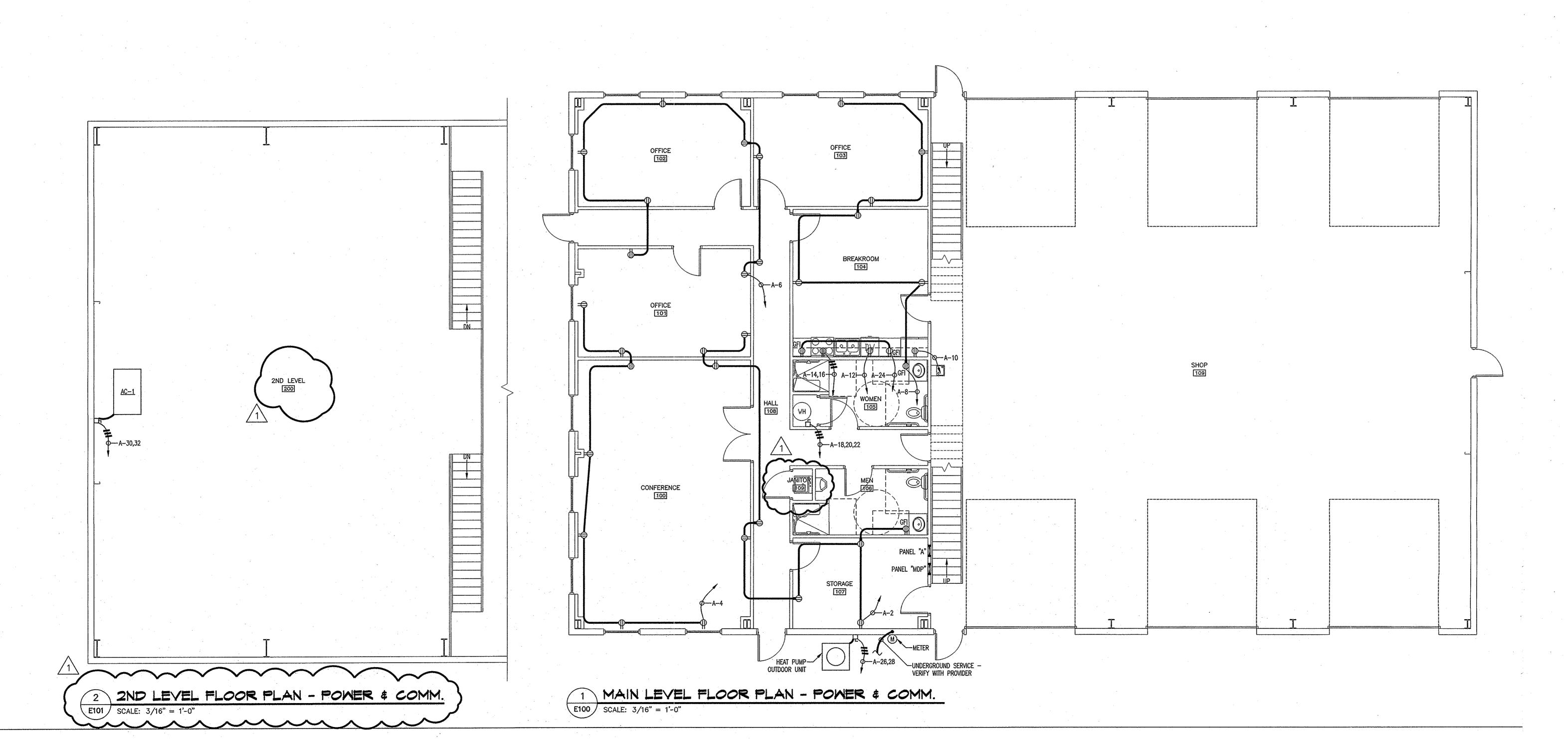
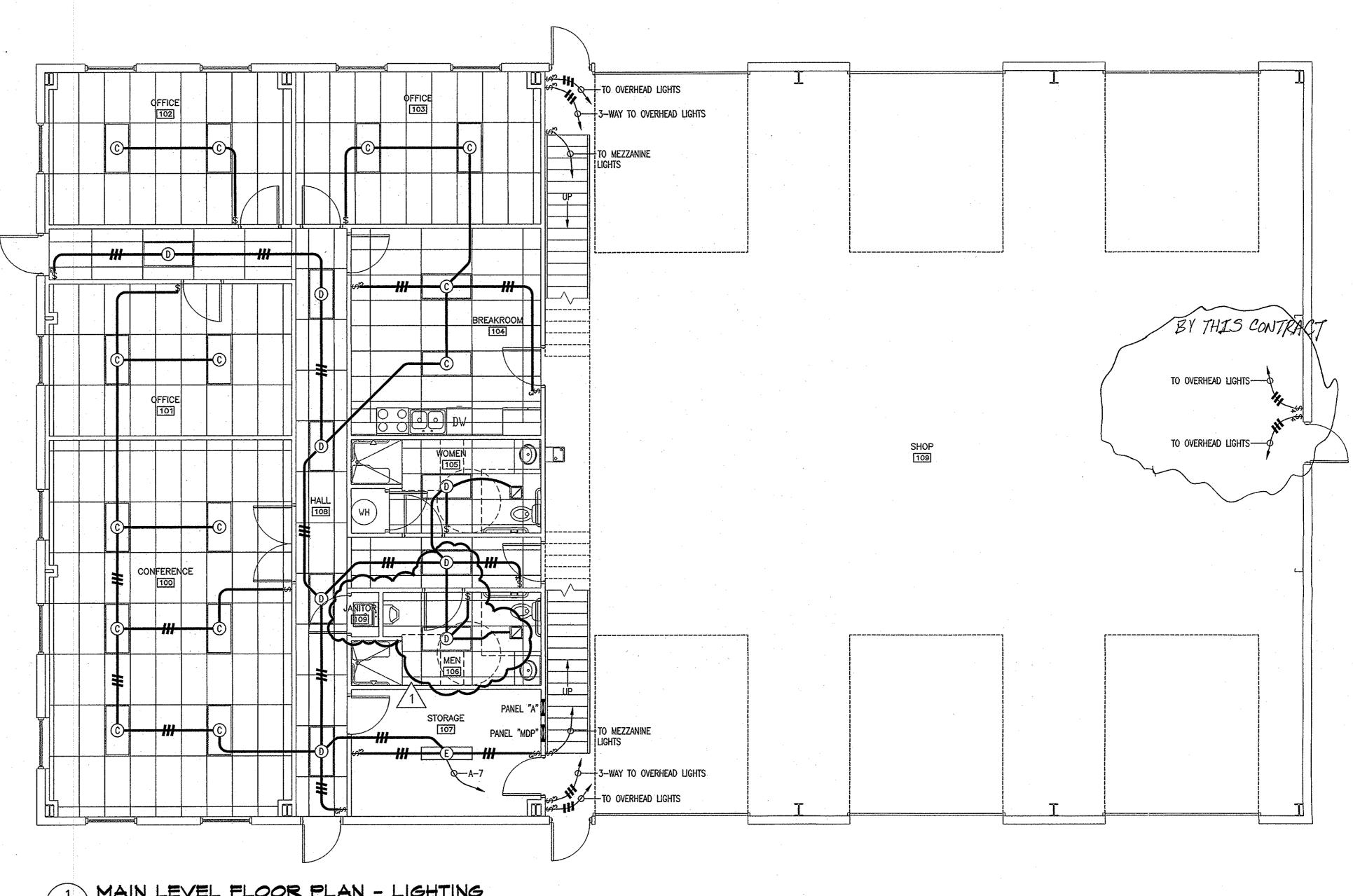


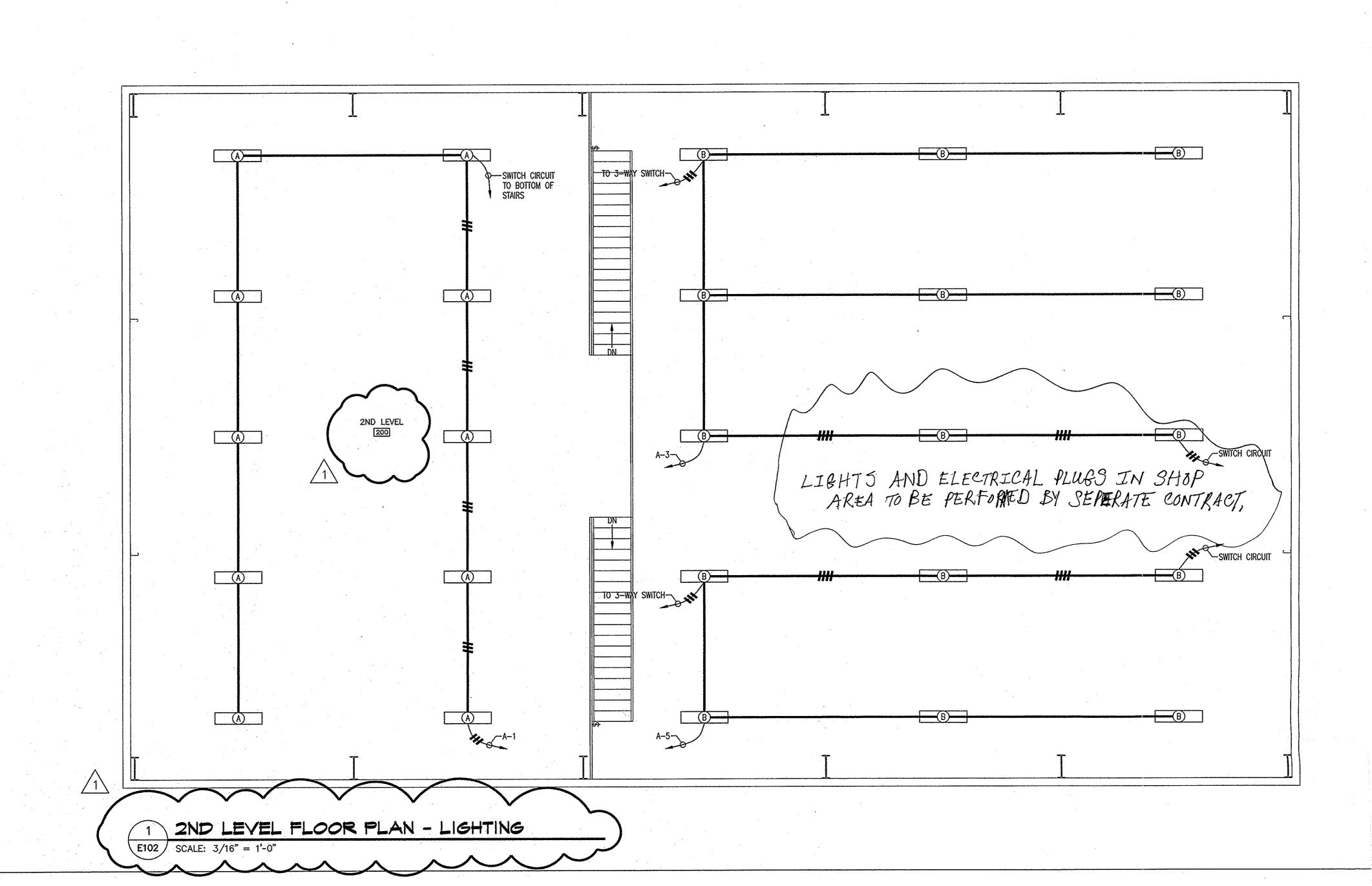
STAIR NOTES THE OWNER/CONTRACTOR SHALL VERIFY STAIR NOTES WITH LOCAL BUILDING CODES AND AUTHORITIES 2. TREADS AND RISERS ARE TO BE PROPORTIONED SO THAT THE SUM OF TWO RISERS PLUS A TREAD IS A MINIMUM OF 24" AND A MAXIMUM OF 25" 3. THE MAXIMUM HEIGHT OF A RISER IS NOT TO BE MORE THAN 7" AND THE 42" HIGH HANDRAIL. TREAD MAY NOT BE LESS THAN II" WIDE IT SHALL NOT HAVE A NOSING BALLASTER SPACING NOT OF OVER !". TO ALLOW A 4" Ø | 1/2" DIA BAR W/ | 1/2" CLEAR SPACE 4. TREADS AND RISERS SHALL BE UNIFORM BETWEEN FLOORS. SPHERE TO PASS THRU. 5. TREADS AND RISERS SHALL BE DIMENSIONED AS REQUIRED BY HEIGHT OF ALL TOWEL HOLDERS AND FROM WALL AND FLOOR AND GRADE LEVEL. SOAP DISPENSERS ARE TO MUST SUPPORT UP TO 6. MAXIMUM VARIATION IN TREAD AND RISER DIMENSIONS SHALL BE 5/8" BE A MAX. OF 48" AFF MIRROR 250 LBS .-7. IF THE HEIGHT OF ANY ELEVATED FLOOR IS ABOVE FINISHED GRADE BY MAX TOLET 30" OR MORE A GUARDRAIL WITH A MAXIMUM HEIGHT OF 42" SHALL BE PAPER INSTALLED AROUND ENTIRE PERIMETER OF THE OPEN FLOOR AREA 2×2-\DISPENCER EXCLUDING THE SIDE WHERE STEPS MAY OCCUR 8. GUARDRAIL SHALL INCLUDE BALUSTRADES SPACED NOT TO PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE THROUGH ANY PORTION OF THE 9. IF NUMBER OF STAIRS EXCEEDS TWO RISERS, A HANDRAIL SHALL BE 6x6___ BEYOND PROVIDED ON ONE SIDE OF STAIRS. 10. IF HEIGHT OF THE ELEVATED FLOOR ISMORE THAN 30" ABOVE FINISHED GRADE A HANDRAIL IS REQUIRED ON EACH SIDE OF THE STAIRS. 1]. HEIGHT OF HANDRAIL SHALL BE A MINIMUM OF 34" AND A MAXIMUM OF 36" MAXIMUM DIAMETER OF HANDRAIL SHALL BE 2 5/8". 12. STAIRS ARE TO BE A MINIMUM WIDTH OF 36" CLEAR ALL PIPES ARE TO BE -ALL PIPES-INSULATED TO MEET ARE TO BE 2XIZ STRINGER PAINTING AND STAINING NOTES ICC/ANSI AIT 1-2003 PROTECTED I. ALL PAINTING AND STAINING SHALL BE PERFORMED BY QUALIFIED JOURNEYMEN AND SHALL BE FREE OF ANY BUBBLES AND DEBRIS. WOOD STAIR DETAIL H.C. LAY. DETAILS 2. ALL PAINTING SHALL BE A 3 COAT PROCESS WITH A PRIMER COAT HANDRAIL DETAIL AND 2 FINISH COATS. PAINT TO BE SHERWIN WILLIAMS PROMAR SERIES. A101 / SCALE: 1" = 1'-0"3. ALL STAINING SHALL BE A 3 COAT PROCESS WITH EACH COAT SANDED **A101** \int SCALE: 1/2" = 1'-0"A101 PRIOR TO THE APPLICATION OF THE NEXT COAT. 4. ALL WALLS AND CEILINGS ARE TO RECEIVE FLAT PAINT WITH ALL DOORS AND TRIM TO RECEIVE A SEMI GLOSS LATEX ENAMEL. 5. ALL SURFACES SHALL BE REASONABLY FREE OF BRUSH MARKS AND ORANGE PEAL. 6. ALL COLORS WILL BE CHOSEN BY THE OWNER. SAMPLES OF STAIN COLORS ON THE PROPER WOOD WILL BE REQUIRED. A200 100'-0" GYPSUM BOARD NOTES 19'-7 1/2" 19'-6 1/2" 20'-8" 20'-0" 20'-2" I - ALL GYPSUM TO BE INSTALLED BY QUALIFIED JOURNEYMEN AND INSTALLED TO MANUFACTURER SPECIFICATIONS. 2 - ALL HIGH TRAFFIC AREAS TO RECEIVE GOLD BOND FIRE-SHIELD HI-IMPACT WALL BOARD PANELS OR EQUAL (SEE PLANS FOR THICKNESS) 3 - ALL OTHER AREAS ARE TO RECEIVE GOLD BOND FIRE SHIELD (SEE PLANS FOR THICKNESS REQUIRED) 4 - ALL BATHROOMS AND RESTROOMS TO RECEIVE MOISTURE RESISTANT GYP. 5 - ALL EXTERIOR GYP SHEATHING IS TO BE DENS-GLASS GOLD SHEATHING BY G-P GYPSUM CORP. OR EQUAL. 6 - ALL GYP. PRODUCTS MUST MEET ASTM C36 STANDARDS. 7 - ALL ACCESSORY PIECES SHALL ME MANUFACTURE BY UNITED STATES GYPSUM COMPANY OR EQUAL. -3/4"X2 1/2" HARDWOOD ~1/4" PLYW00D 3/8"X|"-DOOR STOP -SHELF BRACKET -3/4" PLYWOOD DIVISION 3/4"X| 1/2" -HARDW*OO*D A200 2ND LEVEL /-3/4"X2 1/2" CLEAT OPEN TO BELOW 3/4"X| |/4" NET —\ HARDW*OOD* 3/4" PLYWOOD WALL CABINET DETAIL VARIES (24" MAX.) END COUNTER MATERIAL -WALL ~1/2" PLYW*OOD* SIDE & BACK TO BE CHOSEN BY OWNER 1/4" PLYWOOD -BOTTOM -3/4"X2 |/2" SPACER -SPRING LOCK DRAWER FRONT -| |/2"X| |/2" -3/4" X2 1/2 WEB DRAWER STOP -1/4" PLYW00D -3/4" PLYWOOD DUST PANEL 19'-6 1/2" 19'-7 1/2" 20'-8" 20'-2" -BAND <u> 一3/4"X2 1/2"</u> EDGE 100'-0" SPACER -3/4" PLYWOOD -3/4"X3 1/2" -3/4"X3 1/2" BASE CABINET DETAIL SCALE: 1" = 1'-0"

LIGHTING IN SHOP AREA BY ANOTHER CONTRACT ACOUSTICAL CEILING NOTES 1. CEILING TO BE INSTALLED BY QUALIFIED JOURNEYMEN.
2. GRID IN THE PUBLIC SPACES IS TO BE DONN FINELINE NARROW 9/16" WHITE.
3. TILE IS TO BE ARMSTRONG SCORED CLASSIC STEP CIRRUS 2X2'
4. ALL TILE IS TO FIT TIGHT AND BE FREE FROM ROUGH EDGES. 1 MAIN LEVEL REFLECTED CEILING PLAN
A102 SCALE: 3/16" = 1'-0"





1 MAIN LEVEL FLOOR PLAN - LIGHTING
E101 SCALE: 3/16" = 1'-0"



GENERAL NOTES: ELECTRICAL

1. SCOPE: PROVIDE ALL LABOR, EQUIPMENT, ETC. REQUIRED TO COMPLETE THE INSTALLATION SHOWN ON THE DRAWINGS.

2. CODES AND STANDARDS: INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL CODES AND ORDINANCES, UTILITY COMPANY REGULATIONS AND APPLICABLE REQUIREMENTS OF LATEST EDITION OF:

> NFC - NATIONAL FIRE CODES ul – underwriters laboratories NEC - NATIONAL ELECTRICAL CODE

NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOC. OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

3. PERMITS: OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSE, FEES, INSPECTIONS, POWER COMPANY AID TO CONSTRUCTION, ETC.

4. COORDINATION: COORDINATE ALL WORK WITH OTHER TRADES AND LOCAL UTILITY COMPANY, IF CONFLICTS WITH OTHER TRADES, OR ANY ISSUE THAT WOULD PREVENT PROPER INSTALLATION SHOULD OCCUR, INFORM THE GENERAL CONTRACTOR AS SOON AS POSSIBLE BEFORE PROCEDING.

5. EQUIPMENT: CONNECT ALL ELECTRICALLY OPERATED EQUIPMENT INCLUDING HVAC. USE NEMA 3R DEVICES OUTDOORS. VERIFY LOADS AND LOCATIONS FOR ALL EQUIPMENT. SIZE BREAKERS, DISCONNECTS AND FUSES ACCORDING TO THE MANUFACTURER'S SUGGESTED LIMITS. SIZE WIRE ACCORDINGLY PER NEC. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EQUIPMENT SUPPLIED BY THE MECHANICAL CONTRACTOR AND OTHERS AND SHALL BE RESPONSIBLE FOR MODIFYING THE CONNECTIONS, WIRE SIZES, DISCONNECTS, BREAKERS, ETC. SHOWN ON THE DRAWINGS IN ORDER TO MAKE A COMPLETE INSTALLATION AND TO SATISFY THE MANUFACTURER'S RECOMMENDATIONS. THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL OF THE LABOR AND MATERIALS TO ACCOMPLISH THIS

6. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES. SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND AS INSTALLED, RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO OWNER UPON COMPLETION OF PROJECT.

7. IDENTIFICATION: IDENTIFY ALL MAJOR PIECES OF EQUIPMENT INCLUDING CONTROLS, PANELBOARDS, STARTERS, DISCONNECT SWITCHES, J-BOXES, AND RELAYS WITH PERMANENT PLASTIC NAMEPLATES. (WHITE ON BLACK)

8. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDS, ETC. FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIALS AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO OWNER FOR PERIOD OF WARRANTY.

9. CUTTING AND PATCHING: PROVIDE ALL CUTTING REQUIRED TO DO THE WORK. DO NOT CUT MAJOR STRUCTURAL ELEMENTS WITHOUT APPROVAL, PATCHING SHALL BE OF QUALITY EQUAL TO AND OF MATCHING APPEARANCE OF EXISTING CONTRUCTION.

10. RACEWAYS: ELECTRIC METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC). PVC CONDUIT UNDERGROUND AND UNDER CONCRETE SLAB, RIGID METAL CONDUIT (RMC) WHERE EXPOSED TO PHYSICAL DAMAGE, FLEXIBLE METAL CONDUIT BETWEEN EQUIPMENT AND JUNCTION BOXES, WEATHERPROOF AS REQUIRED. NOTE: NM TYPE CABLE (ROMEX) MAY NOT BE USED IN STRUCTURES HAVING OVER (3) FLOORS OR IN STRUCTURES LOCATED IN A FIRE DISTRICT, VERIFY WITH LOCAL CODE OFFICIALS.

11. SUPPORTS: AS REQUIRED BY NEC.

GROUND

12. CONDUCTORS: USE 98% CONDUCTIVITY COPPER WITH THW. THHW. OR THHN INSULATION, 600 VOLT. COLOR CODED, USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 10 AWG, USE STRANDED CONDUCTORS FOR WIRE NO. 8 AWG AND ABOVE.

13. CONDUCTOR COLOR CODING: PROVIDE COLOR CODING FOR SECONDARY SERVICE, FEEDER, AND BRANCH CIRCUIT CONDUCTORS THROUGHOUT THE PROJECT SECONDARY ELECTRICAL SYSTEM AS FOLLOWS

> BLACK **NEUTRAL** WHITE

14. USE CONDUCTORS WITH COLOR FACTORY-APPLIED THE ENTIRE LENGTH OF THE CONDUCTORS. FOR #8 AWG AND LARGER, APPLY HALF-LAPPED TURNS OF COLORED TAPE WITHIN 6" OF TERMINAL POINTS AND JUNCTION BOXES.

15. CONNECTORS: USE SPRING LOADED PRESSURE TYPE INSULATED CONNECTORS, FOR #10AWG AND SMALLER. USE SOLDERLESS MECHANICAL CONNECTORS FOR #8AWG AND LARGER.

16. WIRING DEVICES AND PLATES: SWITCHES AND RECEPTACLES SHALL BE EQUIVALENT TO BRYANT/LEVITON, 20 AMP, 125 VOLT COMMERCIAL GRADE FOR SURFACE MOUNTED JUNCTION BOXES AND HANDY BOXES DEVICE COVERS/PLATES SHALL BE STEEL AND EQUIVALENT TO STEEL CITY/THOMAS & BETTS. FOR RECESSED JUNCTION BOXES IN GYPBOARD CONSTRUCTION COVERS/PLATES SHALL BE PLASTIC. COLOR TO BE CHOSEN BY ARCHITECT OR OWNER.

17. SAFETY SWITCHES: USE TYPE GENERAL DUTY FUSIBLE OR NON- FUSIBLE AS REQUIRED WITH NEMA-1 ENCLOSURES INDOORS AND NEMA 3R OUTDOORS. ELECTRICAL CONTRACTOR TO PROVIDE AND WIRE WHERE SHOWN OR REQUIRED BY CODE. SEE DISCONNECT SCHEDULE. 18. FUSES: USE DUAL-ELEMENT, CURRENT LIMITING, TIME DELAY TYPE OR AS SPECIFIED IN DISCONNECT SCHEDULE.

19. PANELBOARDS: USE PANELBOARDS WITH BOLT-ON TYPE BREAKERS; WITH SEPARATE NEUTRAL AND GROUND BUSSES. PANELBOARDS SHALL BE EQUIVALENT TO SQUARE D TYPE NOOD OR I-LINE UNLESS OTHERWISE SPECIFIED. PROVIDE TYPED DIRECTORY CARDS FOR EACH PANELBOARD.

20. FIRE RATED WALLS, CEILINGS AND FLOORS: OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, AND FLOORS SHALL BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN FIRE RESISTANCE RATINGS. RECEPTACLES LOCATED ON OPPOSITE SIDES OF A FIRE BARRIER SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 2'.

21. GROUNDING: AS REQUIRED BY NEC, SECTION 250.

22. THE ELECTRICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHOW THE RELATIONSHIP BETWEEN EQUIPMENT AND CONNECTIONS. DO NOT SCALE THE DRAWINGS FOR EXACT SIZE AND/OR LOCATIONS. DETAIL DRAWINGS HOWEVER, ARE SPECIFIC AND SHOULD BE CLOSELY FOLLOWED.

23. UNLESS OTHERWISE INSTRUCTED, THE ELECTRICAL CONTRACTOR SHALL SUBMIT (7) SETS OF SHOP DRAWINGS ON LIGHTING AND SWITCHGEAR, TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE PURCHASE OF EQUIPMENT.

24. TEMPORARY POWER AND LIGHTING: ARRANGE FOR THE TEMPORARY ELECTRICAL SERVICE NECESSARY FOR THE ENTIRE PROJECT DURING CONSTRUCTION. PROVIDE A MINIMUM OF ONE DUPLEX RECEPTACLE FOR EACH 500 SQUARE FEET OF FLOOR AREA. ARRANGE FOR PERMANENT ELECTRICAL SERVICE AND FOR ORDERLY TRANSFER BETWEEN TEMPORARY AND PERMANENT ELECTRICAL SERVICES. PROVIDE GFCI PROTECTION AND LAMP GUARDS AS REQUIRED BY NEC.

MINIMUM TEMPORARY LIGHTING LEVELS:

A. ONE LAMP HOLDER FOR EACH 150 SQUARE FEET OF INTERIOR ROOMS WITHOUT WINDOWS, A MINIMUM OF ONE PER ROOM.

B. ONE LAMP HOLDER FOR EACH 250 SQUARE FEET OF EXTERIOR ROOMS WITH WINDOWS, A MINIMUM OF ONE PER ROOM.

C. ONE LAMP HOLDER AT EACH FLOOR OF STAIRS.

D. ONE LAMP HOLDER 20 FEET ON CENTER IN INTERIOR CORRIDORS, MINIMUM OF ONE PER CORRIDOR.

					 							-			G	——— ├─┤*		No	<u> </u>	FI)	×ΤΙ	SCHEDULE	
		-				LAM	PS					В	ALLAS	ST		МО	UNTII	NG				MANUFACTURER	
DESIGNATION	INCANDESCENT	QUARTZ	T5 FLUORESCENT	T8 FLUORESCENT	COMPACT FLUORESCENT	L.E.D.	HP. SODUIM	METAL HALIDE	QUANTITY	WATTS	LUMENS	ELECTRONIC BALLAST	DIMMING BALLAST	ENERGY SAVING BALLAST	POLE	PENDANT	SURFACE	RECESSED	WALL MOUNT	HEIGHT ABOVE FINISHED FLOOR OR GRADE	VOLTS	ELDING, TYPE, MATERIAL, FINISH, REMARKS COMPANY CATALOG	NUMBER
Α :						• -				103	9000	•				•		,			120	I—BEAM LED HIGH BAY LITHONIA IBL—9L—WD—LP 7	740 DLC
В						•				134	12000	•				•					120	I-BEAM LED HIGH BAY LITHONIA IBL-12L-WD-LP	740 DLC
С						•				45	3730	•						•			120	2X4 LAY-IN MARK NDLLD-24-G15N	, ,
D	-					•				45	3730	•						•			120	2X4 LAY-IN MARK VLD(VEIL LED) 24	DFN35AD120N80CP
Ε						•				41	4000	•					٠				120	LITHONIA RTL-440L-D41LP	9835NX
\otimes					-	•				7							-			-	120	XIT SIGN WITH NICAD BATTERY BACKUP LITHONIA LQMSW3RELN	
1_1	•						•			20					,			·			120	GENCY LIGHT WITH NICAD BATTERY BACKUP LITHONIA 6ELM2N (ELA-ITN	I-IND-H1212)
8						•				14					-						120	SIGN WITH EMERGENCY LIGHTS AND NICAD LITHONIA LHQMSW3RN/ ELA	A-ITN-IND-H1212

MAIN 400 AMP PANEL BY OTHERS

PANEL: A 230/120 VOLTS 1 PHASE 3 WIRE MAIN: MDP 200 AMPS 42 POLE MOUNTING: FLUSH AIC: 65,000 (FULLY RATED)

LOAD	KVA	BKR.SIZE/ POLE	CKT. NO.	A	₿ 	CKT. NO.	BKR.SIZE/ POLE	KVA	LOAD
LIGHTING — MEZZANINE	1.03	20/1	1 .			2	20/1	1.44	RECEPTALCES
LIGHTING — SHOP	1.20	20/1	3			4	20/1	1.26	RECEPTALCES
LIGHTING — SHOP	0.81	20/1	5			6	20/1	1.44	RECEPTALCES
LIGHTING & TLT FANS - OFFICES	1.13	20/1	7			8	20/1	1.26	RECEPTALCES
PROVISION	-	20/1	9	-		10	20/1	1.30	REFRIGERATOR
PROVISION	-	20/1	11			12	20/1	1.40	DISHWASHER
PROVISION	-	20/1	13			14	70 /0	4.00	DANCE / COOKTOD
PROVISION	-	20/1	15		$+$ \wedge	16	30/2	4.99	RANGE/ COOKTOP
PROVISION	-	20/1	17			18	70 /0	0.00	WATER HEATER
PROVISION	-	20/1	19		$+$ \wedge	20	30/2	9.00	WATER HEATER
PROVISION	-	20/1	21			22	20/1	1.00	SPARE
PROVISION	-	20/1	23		<u> </u>	24	20/1	0.36	RECEPTACLES GFI
PROVISION	-	20/1	25			26	40/0	r ro	STAT DUMP OUTDOOD JUST
PROVISION	-	20/1	27			28	40/2	5.52	HEAT PUMP OUTDOOR UNIT
PROVISION	_	20/1	29		-	30	50/0		AO A UEST PULID SUDOOD INIT
PROVISION		20/1	31			32	50/2	9.20	AC-1 - HEAT PUMP INDOOR UNI
PROVISION	-	20/1	33			34	20/1	1.92	1 HP GRINDER PUMP
PROVISION	-	20/1	35	<u>-</u>		36	20/1	1.00	SPARE
PROVISION	-	20/1	37			38	20/1	1.00	SPARE
PROVISION	 	20/1	39			40	20/1	1.00	SPARE
PROVISION	_	20/1	41		<u></u>	42	20/1	1.00	SPARE
	4.17000	TOTAL 1	HIS SIDE		· · · · · · · · · · · · · · · · · · ·	TOTAL T	nio oine	44.0900 00 48.2600	CONNECTED = 48.26 DEMAND EST. = 36.68

ELECTRICAL CONNECTED LOAD SCHEDULE KVA SERVICE VOLTAGE 14.72 1PH - 3 WIRE 23.97

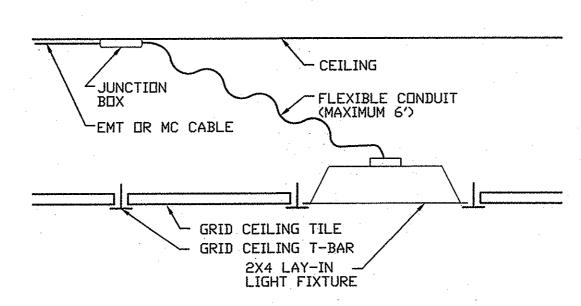
ESTIMATED TOTAL

DEMAND= 36.68

KVA PER

NEC-220-10-22

1. PROVIDE "HACR" TYPE BREAKERS WHERE REQUIRED BY HVAC UNIT MANUFACTURERS



5.00

LOAD DESCRIPTION

LIGHTING

HVAC

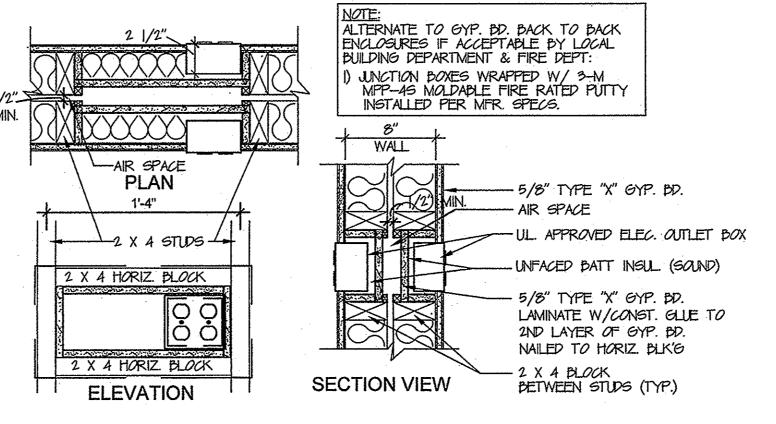
RECEPT & MISC

PROVISIONS

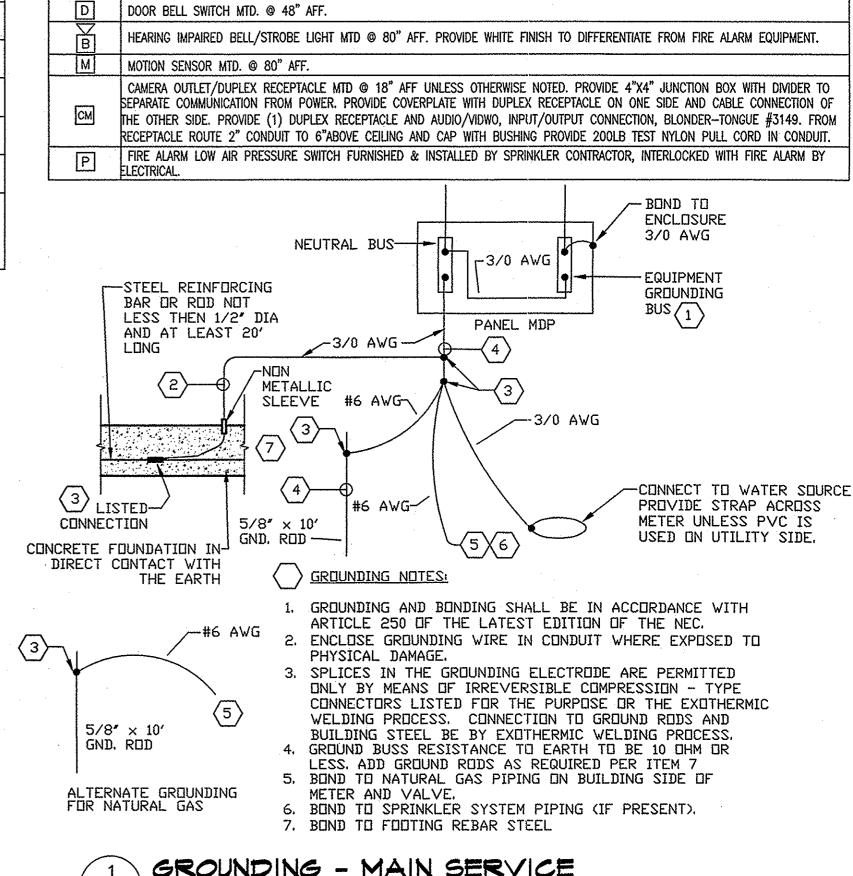
TOTAL CONNECTED

SCALE: NOT TO SCALE

WIRING DETAIL - LIGHT FIXTURE IN GRID CEILING SYSTEM



BACK TO BACK ELEC. OUTLETS E200 SCALE: 1-1/2" = 1'-0"



ELECTRICAL LEGEND

WEATHERPROOF BATTERY OPERATED EMERGENCY LIGHTS; SURFACE MOUNTED @ 7'-6" AFF (SURE-LITES #UEL1SD).

DUPLEX RECEPTACLE, MTD @ 18" AFF UNLESS NOTED OTHERWISE; "WP" INDICATES WEATHER PROOF. "GFI" INDICATES GOUND FAUL

DUPLEX RECEPTACLE, MTD @ 42" AFF UNLESS NOTED OTHERWISE; "WP" INDICATED WEATHER PROOF, "GFI" INDICATES GROUND FAUL

SPECIAL RECEPTACLE; MTD @ 18" AFF UNLESS NOTED OTHERWISE; CONTRACTOR TO VERIFY EQUIPMENT ELECTRICAL REQUIRMENTS.

FIRE ALARM SMOKE DETECTOR. "H" INDICATES HEAT DETECTOR. "C" INDICATES CARBON MONOXIDE DETECTOR. ALL SMOKE DETECTORS

FLUORESCENT LIGHTING FIXTURE WITH BATTERY BACK-UP FOR EMERGENCY LIGHTING (SEE FIXTURE SCHEDULE).

BATTERY OPERATED EMERGENCY LIGHTS; SURFACE MOUNTED @ 7'-6" AFF (SURE-LITES #CC-2).

INCANDESCENT OR HID LIGHTING FIXTURE (SEE FIXTURE SCHEDULE).

FLUORESCENT LIGHTING FIXTURE (SEE FIXTURE SCHEDULE).

CEILING-MOUNT EXIT LIGHT (SURE-LITES #CCX70RWH).

VTERRUPTER, "H" INDICATES HORIZONTAL MOUNTING.

INTERRUPTER. "H" INDICATED HORIZONTAL MOUNTING.

DUPLEX RECEPTACLE CEILING MOUNTED.

FIRE ALARM PULL STATION: MTD @ 48" AFF.

Da

(1)

MS

WALL-MOUNT EXIT LIGHT - MOUNT @ 7'-6" AFF (SURE-LITES #CCX70RWH).

QUADRAPLEX RECEPTACLE MTD @ 18" AFF UNLESS NOTED OTHERWISE.

FIRE ALARM CONTROL PANEL: 24 VOLT SYSTEM WITH BATTERY BACKUP.

FIRE ALARM HORN MTD @ 80" AFF, "WG" INDICATED WIRE GUARD.

FIRE ALARM SMOKE DETECTOR. 120-VOLT W/BATTERY BACK-UP.

COMBINATION INFRARED SENSOR/MOTION DETECTOR

ELECTRICAL PANEL: "A" DESIGNATES PANEL NAME.

CONDUIT RUNNING IN FLOOR OR BELOW GRADE.

CONDUIT RUNNING IN CEILING OR WALL.

JUNCTION BOX, MOUNTED ABOVE CEILING.

JUNCTION BOX RECESSED IN FLOOR.

terminate with Bushing.

MOTOR STARTER, (SEE SPECIFICATIONS).

TELEPHONE BACKBOARD, SIZE AS NEEDED.

JUNCTION BOX. RECESS WALL MTD @ SPECIFIED HEIGHT.

WITH BUSHING. "P" INDICATES PAY PHONE: "H" INDICATES HOUSE PHONE.

NOT USED | WASHER/DRYER RECEPTACLE; 35-AMP, 2 POLE MTD @ 18" AFF UNLESS OTHERWISE NOTED.

20 AMP, 2-POLE, 3-WIRE RECEPTACLE MTD@ 18" AFF UNLESS NOTED OTHERWISE.

FIRE ALARM XENON STROBE LIGHT MTD @ 80" AFF, "WG" INDICATES WIRE GUARD.

A-1,3,5 HOME RUN INDICATING PANEL, CIRCUITS, CONDUIT, AND NUMBER OF #12 AWG CONDUCTORS.

WEATHERPROOF SWITCHES TO BE PROVIDED WITH PADLOCK AND KEYED ALIKE THROUGHOUT JOB.

FIRE ALARM HORN WITH XENON STROBE LIGHT MTD @ 80" AFF, "WG" INDICATED WIRE GUARD.

ONTROLLILING HOLD-OPEN DEVICES SHALL BE LOCATED IN ACCORDANCE WITH NFPA 72 FIGURE 5-11.7.4.1.1.

FIRE ALARM FLOW SWITCH, FURNISHED AND INSTALLED BY SPRINKLER, INTERLOCKED WITH FIRE ALARM BY ELECTRICAL.

DEVICE/FIXTURE, "30" INDICATES 30 AMP, "LVS" INDICATES LOW VOLTAGE SWITCHING (SEE LOW VOLTAGE SCHEDULE).

FIRE ALARM TAMPER SWITCH, FURNISHED AND INSTALLED BY SPRINKLER. INTERLOCKED WITH FIRE ALARM BY ELECTRICAL

SINGLE POLE SWITCH, MTD @ 48" AFF. "3" INDICATED 3-WAY SWITCHING, "4" INDICATES 4-WAY, "a" INDICATES CONTROLLED

DIMMER. MTD @ 48" AFF., "3" INDICATES 3—WAY DIMMING, "4" INDICATES 4—WAY, "a" INDICATES CONTROLLED DEVICE/FIXTURE.

SAFETY SWITCH, HEAVY DUTY, 30-AMP/2-POLE UNLESS NOTED OTHERWISE; FUSIBLE FOR ALL HEATING AND AIR CONDITIONING. ALL

TELEPHONE OUTLET, MULTI-LINE, 18" AFF UNLESS NOTED OTHERWISE. PROVIDE 3/4"C STUBBED UP 6" ABOVE CEILING AND TERMINATION OF THE STUBBED UP 6" ABOVE CEILING AND

TELEPHONE OUTLET, MULTI-LINE, 48" AFF UNLESS NOTED OTHERWISE. PROVIDE 3/4"C STUBBED 6" ABOVE CEILING AND TERMINATE

TELEVISION OUTLET/DUPLEX RECEPTACLE MTD @ 18" AFF UNLESS OTHERWISE NOTED. PROVIDE 4"X4" JUNCTION WITH DIVIDER TO

SEPARATE COMMUNICATION FROM POWER. PROVIDE COVERPLATE WITH DUPLEX RECEPTACLE ON ONE SIDE AND CABLE CONNECTION OF

COMMUNICATIONS OUTLET (VOICE/DATA), 18" AFF UNLESS NOTED OTHERWISE. PROVIDE 3/4"C STUBBED UP 6" ABOVE CEILING AND

HE OTHER SIDE. PROVIDE (1) DUPLEX RECEPTACLE AND AUDIO/VIDEO, INPUT/OUTPUT CONNECTION, BLONDER-TONGER #3149.

MECHANICAL SWITCH MTD @ 48" AFF UNLESS NOTED OTHERWISE; FURNISHED BY MECHANICAL AND INSTALLED BY ELECTRICAL.

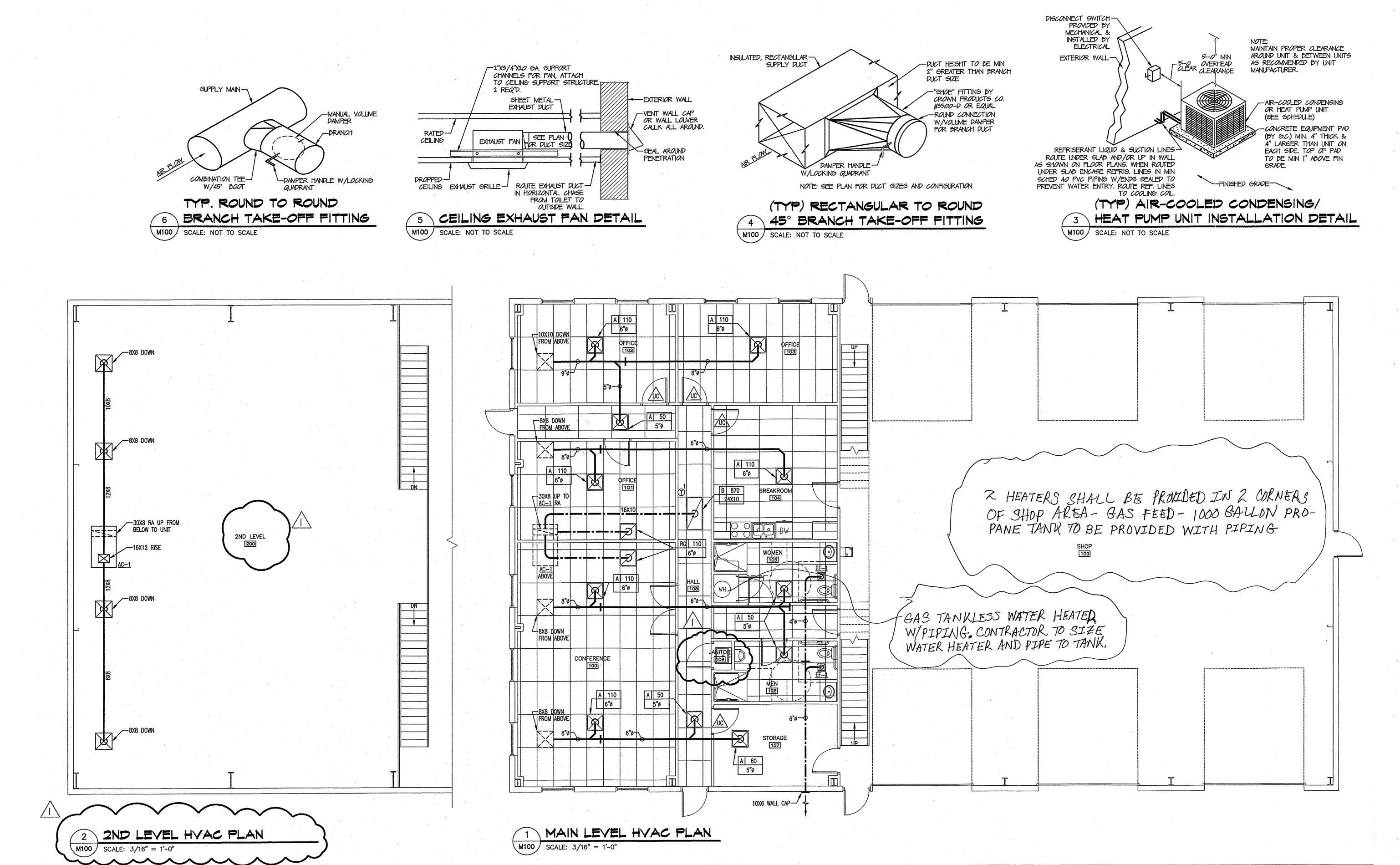
THERMOSTAT MTD @ 48" AFF UNLESS NOTED OTHERWISE; FURNISHED BY MECHANICAL AND INSTALLED BY ELECTRICAL

FIRE ALARM DUCT DETECTOR, FURNISHED AND CONNECTED BY ELECTRICAL, INSTALLED BY MECHANICAL.

TRACK LIGHTS (SEE FIXTURE SCHEDULE).

GROUNDING - MAIN SERVICE NOT TO SCALE

HEAT PUMPS TO BE SIZED AND SUBMITTED TO CITY WITH INITIAL BID. UNITS TO BE RUUD OR EQUAL.



PART 1. GENERAL

1.1 SCOPE OF WORK:

- A. FURNISH ALL LABOR, INSTALL ALL MATERIALS AND EQUIPMENT AND INCLUDE ALL SERVICES AND INCIDENTALS PROPER TO THE INSTALLATION OF WORK INVOLVED FOR A COMPLETE AND OPERATING FACILITY, GUARANTEE WORK TO BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE OR AS REQUIRED BY SPECIFICATIONS AS APPLICABLE,
- B. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, FEES, AND INSPECTIONS. COORDINATE WITH ALL OTHER TRADES, APPLICABLE SPECS, DRAWINGS, AND OWNER'S DIRECTIONS.

1,2 GENERAL CONDITIONS:

- A, SURVEY JOB SITE TO OBTAIN A FULL UNDERSTANDING OF THE WORK INVOLVED IN CONNECTION WITH ANY EXISTING CONDITIONS.
- B. PROVIDE EQUIPMENT THAT IS NEW BEARING ACCEPTANCE LABEL FROM CERTIFIED TESTING LABORATORY (UL DR OTHER AGENCY GENERALLY RECOGNIZED BY THE INDUSTRY).
- C. THE MECHANICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHOW THE RELATIONSHIP BETWEEN EQUIPMENT AND CONNECTIONS, DO NOT SCALE THE DRAWINGS FOR EXACT SIZE OR LOCATIONS, FABRICATION AND/OR INSTALLATION DETAILS ARE MORE SPECIFIC AND SHOULD BE CLOSELY FOLLOWED.
- THE MECHANICAL SYSTEM(S) SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SUGGESTIONS AND RECOMMENDATIONS PLUS THE LATEST ADDPTED EDITIONS OF THE FOLLOWING CODES: THE INTERNATIONAL BUILDING CODE, THE PLUMBING MECHANICAL CODE, THE STANDARD GAS CODE, NFPA 90A AS WELL AS WITH ANY AND ALL OTHER APPLICABLE CODES, STANDARDS AND REGULATIONS.

1.3 EQUIPMENT:

EQUIPMENT SELECTIONS AS SHOWN ON THE DRAWINGS ARE FOR DESIGN PURPOSES ONLY, ACTUAL INSTALLED EQUIPMENT MAY DIFFER FROM THAT SHOWN, EQUIPMENT TYPE, PHYSICAL SIZE, WEIGHT CAPACITIES AND PERFORMANCE CHARACTERISTICS SHALL BE GOVERNING FACTORS IN SUBMITTING SUBSTITUTIONS FOR REVIEW AND APPROVAL, COURDINATE EQUIPMENT ELECTRICAL REQUIREMENTS WITH ELECTRICAL DRAWINGS.

1.4 SUBMITTALS & ACCEPTANCE

- A. UNLESS OTHERWISE INSTRUCTED, THE CONTRACTOR SHALL SUBMIT SEVEN (7) SETS OF SHOP DRAWINGS ON HVAC EQUIPMENT TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL PRIOR TO AND SUBSEQUENT TO PURCHASE OF EQUIPMENT, HVAC SUBMITTALS OF EQUIPMENT MUST BE CLEARLY IDENTIFIED AND BE REFERENCED WITH CORRESPONDING IDENTIFICATION MARKS FROM DRAWING SCHEDULES. THE SUBMITTALS MUST ALSO INCLUDE ALL RELATED ACCESSORIES AND APPURTENANCES.
- B. THE MECHANICAL SYSTEMS SHALL HAVE TESTING AND BALANCING PERFORMED BY AN INDEPENDENT CERTIFIED BALANCE CONTRACTOR, THIS CONTRACTOR SHALL PREPARE AND SUBMIT A COMPLETE REPORT SUBMITTED TO THE ENGINEER, IDENTIFYING ALL MAJOR PIECES OF HVAC EQUIPMENT AND AIR DISTRIBUTION DEVICES WITH PERFORMANCES AND FINAL AIR BALANCE OF
- C. HVAC CONTRACTOR SHALL CHANGE DUT THE EQUIPMENT FILTERS AT THE TIME OF POSSESSION OF THE PROJECT BY THE OWNER, USING ONLY NEW FILTERS OF THE PROPER SIZE AND TYPE,
- D. HVAC CONTRACTOR SHALL REPAIR, REPLACE, OR REPAINT TO MATCH EXISTING SURFACES DAMAGED DURING INSTALLATION OF THE MECHANICAL SYSTEM.
- E. HVAC CONTRACTOR SHALL REMOVE FROM THE JOB SITE ANY MATERIALS NOT ECONOMICALLY RECOVERABLE. ANY MATERIALS REMOVED FROM THE JOB SITE AND SOLD FOR SALVAGE SHALL BE CREDITED TO THE OWNERS. ACCOUNT.

PART 2. EQUIPMENT

2.1 GENERAL:

- COORDINATE THE LOCATIONS OF EQUIPMENT TO PROVIDE ALL NECESSARY CLEARANCES FOR MAXIMUM PERFORMANCE AND MAINTENANCE
- B. PERMANENTLY IDENTIFY ALL EQUIPMENT AND SERVICES USING STENCILS, PLASTIC MARKERS OR TAGS. IN ADDITION, ALL MAJOR PIECES OF EQUIPMENT SHALL HAVE A PERMANENTLY AFFIXED NAMEPLATE ENGRAVED OR STAMPED WITH THE FOLLOWING MINIMUM INFORMATION (AS APPLICABLE): MANUFACTURER, MODEL NO., SIZE, SERIAL NO., HEATING/COOLING CAPACITIES (BTUH), FAN CAPACITY (CFM), GAS INPUT (BTUH), VOLTAGE, AMPS AND SERVICE FACTOR. NAMEPLATE SHALL BE LOCATED IN AN EASILY ACCESSIBLE AREA ON THE EQUIPMENT AND SHALL NOT BE COVERED OR OBSCURED, MANUFACTURER'S NAMEPLATE SHALL BE ACCEPTABLE PROVIDING THE ABOVE CRITERIA IS ADHERED TO, IDENTIFY ASSOCIATED PIECES OF EQUIPMENT WITH THE NUMBER OF ITS CORRESPONDING PIECE.
- C. ALL VALVES AND PIPING SPECIALTIES SHALL BE LINE SIZED UNLESS OTHERWISE NOTED. USE ECCENTRIC REDUCERS ON CONTROL VALVES WHERE
- D. HVAC CONTRACTOR SHALL PROVIDE ALL ROOF CURBS TO THE GENERAL CONTRACTOR FOR ASSEMBLY AND INSTALLATION PRIOR TO THE INSTALLATION OF ROOFING MATERIALS.
- E. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTING ANGLES AND EXTRA SUPPORT BEAMS FOR ROOF TOP A.C. UNITS, EXHAUST FANS, ETC.,
- GENERAL CONTRACTOR SHALL FURNISH AND INSTALL GUARDS WHERE HVAC EQUIPMENT REQUIRING SERVICE IS LOCATED WITHIN 10 FEET OF A ROOF EDGE OR OPEN SIDE OF A WALKING SERVICE OF 30 OR MORE INCHES IN HEIGHT, GUARDS SHALL COMPLY WITH THE 2000 INTERNATIONAL MECHANICAL CODE SECTION 304.9.

2.2 REFRIGERANT PIPING

- REFRIGERANT LIQUID AND SUCTION LINES SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH DX EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, WITH ASHRAE STANDARDS AND WITH APPLICABLE DETAILS AND SPECIFICATIONS. WHERE CONDITIONS WARRANT, LENGTH OF RUN AND CHANGE IN ELEVATION SHALL BE CONSIDERATIONS IN SIZING REFRIGERANT LINES. REFRIGERANT LINES SHALL BE INSULATED USING 3/4" THICK, CLOSED CELL, ELASTOMERIC PIPE INSULATION. WHERE CONCEALED IN BUILDING SLAB CONSTRUCTION, ROUTE REFRIGERANT LINES THRU PVC CONDUIT.
- B. ALL PIPING INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, WALLS, AND PENETRATIONS. SLEEVE & SEAL WHERE FIRE RATED SURFACES ARE PENETRATED.

2.3 DRAIN LINES:

A. ALL CONDENSATE DRAIN LINES SHALL BE SCHEDULE 40 DWV-PVC PIPE AND FULL SIZE OF EQUIPMENT DRAIN, TRAP AND VENT AT EQUIPMENT. ROUTE TO NEAREST FLOOR DRAIN OR ELSEWHERE AS DIRECTED. (SERVICE SINK) MAINTAIN A MIN, 2" AIR GAP FROM DRAIN DISCHARGE TO DRAIN TOP.

2.4 POWER WIRING:

A. PROVIDE STARTERS, INTERNAL PROTECTION, OR OTHER DEVICES INDICATED ON DRAWINGS, COORDINATE VOLTAGE, PHASE, AMPERAGE, AND OTHER REQUIREMENTS WITH ELECTRICAL DRAWINGS, ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL SERVICE DISCONNECT DEVICE AND FUSE PROTECTION,

2.5 SAFETY SHUT DOWN

ALL RECIRCULATING AIR HANDLING SYSTEMS 2,000 CFM AND GREATER AND/OR WHICH SERVE AN AREA HAVING A DIRECT MEANS OF EGRESS SHALL HAVE APPROVED SMOKE DETECTORS FURNISHED AND INSTALLED IN THE RETURN AIR STREAMS PRIOR TO MIXING WITH FRESH AIR MAKE-UP AND WHEN THE SYSTEMS ARE 15,000 CFM OR GREATER, IN THE SUPPLY AIR STREAMS AS WELL, THE SENSING DEVICES SHALL AUTOMATICALLY SHUT DOWN THE AIR HANDLER UNIT'S FAN AND SIGNAL THE FIRE ALARM SYSTEM IF SMOKE IS DETECTED, COORDINATE WITH THE ELECTRICAL DRAWINGS AND/OR FIRE ALARM EQUIPMENT SUPPLIER AND INSTALLER (AS APPLICABLE). THE SMOKE DETECTION DEVICE(S) SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR AND CONNECTED BY THE ELECTRICAL CONTRACTOR.

PART 3. DUCTWORK & DEVICES

3.1 FABRICATION

- A. DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR +/- 1" W.G. PRESSURE APPLICATION. RECTANGULAR DUCTS SHALL HAVE PITTSBURGH LOCK LONGITUDINAL SEAMS AND DRIVE AND SLIP TRANSVERSE JOINTS, ROUND DUCTWORK SHALL HAVE SNAPLOCK LONGITUDINAL SEAMS OR BE SPIRAL WOUND DUCTWORK FABRICATED WITH A CONTINUOUS, MACHINE FORMED SEAM, EITHER TYPE ROUND DUCTWORK SHALL HAVE TRANSVERSE JOINTS FABRICATED AND SECURED PER SMACNA STANDARDS, SHEET METAL DUCTWORK SHALL BE FABRICATED FROM MINIMUM 26 GAUGE GALVANIZED SHEET STEEL, ASTM A-527. DUCTWORK TO BE PAINTED SHALL BE FABRICATED FROM PAINT-GRIP METAL AND WIPED CLEAN OF OIL BEFORE PAINT IS APPLIED, HANGERS SHALL BE IN ACCURDANCE WITH THE SMACNA STANDARDS RECOMMENDATIONS, MAXIMUM SPACING SHALL BE 8 FEET, PROVIDE SUPPORT WITHIN 2 FEET OF EACH TAKE
- ALL ROUND DUCTWORK ELBOWS SHALL BE RADIUS TYPE WITH CENTERLINE RADIUS EQUAL TO 1.5 X DIAMETER, RECTANGULAR DUCT ELBOWS SHALL BE RADIUS TYPE WITH CENTERLINE RADIUS EQUAL TO 1.5 X WIDTH WHERE INSTALLATION PERMITS SQUARE THROATED ELBOWS WITH SINGLE WALL TURNING VANES SHALL BE USED WHERE RADIUS TYPE RECTANGULAR DUCT ELBOWS CAN NOT BE PRACTICALLY INSTALLED, FABRICATE AND INSTALL PER SMACNA STANDARDS.
- TO MINIMIZE NOISE TRANSMISSION THRU DUCTWORK AT LEAST ONE DUCT ELBOW (OR EQUIVALENT) SHALL BE INSTALLED BETWEEN UNIT AND ANY DUTLET OR INLET OPENING LOCATIONS.
- D. FLEXIBLE DUCTWORK AND ROUND DUCTWORK RUNGUTS SHALL BE ATTACHED TO RECTANGULAR MAINS USING CONICAL SPIN-IN FITTINGS OR BELL-MOUTH "STICK-ON" FITTINGS WITH ADHESIVE GASKETS. THE INLET RADIUS ON BELLMOUTH FITTINGS SHALL BE MIN. 1-1/2". BOTH TYPE FITTINGS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPERS WITH LOCKING QUADRANTS.
- E. BRANCH CONNECTIONS OFF OF ROUND DUCT MAINS SHALL BE MADE USING A DIVERGING FLOW, CONICAL TEE OR DIVERGING FLOW, COMBINATION TEE WITH 45° BOOT. IN NO CASE WILL STRAIGHT TEES BE ALLOWED.
- F. IN CONCEALED LOCATIONS WHERE SPACE PERMITS, ROUND DUCTWORK MAY BE SUBSTITUTED FOR RECTANGULAR, THE ROUND DUCT SHALL BE SIZED TO HAVE A FRICTION LOSS EQUAL TO OR LESS THAN THAT OF THE RECTANGULAR DUCT.
- G. INSTALL BALANCING DAMPERS AT ALL BRANCH DUCT TAKE-OFFS.
- H. INSTRUMENT TEST HOLES SHALL BE LOCATED IN ALL NEW SUPPLY, EXHAUST, AND RETURN DUCTS.
- ALL EQUIPMENT, DUCTWORK AND PIPING SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH THE LOCAL CODES.
- J. ALL PIPING SHALL BE SUPPORTED ADJACENT TO EQUIPMENT, TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
- K. ALL BALANCING DAMPERS SHALL BE LOCKED IN POSITION ONCE VOLUME BALANCE HAS BEEN ACHIEVED WITH A LOCKING QUADRANT.
- L. TAPE AND SEAL ALL JOINTS AND SEAMS ON SUPPLY DUCTS, RETURN DUCTS, EXHAUST DUCTS, DUTSIDE AIR DUCTS AND PLENUMS.

3.2 INSULATION:

- A, ALL SHEET METAL SUPPLY AND RETURN DUCTWORK SHALL BE EXTERNALLY INSULATED (UNLESS OTHERWISE NOTED) WITH 1-1/2" THICK, 0.75 LB. DENSITY, FOIL FACED FIBERGLASS BLANKET TYPE INSULATION WITH VAPOR BARRIER ON DUTSIDE, DUCTWORK SHALL BE INSULATED IN ACCORDANCE WITH THE SMACNA CONSTRUCTION STANDARDS FOR INSULATION APPLICATION. INSULATION SHALL BE APPLIED CLEAN AND DRY. DUTSIDE AIR INTAKE DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS BLANKET INSULATION & 2" THICK 0.75 POUND DENSITY FOIL FACED IN ATTICS. GENERAL EXHAUST DUCTWORK NEED NOT BE INSULATED.
- B. FOR SOUND ATTENUATION BOTH SUPPLY AND RETURN DUCTWORK CONNECTING TO AIR HANDLING UNIT AND FOR 10 LINEAR FEET OF DUCT ON EITHER SIDE OF UNIT SHALL BE INTERNALLY LINED PER SMACNA GUIDELINES, WHERE DUCTWORK IS TO BE INTERNALLY LINED FOR SOUND AND/OR FOR THERMAL INSULATION, APPLY 1" THICK 1.5 LB. DENSITY FIBERGLASS MAT WITH FIRE RESISTANT COATING ON AIRSTREAM SIDE USING APPROPRIATE FASTENERS AND ADHESIVES (DWENS - CORNING AEROFLEX PLUS OR EQUAL COMPLYING WITH ASTM C 665)

3.3 FLEXIBLE DUCT

A, ALL FLEXIBLE DUCTWORK SHALL BE INSULATED TYPE FOR LOW PRESSURE APPLICATIONS, FLEXIBLE DUCTWORK SHALL BE UL LISTED FOR UL181 CLASS 1 AIR DUCT MATERIAL AND SHALL COMPLY WITH NFPA STANDARDS 90A AND 90B, MAXIMUM LENGTH OF RUN SHALL BE 5'-0" AND SHALL BE INSTALLED FREE OF ABRUPT TURNS AND ANY REDUCTION IN CROSS-SECTIONAL AREA.

3.4 PENETRATIONS

- A. SLEEVES SHALL BE INSTALLED WHERE DUCTS, LOUVERS, OR PIPING PENETRATE NON-RATED EXTERIOR WALLS, PARTITIONS, FLOORS, OR ROOF PACK AROUND SLEEVES AND SEAL WEATHER TIGHT. INSTALL FLASHING COUNTER FLASHING. SLEEVES SHALL BE MINIMUM 16 GAUGE STEEL AND SHALL BE FIRMLY SET IN BUILDING STRUCTURE.
- B. LOCATE ALL DUCT OPENINGS (SUPPLY DIFFUSERS, RETURN GRILLES, ETC.) A MINIMUM OF FIVE (5) LINEAR FEET OF DUCT RUN FROM 1 HOUR RATED FIRE BARRIER PENETRATIONS, IN ADDITION, DUCTS PENETRATING 1 HOUR FIRE BARRIERS MUST BE FABRICATED FROM MINIMUM 26 GAUGE SHEET METAL AND BE NO LARGER THAN 100 SQUARE INCHES IN CROSS SECTIONAL AREA. IF ANY ONE OF THESE CRITERIA IS NOT MET, AN NFPA APPROVED FIRE DAMPER WILL BE REQUIRED.

3.5 MISCELLANEOUS

- A. THE FINAL LOCATION OF AIR DISTRIBUTION DEVICES AND RETURN GRILLES SHALL BE ADJUSTED AS NECESSARY TO CLEAR THE STRUCTURAL SYSTEM. COORDINATE LOCATION OF CEILING DIFFUSERS AND RETURNS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND THE INSTALLED CEILING GRID SYSTEM.
- B. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES AND SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND AS INSTALLED, RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE OWNER UPON COMPLETION OF PROJECT.

PART 4. CONTROLS

4.1 GENERAL:

A. PROVIDE CONTROLS REQUIRED TO OPERATE EQUIPMENT AND AS INDICATED ON DRAWINGS, WIRE AND CONNECT AS REQUIRED.

4.2 THERMOSTATS:

A. UNLESS OTHERWISE NOTED, ALL THERMOSTATS SHALL BE REMOTE TYPE, 7-DAY PROGRAMMABLE AND SHALL BE WALL MOUNTED AT 5'-6" AFF. (INSTALL AT 4'-0" AFF WHERE REQUIRED AND/OR AS DIRECTED TO MEET HANDICAP ACCESSIBILITY). ALL PROGRAMMABLE THERMOSTATS SHALL BE HONEYWELL MDL, T7300 OR APPROVED EQUAL AND SET AT 72°F FOR COOLING AND 70°F FOR HEATING IN DCCUPIED MODE AND 80°F FOR COOLING AND 60°F FOR HEATING IN UNOCCUPIED MODE. THE ASSOCIATED AIR HANDLING UNIT SUPPLY AIR FAN SHALL BE SET TO RUN CONTINUOUSLY WHEN ITS THERMOSTAT IS IN AN OCCUPIED MODE AND ONLY WHEN CALLED FOR WHEN IT IS IN AN UNDCCUPIED MODE, THERMOSTATS SHALL BE EQUIPPED WITH A MANUAL OVERRIDE BUTTON TO TEMPORARILY CHANGEOVER FROM UNDCCUPIED MODE TO OCCUPIED MODE ON DEMAND.

4.3 CONTROL WIRING

A CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH CONTROL MANUFACTURER'S SUGGESTIONS AND RECOMMENDATIONS, CONTROL WIRING AND CONTROL WIRING CONNECTIONS TO HVAC EQUIPMENT SHALL BE BY THE MECHANICAL CONTRACTOR, ALL EXPOSED CONTROL WIRING THAT MAY BE SUBJECTED TO PHYSICAL DAMAGE SHALL BE ROUTED IN CONDUIT.

		INDOOR /	AIR H	ANDLI	NG	UNIT	SCH	EDULE (SPLIT S	SYSTEM	W/ H	EAT	PU	MP)	
DENT.	SYSTEM MATCH	MANUFACTURER RUUD/MODEL NO.	FAN (CFM)	MIN OA/CFM	EXT. SP/IN	COOLING CAP. (MBH) @ ARI		HEATING CAP. REV CYCLE (MBH) @ ARI	AUX. ELEC. HEAT KW	FANS NO./HP	V/ø/HZ	MCA	TONS	area served	REMARKS
	,	, -			WG	TOTAL	SENS.	MON) & AKI							
AC-1	HP-1	RHIT4821STNJ	1400	60	0.5	35.2	26.2	24.8	7.5	1 / 3/4	230/1/60	50	3.5	MAIN LEVEL	1-4, 7-9

1. OVERSIZED MOTOR AND SHEAVES

. Associated with heat pump HP-1

. HANGING VIBRATION ISOLATION KIT 3. FACTORY WIRED MANUAL DISCONNECT SWITCH . Heating/cooling thermostat with auto—changover subbase & on—off—auto fan selector switch

CLEAR LOCKING COVER FOR THERMOSTAT. 7. OR APPROVED EQUAL

INDOOR AND OUTDOOR SYSTEM TO BE SIZED BY CONTRACTOR-SUBMITTED W/BID

01	JTD00R	HEAT PUMP SO	CHEDU	JLE (S	SPLIT SYS	STEM	W/AIR	HAI	VDLI	ER)
IDENT.	SYSTEM MATCH	MANUFACTURER RUUD/MODEL	COOLIN	ig cap. Ari cond.	HEATING CAP. MBH @ ARI	REFRIG.	V/ø/HZ	MCA	MOP	REMARKS
	MAICH	NO.	TOTAL	SENS.	17°F					
HP-1	AC-1	RP1442AJI	35.2	26.2	24.8	R410A	230/1/60	24	40	1-7,9-13
REMARKS:	Y WIRED MANI	JAI DISCONNECT SWITCH	<u> </u>							

2. MOUNT ON EQUIPMENT PAD

LOW AMBIENT CONTROLS 4. ANTI-SHORT CYCLE TIMER

5. VIBRATION ISOLATORS 6. OUTDOOR THERMOSTAT

7. LOW PRESSURE AND HIGH PRESSURE CUT-OUTS WITH MANUAL RESTARTS

8. OR APPROVED EQUAL 9. HEAT PUMP RISER

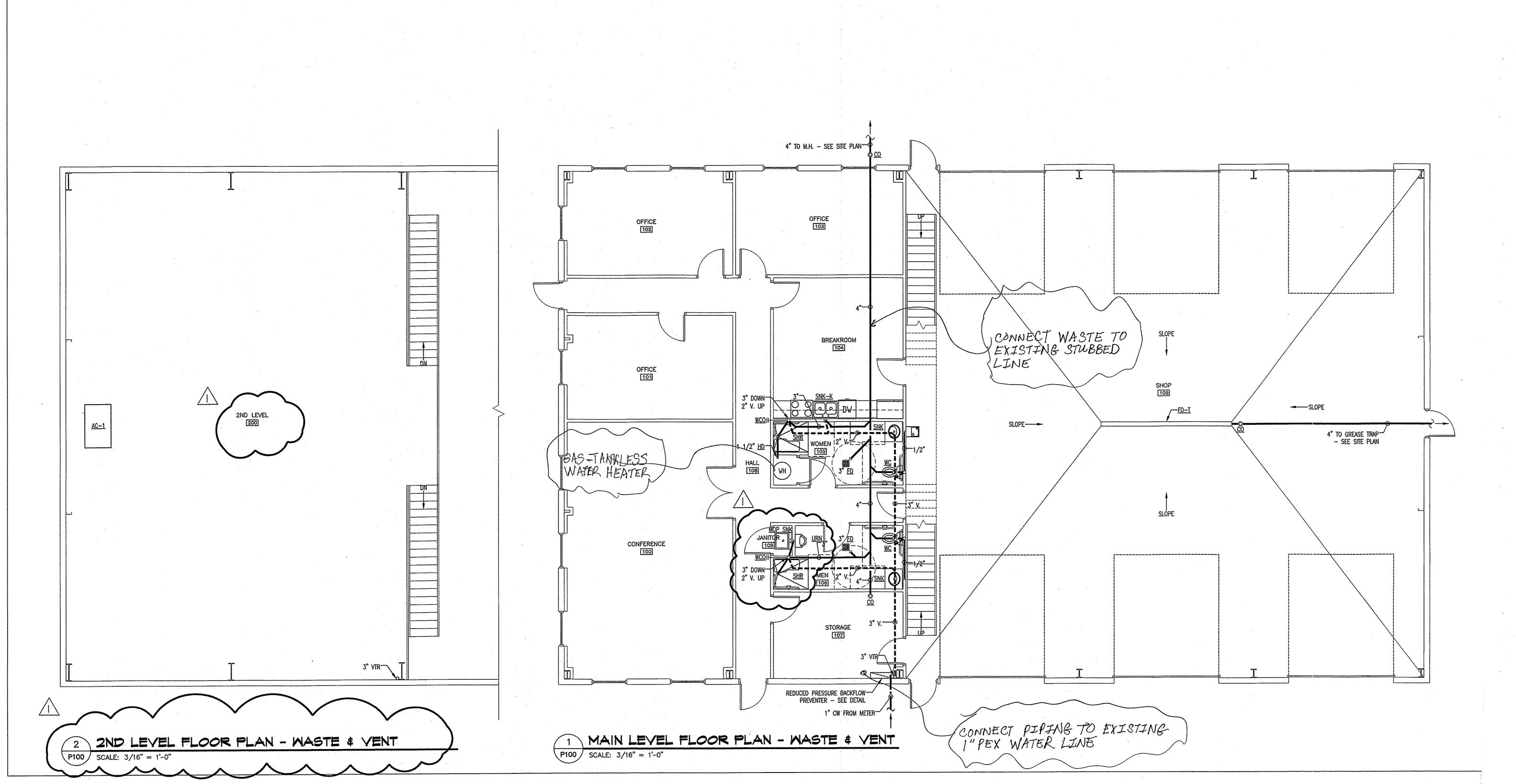
10. ALLOW 60" CLEARANCE FOR AIR DISCHARGE.

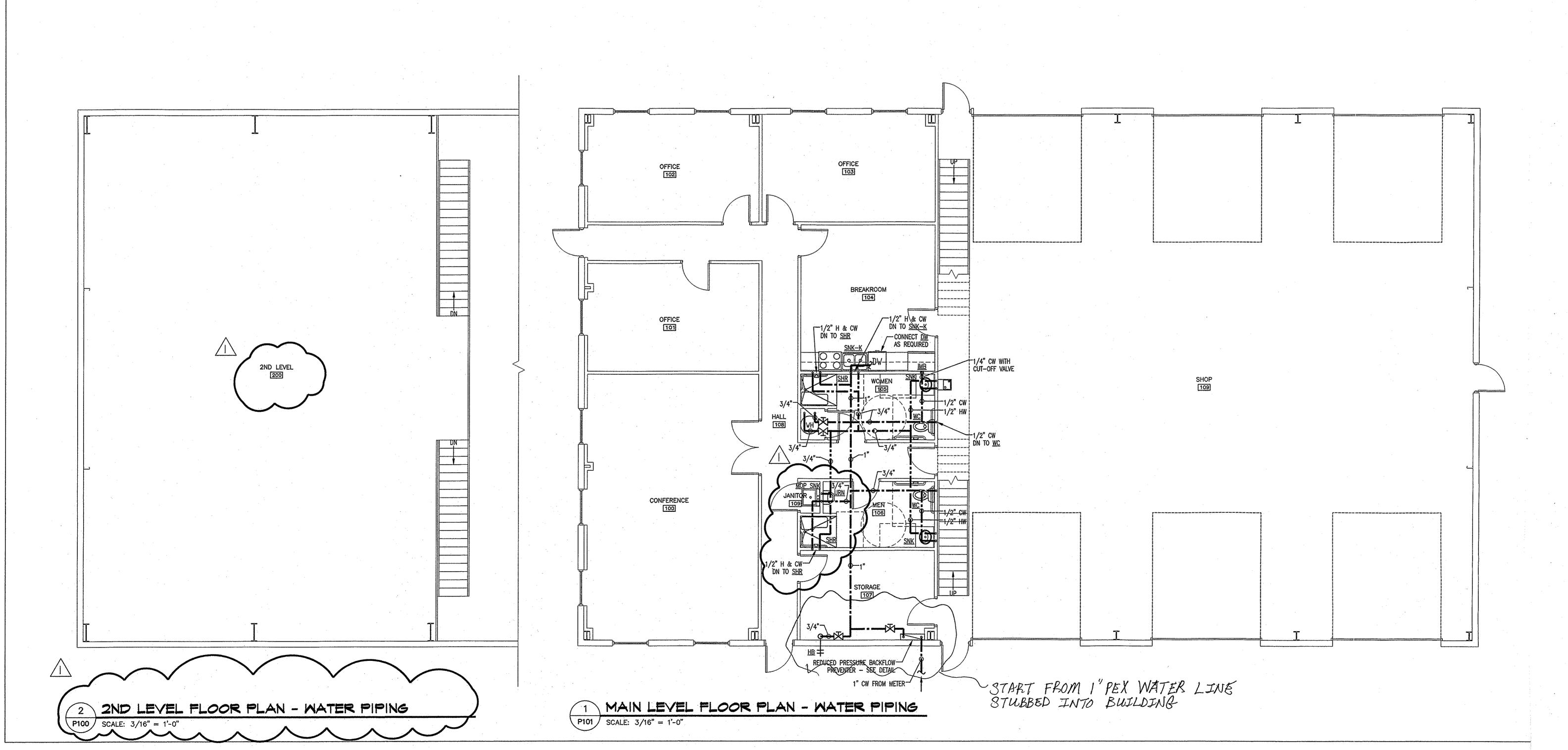
11. REFRIGERANT R410A.

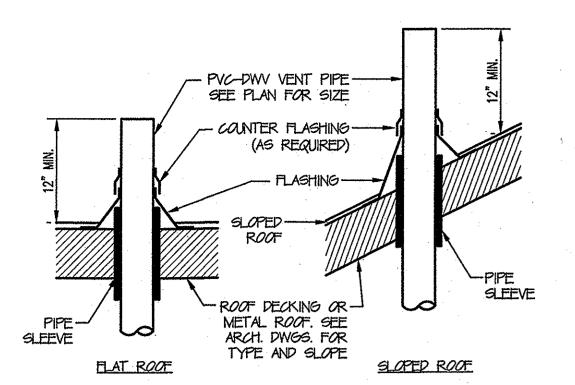
	E	XHAU	IST FA	N SCHE	DULE		
IDENT.	MANUFACTURER/ MODEL NO.	CFM	S.P.	HP/RPM	V/PH	AREA SERVED	REMARKS
EF-1	GREENHECK/SP-B90	75	0.25	0.7/700	115/1	TOILET	1-6
. FACTOR	GINEERED APPROVED EQUAL. RY WIRED MANUAL DISCONNECT. G INSTALLATION.						

IDENT	MANFACTURER./MODEL	USE	NC	REMARKS.			
A METAL—AIRE/5700—1—RSD SA 17 1,2,3,4,1 B METAL—AIRE/CC5DTB RA 25 2,3,4,1 NOTES: 1. OPPOSED BLADE DAMPER, 2. WHITE/ ALUMINUM FINISH. 3. OR DESIGN ENGINEER APPROVED SUBSTITUTION. 4. SURFACE MOUNT. 5. LOUVER FACED, 4—WAY THROW. 6. 24"X24" T—BAR LAY—IN FRAME (PANEL—MOUNTED AS REQUIRED). 7. 1/2"x1/2" x1/2" GRID. 8. 1—WAY THROW (LONG SIDE) 9. SQUARE TO ROUND TRANSITION. 10. RADIAL SHUTTER DAMPER (RSD). 11. DOUBLE DEFLECTION 12. FIXED HORIZONTAL BLADES 13. FILTER—BACK GRILLE W/ 1" TA FILTER							

VAC LEGEND
DEFINITION
ROUND CEILING SUPPLY AIR DIFFUSER
SQUARE SUPPLY AIR DIFFUSER (4-WAY THROW)
RETURN AIR OR EXHAUST AIR GRILLE
CEILING MOUNTED EXHAUST FAN W/ DUCT
DUCTWORK (FIRST DIMENSION IS SIDE SHOWN)
DUCT TRANSITIONS (SIDE AND TOP)
vaned elbow
FLEXIBLE DUCT
45° CLINCH COLLAR W/ MAN. VOLUME DAMPER
CONICAL SPIN—IN FITTING OR SELF—STICK BELLMOUTH FITTING (W/ MAN. VOLUME DAMPER)
MANUAL VOLUME DAMPER
EXHAUST/RETURN GRILLE (SIDEWALL)
SUPPLY REGISTER (SIDEWALL)
A. DIFFUSER / GRILLE TAG B. AIR BALANCE CFM C. NECK SIZE (DUCT SIZE)
UNDERCUT DOOR 3/4"
THERMOSTAT AND CONTROL WIRING
INTERLOCK WITH LIGHT SWITCH
REFRIGERANT PIPING
CONDENSATE DRAIN



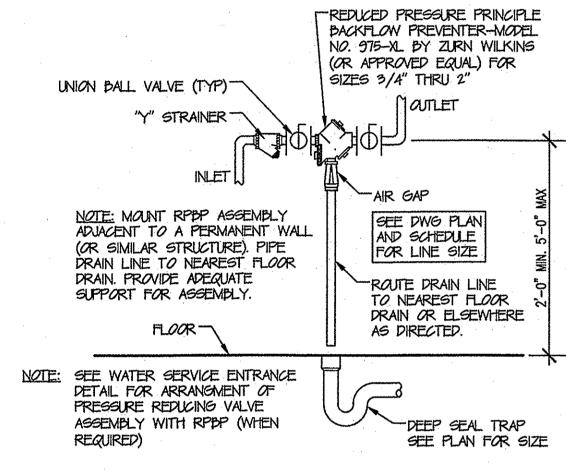




- FLASHING MATERIAL AND THICKNESS TO BE AS RECOMMENDED BY MANUFACTURER TO SUIT ROOF TYPE AND FLASHING APPLICATION. ALL ROOF PENETRATIONS SHALL BE FLASHED AND SEALED WATERTIGHT. 3. PAINT VENTS EXTENDING ABOVE ROOF WITH AN EPOXY BASED PAINT.
- COLOR TO MATCH ROOF. USE EITHER FLAT ROOF OR SLOPED ROOF AS APPLICABLE. INSULATE VENTS USING I" THICK RUBATEX INSULATION (OR EQUAL) EXTENDING FOR FIRST SIX (6) FEET DOWN FROM ROOF DECKING.

TYP. DETAIL - PLUMBING VENT ROOF PENETRATION

SCALE: 1" = 1'-0" P200



REDUCED PRESSURE BACKFLOW PREVENTER-SINGLE ASSEMBLY

MOUNTED

FLOOR DRAIN DESCRIPTION SEE PLAN FOR RUN SIZE

(TYP) CONNECTION OF FIXTURE

FLOV -----

OUTSIDE CLEANOUT DETAIL

NOTE: DOUBLE FIXTURE "BACK-TO-BACK" CONNECTION SHOWN, ADJUST FOR SINGLE INSTALLATION, THIS DETAIL IS APPLICABLE

ONLY FOR THOSE FLOOR DRAIN PIPING CONNECTION(S) THAT ARE MADE DOWN STREAM OF A WATER CLOSET, FLOOR DRAIN WASTE PIPING UPSTREAM OF A WATER CLOSET MAY BE TIED DIRECTLY INTO A <u>VENTED LINE</u> WITHOUT VENTING AT THE TIE-IN CONNECTION WHEN INSTALLED PER CODE. COMPLY WITH ALL PROVISIONS OF THE STATE AND LOCAL PLUMBING CODES AS WELL AS WITH PROVISIONS OF THE LATEST, ADOPTED EDITION OF THE INTERNATIONAL OR STANDARD PLUMBING

CODE. REFER TO THE AUTHORITIES HAVING JURISDICTION TO DETERMINE WHICH CODES AND STANDARDS ARE APPLICABLE.

DRAINS INTO BUILDING DRAIN SYSTEM

LATERAL INTO <u>WC</u> TOP QUADRANT L

SEE PLUMBING SPECS FOR

TYPICAL FLOW DIAGRAM

SCALE: NOT TO SCALE

OF BLDG. DRAIN-

FOR WC TYPE

P200 / SCALE: NOT TO SCALE

DEEP-SEAL

ADJUSTABLE HEAD-

DRAIN PIPE STUBBED UP

TO CLEAN OUT-

GRADE -

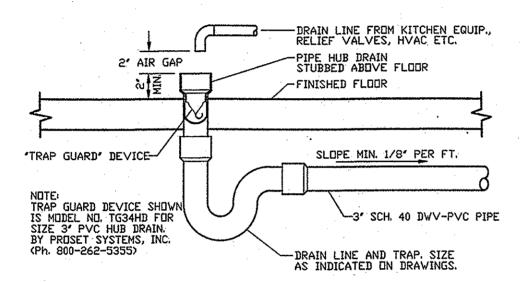
UNDERGROUND SANITARY

PIPING, SCH. 40, DWV PVC (SEE PLAN FOR SIZE)

SCALE: NOT TO SCALE

PLUMBING FIXTURE SPECIFICATIONS:

- WATER CLOSET KOHLER #K-3755 & KOHLER #4774 SEAT-WHITE
- URINAL KOHLER #K-4989-T-O-WHITE & KOHLER #K-10675-SV-CP
- LAVATORY KELTA #520-DST FAUCET & KOHLER #K-2214-0-WHITE UNDERMOUNT
- <u>SNK-K</u> KITCHEN SINK ELKAY #LRA02521 5 1/2" DEEP, STAINLESS STEEL, KOHLER #K15172-XF-CP CORIALIS SINGLE ARM CONTROL, WITH SPRAY, 2.2 GPM, 10" SPOUT.
- SHOWER SOLID WHITE MATTE FINISH/BASE, #SP3648-CD-IF(L OR R)., KOHLER #K-T98009-4-CP & K-304-KS-NA & 1015345 "JULY" SHOWER VALVE TRIM ARM & FLANGE.
- STATE #EN6-80-DOLBS WATER HEATER (1) 80 GALLON, (1) 4.5 KW ELEMENT, 21 GALLON PER HOUR RECOVERY WITH EXPANSION TANK.
- FLOOR TRENCH DRAIN ZURN #Z-886-GG W/ FIBERGLASS GRATE & SECTIONAL LENGTH WITH UNIFORM PITCH. TOTAL LENGTH AS SHOWN ON PLANS - SET IN CONCRETE.
- FLOOR DRAIN ZURN #2-4158
- CAST IRON BODY, P-TRAP, ADJUSTABLE COLLAR, POLISHED NICLE BRONZE, "B" STRAINER 3" TYPE NL OUTLET.
- SEWER GRINDER PUMP E/DUE #DH152
- 11 GPM @ 40 PSIG. 120 VOLTS, SINGLE PHASE, 1 HP.
- ICE MAKER BOX SHARKBITE #25032 EXTEND 1/4" OD COPPER TUBE DOMESTIC COLD WATER TO WALL OUTLET UTILITY BOX @42" AFF, WALL FRAME & CONNECTION ADAPTER PROVIDED WITH BOX, PROVIDE REDUCED BACKFLOW PREVENTER EQUAL TO WILKINS #975XL & INSTALL IN-LINE BEFORE FILTER. MAKE FINAL CONNECTION TO ICE MAKER. (FURNISHED BY OWNER)
- NON FREEZE HOSE BIB WOODFORD #B65 1/4 TURN NON-FREEZE WALL HYDRANT WITH INTEGRAL VACUUM BREAKER & 3/4" HOSE CONNECTION SERVICE FROM INSIDE WITH 3/4" SIZE BALL VALVE.
- PROSET #TG23HD HUB DRAIN/"TRAP GUARD"
 - SEE PLANS FOR SIZE, MINIMUM 2" ABOVE FINISHED FLOOR AND PROVIDED WITH A PROSET "TRAP GUARD" DEVICE FORMED FROM AN ELASTOMERIC MATERIAL AND PRESHAPED TO ALLOW WATER TO FLOW THRU AND TO CLOSE WITH NO WATER FLOW. THE "TRAP GUARD" DEVICE SHALL SERVE TO PREVENT SEWER BACK-UP. TO PREVENT SEWER GAS EMISSIONS AND TO PREVENT EVAPORATION OF THE TRAP SEAL. (PROSET SYSTEMS, INC., PHONE 1-800-262-5355) PROVIDE PVC, DEEP-SEAL, P-TRAP, THE HUB DRAIN SHALL BE FORMED FROM SCHEDULE 40 DWV-PVC MATERIAL
- ROUND STAINLESS STEEL WALL ACCESS COVER COMPLETE WITH SECURING SCREW AND BRONZE RAISED HEX HEAD PLUG, PROVIDE CLEANOUT TEE, SEE PLAN FOR SIZE.



SEE FIXTURE SPECS FOR DESCRIPTION OF HUB DRAIN WITH 'TRAP GUARD' DEVICE

HUB DRAIN WITH "TRAP GUARD" DETAIL

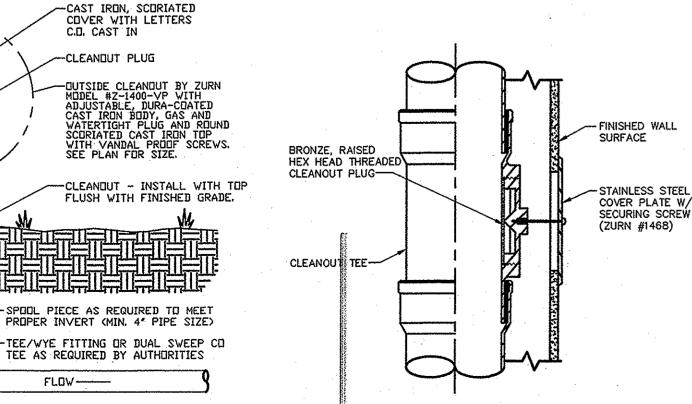
SCALE: NOT TO SCALE

PLUMBING NOTES:

- 1. SANITARY WASTE AND VENT PIPING BOTH ABOVE AND BELOW GRADE SHALL BE SCHED. 40 PVC-DWV PLASTIC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS. ALL SUCH PIPING AND PIPING COMPONENTS SHALL BE LISTED AS CONFORMING WITH ANSI/NSF STANDARD 14 AND ASTM D-2665.
- 2. DOMESTIC HOT AND COLD WATER PIPING ROUTED ABOVE GRADE SHALL BE TYPE "L" HARD DRAWN COPPER. JOINTS SHALL BE SWEAT TYPE USING 95-5 (TIN-ANTIMONY) SOLDER HAVING A MAXIMUM LEAD CONTENT OF 0.2 OF 1%, SPECIAL NOTE: AN ALTERNATIVE MATERIAL/METHOD FOR DOMESTIC WATER DISTRIBUTION MAY BE ACCEPTABLE BUT MUST BE APPROVED BY THE ENGINEER, SAID METHOD MUST MEET ASTM, CSA AND NSF STANDARDS AND COMPLY WITH REQUIREMENTS OF THE IPC AND LOCAL AUTHORITIES HAVING JURISDICTION. THE MATERIAL/METHOD SUBMITTED MUST BE AN INDUSTRY APPROVED, RECOGNIZED AND ACCEPTED MEANS FOR CONVEYING POTABLE WATER.
- 3. DOMESTIC HOT WATER AND COLD WATER PIPING ROUTED BELOW GRADE SHALL BE TYPE "K" ANNEALED COPPER TUBING WITH NO JOINTS BELOW FLOOR SLAB. COPPER TUBING ROUTED IN CORROSIVE SOILS AND/OR CONCRETE SHALL BE PROTECTED BY ENCLOSING IN A PLASTIC SHEATH OR SIMILAR COVERING, WATER PIPING ROUTED BELOW GRADE AND EXTERIOR TO BUILDING SHALL BE CLASS 250 PVC PLASTIC PIPE WITH SLIP JOINT, GASKETED FITTINGS. TRANSITION FROM PVC SITE DOMESTIC WATER TO COPPER AT 5 FEET OUTSIDE OF BUILDING. (SEE SPECIAL NOTE IN PLUMBING NOTE 2).
- 4. CONCEALED DOMESTIC WATER PIPING SHALL BE INSTALLED IN FLOOR SLAB AND SPACES BETWEEN WALL STUDS AND GENERALLY ON THE INSIDE OF THE INSULATED BUILDING ENVELOPE UNLESS NOTED OTHERWISE.
- 5. ALL DOMESTIC WATER PIPING SHALL BE INSULATED, UNLESS OTHERWISE DIRECTED, USING CLOSED CELL, ELASTOMERIC, TUBULAR PIPE INSULATION AND SIZED ACCORDING TO PIPE SIZE. PIPE INSULATION MAY BE EXCLUDED IN INTERIOR WALL CAVITIES AND AT FIXTURE CONNECTIONS (COMPLY WITH PROVISIONS OF ADA WHERE APPLICABLE). INSTALL INSULATION WITH AN OUTER PROTECTIVE COVERING WHERE THE INSULATION MAY BE SUBJECTED TO ACCIDENTAL DAMAGE OR ABUSE. TAPE OR CEMENT ALL JOINTS AND SPLICES IN PIPE INSULATION. ALL ELBOWS AND BENDS SHALL BE INSULATED. VALVES IN INSULATED LINES SHALL BE WRAPPED WITH BATT TYPE INSULATION AS REQUIRED TO PREVENT FREEZING.
- 6. ALL EXPOSED PIPING CONNECTING TO HANDICAP FIXTURES SHALL BE INSULATED WHERE THERE IS A POSSIBILITY OF INCIDENTAL BODILY CONTACT. INSULATE USING PRE-MOLDED PVC JACKETS SUCH AS HANDI LAV-GUARD BY TRUEBRO, INC. OR USE PRE-WRAPPED FITTINGS SUCH AS PROWRAP BY McGUIRE MFG. CO. (OR ENGINEER APPROVED EQUAL). COMPLY WITH ALL ADA REQUIREMENTS.
- 7. CONTRACTOR SHALL COORDINATE PLUMBING WORK WITH THE WORK OF OTHER TRADES. IF CONFLICTS WITH OTHER TRADES (OR ANY OTHER ISSUE THAT WOULD PREVENT PROPER INSTALLATION) SHOULD OCCUR. THE PLUMBING CONTRACTOR SHALL INFORM THE GENERAL CONTRACTOR AS SOON AS POSSIBLE BEFORE PROCEEDING WITH HIS PORTION OF WORK.
- 8. INSTALL PLUMBING IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF STATE AND LOCAL CODES AND THE STANDARD OR INTERNATIONAL PLUMBING CODES. VERIFY WITH THE LOCAL BUILDING CODES OFFICIALS AS TO WHICH PARTICULAR CODES APPLY.
- 9. PLUMBING CONTRACTOR TO PAY FOR ALL PERMITS, FEES, INSPECTIONS AND CONNECTIONS AS MAY BE REQUIRED FOR THIS WORK.
- 10. ALL VENT PIPING TO PENETRATE ROOF A MINIMUM OF 12" ABOVE ROOF, FLASH AND SEAL TO ROOF WEATHER-TIGHT, PAINT VENT PIPING ABOVE ROOF WITH 2 COATS EPOXY BASED PAINT. COLOR TO MATCH ROOF.
- 11. PITCH ALL WASTE AND VENT PIPING 2-1/2" AND SMALLER TO SLOPE A MINIMUM OF 1/4" PER FT. PIPING 3" AND LARGER TO SLOPE A MIN. OF 1/8" PER FT. INVERTS WHERE SHOWN REFLECT MINIMUM DEPTHS AND MAY BE ADJUSTED LOWER AS REQUIRED TO SUIT SITE CONDITIONS. COORDINATE WITH FOUNDATION CONSTRUCTION AND SANITARY SEWER TIE-IN INVERTS.
- 12. THE PLUMBING DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW THE RELATIONSHIP BETWEEN FIXTURES AND CONNECTIONS. DO NOT SCALE THE DRAWINGS FOR EXACT LOCATIONS, VERIFY AND INSTALL FIXTURES AT LOCATIONS SHOWN ON ARCHITECTURAL DRAWINGS.
- 13. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION OF EXISTING UTILITY SERVICES WHICH MAY INCLUDE: SANITARY SEWER, POTABLE WATER, NATURAL GAS AND STORM DRAINS. CONTRACTOR SHALL FIELD VERIFY INVERTS OF EXISTING SANITARY SEWER PIPING PRIOR TO WORK TO CONFIRM THE TIE-IN INVERT ELEVATION.
- 14. CONTRACTOR SHALL VISIT JOB SITE BEFORE BIDDING AND BECOME FAMILIAR WITH ANY EXISTING CONDITIONS WHICH MAY AFFECT HIS WORK.
- 15. SLEEVES SHALL BE INSTALLED WHERE PIPING PENETRATES EXTERIOR WALLS, PARTITIONS, FLOORS OR ROOF, SLEEVES SHALL BE FABRICATED FROM MIN. 16 GA. GALV. STEEL. WHERE PIPING PASSES THROUGH A FOUNDATION WALL SLEEVES SHALL BE FABRICATED FROM STEEL OR CI PIPE AND BE BUILT INTO THE FOUNDATION WALL. SLEEVES SHALL BE MINIMUM 2 PIPE SIZES LARGER THAN THE PIPE PASSING THROUGH THE FOUNDATION WALL. PACK SLEEVES AND/OR INSTALL FLASHING AS REQUIRED TO SEAL EXTERIOR PENETRATIONS WEATHER/WATER TIGHT, SEE APPROPRIATE PLUMBING DETAILS IN THESE DRAWINGS FOR APPLICABLE PENETRATION TYPES. PACK SLEEVES THROUGH FIRE RATED ASSEMBLIES WITH MINERAL WOOL AND SEAL WITH LISTED CAULKING.
- 16. PIPING PLACED IN TRENCHES SHALL BE SURROUNDED BY AT LEAST 6 INCHES OF LOOSE AGGREGATE FILL ON ALL SIDES, TAMP FILL MATERIAL ON EACH SIDE OF PIPE IN 6 INCH LAYERS, ALL PIPING UNDER SLAB SHALL HAVE A MIN. 1 INCH SEPARATION FROM BOTTOM OF SLAB TO TOP OF PIPE AT HIGH POINT. PROTECT PIPING FROM BEING CRUSHED OR OTHERWISE CONSTRICTED.
- 17. ALL DOMESTIC HOT WATER AND COLD WATER PIPING SYSTEMS SHALL BE DISINFECTED IN ACCORDANCE WITH THE PLUMBING CODE. DISINFECTION SHALL INCLUDE ALL PIPE, FITTINGS, VALVES, FAUCETS AND FIXTURES THAT MAKE UP A PART OF THE SYSTEM.
- 18. INSTALL WATER HAMMER ARRESTORS AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH STANDARD INSTALLATION PRACTICES, PROCEDURES AND P.D.I. GUIDELINES. WATER HAMMER ARRESTORS SHALL BE SHOKTROL AS MANUFACTURED BY ZURN. OR ENGINEER APPROVED ALTERNATE.
- 19. INSTALL MAIN WATER CUTOFF IN DOMESTIC WATER RISER AT BUILDING ENTRY PRIOR TO ANY DEVICES OR BRANCH CONNECTIONS. INSTALL A WYE STRAINER AND PRESSURE REDUCING VALVE IN DOMESTIC WATER PIPING AT BUILDING ENTRY WHERE CITY WATER PRESSURE EXCEEDS 80 PSI, WHEN DOMESTIC WATER PRESSURE IS LOW AND INSUFFICIENT TO OPERATE PLUMBING FIXTURES A PRESSURE BOOSTER PUMP SHALL BE INSTALLED IN THE DOMESTIC WATER SYSTEM AT THE WATER SERVICE ENTRY. THE BOOSTER PUMP SHALL BE SIZED AND SELECTED BY THE ENGINEER. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR A SYSTEM INSTALLATION WHICH INSURES THAT ADEQUATE WATER PRESSURE WILL BE AVAILABLE AT THE MOST REMOTE FIXTURE IN THE SYSTEM PER CODE.
- 20. REFER TO PLUMBING FIXTURE SPECIFICATIONS ON THIS DRAWING FOR FIXTURE DESIGNATIONS, BRAND AND MODEL NUMBERS. EACH FIXTURE'S PHYSICAL ATTRIBUTES AND PERFORMANCE CHARACTERISTICS SHALL BE FACTORS CONSIDERED WHEN SUBMITTING AN "OR EQUAL" PRODUCT FOR SUBSTITUTION, SUBSTITUTIONS ON FIXTURES AND EQUIPMENT SPECIFIED HEREIN WILL NOT BE ACCEPTED UNLESS THREE
- ENGINEER WILL REVIEW AND. WILL BE REQUIRED TO ACCOMPANY THE SHOP DRAWING SUBMITTALS AFTER THE BID DATE, RETURN THE SUBMITTALS TO THE ARCHITECT STAMPED WITH SUBSTITUTION APPROVED OR SUBSTITUTION DISAPPROVED WITHIN THREE (3) DAYS OF THE BID DATE, RE-SUBMITTALS FOR ANY TEMS UNLESS OTHERWISE INSTRUCTED, THE CONTRACTOR SHALL SUBMIT SEVEN (7) SETS OF SHOP DRAWINGS ON
- MUST BE CLEARLY IDENTIFIED AND MUST BE REFERENCED WITH CORRESPONDING I.D. MARKS FROM DRAWING SPECS. PLUMBING SUBMITTALS MUST ALSO INCLUDE RELATED Accessories and appurtenances. Record drawings: Maintain a record of all changes and substitutions between work as specified
- 23. AND AS INSTALLED, RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE OWNER UPON COMPLETION OF PROJECT.

NICKEL BRONZE STRAINER SHOWER OR FLOOR DRAIN WITH PLASTIC BODY AND SOLVENT WELD CONNECTION TFIN, CONCRETE 3' SCH. 40 DWV-PVC PIPE FLOOR DRAIN SHOWN IS MODEL NO. T35630-F-P BY PROSET SYSTEMS, INC. (Ph. 800-262-5355) DEEP-SEAL TRAP SEE FIXTURE SPECS FOR DESCRIPTION OF FLOOR DRAIN WITH 'TRAP GUARD' DEVICE

FLOOR DRAIN WITH "TRAP GUARD" P200 / SCALE: NOT TO SCALE



SCALE: NOT TO SCALE

P200

FLOOR FLANGE

-3' LONG SWEEP 1/4

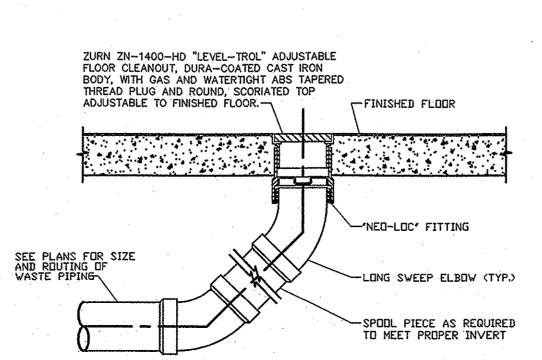
BEND STREET ELL

-3' DOUBLE SANITARY TEE

KUSE SINGLE SANITARY TEE WHERE APPLICABLE

-COMBINATION WYE & 1/8

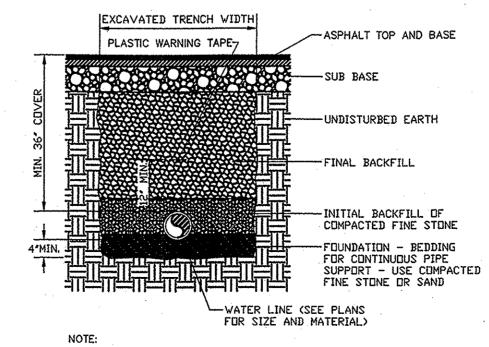
BEND (ALL HUB)



END OF LINE FLOOR CLEANOUT DETAIL MALL CLEANOUT DETAIL

SCALE: NOT TO SCALE

P200



1. FINAL BACKFILL TO TOP OF TRENCH WITH SIZE NO. 7 OR SIZE NO. 67 COMPACTED CRUSHED STONE FILL. (COMPLY WITH LOCAL MUNICIPALITY'S STANDARDS). 2. FIRE WATER LINE MAY BE BURIED IN THE SAME TRENCH AS THE

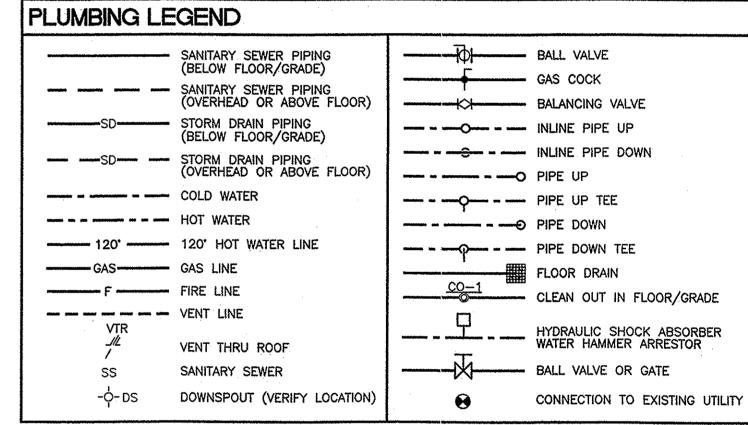
TYP. PIPE BEDDING DETAIL FOR WATER LINE UNDER PAVEMENT

DOMESTIC WATER LINE. MAINTAIN MIN. 6 INCH SEPARATION.

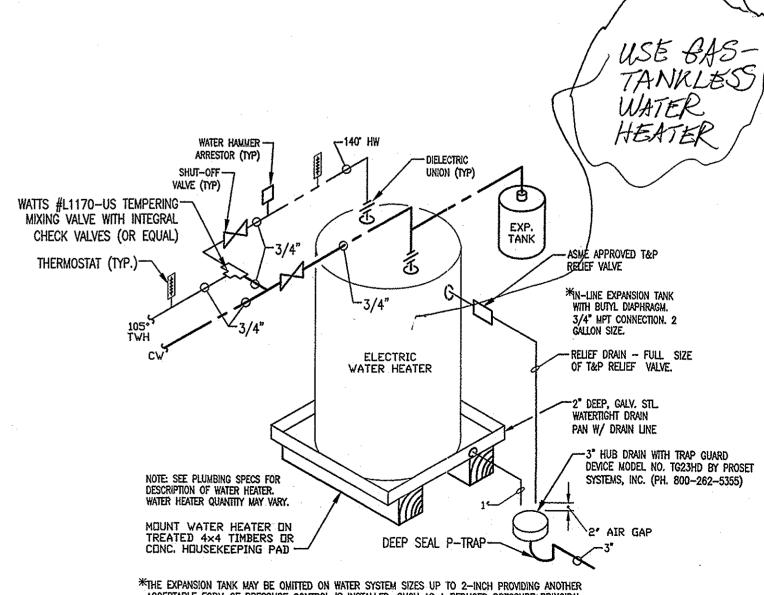
P200 SCALE: NOT TO SCALE

GENERAL PLUMBING NOTES:

- THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE APPROXIMATE ROUTING OF PIPING AND LOCATION OF FIXTURES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AND MAKE MINOR OFFSETS AND ADJUSTMENTS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- 2. COORDINATE FIXTURE LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- 3. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR CONNECTIONS TO ALL UTILITY LINES AND PAY FEES AND COSTS FOR CONNECTIONS TO THOSE SERVICES.
- 4. ALL PIPING SHALL BE RUN IN CONCEALED LOCATIONS EXCEPT WHERE NOTED.
- 5. PLUMBING FIXTURES SHALL BE FIRST QUALITY VITREOUS CHINA, STAINLESS STEEL, OR PLASTIC AS NOTED ON PLUMBING FIXTURE SCHEDULE. ALL FIXTURES SHALL BE RIGIDLY CONNECTED TO THE BUILDING AND SHALL BE CLEANED AND FUNCTIONAL.
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED GRADES.
- DOMESTIC WATER LINES 1/2" THROUGH 3" SHALL BE TYPE "L" COPPER WITH SOLDER JOINTS, SOLDER SHALL NOT CONTAIN LEAD. WATER SERVICE LINE OUTSIDE THE BUILDING MAY BE COPPER. ALTERNATIVE MATERIAL SUCH AS "PEX" IS APPROVED & MUST BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
- 8. CONTRACTOR SHALL PROVIDE PRESSURE REDUCING VALVE IF PRESSURE OF MAIN EXCEEDS 85 PSI AND REDUCED PRESSURE BACKFLOW PREVENTION VALVE INSIDE BUILDING WHERE SERVICE ENTERS.
- 9. EXPOSED PIPING BELOW FIXTURES SHALL BE CHROME PLATED. PIPING AT FIXTURES IN HANDICAPPED ACCESSIBLE AREAS SHALL BE INSULATED TO PROTECT AGAINST BURNS. DRAIN WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC OR AS NOTED ON THE DRAWINGS.
- 10. ALL BURIED PIPING SHALL BE BEDDED AND COVERED IN SAND, GRAVEL, OR CRUSHED STONE.
- 11. POTABLE WATER LINES SHALL BE INSULATED WITH 1" FLEXIBLE ELASTOMERIC PLASTIC OR FIBERGLASS PIPE INSULATION.
- 12. AFTER COMPLETION OF PIPING, TEST POTABLE WATER PIPING TO A PRESSURE OF 125 LBS. PER SQ. INCH AND HOLD FOR 24 HOURS.
- 13. TEST DRAIN WASTE AND VENT PIPING BY FILLING TO LEVEL OF HIGHEST VENT.
- 14. AFTER INSTALLATION OF POTABLE WATER PIPING, STERILIZE LINES IN ACCORDANCE WITH CODES AND HEALTH DEPARTMENT REGULATIONS AND FLUSH AND FILL WITH CLEAN WATER.
- 15. PITCH POTABLE WATER LINES TOWARD DRAINS, INSTALL DRAIN WASTE AND VENT PIPING WITH MINIMUM SLOPES OF 1/4" PER FOOT FOR LINES UP TO 2-1/2" AND 1/8" PER FOOT FOR LINES 3" AND LARGER.
- 16. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF FIRE WALLS AND FLOOR CEILING ASSEMBLIES.
- 17. INSTALL FIRE STOP MATERIAL IN ACCORD WITH U.L. LISTING AT ALL PENETRATIONS.
- 18. PIPE WATER HEATER RELIEF VALVE TO FLOOR DRAIN OR DRAIN PER DETAILS.
- 19. INSTALL WATER HEATERS IN ACCORD WITH MANUFACTURERS INSTRUCTION AND TENNESSEE BOILER CODE REQUIREMENTS.



NOTES: ALL DRAIN PIPING, WHERE EXPOSED, FROM FLOOR TO 10 FT AFF SHALL BE DUCTILE IRON



ACCEPTABLE FORM OF PRESSURE CONTROL IS INSTALLED, SUCH AS A REDUCED PRESSURE PRINCIPAL

ELECTRIC WATER HEATER W/ HUB DRAIN # TRAP GUARD FOR T#P RELIEF AND

TEMPERING MIXING VALVE - DETAIL

P200 SCALE: NOT TO SCALE

