ADHESIVE.

SUPPORTING HANGERS SHALL BE DESIGNED TO RESIST COMPRESSION; SUPPORTING DEVICES SUCH AS SHORT WOOD DOWELS OR WOOD BLOCKS SHALL BE USED IN COMBINATION WITH GALVANIZED SHEET METAL HANGER SHIELDS. THE WOOD SUPPORTING DEVICES SHALL BE THE SAME THICKNESS AS THE INSULATION AND SEALED TO THE INSULATION WITH FACTORY APPROVED CONTACT ADHESIVE.

INSTALL THERMAL INSULATION ON CLEAN, DRY SURFACES AFTER ALL TESTING AND INSPECTION IS COMPLETED. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS AND WITH MANUFACTURER'S INSTRUCTIONS.

GAS WATER HEATER

ITEM NO.	TOTAL MBH	NOTES	STORAGE CAPACITY (GALLONS)	ELECTRICAL REQUIRED	SET MAX. WATER TEMP.(°F)	MANUFACTURER MODEL NO.
GWH-1	380		-	120/1	140°	TAKAGI #T-M50
GWH-2	380		-	120/1	140°	TAKAGI #T-M50
NOTES: 1.						

THERMOSTATIC MIXING VALVE

ITEM NO.	INLET HOT WATER TEMP (°F)	OUTLET MIXED WATER TEMP (°F)	MINIMUM FLOW (GPM)	DESIGN FLOW (GPM)	PRESSURE DROP @ DESIGN FLOW (PSI)	VALVE FINISH	MANUFACTURER / MODEL NO.
TMW-1	140°	110°	0.5	7	4.0	ROUGH BRONZE	SYMMONS TEMPCONTROL 5-500W-ASB

NOTES:

1. MAKE WATER CONNECTIONS TO THERMOSTATIC MIXING VALVE(S) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE PIPE INCREASERS AND/OR VALVES AS REQUIRED.
3. PROVIDE UNION CONNECTIONS AND OUTLET THERMOMETER UNLESS INDICATED OTHERWISE.
4. REFER TO DETAIL FOR ADDITIONAL INFORMATION.

SHOCK ARRESTORS

P.D.I. SYMBOL	FIXTURE UNITS	CHAMBER LENGTH	SWEAT CONNECTION
<b>A</b>	1-11	9-5/8"	1/2"
<b>B</b>	12-32	11-3/4"	3/4"
<b>C</b>	33-60	14-11/16"	1"
<b>D</b>	61-113	12-3/8"	1"
<b>E</b>	114-154	15-3/8"	1"
<b>F</b>	155-330	17-3/8"	1"

PIPE MATERIAL LIST

DOMESTIC WATER PIPING

ABOVE SLAB INSIDE THE BUILDING SHALL BE SEAMLESS ASTM B 88 TYPE L COPPER WATER TUBE WITH WROUGHT COPPER FITTINGS, ANSI B16.22. SOLDER MATERIAL SHALL BE 95.5% LEAD FREE, ASTM B 32. THE USE OF DRILLED-T CONNECTIONS IS NOT PERMITTED.

CONDENSATE AND INDIRECT DRAIN PIPING SHALL BE

TYPE M COPPER TUBING UP TO 1" ID, TYPE DWV TUBING AND COPPER FITTINGS FOR 1-1/4" AND LARGER SIZES, AND 95-5 SOLDER JOINTS.

SANITARY SOIL, WASTE AND VENT AND GREASE WASTE PIPING SHALL BE

ABOVE SLAB INSIDE BUILDING SHALL BE NO-HUB CAST IRON SYSTEM CONFORMING TO CISPI STANDARD NO. 301-75. NEOPRENE GASKETS SHALL CONFORM TO ASTM STANDARD C564-75.

BELOW SLAB SHALL BE SCHEDULE 40 DWV POLYVINYL CHLORIDE PIPE AND FITTINGS CONFORMING TO ASTM D-1784-82 WITH SOLVENT WELDED JOINTS.

NATURAL GAS PIPING SHALL BE

ABOVE GRADE SHALL BE SCHEDULE 40 BLACK STEEL, SEAMLESS, OR ELECTRIC RESISTANCE WELDED, ASTM A-53 WITH WELDED JOINTS AND STEEL FITTINGS OF THE SAME THICKNESS AS PIPE. PIPING 2 INCHES AND SMALLER MAY BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON 150 PSI CLASS FITTINGS ANSI B16.3, BANDED AIR TESTED, AND SWEWED JOINTS. ALL GAS PIPING AND FITTINGS OUTDOORS SHALL BE PAINTED WITH TWO COATS OF BRUSHED ON RUST PREVENTATIVE SILVER PAINT. ONE COAT OF RUST PREVENTATIVE PRIMER SHALL BE APPLIED TO THE PIPE IMMEDIATELY AFTER INSTALLATION.

FIRE SPRINKLER SYSTEM

- A. DESIGN AND FURNISH LABOR AND MATERIALS FOR THE COMPLETE INSTALLATION OF AN AUTOMATIC WET PIPE FIRE EXTINGUISHING SPRINKLER SYSTEM WITH THE ATTENDANT ACCESSORIES FOR THE ENTIRE AREA.
- B. STUDY THE GENERAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS, IN ORDER TO BECOME FAMILIAR WITH THE BUILDING AND DETAILS AS THEY APPLY TO THE WORK OF THIS SECTION. COOPERATE WITH OTHERS SO THAT THERE WILL BE NO CONFLICT OF SPACE REQUIRED. DUCTWORK AND ELECTRICAL WORK SHALL TAKE PRECEDENCE OVER OTHER WORK, EXCEPT WHERE IT IS ABSOLUTELY NECESSARY TO MAINTAIN COVERAGE PROTECTION.
- C. THE INSTALLATION OF THE ENTIRE SPRINKLER SYSTEM SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE GOVERNING BUILDING CODE, REQUIREMENTS OF NFPA PAMPHLET 13, AND OTHER LOCAL AUTHORITIES EXERCISING JURISDICTION.
- D. IT SHALL BE THE FIRE PROTECTION INSTALLER'S RESPONSIBILITY, PRIOR TO BID, TO VERIFY PRESSURE AT THE PROJECT SITE BY PERFORMING A FLOW TEST. DETERMINE IF THE AVAILABLE STATIC AND RESIDUAL PRESSURE WILL ADEQUATELY PROVIDE THE FIRE EXTINGUISHING SYSTEM WITH THE NECESSARY PRESSURE OR IF A FIRE PUMP, BREAK TANK AND NECESSARY APPURTENANCES ARE REQUIRED.
- E. SCHEDULE 40 BLACK STEEL PIPE IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA FOR APPLICABLE FIRE PROTECTION SYSTEMS. CONFORM TO ASTM A53 AND A120. PROVIDE PIPING WITH MALLEABLE IRON, CAST IRON, STEEL WELDED OR SWEWED FITTINGS. VICTAULIC GROOVED FITTINGS MAY BE USED ABOVE GRADE IN ACCESSIBLE LOCATIONS ONLY.
- F. DESIGN DRAWINGS MUST BE SUBMITTED TO THE LOCAL FIRE DEPARTMENT JURISDICTION FOR REVIEW AND APPROVAL. EVIDENCE OF SUCH REVIEW AND APPROVAL SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE PRIOR TO SYSTEM INSTALLATION.

PLUMBING FIXTURE SPECIFICATION

TYPE: DESCRIPTION:	WC-1 WATER CLOSET, FLOOR MOUNTED 10" ROUGH-IN, WHITE VITREOUS CHINA, 1.6 GALLON PER FLUSH SIPHON JET ACTION, ONE-PIECE ELONGATED CLOSET BOWL WITH BOLT COVERS. FLUSH VALVE WITH SENSOR AMERICAN STANDARD MADERA ELONGATED TOILET 2234.015. ELONGATED OPEN FRONT WHITE PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. CHURCH 9500SSC. ZURN ZR6000AX-W51 BATTERY POWERED 1.6 GPF FLUSH VALVE. 4" WASTE, 2" VENT, 1" COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.	TYPE: SERVICE: DESCRIPTION:	FD-1 TOILET ROOMS FLOOR DRAIN, BOTTOM OUTLET CAST IRON BODY, ADJUSTABLE 6" DIAMETER NICKEL BRONZE STRAINER WITH VANDAL PROOF SCREWS. PROVIDE CLAMPING DEVICE FOR DRAINS IN MEMBRANE FLOOR AREAS. MIFAB F1100-1-6 PROVIDE PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER. REFER TO FLOOR PLANS FOR SIZES. COORDINATE FINAL LOCATION AND INSTALLATION WITH ARCHITECTURAL DRAWINGS / FLOOR CONSTRUCTION.
SEAT:		TRAP SEAL:	
SUPPLIES: ROUGH-IN:		ROUGH-IN:	
TYPE: DESCRIPTION:	WC-2 (T.A.S. COMPLIANT FOR ADULTS) WATER CLOSET, FLOOR MOUNTED 10" ROUGH-IN, WHITE VITREOUS CHINA, 1.6 GALLON PER FLUSH SIPHON JET ACTION, ONE-PIECE 16-1/2" H ELONGATED CLOSET BOWL WITH BOLT COVERS. FLUSH VALVE WITH SENSOR LOCATED ON LEFT OR ON RIGHT SIDE IN ORDER TO MEET T.A.S. REQUIREMENT THAT FLUSH CONTROLS BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREA. AMERICAN STANDARD MADERA ELONGATED TOILET 2305.100. ELONGATED OPEN FRONT WHITE PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. CHURCH 9500SSC. ZURN ZR6000AX-W51 BATTERY POWERED 1.6 GPF FLUSH VALVE. 4" WASTE, 2" VENT, 1" COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.	TYPE: SERVICE: DESCRIPTION:	FD-2 T&P VALVE DISCHARGE / WALK-IN COOLER CONDENSATE FLOOR DRAIN, BOTTOM OUTLET CAST IRON BODY, ADJUSTABLE 5" DIAMETER NICKEL BRONZE STRAINER WITH 4" ROUND FUNNEL ASSEMBLY AND VANDAL PROOF SCREWS. PROVIDE CLAMPING DEVICE FOR DRAINS IN MEMBRANE FLOOR AREAS. MIFAB F1100-EF-1-6. PROVIDE PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER. REFER TO FLOOR PLANS FOR SIZES. COORDINATE FINAL LOCATION AND INSTALLATION WITH ARCHITECTURAL DRAWINGS, EQUIPMENT PLACEMENT, AND DOOR SWING CLEARANCES.
SEAT:		TRAP SEAL:	
SUPPLIES: ROUGH-IN:		ROUGH-IN:	
TYPE: DESCRIPTION:	L-1 - TOILET ROOMS (T.A.S. COMPLIANT FOR ADULTS) PRE-FABRICATED COUNTERTOP LAVATORY TO BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. LAVATORY SET TO BE PROVIDED WITH THREE (3) SETS OF FAUCETS. CHROME PLATED BRASS DECK MOUNTED BATTERY POWERED LAVATORY FITTING WITH 6-7/16" SPACING, CP-4 COVER PLATE, TEMPERATURE MIXING VALVE, AND VANDAL RESISTANT 2.2 GPM AERATOR. ZURN Z6912-C-CP4-MV. CHROME PLATED BRASS GRID STRAINER WITH 1-1/4" 17 GAUGE TAILPIECE WITH LOCK NUT. MCGUIRE 155A. 1-1/4" 17 GAUGE CHROME PLATED HEAVY CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8872. 1/2" I.P.S. X 3/8" O.D.CHROME PLATED LOOSE KEY STOP VALVES WITH ESCUTCHEONS AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165LK. 2" WASTE, 2" VENT, 1/2" HOT AND COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.	TYPE: SERVICE: DESCRIPTION:	FD-3 KITCHEN AREA CLEANUP FLOOR DRAIN, BOTTOM OUTLET CAST IRON BODY, 8" DIAMETER NICKEL BRONZE STRAINER AND RIM, ANCHOR FLANGE, 6" DEEP SUMP WITH A.R.E. INTERIOR, SEDIMENT BUCKET. PROVIDE CLAMPING DEVICE FOR DRAINS IN MEMBRANE FLOOR AREAS. MIFAB FS1750-FL-1-5. PROVIDE PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR DRAIN BY SIZE, MODEL, AND MANUFACTURER. REFER TO FLOOR PLANS FOR SIZES. COORDINATE FINAL LOCATION AND INSTALLATION WITH ARCHITECTURAL DRAWINGS AND OWNER.
FAUCET:		TRAP SEAL:	
STRAINER:		ROUGH-IN:	
P-TRAP:			
SUPPLIES:			
ROUGH-IN:			
TYPE: DESCRIPTION:	SK-1 - KITCHEN HAND WASH WALL HUNG LAVATORY AND FAUCET FURNISHED BY OWNER. ROUGH-INS, FIXTURE INSTALLATION, AND FINAL CONNECTIONS BY PLUMBING CONTRACTOR. PLUMBING CONTRACTOR TO PROVIDE STRAINER, P-TRAP, TRAP ARM, ESCUTCHEONS AT WALL, SUPPLIES AND STOPS, FIXTURE SUPPORTS, ETC. AS REQUIRED IN ORDER TO PROPERLY INSTALL FIXTURE. 2" WASTE, 2" VENT, 1/2" HOT AND COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.	TYPE: SERVICE: DESCRIPTION:	FS-1 KITCHEN INDIRECT WASTE FLOOR SINK, BOTTOM OUTLET CAST IRON BODY, 12" SQUARE NICKEL BRONZE FULL GRATE AND RIM, ANCHOR FLANGE, 8" DEEP SUMP WITH A.R.E. INTERIOR, ALUMINUM DOME BOTTOM STRAINER. PROVIDE CLAMPING DEVICE FOR DRAINS IN MEMBRANE FLOOR AREAS. MIFAB FS1730-FL-1. PROVIDE PRO-SET SYSTEMS, INC. TRAP GUARD FACTORY FITTED TO MATCH EACH FLOOR SINK BY SIZE, MODEL, AND MANUFACTURER. REFER TO FLOOR PLANS FOR SIZES. COORDINATE FINAL LOCATION WITH ARCHITECTURAL DRAWINGS AND EQUIPMENT PLACEMENT. FIELD CUT GRATES PER OWNER'S INSTRUCTIONS IN ORDER TO PROPERLY SERVE EQUIPMENT.
ROUGH-IN:		ROUGH-IN:	
TYPE: DESCRIPTION:	SK-2 - KITCHEN SINK SINGLE COMPARTMENT SINK, INTEGRAL TO PRE-FABRICATED STAINLESS STEEL TABLE TOP, FURNISHED BY K. E. C. AND INSTALLED BY ARCHITECTURAL DIVISION. FAUCET ALSO FURNISHED BY OWNER. ROUGH-INS, FAUCET INSTALLATION, AND FINAL CONNECTIONS BY PLUMBING CONTRACTOR. PLUMBING CONTRACTOR TO PROVIDE STRAINER, INDIRECT WASTE PIPING, ESCUTCHEONS AT WALL, SUPPLIES AND STOPS, ETC. AS REQUIRED IN ORDER TO PROPERLY INSTALL FIXTURE. 1/2" HOT AND COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS. CONFIRM ALL DIMENSIONAL REQUIREMENTS IN ADVANCE WITH ARCHITECT/K. E. C..	TYPE: DESCRIPTION:	WCO WALL CLEANOUT. CAST IRON CLEANOUT FERRULE WITH BRONZE RAISED HEAD PLUG AND ROUND STAINLESS STEEL COVER PLATE. WITH CENTER SECURING SCREW. MIFAB C1440-RD6. PROVIDE MIFAB C1460 CAST IRON CLEANOUT TEE IN LIEU OF FERRULE AS REQUIRED FOR WALL CONSTRUCTION.
ROUGH-IN:			
TYPE: DESCRIPTION:	SK-3 - PRE-RINSE SINK SINGLE COMPARTMENT SINK, INTEGRAL TO PRE-FABRICATED STAINLESS STEEL DISHWASH TABLE TOP, FURNISHED BY K. E. C. AND INSTALLED BY ARCHITECTURAL DIVISION. PRE-RINSE FAUCET ALSO FURNISHED BY OWNER. ROUGH-INS, FAUCET INSTALLATION, AND FINAL CONNECTIONS BY PLUMBING CONTRACTOR. PLUMBING CONTRACTOR TO PROVIDE STRAINER, INDIRECT WASTE PIPING, ESCUTCHEONS AT WALL, SUPPLIES AND STOPS, ETC. AS REQUIRED IN ORDER TO PROPERLY INSTALL FIXTURE. 3/4" HOT AND COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS. CONFIRM ALL DIMENSIONAL REQUIREMENTS IN ADVANCE WITH ARCHITECT/K. E. C.	TYPE: DESCRIPTION:	FCO FLOOR CLEANOUT, CAST IRON BODY WITH SECONDARY O-RING TEST SEAL AND ADJUSTABLE COMBINED ACCESS COVER/PLUG TOP ASSEMBLY WITH PRIMARY GASKET SEAL, AND ROUND SCORATED NICKEL BRONZE COVER. MIFAB C1100-R-1. FOR CARPETED FLOORS PROVIDE MIFAB C1100-RC-1.
ROUGH-IN:			
TYPE: DESCRIPTION:	SK-4 - THREE COMPARTMENT SINK FREESTANDING THREE COMPARTMENT SINK FURNISHED BY K. E. C. AND INSTALLED BY ARCHITECTURAL DIVISION. FAUCET(S) ALSO FURNISHED BY OWNER. ROUGH-INS, FAUCET INSTALLATION, AND FINAL CONNECTIONS BY PLUMBING CONTRACTOR. PLUMBING CONTRACTOR TO PROVIDE STRAINER, INDIRECT WASTE PIPING, ESCUTCHEONS AT WALL, SUPPLIES AND STOPS, ETC. AS REQUIRED IN ORDER TO PROPERLY INSTALL FIXTURE. 3/4" HOT AND COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS. CONFIRM ALL DIMENSIONAL REQUIREMENTS IN ADVANCE WITH ARCHITECT/K. E. C.	TYPE: DESCRIPTION:	ECO EXTERIOR CLEANOUT: CAST IRON BODY WITH GASKET SEAL, ABS PLUG AND HEAVY DUTY CAST IRON SERRATED COVER WITH SQUARE OR DIAMOND PATTERN. IF LOCATED IN ASPHALT OR DIRT PROVIDE 18" X 18" X 18" CONCRETE SLAB. FIXTURE: SMITH 4222-U
ROUGH-IN:			
TYPE: DESCRIPTION:	SK-5 - BAR SINK ICE MACHINE CONNECTION, WATER SUPPLY VALVED AT WALL. PROVIDE DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER AND WATER FILTER. WATTS 1/2" DWT-5 BACKFLOW PREVENTER AND AQUA-PURE APS10 FILTER. ROUTE BACKFLOW PREVENTER DISCHARGE TO FLOOR SINK SERVING ICE MACHINE. 3/4" COLD WATER. COORDINATE ROUGH-IN LOCATION/HEIGHT AND FINAL CONNECTION WITH EQUIPMENT BEING INSTALLED AND WITH ARCHITECTURAL DRAWINGS.	DESCRIPTION:	MS-1 MOP SINK BASIN, 24" X 24" X 12" HIGH, PRECAST TERRAZZO WITH 6" DROPPED FRONT, STAINLESS STEEL THRESHOLD CAP, AND GRID STRAINER DRAIN. PROVIDE STAINLESS STEEL WALL GUARDS IN QUANTITY AS REQUIRED TO PROTECT ADJACENT WALLS. PROVIDE MOP HANGER AND 3/8" HOSE WITH WALL HANGER. ACORN TNC-24 WITH KWGX-24", KMH, AND KH36. CHROME PLATED BRASS WALL MOUNTED FITTING WITH ADJUSTABLE SUPPLY ARMS, VACUUM BREAKER SPOUT WITH PAIL HOOK AND WALL BRACE, 2-1/2" INDEXED LEVER HANDLES ON 8" CENTERS. QUARTER TURN CARTRIDGES, 3/4" MALE HOSE THREAD OULET. CHICAGO 897-CP. 3" WASTE, 2" VENT, 1/2" HOT AND COLD WATER.
ROUGH-IN:			
TYPE: DESCRIPTION:	IMC-1 ICE MACHINE CONNECTION, WATER SUPPLY VALVED AT WALL. PROVIDE DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER AND WATER FILTER. WATTS 1/2" DWT-5 BACKFLOW PREVENTER AND AQUA-PURE APS10 FILTER. ROUTE BACKFLOW PREVENTER DISCHARGE TO FLOOR SINK SERVING ICE MACHINE. 3/4" COLD WATER. COORDINATE ROUGH-IN LOCATION/HEIGHT AND FINAL CONNECTION WITH EQUIPMENT BEING INSTALLED AND WITH ARCHITECTURAL DRAWINGS.	CARRIER: SUPPLIES: ROUGH-IN:	U-1 (T.A.S. COMPLIANT FOR ADULTS) URINAL, WALL HUNG, WHITE VITREOUS CHINA 1.0 GALLON PER FLUSH. AMERICAN STANDARD WASHBROOK 6501.010. PROVIDE ZURN WALL CARRIER FOR FIXTURE SUPPORT. ZURN ZR6003AV-W51 BATTERY POWERED 1.0 GPF FLUSH VALVE. 2" WASTE, 2" VENT, 3/4" COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.
ROUGH-IN:			
TYPE: DESCRIPTION:	IMC-1 ICE MACHINE CONNECTION, WATER SUPPLY VALVED AT WALL. PROVIDE DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER AND WATER FILTER. WATTS 1/2" DWT-5 BACKFLOW PREVENTER AND AQUA-PURE APS10 FILTER. ROUTE BACKFLOW PREVENTER DISCHARGE TO FLOOR SINK SERVING ICE MACHINE. 3/4" COLD WATER. COORDINATE ROUGH-IN LOCATION/HEIGHT AND FINAL CONNECTION WITH EQUIPMENT BEING INSTALLED AND WITH ARCHITECTURAL DRAWINGS.	TYPE: GENERAL NOTES:	ALL LAVATORIES AND SINKS SHALL BE SUPPLIED WITH HOT AND COLD WATER TO FAUCETS AS INDICATED ON PLANS AND FIXTURE SCHEDULE. PROVIDE CHROME PLATED BRASS SUPPLY STOPS WITH LOOSE KEYS AND WALL ESCUTCHEONS. PROVIDE CHROME PLATED FLEXIBLE RISERS OF SIZE REQUIRED TO PROPERLY CONNECT FIXTURES. PROVIDE 17 GAUGE CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON. REFER TO FIXTURE SCHEDULE FOR MINIMUM SIZES OF PLUMBING FIXTURE ROUGH-INS.  PROVIDE MOLDED CLOSED CELL ANTI-MICROBIAL VINYL INSULATION KITS (BY MCGUIRE OR TRUEBRO) AT ALL LAVATORIES AND SINKS REQUIRED TO BE T.A.S. ACCESSIBLE. ALL SUCH FIXTURES AND FINAL INSTALLATIONS SHALL COMPLY WITH THE STATE ACCESSIBILITY STANDARDS REQUIREMENTS.  INSERT TRAP GUARDS AFTER FINAL RODDING OF DRAINS. INSTALL TRAP GUARD WITH CLEAR SILICONE CAULK FOR GAS-TIGHT SEAL. FOR DRAIN RODDING AFTER INSTALLATION, INSERT SEWER TAPE THROUGH LIGHTLY GREASED 1-1/2" PVC PIPE TO PROTECT TRAP GUARD.



ISSUE

11-30-10 ISSUED FOR PERMIT  
01-05-11 DBR REVIEW COMMENTS  
01-14-11 ISSUED FOR CONSTRUCTION

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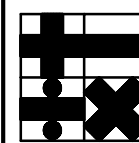
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PROJECT NUMBER

SHEET NAME

**PLUMBING**  
**SCHEDULES**

SHEET NUMBER



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