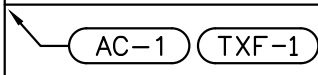
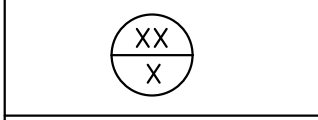
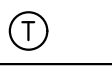

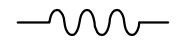

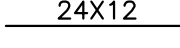
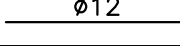
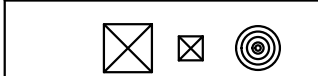




MECHANICAL SYMBOLS LIST

	EQUIPMENT SYMBOL	CONTROLS AND SENSORS	
	RISER SYMBOL		THERMOSTAT
	POINT OF NEW CONNECTION TO EXISTING	DUCTWORK	
AIR DEVICES		=====	AIR DUCT W/ 1.5" ACOUSTICAL LINING
			FLEXIBLE DUCT
			FLEXIBLE CONNECTION
			RECTANGULAR DUCT (WIDTH X DEPTH)
			ROUND DUCT (DIAMETER)
		MECHANICAL ABBREVIATIONS	
		CDS	CEILING DIFFUSER SUPPLY
		CDR	CEILING DIFFUSER RETURN
		VD	VOLUME DAMPER
			
			

MECHANICAL DRAWING LIST

MO.1	MECHANICAL GENERAL NOTES, DETAILS, SYMBOLS, DRAWING LIST, & ABBREVIATIONS
M1.1	MECHANICAL FLOOR PLANS & SCHEDULES

FIELD VERIFY ALL CONDITIONS

- DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.
- THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.
- BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

SCOPE OF WORK

SCOPE OF WORK

- 1.THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS AS DESCRIBED IN THE SPECIFICATIONS, FLOOR PLAN(S) DESIGN, DETAIL DRAWINGS, NOTES, RFI'S, ETC. FOR THIS PROJECT. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
- 2.THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE, THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
- 3.THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

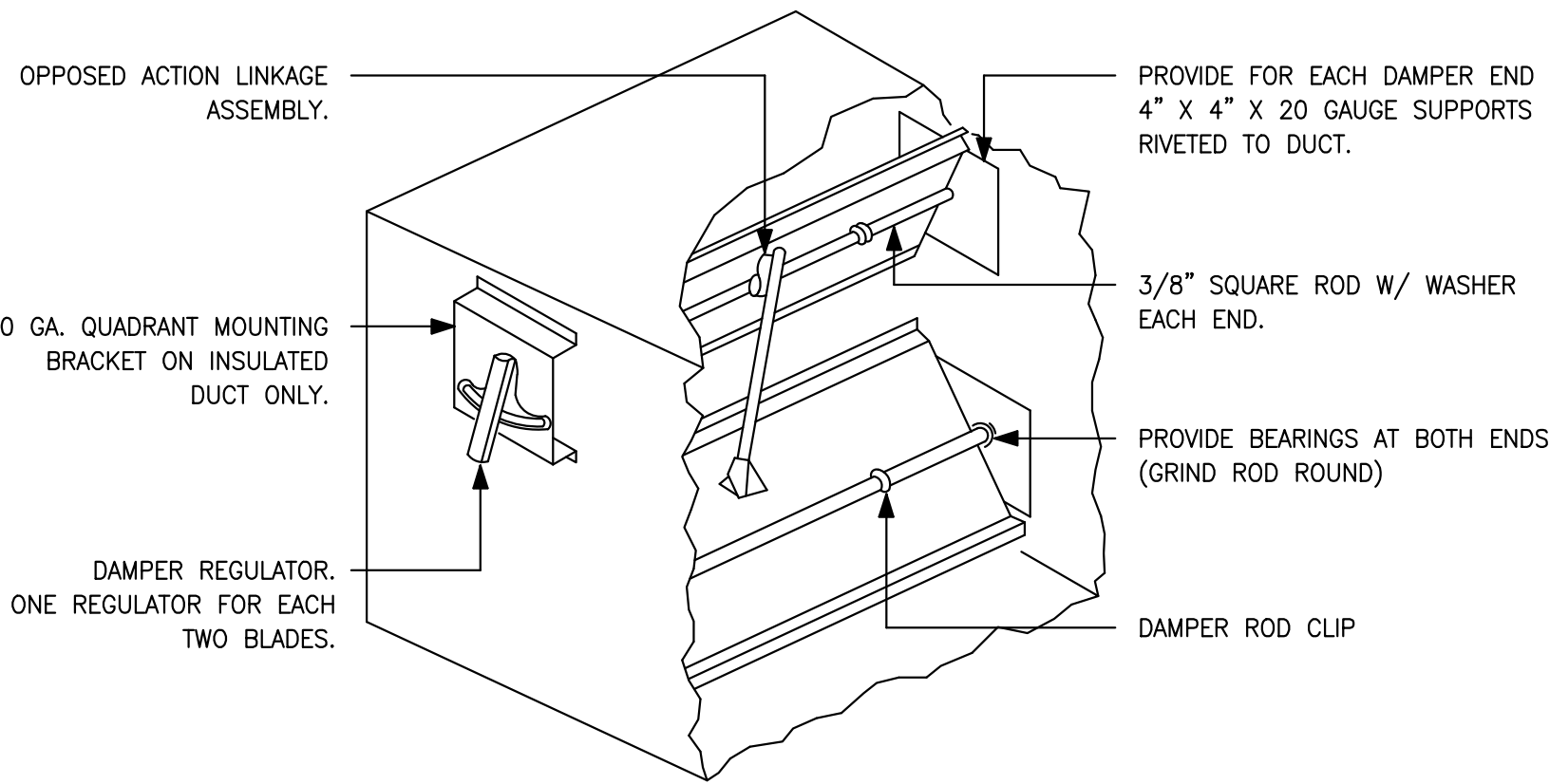
GENERAL NOTES

SECTION 233713 – DIFFUSERS, REGISTERS, AND GRILLES

- 1.1 PRODUCTS
  - A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS. ALL REGISTERS AND DIFFUSERS SHALL BE PRIME COATED STEEL OR EXTRUDED ALUMINUM FINISHED UNLESS OTHERWISE NOTED IN BAKED WHITE ENAMEL.
  - B. MANUFACTURERS: TITUS
    1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:
      - a. CARNES.
      - b. HART & COOLEY INC.
      - c. KRUEGER.
      - d. METALAIRE, INC.
      - e. NAILOR INDUSTRIES INC.
    - C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.
    - D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

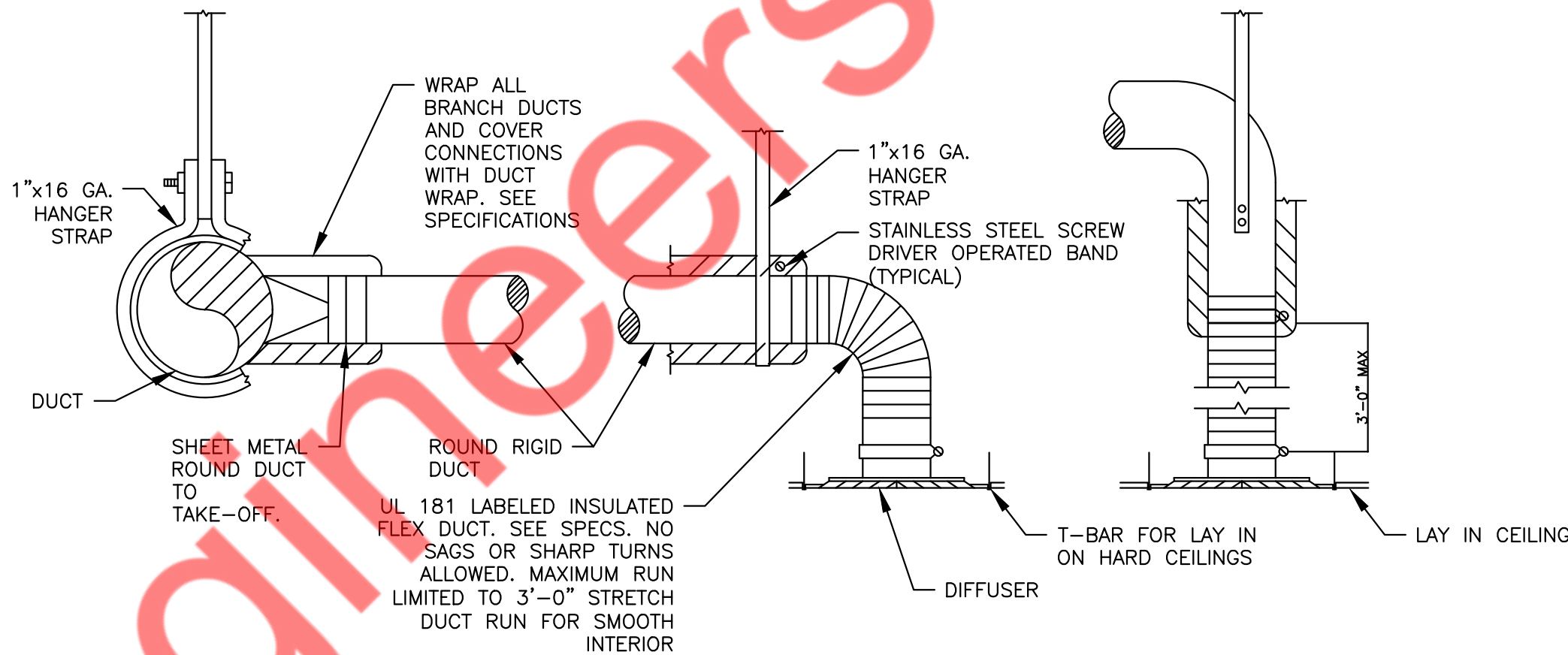
END OF SECTION 233713

MECHANICAL DETAILS



20 GAUGE OPPOSED ACTION DAMPER--EDGES CRIMPED AS SHOWN. (MAX. BLADE HTG. 12")

NOTE : 1. FOR DUCTS OVER 29" WIDE AND/OR OVER 12" HIGH.



1 LOW PRESSURE BALANCING DAMPER  
MO.1 N.T.S

2 TYPICAL DIFFUSER CONNECTION DETAIL  
MO.1 N.T.S

NY ENGINEERS

MEP ENGINEERING  
382 NE 191ST ST, SUITE 49674,  
MIAMI, FL 33179  
T:646-854 3531 NY-ENGINEER.COM

REVISION SCHEDULE

NO. REV. / SUBMISSION DATE ISSUED BY

ISSUE DATE:

RESTAURANT BUILD-OUT  
HAPPY LEMON

DRAWN BY: NYE

CHECKED BY:

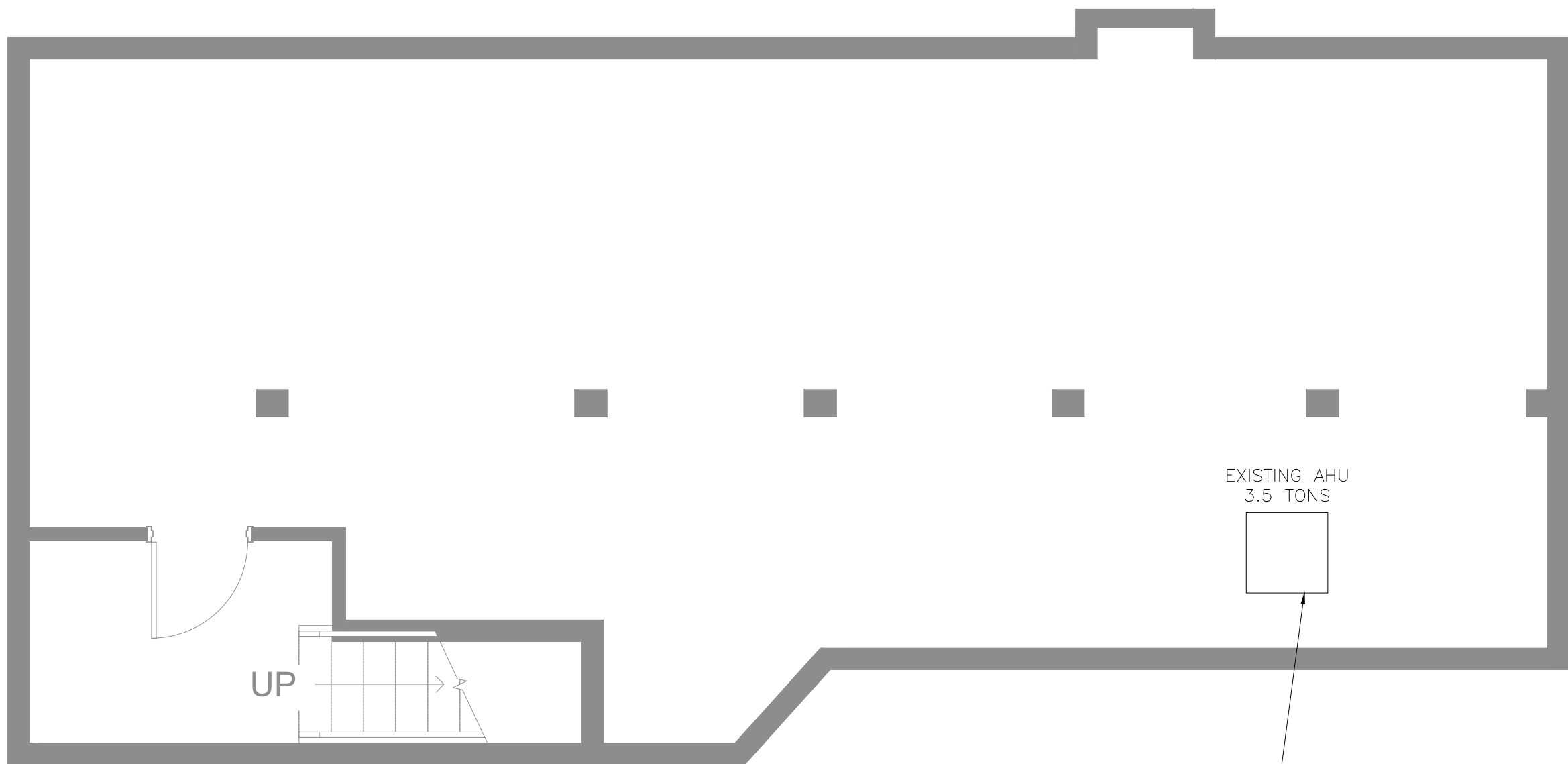
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PROJECT NUMBER:

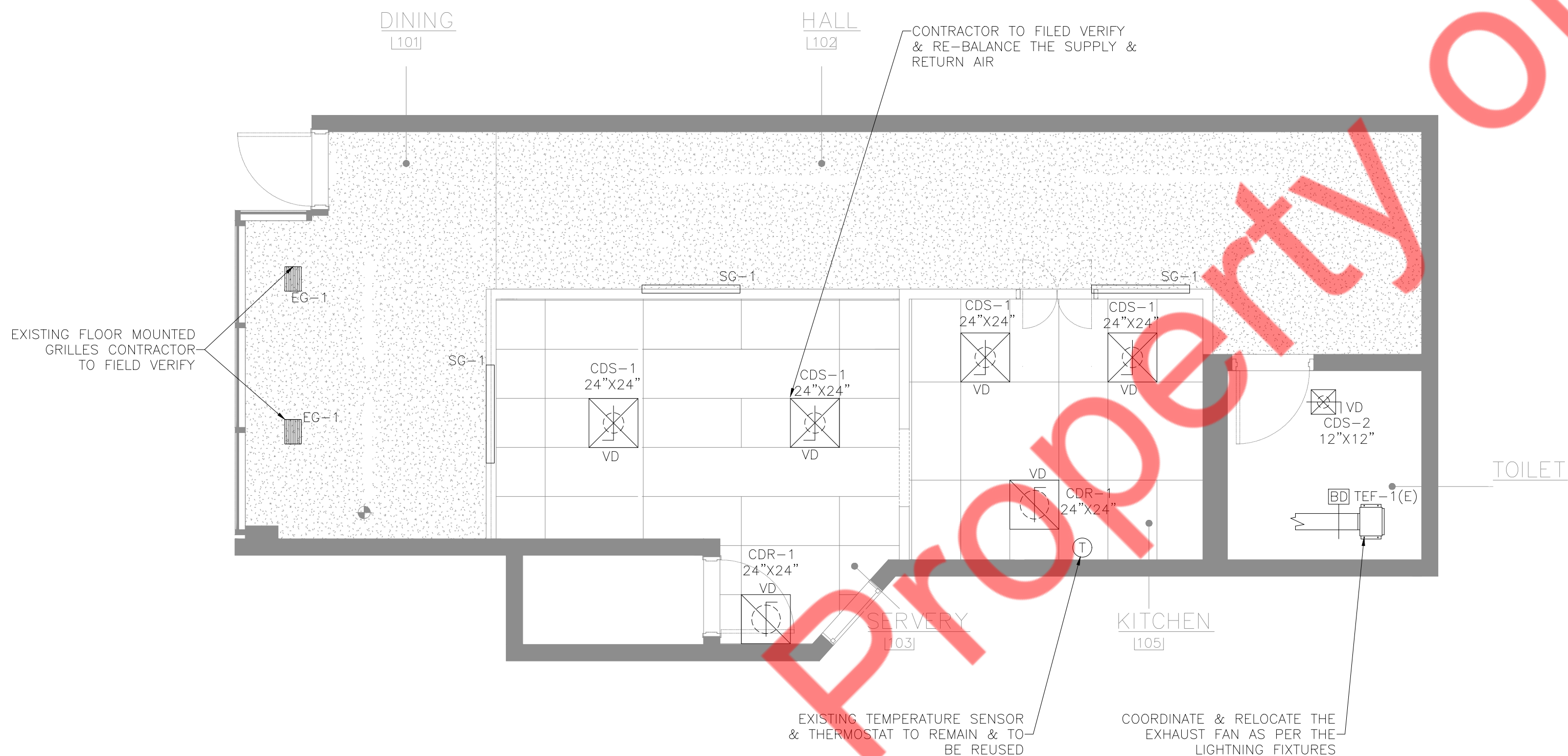
MECHANICAL GENERAL NOTES,  
DETAILS, SYMBOLS, DRAWING LIST  
& ABBREVIATIONS

MO.1





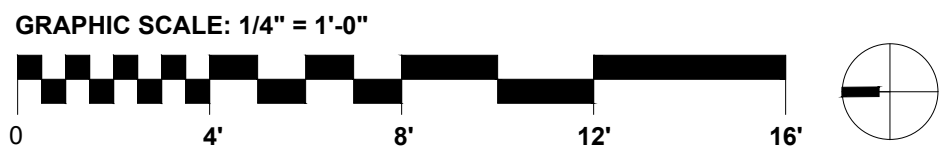
2 MECHANICAL BASEMENT PLAN  
SCALE: 1/4" = 1'-0"



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

AIR TERMINAL DEVICES SCHEDULE								
TAG	SIZE (IN.)	DESCRIPTION	CONSTRUCTION	FINISH	NECK SIZE (IN.)	BASIS OF DESIGN		NOTES
						MANUFACTURER	MODEL	
CDS-1	24X24	PLAQUE FACE DIFFUSER	ALUMINUM	WHITE	12	TITUS (OR EQUIVALENT)	OMNI (OR EQUIVALENT)	ALL
CDS-2	12X12	PLAQUE FACE DIFFUSER	ALUMINUM	WHITE	6		PAR (OR EQUIVALENT)	ALL
SG-1	4' 6" INLET	1.5" SLOT HIGHTHROW PATTERN LINEAR DIFFUSER 1-SLOT, WITH SUPPLY PLENUM	ALUMINUM	WHITE			FL-15	ALL
CDR-1	24X24	PLAQUE FACE DIFFUSER	ALUMINUM	WHITE	14		OMNI (OR EQUIVALENT)	ALL
NOTES:-								
1) PROVIDE STANDARD WHITE FINISH FOR ALL AIR DEVICES UNLESS NOTED OTHERWISE ON PLAN.								
2) PAINT ALL SURFACES VISIBLE THROUGH FACE OF RETURN AIR GRILLE FLAT BLACK. THIS SHALL INCLUDE PIPING, CONDUIT, DUCTWORK AND STRUCTURAL MEMBERS.								
3) PROVIDE FRAME FOR MOUNTING AIR DEVICE IN LAY-IN GRID CEILING UNLESS REFLECTED CEILING PLAN INDICATES HARD CEILING. IN AREAS WITH HARD CEILINGS, PROVIDE FRAMES FOR SURFACE MOUNTING.								
4) UNLESS OTHERWISE NOTED, BRANCH DUCTS SERVING AIR DEVICES SHALL BE SAME SIZE AS NECK OF AIR DEVICE.								
5) COORDINATE FINAL COLOR/FINISH WITH ARCHITECT/OWNER.								
6) AIR DEVICE SHALL BE OF GALVANIZED FINISH WHEN INSTALLED ON EXPOSED DUCTWORK.								
7) MAXIMUM NOISE CRITERION RATING < 35 DBA.								
FOR ROUND NECK DIFFUSERS: NECK SIZES SHALL BE:-								
15" DIA: 901-1100 CFM								
14" DIA: 601-900 CFM								
12" DIA: 376-600 CFM								
10" DIA: 226-375 CFM								
8" DIA: 101-225 CFM								
6" DIA: 0-100 CFM								

- MECHANICAL GENERAL NOTES
- ALL EXISTING HVAC SYSTEMS, DUCT WORK, DAMPERS TO REMAIN AS IT IS. REUSE EXISTING DUCTWORK AND DIFFUSERS AS MUCH AS AND WHEREVER POSSIBLE.
  - PROVIDE NEW DIFFUSERS AS SHOWN ON THE DRAWINGS. COORDINATE WITH ARCHITECT FOR REVISED RCP AND LIGHTING FIXTURES.
  - PROVIDE DUCTWORK FROM EXISTING NETWORK TO THESE DIFFUSERS.



NY ENGINEERS

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382 NE 191ST ST, SUITE 49674,  
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ISSUE DATE:

RESTAURANT BUILD-OUT  
HAPPY LEMON

DRAWN BY: NYE

CHECKED BY:





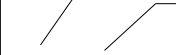
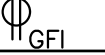
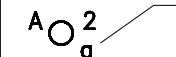




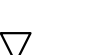



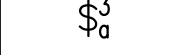

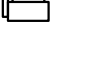
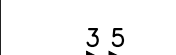
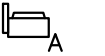
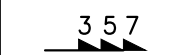

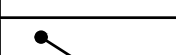
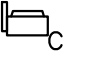
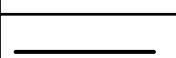

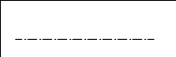

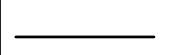
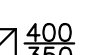

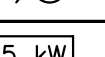

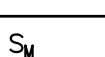
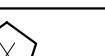
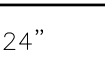
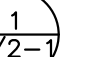

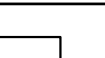
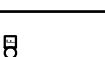
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PROJECT NUMBER:

MECHANICAL FLOOR PLANS &  
SCHEDULES

M1.1



ELECTRICAL SYMBOLS LIST						GENERAL NOTES	
LIGHTING		POWER AND TELECOMMUNICATION		ELECTRICAL ABBREVIATIONS			<div>1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE NEC, LOCAL JURISDICTION REQUIREMENTS, AND ALL GOVERNING LOCAL CODES, LAWS, AND REGULATIONS.</div> <div>2. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.</div> <div>3. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.</div> <div>4. FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.</div> <div>5. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK), NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT. APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.</div> <div>6. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.</div> <div>7. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.</div> <div>8. CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.</div> <div>9. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.</div> <div>10. CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE-EXISTING CONDITIONS OR BETTER.</div> <div>11. MINIMUM SIZE OF CONDUIT SHALL BE ¾", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.</div> <div>12. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.</div> <div>13. PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVIDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CANCELED IN FINISHED AREAS, AND ALL COVERS TO PULL &amp; JUNCTION BOXES SHALL BE READILY ACCESSIBLE.</div> <div>14. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.</div> <div>15. FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.</div> <div>16. ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.</div> <div>17. ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.</div> <div>18. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.</div> <div>19. ALL CONDUITS AND EQUIPMENT TO BE CONCEAL ED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.</div> <div>20. ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.</div> <div>21. OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE-RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE-RATED BOXES OR PUTTY PADS ARE UTILIZED.</div> <div>22. COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITHH THE ENGINEER AND OWNER BEFORE INSTALLATION.</div> <div>23. COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.</div> <div>24. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.</div> <div>25. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.</div> <div>26. LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.</div> <div>27. NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANELBOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANELBOARD.</div>
	LIGHTING FIXTURE AND OUTLET BOX. HALF SHADED FIXTURE OR "EM" INDICATES FIXTURES WITH INTEGRAL BATTERY PACK FOR EMERGENCY SERVICE, U.O.N.		JUNCTION BOX WITH BLANK COVER PLATE, FLUSH IN FLOOR.	A	AMPERES	EA	EACH
	LUMINAIRE TYPE : INDICATE BY LIPPERCASE LETTER SEE LIGHTING EXTURE SCHEDULE.		SIMPLEX RECEPTACLE, +18" AFF OR AS NOTED. SUFFIXE DENOTES FOLLOWING: A- NEMA 5-15R B- NEMA 6-15R C- NEMA 14-30R D- NEMA 14-50R	A/C, AC	AIR CONDITIONING UNIT	EM	EMERGENCY
	CIRCUIT NUMBER : INDICATED BY NUMBER		DUPLEX GFI RECEPTACLE	AF	AMPERE FRAME/AMP FUSE	EMT	ELECTRICAL METALLIC TUBING
	SWITCHING INDICATED BY LOWER CASE LETTERS.		DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.	AFF	ABOVE FINISHED FLOOR	EQUIP	EQUIPMENT
	DENOTES LUMINAIRE ON EMERGENCY CIRCUIT.		DEDICATED DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.	AS	AMP SWITCH	ER	EXISTING TO BE RELOCATED
	DENOTES FIXTURES DESIGNATED AS NIGHTLIGHT, WIRED TO 24 HOURS UNSWITCHED CIRCUIT.		DATA OUTLET, 4"SQUARE OUTLET BOX WITH SINGLE GANG COLLAR AND BLANK PLATE. PROVIDE 3/4" E.C., U.O.N., UP TO HUNG CEILING AND TERMINATE WITH 90° ELBOW, BUSHING AND DRAG WIRE.	AIC	AMPS INTERRUPTING CAPACITY	FA	FIRE ALARM
	CEILING/WALL MOUNTED SELF POWERED EXIT LIGHT FIXTURE WITH DIRECTIONALARROWS AS INDICATED. SHADED AREA DENOTES FACE(S). ISOLITE ELITE SERIES LED EXIT SIGN	MOTORS AND CONTROLS		AT	AMP TRIP	E	EXISTING
SWITCHES AND CONTROLS				ATS	AUTOMATIC TRANSFER SWITCH	FL	FLOOR
	20A SPST TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE/SWITCHED RECEPTACLE CONTROLLED.			AUTO	AUTOMATIC	G	GROUND
	20A 3-WAY TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED			AWG	AMERICAN WIRE GAUGE	GFI	GROUND FAULT INTERRUPTER
	CEILING OCCUPANCY SENSOR, NUMBER INDICATES TYPE; SEE OCCUPANCY SENSOR SCHEDULE. 'A' LETTER REFERES TO WIRING DIAGRAM.			C	CONDUIT	GP	GENERAL PURPOSE
WIRING SYSTEMS			NON FUSED DISCONNECT SWITCH AMPERAGE, AND NUMBER OF POLES AS NOTED.	C/B,CB	CIRCUIT BREAKER	HP	HORSEPOWER
	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 2#12 Ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.		30A/240V NON FUSED DISCONNECT SWITCH	CKT	CIRCUIT	HWH	HOW WATER HEATER
	POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF 3#12 Ø, 3#12 N. & 3#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.		60A/240V NON FUSED DISCONNECT SWITCH	CLG	CEILING	HZ	HERTZ
	CONDUIT AND WIRE TO BUILDING GROUND.		100A/240V NON FUSED DISCONNECT SWITCH	COMM	COMMUNICATION	IC	INTERRUPTING CAPACITY
	UNDERGROUND		200A/240V NON FUSED DISCONNECT SWITCH	CT	CURRENT TRANSFORMER	PP	POWER PANEL
	EXISTING		COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH, FURNISHED BY HVAC/CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.	CU	COPPER	PWR	POWER
	NEW		FUSED DISCONNECT SWITCH AND FUSE AMPERAGE AS INDICATED. TOP NUMBER DENOTS SWITCH SIZE AND BOTTOM NUMBER DENOTES FUSE.	DIA	DIAMETER	R	REMOVE
ELECTRICAL DRAWING LIST			DUPLEX PUMP. NUMBER INDICATES HP RATING OF PUMP.	DISC	DISCONNECT	RE	RELOCATED EXISTING
E0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES		ELECTRICAL HEATER, NUMBER DENOTES HEATER RATING	DN	DOWN	REC	RECEPTACLE
E0.2	ELECTRICAL SPECIFICATIONS SHEET 1 OF 2		THERMAL OVERLOAD SWITCH AT MOTOR. PROVIDE THERMAL ELEMENTS AS PER MOTOR RATING.	DP	DISTRIBUTION PANEL	RGS	RIGID GALVANIZED STEEL
E0.3	ELECTRICAL SPECIFICATIONS SHEET 2 OF 2		MANUAL MOTOR SWITCH	DWG	DRAWING	RR	REMOVE & RELOCATE
E1.0	ELECTRICAL LIGHTING PLAN	ANNOTATION		JB	JUNCTION BOX	SECT	SECTION
E1.1	ELECTRICAL POWER PLAN		KEYED NOTE REFERENCE	KCMIL	ONE THOUSAND CIRCULAR MILS	SPDT	SINGLE POLE DOUBLE THROW
E2.0	ELECTRICAL DETAILS		INDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR.	KV	KILOVOLT	SPST	SINGLE POLE SINGLE THROW
E3.0	ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		DETAIL REFERENCE: DETAIL NUMBER INDICATED ON TOP; DRAWING NUMBER INDICATED ON BOTTOM	KVA	KILOVOLT-AMPERES	SPEC	SPECIFICATION
		POWER DISTRIBUTION		KW	KILOWATTS	SW	SWITCH
			MAJOR ELECTRICAL COMPONENT OR DEVICE. VOLTAGE AND AMPERAGE AS NOTED.	LTG	LIGHTING	SWBD	SWITCHBOARD
			DISTRIBUTION PANELBOARD, 120/208V-SURFACE OR FLUSH MOUNTED.	MAX	MAXIMUM	SYM	SYMMETRICAL
			EMERGENCY STROBE/HORN	MC	MOTOR CONTROLLER	SYS	SYSTEMS
				MCB	MAIN CIRCUIT BREAKER	TELE	TELEPHONE
				MLO	MAIN LUGS ONLY	TEMP	TEMPERATURE
				MTD	MOUNTED	TXF	TOILET EXHAUST FAN
				MTS	MANUAL TRANSFER SWITCH	TYP	TYPICAL
				N	NEUTRAL	UON	UNLESS OTHERWISE NOTED
				NIC	NOT IN CONTRACT	V	VOLT/VOLTAGE
				NTS	NOT TO SCALE	VA	VOLT AMPERE
				PNL	PANEL	WP	WEATHER PROOF
				W	WATT	Ø	PHASE

NY ENGINEERS

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REVISION SCHEDULE

NO.	REV. / SUBMISSION	DATE	ISSUED BY
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ISSUE DATE:

RESTAURANT BUILD-OUT  
HAPPY LEMON

DRAWN BY: NYE

CHECKED BY:

APPROVED BY:

PROJECT NUMBER:

ELECTRICAL SYMBOLS,  
ABBREVIATIONS AND GENERAL  
NOTES

E0.1



ELECTRICAL SPECIFICATIONS

1. GENERAL:

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT, LATEST EDITION, AND THESE ELECTRICAL SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
- B. DRAWING ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED. MAINTAIN HEADROOM AND SPACE CONDITIONS.
- C. BIDDERS, BEFORE SUBMITTING PROPOSALS, SHALL VISIT AND CAREFULLY EXAMINE THE AREA AFFECTED BY THIS WORK TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS, REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- D. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWING MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- E. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.
- F. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE. EXISTING FACILITIES, TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES. AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
- G. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
- H. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- I. SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.
- J. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT, PROVIDE EQUIPMENT CURBS AS REQUIRED.
- K. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT NO APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
- L. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- M. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- N. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- O. INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
- P. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATED OF INSPECTION AND APPROVAL.

2. GENERAL PROVISIONS FOR ELECTRICAL WORK:

A. DEFINITIONS:

- 1) "PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
- 2) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
- 3) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE, AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
- 4) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
- 5) "WIRING": RACEWAY, FITTINGS, WIRE, BOXES, AND RELATED ITEMS.
- 6) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
- 7) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
- 8) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

- B. TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.

C. QUALITY ASSURANCE

- 1) QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND LISTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.

- 2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.

3) CURRENT CHARACTERISTICS:

- a. SERVICE: 120/208 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.
- b. DISTRIBUTION: 120/208 VOLT, 3 PHASE, 4 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.

4) HEIGHTS OF OUTLETS:

- a. FROM FINISHED FLOOR TO CENTERLINE OF OUTLETS FOR:
- RECEPTACLES AND TELEPHONES: 1 FT-6 IN.
  - WALL SWITCHES: 4 FT-0 IN.
  - WALL FIXTURES: 7 FT-0 IN.
  - MOTOR CONTROLLERS: 5 FT-0 IN.
  - CLOCKS: 7 FT 6 IN
- b. EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.

D. PRODUCT DELIVERY, STORAGE AND HANDLING

- 1) MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.
- 2) ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR, MINOR DEVIATIONS SHALL BE PERMITTED, CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.

E. MATERIALS

- 1) NAMEPLATES: PROVIDE BLACK LAMCROID SHEET WITH 3/4 IN. WHITE LETTERING, FASTENED WITH EPOXY CEMENT FOR EACH DISCONNECT SWITCH, CIRCUIT BREAKER, PANEL, CABINET, TRANSFORMER, ENCLOSURE, MOTOR CONTROLLER AND THE LIKE. NAMEPLATES SHALL DESCRIBE THE NAME AND NUMBER OF EACH COMPONENT.
- 2) CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.
- 3) INSERTS AND SUPPORTS:
- INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED.
    - SINGLE ROD: SIMILAR TO GRINNELL FIG. 281.
    - MULTI-ROD: SIMILAR TO FEE AND MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS.
    - CLIP FORM NAILS FLUSH WITH INSERTS.
    - MAXIMUM LOADING 75 PERCENT OF RATING.
  - SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR REVIEW.
  - GROUPED LINES AND SERVICES: TRAPEZE HANGERS OR BOLTED ANGLES OR CHANNELS.
  - WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.

- F. PAINT SHALL BE THE BEST GRADE FOR ITS PURPOSE, DELIVER IN ORIGINAL SEALED CONTAINERS AND APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COLORS SHALL BE AS SELECTED BY ARCHITECT OR ENGINEER. UTILIZE GALVANIZED IRON PRIMER ON PANEL AND PULL BOXES, AFTER FABRICATION. UTILIZE HOT DIPPED GALVANIZED OR DIPPED IN ZINC BASED PRIMER FOR: OUTLET BOXES, JUNCTION BOXES, CONDUIT HANGERS, RODS, INSERTS AND SUPPORTS. ZINC BASED PRIMER WITH FINISH TO MATCH SURROUNDINGS SHALL BE USED FOR MARKED SURFACES OF STEEL EQUIPMENT AND RACEWAYS; A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.

- E. BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.

- F. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.

- G. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

3. SCOPE OF WORK:

- A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND NECESSARY FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE NATIONAL ELECTRICAL CODE (NEC), AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.

- B. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLIED OR SPECIFIED HEREIN.

- C. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER, DATE IS EARLIER, THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDED THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR

- D. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

- E. CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES.

- F. AREAS WITH NO ELECTRICAL WORK SHALL REMAIN AS IS. CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS TO ALL AREAS NOT COVERED BY THIS RENOVATION AND SHALL PROVIDE 48 HOUR NOTICE TO LANDLORD OF ANY PLANNED POWER INTERRUPTIONS OR SIGNAL SYSTEM OUTAGES.

4. SHOP DRAWINGS

- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.

B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:

- 1) PROJECT NAME AND LOCATION
- 2) NAME OF ARCHITECT AND ENGINEER
- 3) ITEM IDENTIFICATION
- 4) APPROVAL STAMP OF PRIME CONTRACTOR

C. SUBMISSIONS:

- 1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES. OTHERWISE, HE SHALL SUBMIT THREE COPIES. THE ARCHITECT WILL FORWARD THE ORIGINAL AND ONE COPY (TWO COPIES WHEN NO ORIGINAL IS RECEIVED) TO THE ENGINEER. ALL CATALOG CUTS SHALL BE COMPLETE.

- 2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS AND ONE PAPER SEPIA TO THE ARCHITECT. THE ARCHITECT WILL FORWARD ONE PRINT AND THE PAPER SEPIA TO THE ENGINEER.

D. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:

- 1) SAFETY/DISCONNECT SWITCHES
- 2) FUSES
- 3) CIRCUIT BREAKERS
- 4) PANEL BOARDS/LOAD CENTER (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS).
- 5) RACEWAYS
- 6) WIRE AND CABLE
- 7) WALL SWITCHES
- 8) INSERTION RECEPTACLES
- 9) MOMENTARY CONTACT SWITCHES
- 10) TIME SWITCHES
- 11) LIGHTING FIXTURES.

- E. ASSIST AND PROVIDE ALL NECESSARY INFORMATION, DIAGRAMS, SKETCHES, ETC. TO THE HVAC CONTRACTOR, FOR THE PREPARATION OF COORDINATED SHOP DRAWINGS INDICATING ROUTING OF FEEDERS, CONTROL CONDUITS, RECESSED FIXTURES AND ADJACENT NEARBY PIPING AND DUCTWORK WHERE APPLICABLE, CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT FOUR(4) BOOKBOUND OPERATING AND SERVICE MANUALS WHICH SHALL INCLUDE COPIES OF ALL SHOP DRAWING. PROVIDE SHOP DRAWINGS FOR PANELS, FIXTURES, WIRING DEVICES, CONDUIT, CABLE, DISCONNECT SWITCH, RELAY, MOTOR CONTROLLERS, AND OTHER SYSTEMS AS DIRECTED BY THE ENGINEER.

5. AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS

- A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
- B. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.
- C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
- D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. "AS-BUILT" DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AFTER COMPLETION OF THE INSTALLATION.

6. LOW-VOLTAGE DISTRIBUTION EQUIPMENT:

- A. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
- B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.
- C. DISCONNECT SWITCHES SHALL BE FUSED OR NONFUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY, EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NONFUSED, LOAD BREAK, HAVING MAXIMUM RATINGS OF 20 AMP AT 600 VOLTS AND 30 AMP AT 240 VOLTS. TWO-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGBMAN NO. 8808P. THREE-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGBMAN NO. 7810F. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE- QUICK-BREAK, UL CLASS R UP TO 600 AMP. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800 AMP. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC OMR, ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.

7. FUSES:

- A. CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMAN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.
- B. MOTOR CIRCUITS - ALL INDIVIDUAL MOTOR CIRCUITS WITH FULL LOAD AMPERE RATINGS (FLA) OF 480 AMPERES OR LESS SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMAN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.
- C. ALL FUSES SHALL BE PROVIDED BY SAME MANUFACTURER.
- D. PROVIDE 1 SPACE MATCHING FUSE FOR EACH SET OF 3.
- E. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE-QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE. MULTI-POLE TYPE BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT-TRIPPING, OPEN A ND CLOSE MOTOR OPERATOR AND ARM ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED, FRAMES, IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

- 1) 120 VOLTS, 100-AMP FRAME: 10,000 AMPS, 1 POLE.
- 2) 120/240 VOLTS, 225-AMP FRAME: 22,000 AMPS MINIMUM

8. DISTRIBUTION PANELBOARDS, CIRCUIT BREAKER TYPE:

- A. THREE PHASE, 4 OR 5 WIRE, COPPER BUS BARS, WITH 2, 3, OR 4 WIRE BRANCHES, AS NOTED. CAPACITY OF PANEL AND CIRCUITS, AS NOTED BELOW. PANELBOARD TO HAVE GROUND BUS SAME SIZE AS PHASE BUSES.
- B. CABINETS: CODE GAUGE GALVANIZED SHEET STEEL PRIMED AND PAINTED WITH TRIM AND DOOR, TYPE AS NOTED, LAP AND RIVET CORNERS OR FORM AS APPROVED.
- C. TRIM: ONE PIECE FULL FINISH PRIMED AND PAINTED SHEET STEEL. TRIM SHALL BE MOUNTED WITH A CONTINUOUS PIANO HINGE CONFIGURED IN SUCH A MANNER THAT IT SHALL BE POSSIBLE TO GAIN FULL ACCESS TO CIRCUIT BREAKERS AND WIRING GUTTERS WITHOUT REMOVING THE TRIM. PROVIDE A MULTI-PIN CYLINDER LOCK (YALE, CORBIN OR EQUAL) TO LATCH THE TRIM. KEYS SHALL BE MILLED.
- D. HARDWARE: MULTI-PIN, CYLINDER LOCKS WITH MILLED KEYS, ALL PANELS SHALL BE KEYED ALIKE. DOOR OVER 48" HIGH SHALL BE EQUIPPED WITH A CHROME PLATED VAULT HANDLE, BUILT-IN LOCK AND 3-PIN CATCH FASTENING DOOR AT TOP, BOTTOM AND CENTER.
- E. HINGES: CONCEALED, CONTINUOUS PIANO HINGE AS DESCRIBED ABOVE.
- F. DIRECTORY HOLDER: MEAL FRAME WITH NONBREAKABLE TRANSPARENT COVER AND DIRECTORY CARD. ENTRIES TO BE TYPEWRITTEN BY ELECTRICAL CONTRACTOR. PROVIDE AN ENGRAVED LAMINATED NAMEPLATE ADJACENT TO EACH BRANCH BREAKER. MOUNT WITH SELF TAPPING MACHINE SCREWS.
- G. FURNISH MULTI-CABLE LUGS WHERE REQUIRED. DOUBLE LUGGING NOT PERMITTED. SECURE LUGS TO BUS BY STUD BOLTS.
- H. PANELBOARD CONSTRUCTION FOR BOLTED TYPE BREAKERS. MINIMUM SHORT CIRCUIT RATING 25,000 AMPERES. RMS SYMMETRICAL FOR ALL 120/208V APPLICATIONS. INDIVIDUAL CIRCUIT BREAKERS SHALL HAVE MINIMUM 100A FRAME, TRIPS SIZED AS SHOW ON THE PLANS.
- I. MINIMUM GUTTER SPACES: PANELS WITH 225 AMPERE MAINS, 5-3/4" MINIMUM, 400 AMPERES AND OVER, MINIMUM GUTTERS 6", FOR PANELS WITH THROUGH FEEDERS, INCREASE GUTTER WIDTH BY 2" MINIMUM AND PROVIDE A SHEET STEEL BARRIER BETWEEN THE PANEL GUTTER AND THE THROUGH FEEDER PORTION OF THE BACK BOX. BRANCH CIRCUIT BREAKERS SHALL BE MECHANICALLY INTERLOCKED WHEN SHOWN ON DRAWINGS.
- J. DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.
- K. PANELBOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.
- L. PANELBOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE, SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).

9. DISTRIBUTION PANELBOARDS, SWITCH AND FUSE:

- A. THREE PHASE, 3 OR 4 WIRE WITH COPPER BUS BARS. ALL THROUGH BUS SHALL BE INSULATED.
- B. NEMA CLASS 1 CONSTRUCTION TO ACCOMMODATE FUSIBLE, INDIVIDUALLY ENCLOSED SWITCHES, FRONT REMOVABLE, SWITCH AND DOOR INTERLOCKS. COVERS TO BE PAD-LOCKABLE.
- C. PANELBOARD SHALL BE CONSTRUCTED OF CODE-GAUGE STEEL, GRAY FINISH OVER RUST INHIBITOR, FOR SURFACE MOUNTING. BOX AND PANEL FRAME SHALL BE FLANGED AND REINFORCED FOR RIGID SUPPORT OF INTERIOR AND ACCURATE ALIGNMENT OF INTERIOR WITH FRONT. TRIMS TO BE FASTENED TO BACK BOX WITH SCREWS.
- D. ALL BRANCH SWITCHES SHALL HAVE INDIVIDUAL ENGRAVED LAMCROID NAMEPLATES (BLACK WITH WHITE CORE).
- E. DISTRIBUTION PANELBOARD CONSTRUCTION MINIMUM SHORT CIRCUIT RATING 25,000 AMPERES, REMS SYMMETRICAL FOR ALL 120/208V APPLICATIONS. APPLICATIONS.
- F. DISCONNECTS

- 1) DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND SHALL BE HORSEPOWER RATED.

- 2) SWITCHING MECHANISM SHALL BE QUICK-MAKE, QUICK-BREAK, SINGLE THROW WITH EXTERNAL OPERATING HANDLE MECHANICALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE ACCESS TO INTERIOR WHEN DISCONNECT IS IN OFF POSITION ONLY. PROVIDE MEANS TO LOCK OPERATING HANDLE IN THE OPEN AND CLOSED POSITION. DESIGNATE ON THE ENCLOSURE THE OPEN AND CLOSED POSITION OF THE OPERATING HANDLE.

- 3) SWITCHES SHALL BE OF THE DOUBLE STATIONARY CONTACT TYPE.

- 4) SWITCHES SHALL BE EQUIPPED WITH REJECTION TYPE FUSE HOLDERS, FUSIBLE AS SHOWN ON THE DRAWINGS; PROVIDE COMPLETE WITH FUSES AS SCHEDULED.

G. INSTALLATION

- 1) DISTRIBUTION PANELBOARD SHALL BE MOUNTED TO STRUCTURAL STEEL CHANNEL (KINDORF) WHICH SHALL BE BOLTED TO THE WALL USING EXPANSION ANCHORS FOR LARGE PANELS.

H. IDENTIFICATION

- 1) PROVIDE NAMEPLATE AT EACH SWITCH IDENTIFYING THE LOAD SERVED.
- 2) NAMEPLATES SHALL BE MOUNTED ON THE FRONT COVER SECURED WITH SELF-TAPPING SCREWS OR NUTS AND BOLTS. NAMEPLATES SHALL BE LAMINATED PHENOLIC, BLACK WITH A MINIMUM OF 3/4" HIGH WHITE LETTERING.

- I. DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.

- J. POWER PANELBOARDS SHALL BE SIMILAR TO GENERAL ELECTRIC TYPE "OMR," AS MANUFACTURED BY ATLAS SWITCH COMPANY, ELECTRIC SWITCHBOARD COMPANY OR APPROVED EQUAL.

- K. PANELBOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.

- L. PANELBOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).

B. MATERIALS

1) RACEWAYS:

- a. RIGID STEEL CONDUIT: FULL-WEIGHT PIPE, GALVANIZED, THREADED.
- b. ELECTRO-METALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREAD LESS.
- c. FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP, GALVANIZED.
- d. WIRE-WAYS: WIRE SHALL BE AS NOTED, MINIMUM NO. 16 GAUGE STEEL WITH GROUND CONTINUITY. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW-ON.
- e. SURFACE METAL RACEWAY: SIZE AS NOTED. BASE 0.04 IN., COVER 0.25 IN. MATERIAL SHALL BE STEEL. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW-ON.

2) FITTINGS AND ACCESSORIES:

- a. RIGID STEEL: NONSPLIT, THREADED, STEEL OR MALLEABLE IRON. ZINC DIE CAST NOT PERMITTED.
- b. ELECTRO-METALLIC TUBING: COMPRESSION TYPE. GALVANIZED RIGID STEEL ELBOWS, 2 IN. OR LARGER.
- c. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH INSULATED THROAT.
- d. BUSHINGS: METALLIC INSULATED TYPE.

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CHECKED BY:

APPROVED BY:

PROJECT NUMBER:

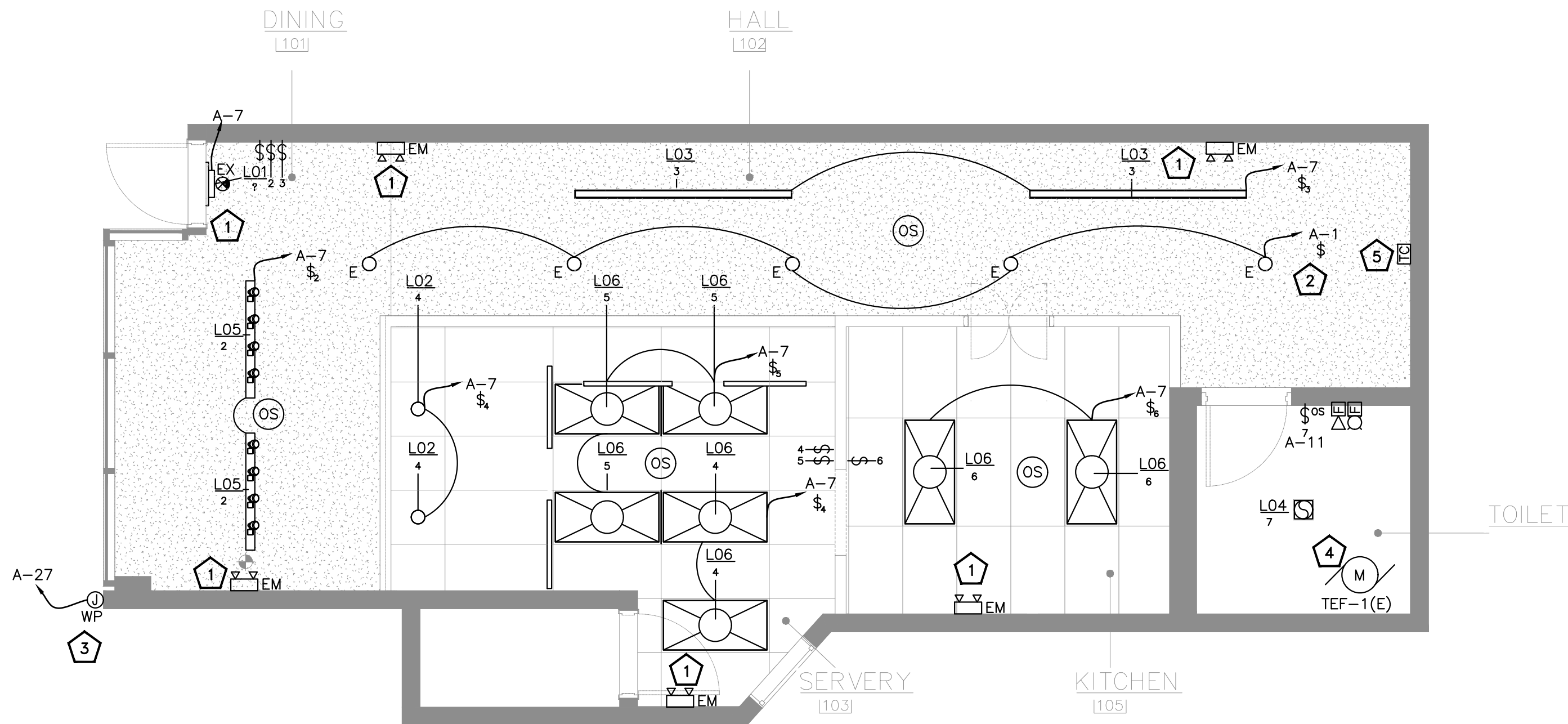
ELECTRICAL SPECIFICATIONS  
SHEET 1 OF 2

E0.2









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

### LIGHT FIXTURE SCHEDULE

TAG	TYPE	MANUFACTURER	MODEL	WATTAGE
L01	EMERGENCY EGRESS FIXTURE	BIG BEAM	2-IL-6-L-40-GY	5
L02	6" RECESSED CAN	LITHONIA	LDN4 35/15 L04AR LSS MVOLT GZ10	20.5
L03	8' LINEAR PENDANT	WARELIGHT	BEAMLED8-DID-130W-DMV-WH	130
L05	LED TRACK (4 LAMP)	JUNO	R605-HTYPE-30K-80CRI-P-DIM-WFL-BL	10W/HEAD
L06	24"X48" TROFFER	LITHONIA	EPANL-24-48L-35K OR APPROVED	38.8
L08	LED DOME PENDANT	PROGRESS LIGHTING	P5341-3030K9 OR APPROVED	17
EM	TBD	TBD	TBD	

### LIGHT FIXTURE SCHEDULE NOTES:

- COORDINATE FINAL FIXTURE MAKE AND MODEL WITH ARCHITECT.
- FIXTURES DESIGNATED WITH "E" ARE EXISTING TO REMAIN.

### LIGHTING CONTROL:

AREA	CONTROLS
DINING ROOM, SERVERY, HALL, KITCHEN ROOM.	LIGHTING IN THESE AREAS SHALL BE CONTROLLED VIA CEILING MOUNTED OCCUPANCY SENSOR. FIXTURES DESIGNATED 'EM' (EMERGENCY) TO REMAIN ENERGIZED AT ALL TIMES.
RESTROOM.	WALL MOUNTED OCCUPANCY SENSOR WITH MANUAL SWITCH FOR MANUAL/AUTOMATIC ON/OFF OF FIXTURES WITH FIXTURES DESIGNATED 'EM' (EMERGENCY) TO REMAIN ENERGIZED AT ALL TIMES.

### LIGHTING CONTROL NOTES:

- AUTOMATIC LIGHTING CONTROLS: OCCUPANCY SENSOR SHALL BE CAPABLE OF TURNING OFF LIGHTS WITHIN 20 MINUTES OF ALL OCCUPANT LEAVING THE SPACE AND SHALL BE MANUAL ON.
- ALL ILLUMINATED EXIT SIGN TO HAVE A MAX WATTAGE OF 5 PER SIDE.
- ALL EMERGENCY LIGHT SHALL OPERATE IN EMERGENCY CONDITION.
- LIGHTING REDUCTION IS ACHIEVED BY CONTROLLING ALL LUMINAIRES.

### LIGHTING PLAN KEYED NOTES: #

- CONNECT ALL EMERGENCY AND EXIT LIGHT FIXTURES TO THE NEAREST LIGHTING CIRCUIT.
- EXISTING LIGHTS AND THEIR CONTROLS AND THEIR CIRCUIT CONNECTIONS TO REMAIN. E.C. TO VERIFY OPERABLE CONDITIONS OF THE EXISTING LIGHT FIXTURES, CONTROLS AND THEIR CIRCUIT CONNECTION IN FIELD. REPLACE IF FOUND IN OPERABLE. BASE BID ACCORDINGLY.
- E.C. TO PROVIDE ELECTRICAL POWER TO EXTERIOR SIGNAGE. COORDINATE MOUNTING HEIGHT, EXACT LOCATION AND POWER REQUIREMENT WITH MANUFACTURER/OWNER.
- EXHAUST FAN SHALL BE CIRCUITED AND CONTROLLED ALONG WITH THE LIGHT FIXTURES IN THE SAME ROOM.
- COORDINATE THE EXACT LOCATION OF THE TIME CLOCK IN THE FIELD.

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



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HAPPY LEMON

DRAWN BY:

NYE

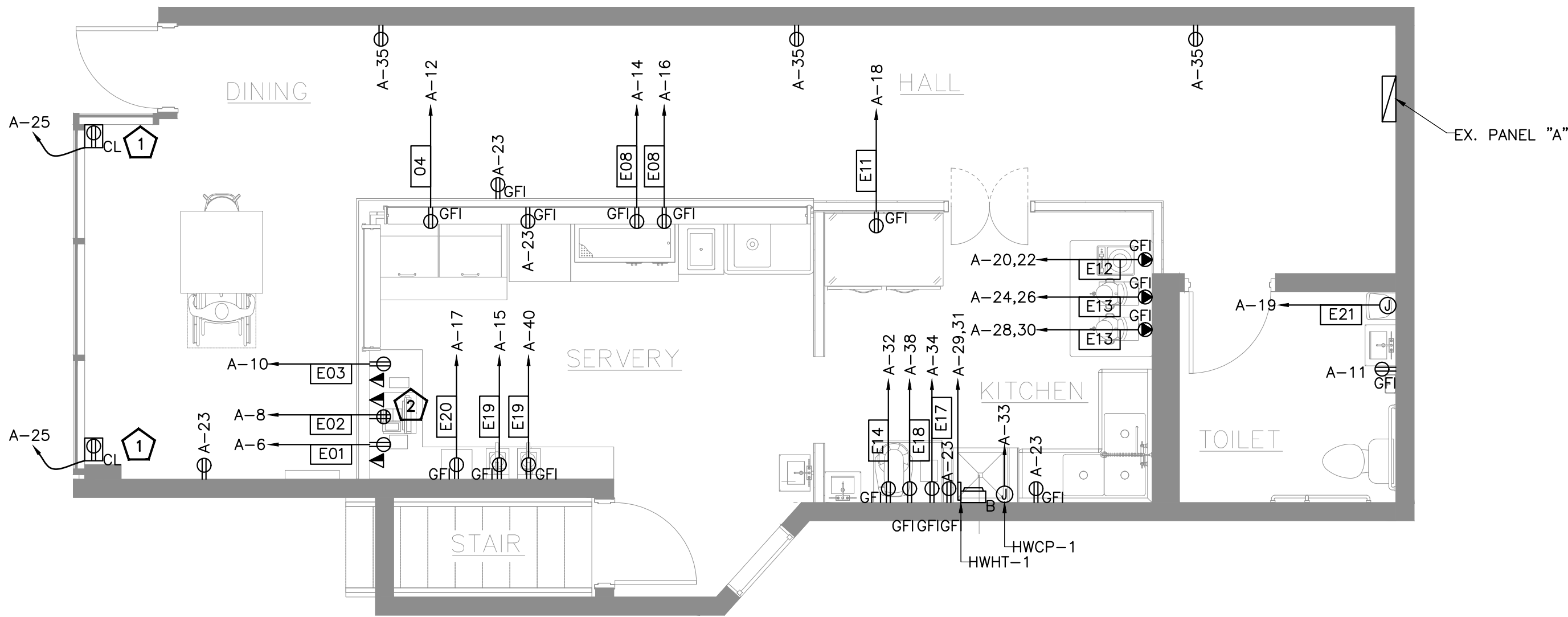
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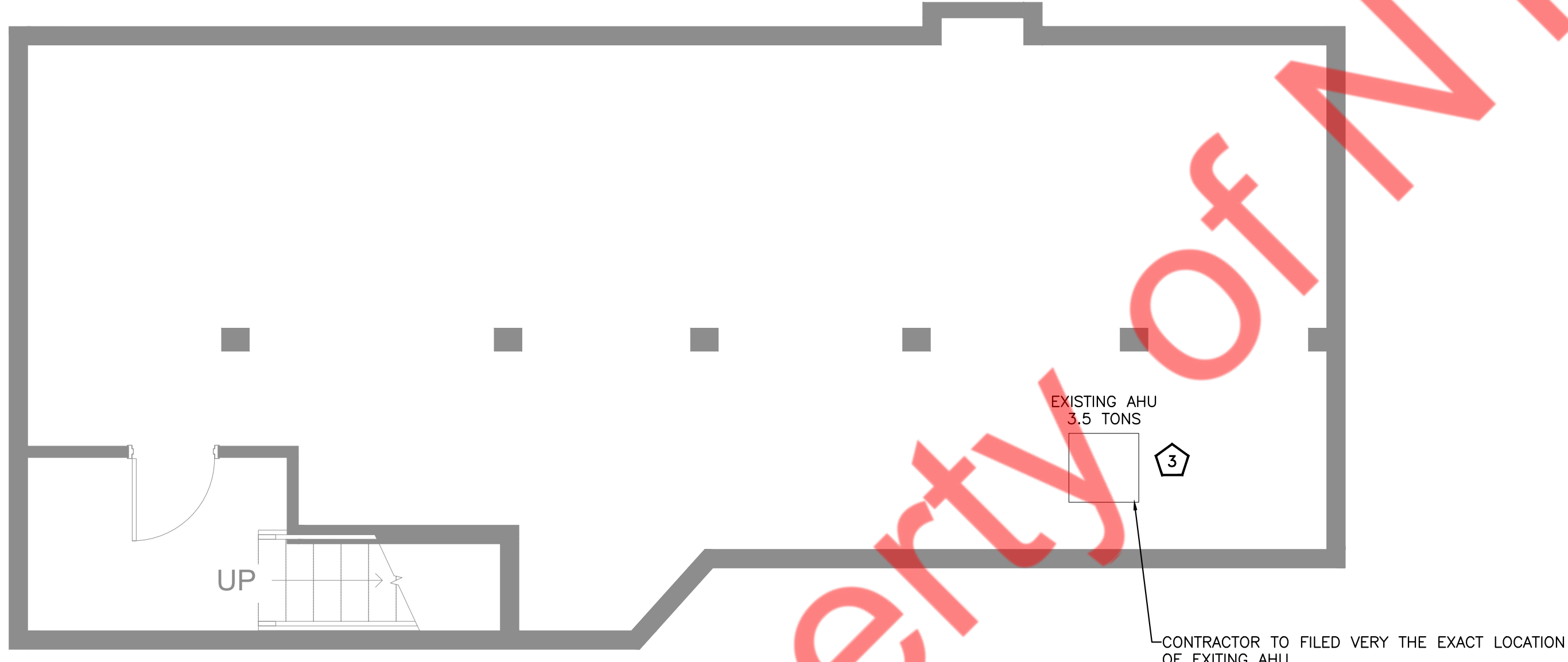
PROJECT NUMBER:

ELECTRICAL LIGHTING PLAN

E1.0



① ELECTRICAL POWER PLAN – FLOOR  
1/4" = 1'-0"



② ELECTRICAL POWER PLAN – BASEMENT  
1/4" = 1'-0"

- GENERAL POWER PLAN NOTES:
1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL, PLUMBING, AND/OR ARCHITECTURAL DRAWINGS. E.C. TO COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
  2. REVIEW AND COORDINATE WITH ALL TRADES CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE AND ARCHITECT.
  3. MINIMUM CONDUCTOR SIZE FOR 120V BRANCH CIRCUITS SHALL BE 12-AWG. FOR 120V BRANCH CIRCUITS WITH HOME-RUN OVER 100 LINEAR FEET, A MINIMUM WIRE SIZE OF 10-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANEL BOARD. FOR 120V BRANCH CIRCUITS WITH HOME RUN OVER 150 LINEAR FEET, A MINIMUM OF 8-AWG SHALL BE PROVIDED FROM FIRST JUNCTION/OUTLET BOX TO BRANCH CIRCUIT PANEL BOARD.
  4. ALL WIRING SHALL BE IDENTIFIED BY PANEL BOARD AND CIRCUIT NUMBERS IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS ETC.
  5. ALL RECEPTACLES IN KITCHEN AREA SHALL BE "GFCI" IN ACCORDANCE WITH NEC ARTICLE 210.8(B). GFI RECEPTACLE TO BE MOUNTED AT ACCESSIBLE LOCATION. ELSE PROVIDE GFI RATED BREAKER AT PANEL FOR KITCHEN EQUIPMENT.
  6. ELECTRICAL CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS COMBINED SHALL BE SIZED FOR A MAXIMUM OF 5 PERCENT VOLTAGE DROP.
  7. COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHT OF OUTLETS WITH ARCHITECT/EQUIPMENT MANUFACTURER.

- ELECTRICAL POWER PLAN KEYED NOTES: #
1. PROVIDE CEILING MOUNTED RECEPTACLE FOR SHOW WINDOW AS REQUIRED BY CODE. VERIFY WITH LOCAL ENERGY AGENCY. VERIFY EXACT LOCATION WITH ARCHITECT.
  2. E.C. TO COORDINATE MOUNTING HEIGHT OF RECEPTACLE WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
  3. EXISTING MECHANICAL EQUIPMENTS SHALL REMAIN CONNECTED TO EXISTING ELECTRICAL PANEL. E.C. SHALL VERIFY ALL CONNECTIONS AND OPERABLE CONDITIONS IN FIELD. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY PRIOR TO BID.



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ELECTRICAL POWER PLAN

E1.1



AUTOMATIC MODE OPERATION:

1. WHEN SENSOR ACTIVATES, LOAD TURNS ON.
2. LOAD TURNS OFF, WITHIN 20 MINUTES OF OCCUPANT LEAVING SPACE.
3. SWITCHES CAN BE USED TO TURN LOAD OFF.

RECOMMENDED WIRE:

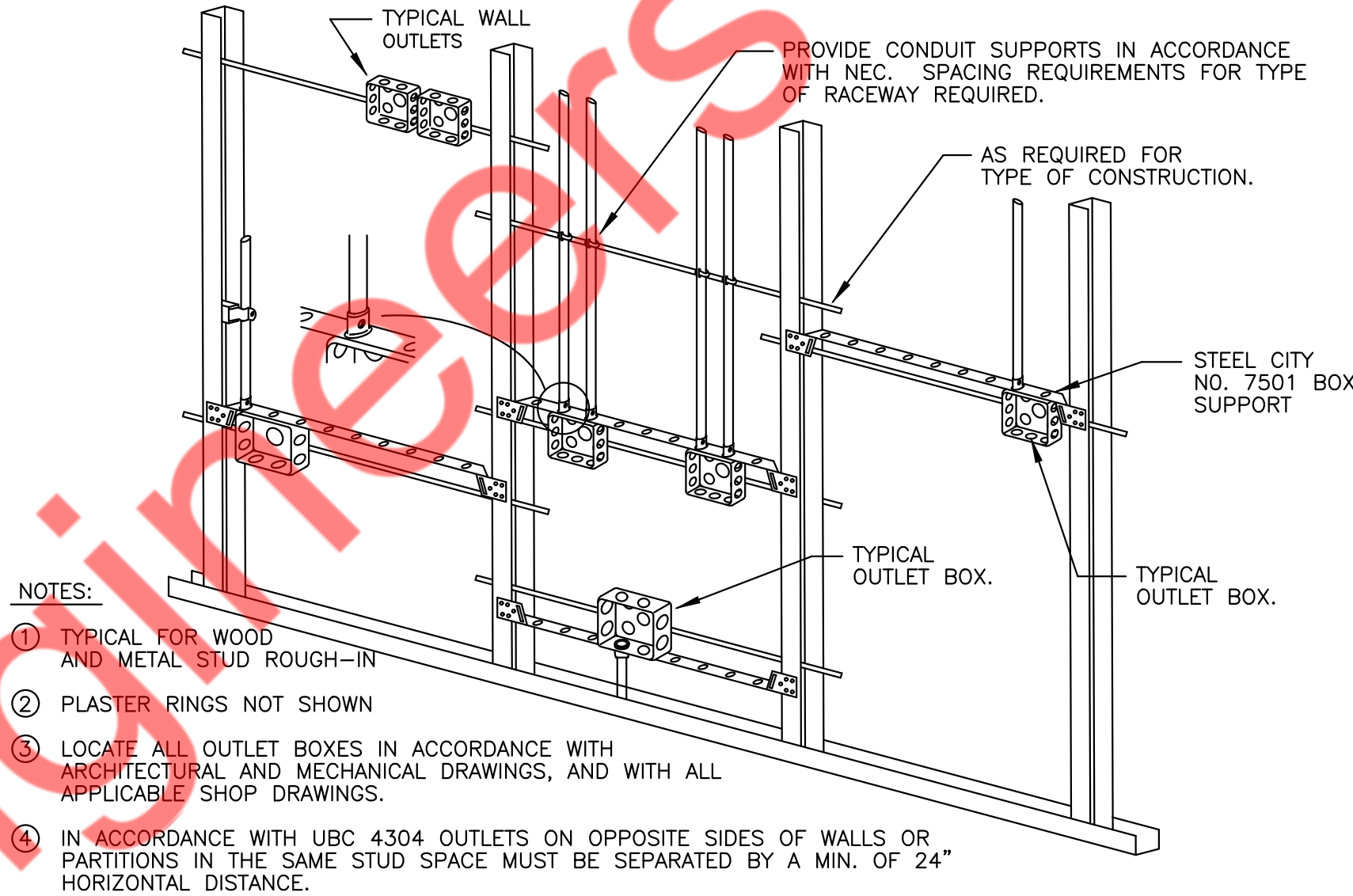
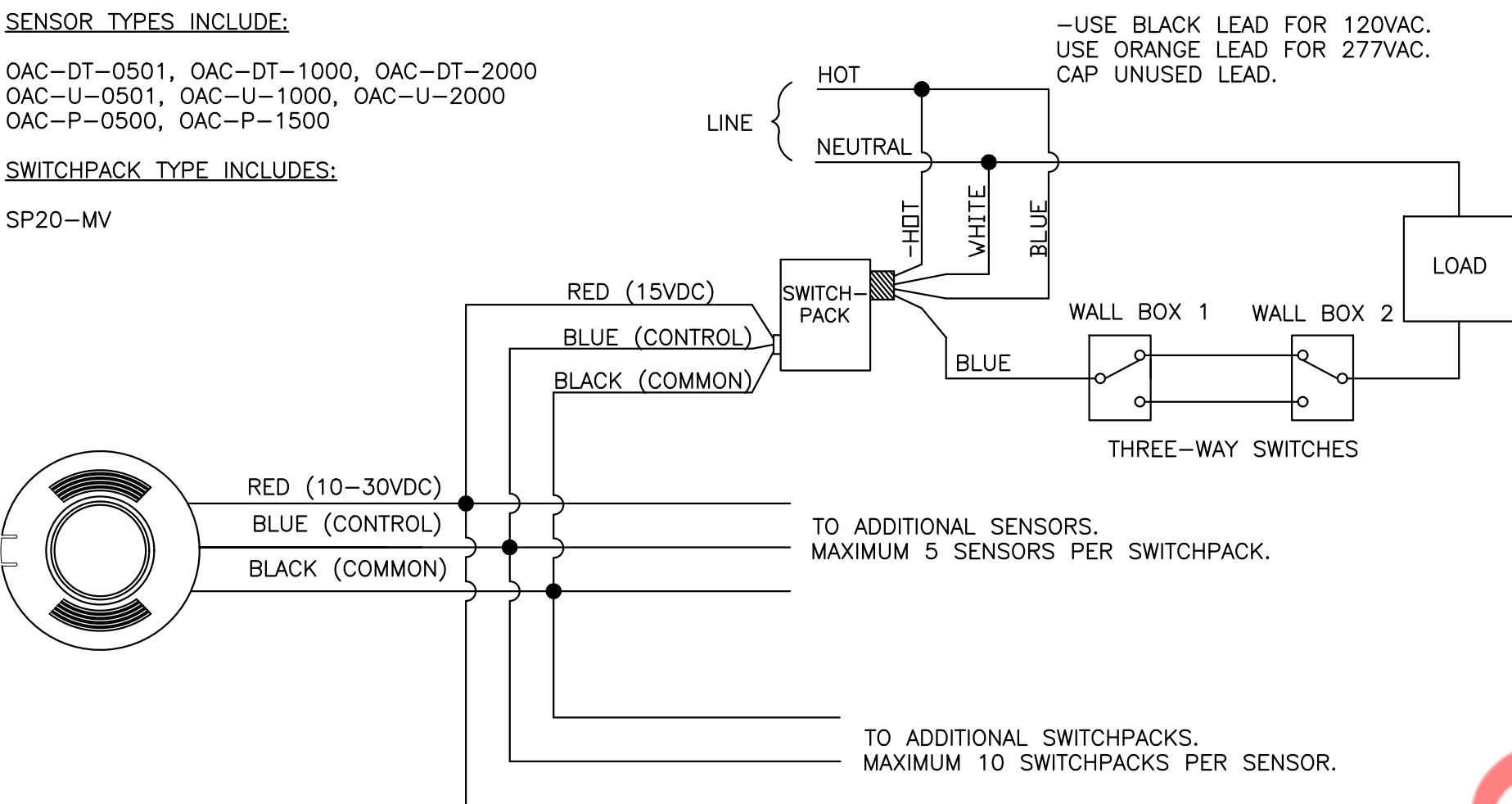
18-3 AWG STRANDED WIRE SHIELDED OR NON-SHIELDED

SENSOR TYPES INCLUDE:

OAC-DT-0501, OAC-DT-1000, OAC-DT-2000  
OAC-U-0501, OAC-U-1000, OAC-U-2000  
OAC-P-0500, OAC-P-1500

SWITCHPACK TYPE INCLUDES:

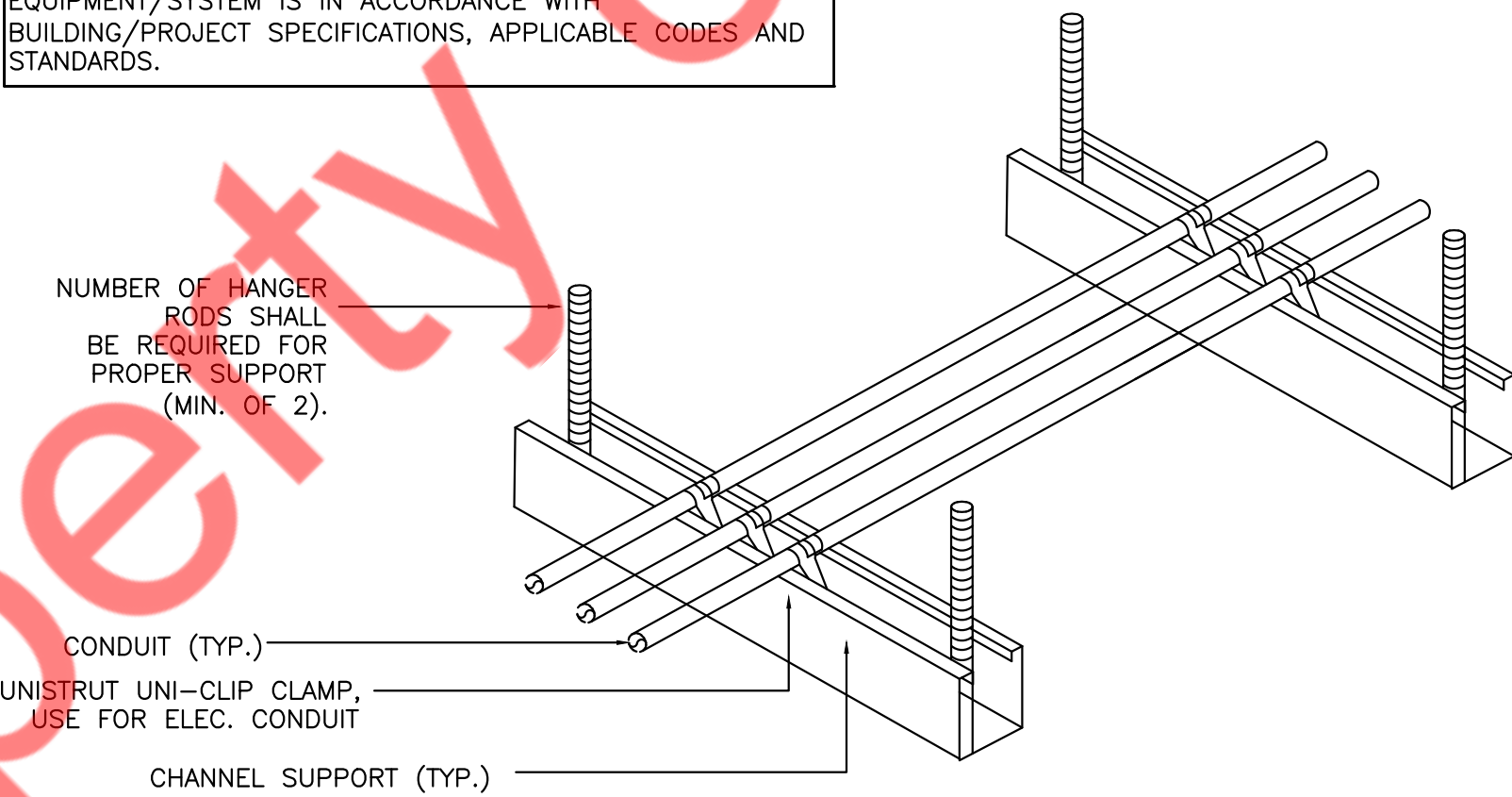
SP20-MV



4 WIRING DIAGRAM-LOW VOLTAGE CEILING SENSOR OCCUPANCY  
-AUTO ON/OFF WITH LINE VOLTAGE OVERRIDE TO OFF  
THREE-WAY SWITCHING.  
E200 N.T.S

2 DETAIL TYPICAL ROUGH-IN REQUIREMENTS  
E200 N.T.S

NOTE:  
THIS INFORMATION MAY NOT CONTAIN ALL DETAILS  
REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION  
MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE  
DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE  
USER'S RESPONSIBILITY TO ENSURE INSTALLATION OF THE  
EQUIPMENT/SYSTEM IS IN ACCORDANCE WITH  
BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND  
STANDARDS.



NOTES:

1. ALL CONDUIT MAY BE COMBINED ON SAME SUPPORT CHANNEL WHERE PRACTICAL.
2. SUPPORT CHANNEL LENGTH SHALL NOT BE DETERMINED UNTIL ALL PIPING, CONDUIT, ETC. TO BE SUPPORTED IS COORDINATED.
3. SUPPORT CHANNEL SPACING SHALL BE NO MORE THAN 10'-0".
4. UNISTRUT AND CONDUIT INSTALLATION MAY BE REVERSED.

3 CONDUIT SUPPORT DETAIL  
E200 N.T.S

MANUAL MODE OPERATION:

1. PUSHBUTTON PRESS IS REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT OR BY PRESSING PUSH BUTTON.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

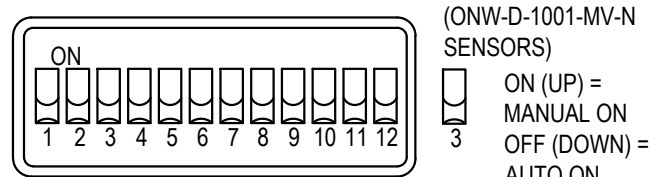
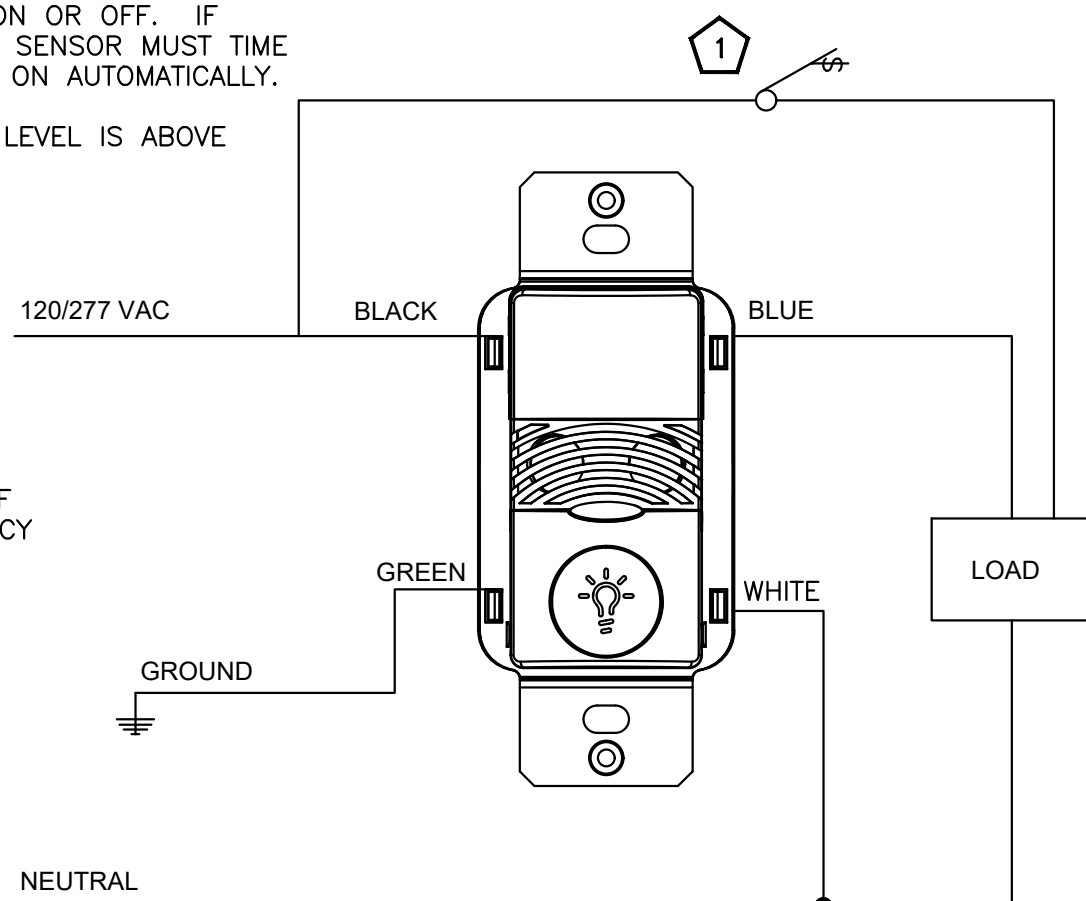
AUTOMATIC MODE OPERATION:

1. WHEN SENSOR ACTIVATES LOAD TURNS ON.
2. PUSHBUTTON CAN BE USED TO TURN LOAD ON OR OFF. IF PUSHBUTTON IS USED TO TURN LOAD OFF, SENSOR MUST TIME OUT FIRST, BEFORE LOAD CAN TURN BACK ON AUTOMATICALLY.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

SENSOR TYPES INCLUDE:

ONW-D-1001-MV-N

1. PROVIDE SENSING CONDUCTOR TAPPED AHEAD OF ANY SWITCHES WHERE SWITCH SERVES EMERGENCY FIXTURES.



1 WIRING DIAGRAM-LINE VOLTAGE WALL SWITCH SENSOR(NEUTRAL  
CONNECTION) OCCUPANCY/VACANCY-SINGLE LEVEL  
E200 N.T.S

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ELECTRICAL DETAILS

E2.0



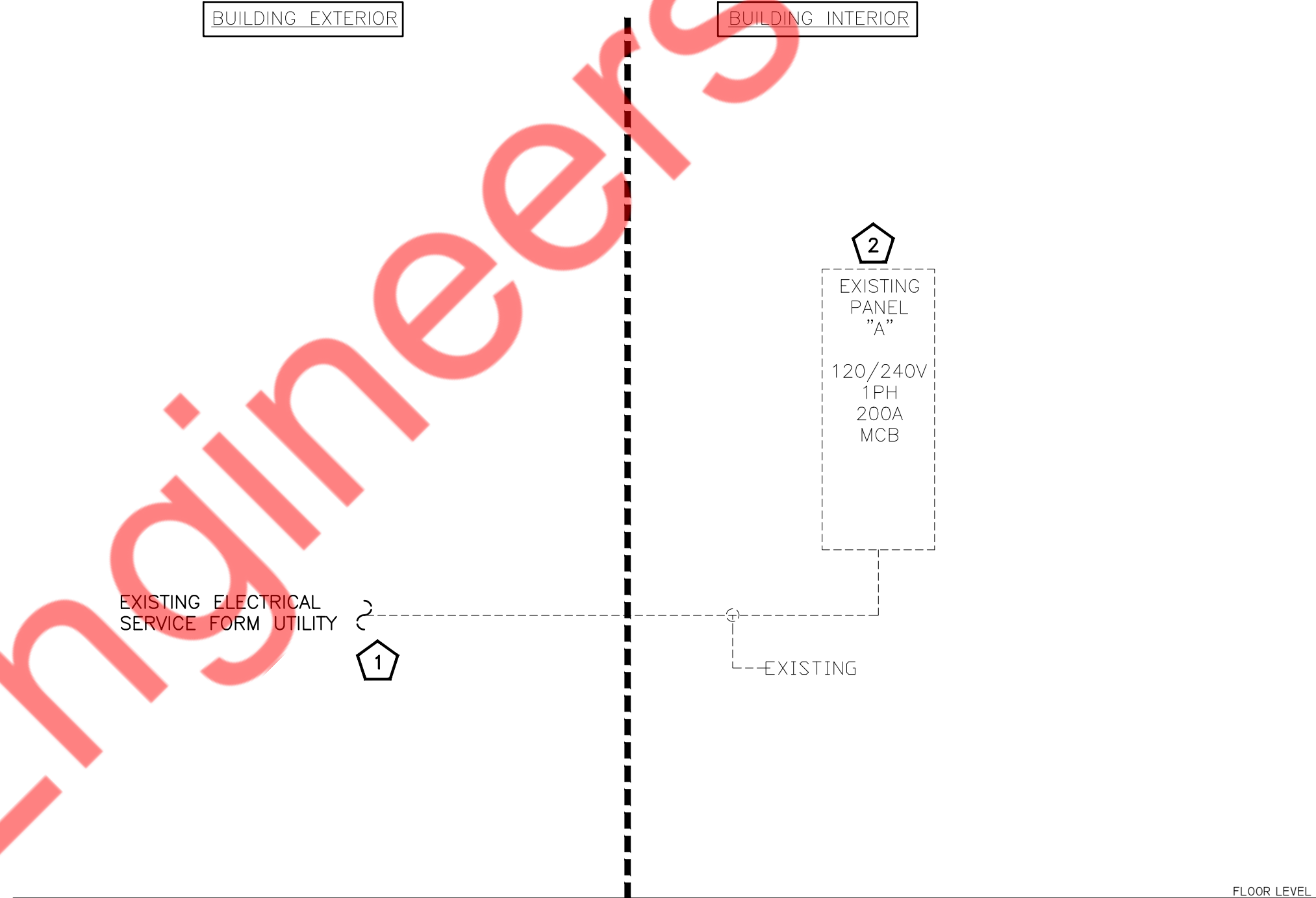
PANEL:		A	(EXISTING)									MOUNTING:		RECESSED			
120/240		VOLTS		1	PHASE	3	WIRE							PANEL LOCATION:		BOH	
MCB		200A		BUS:	200A	MINIMUM							FED FROM:		SERVICE UTILITY		
NOTE:																	
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD		LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT		PER PHASE (KVA)		MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.		
								A	B								
1	15	EX. LIGHT		L	0.50	EXISTING		3.82		EXISTING	3.32	H	EX. AC	40/2P	2		
3	15	EX. EXIT		L	0.50	EXISTING			3.82		3.32	H		4			
5	20	EX. OUTLET BASEMENT		R	0.90	EXISTING		1.26		2#12,1#12,3/4"C	0.36	E	E01 - RECEIPT PRINTER	20	6		
7	20	LIGHTING - HALL, DINING, SERVERY		L	0.50	2#12,1#12,3/4"C			1.22	2#12,1#12,3/4"C	0.72	E	E02 - POS SYSTEM	20	8		
9	20	EX. WINDOW OUTLET		R	0.18	EXISTING		0.54		2#12,1#12,3/4"C	0.36	E	E03 - LABEL PRINTER	20	10		
11	20	EX. BATHROOM		R	0.36	EXISTING			1.36	2#12,1#12,3/4"C	1.00	E	E04 - SANDWICH REFRIGERATOR	20	12		
13	15	EX. FURNACE		E	1.00	EXISTING		2.44		2#12,1#12,3/4"C	1.44	E	E08 - VITAMIX BLENDER	20	14		
15	20	E19 - BUBBLE WAFFLE MACHINE		E	1.56	2#12,1#12,3/4"C			3.00	2#12,1#12,3/4"C	1.44	E	E08 - VITAMIX BLENDER	20	16		
17	20	E20 - TABLE TOP COMPACT SEALING		E	0.60	2#12,1#12,3/4"C		1.17		2#12,1#12,3/4"C	0.57	E	E11 - UNDERCOUNTER REFRIGERATOR	20	18		
19	20	E21 - HAND DRYER		E	1.20	2#12,1#12,3/4"C			2.95	2#12,1#12,3/4"C	1.75	E	E12 - INDUCTION BURNER	20/2P	20		
21	20	RESTROOM RECEPTACLES		R	0.18	2#12,1#12,3/4"C		1.93			1.75	E		22			
23	20	GENERAL RECEPTACLES		R	0.90	2#12,1#12,3/4"C			4.12	2#8,1#10,3/4"C	3.22	E	E13 - TEA-BREWING MACHINE	40/2P	24		
25	20	SHOW WINDOW RECEPTACLES		R	1.50	2#12,1#12,3/4"C		4.72			3.22	E		26			
27	20	EXTERIOR SIGNAGE		L	1.00	2#12,1#12,3/4"C			4.22	2#8,1#10,3/4"C	3.22	E	E13 - TEA-BREWING MACHINE	40/2P	28		
29	50/2P	HWHT-1		O	4.50	2#8,1#10,3/4"C		7.72			3.22	E		30			
31		HWHT-1		O	4.50	2#8,1#10,3/4"C			5.00	2#12,1#12,3/4"C	0.50	E	E14 - STAND MIXER	20	32		
33	20	HWCP-1		M	0.50	2#12,1#12,3/4"C		1.46		2#12,1#12,3/4"C	0.96	E	E17 - ICE MAKING	20	34		
35	20	GENERAL RECEPTACLES		R	0.72	2#12,1#12,3/4"C			0.72				SPARE		36		
37	20	SPARE						0.30		2#12,1#12,3/4"C	0.30	E	E18 - ELECTRONIC SCALE	20	38		
39	20	SPARE							1.56	2#12,1#12,3/4"C	1.56	E	E19 - BUBBLE WAFFLE MACHINE	20	40		
41		SPACE						0.00					SPACE		42		
								25.36	27.97								

ABBREVIATIONS:

L = LIGHTING  
R = RECEPTACLE  
H = HVAC  
E = EQUIPMENT  
M = MOTOR  
O = OTHER

PANEL SCHEDULE GENERAL NOTES:

- ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING OF THE EXISTING DEVICES ON FIELD AND INFORM ENGINEER FOR DISCREPANCIES.
- ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
- ALL EXISTING TO REMAIN ELECTRICAL DEVICES/EQUIPMENTS SHALL BE CONNECTED TO RESPECTIVE NEW/EXISTING PANELS. E.C. TO VERIFY EXACT DETAILS & CIRCUIT NUMBER ON FIELD.



GENERAL NOTE:

- ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
- E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
- ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO BID.
- E.C. TO VERIFY IF DEDICATED METER EXISTS FOR THE SPACE. ELSE COORDINATE WITH OWNER/LANDLORD FOR PROVIDING NEW METER.
- E.C. TO VERIFY EXACT SCOPE OF WORKS WITH LANDLORD/OWNER PRIOR TO BID.

ELECTRICAL RISER SYMBOLS

- [ ] NEW
- [ ] EXISTING ITEM/FEEDER TO REMAIN
- [X] EXISTING ITEM/FEEDER TO BE DISCONNECTED & REMOVED

ELECTRICAL RISER KEYED WORK NOTES:

- EXISTING 200A,120/240V, 1PH, ELECTRICAL SERVICE FEEDER FROM EXISTING METER/DISCONNECT FOR THE SPACE SHALL REMAIN. E.C. SHALL VERIFY RATING AND OPERABLE CONDITION OF EXISTING ELECTRICAL FEEDER IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY PRIOR TO BID.
- EXISTING 200A, 120/240V, 1-PH, 3-W ELECTRICAL PANEL "A" TO REMAIN. E.C. SHALL VERIFY EXACT LOCATION, RATING AND OPERABLE CONDITION OF THE PANEL IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

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REVISION SCHEDULE

NO. REV. / SUBMISSION DATE ISSUED BY

ISSUE DATE:

RESTAURANT BUILD-OUT  
HAPPY LEMON

DRAWN BY:

NYE

CHECKED BY:

APPROVED BY:

PROJECT NUMBER:

ELECTRICAL RISER DIAGRAM &  
PANEL SCHEDULE

E3.0



PLUMBING SPECIFICATIONS:

PLUMBING SYMBOLS LIST	
— SAN —	SANITARY SEWER
-----	VENT PIPING
-----	COLD WATER PIPING
-----	HOT WATER PIPING
-----	HOT WATER RETURN PIPING
-----	EXISTING HOT WATER PIPING
-----	EXISTING COLD WATER PIPING
-----	P-TRAP
-----	PIPE UP
-----	PIPE DROP
-----	CLEANOUT
-----	PLUGGED OUTLET/CLEANOUT
-----	POINT OF CONNECTION

PLUMBING ABBREVIATIONS	
CO	CLEANOUT
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
V	VENT
W	WASTE
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
AFF	ABOVE FINISH FLOOR
FD	FLOOR DRAIN
SQ. FT.	SQUARE FEET
BFP	BACK FLOW PREVENTER
N.I.C.	NOT IN SCOPE
CODP	CLEAN OUT DECK PLATE

PLUMBING DRAWING LIST

- P1.1 PLUMBING NOTES, SYMBOLS, ABBREVIATIONS & SPECIFICATIONS
- P2.1 PLUMBING PLANS
- P3.1 PLUMBING DETAILS
- P4.1 PLUMBING RISERS & SCHEDULE

BUILDING DEPARTMENT PLUMBING NOTES

1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER, STORM) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2019 CHICAGO PLUMBING CODE.
2. INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 18-29-702.2
3. PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION PC 18-29-305.1.
4. TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION PC 18-29-306.2.
5. RODENT PROOFING AS PER PC 18-29-304.4
6. MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 18-29-303, 18-29-605.4, 18-29-702, 18-29-902, 18-29-1102.
7. DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER PC 18-29-1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 18-29-1202.5.4
8. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 18-29-308.2
9. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION 18-29-604, 605, 606, 607, 608, 610
10. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION PC 18-29-701, 704, 705, 706, 707, 708, 711.
11. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS PC 18-29-901 THROUGH PC 18-29-912 THROUGH PC 18-29-917
12. INSPECTION AND TESTING OF PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION PC 18-29-105.4.6.
13. GAS PIPING INSTALLATION SHALL IN ACCORDANCE WITH INTERNATIONAL FUEL GAS CODE CHAPTER 4

1.05 DEFINITIONS

- A. FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.
- B. INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.
- C. PROVIDE: TO FURNISH AND INSTALL.
- D. PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

1.06 DRAWINGS

- A. THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.
- B. PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.
- C. REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.
- D. REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.
- E. VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.
- F. LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.07 PRODUCTS

- A. SANITARY AND VENT PIPING:

1. ABOVE GRADE PIPING SHALL BE PVC SCHEDULE 40 PIPE WHICH SHALL MEET THE REQUIREMENTS OF ASTM D2665; ASTM F891.

2. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
- B. DOMESTIC WATER PIPING:

1. ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.

2. FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.

3. JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.

4. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.

5. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.

6. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH 2019 CHICAGO ENERGY CONSERVATION CODE SECTION C403.11.3 REFER BELOW TABLE.

MINIMUM PIPE INSULATION THICKNESS						
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)			
	CONDUCTIVITY BTU?IN./ (H?FT2?F)	MEAN RATING TEMPERATURE, °F	<1	1 to 1½	1½ to 4	4 to <8
141-200	0.25-0.29	125	1.5	1.5	2	2 2
105-140	0.21-0.28	100	1.0	1.0	1.5	1.5 1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0 1.0

7. WATER DISTRIBUTION SYSTEM AS PER 2019 CHICAGO ENERGY CONSERVATION CODE C404.7, HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:

a. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.

b. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).
8. AS PER 2019 CHICAGO ENERGY CONSERVATION CODE C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATED WATER PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.
9. HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER CHICAGO ENERGY CONSERVATION CODE C404.5.1. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.
10. AS PER 2019 CHICAGO ENERGY CONSERVATION CODE C404.6.3, THE CONTROLS ON PUMPS THAT CIRCULATE WATER BETWEEN A WATER HEATER AND A HEATED-WATER STORAGE TANK SHALL LIMIT OPERATION OF THE PUMP FROM HEATING CYCLE STARTUP TO NOT GREATER THAN 5 MINUTES AFTER THE END OF THE CYCLE.

11. SEAL ALL JOINTS BETWEEN SEGMENTS OF INSULATION.
12. PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

C. HANGERS AND SUPPORTS:

1. HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.
2. SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.
3. ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVED SUPPORTS.
4. PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
5. SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

D. VALVES:

1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.
2. ALL FIXTURES WITH THE EXCEPTION OF FLUSHOMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.
4. ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.
5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.
- E. INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.
- F. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.
- G. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.
- H. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.

- I. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.
- J. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.

- K. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.

- L. PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.

- M. PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.

- N. ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.

- O. ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

- P. WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM, REMOVING ALL STRAINERS, VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE FLUSHING.

- Q. AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.

- R. INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS. ON FINISHED SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

2. INSTALLATION

2.01 GENERAL

- T. ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY A CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ANY EXISTING ROOF WARRANTIES.

- U. EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.

- V. EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT.

- W. COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.

- X. REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE.

- Y. REMOVE SCALE AND FOREIGN MATERIAL FROM INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

- Z. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.

- AA. COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.

- AB. NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.

- AC. PRIOR TO DISCONNECTING AND CONNECTING NEW WORK TO EXISTING SYSTEMS, THE PLUMBING CONTRACTOR SHALL NOTIFY THE PROPERTY MANAGER AND OFFER A PROPOSED SCHEDULE OF WORK. ESB WILL AUTHORIZE CONNECTIONS AND COORDINATE NECESSARY SHUT DOWNS AND DRAIN DOWNS AS REQUIRED. SHUT DOWNS AND DRAIN DOWNS MAY BE PERFORMED BY THE PLUMBING CONTRACTOR ONLY AFTER RECEIVING ESB AUTHORIZATION, AND SHOULD BE PERFORMED UNDER SUPERVISION OF ESB PERSONNEL. THREE (3) DAYS ADVANCE NOTICE TO THE PROPERTY MANAGER IS REQUIRED.

- AD. THE PLUMBING CONTRACTOR IS ADVISED THAT DUE TO THE NATURE OF THE OPERATIONS AND TENANT REQUIREMENTS, CONNECTIONS TO EXISTING SYSTEMS MAY HAVE TO BE MADE AFTER REGULAR WORKING HOURS. THE PROPERTY MANAGER WILL ADVISE THE PLUMBING CONTRACTOR OF THE TIME CONSTRAINTS UPON RECEIPT AND APPROVAL OF THE PLUMBING CONTRACTOR'S REQUEST FOR SHUT DOWN AND CONNECTION TO EXISTING SYSTEMS.

- AE. WHEN CONNECTING TO EXISTING STACKS AND RISERS, PROVISION IS TO BE MADE FOR FUTURE CONNECTIONS BY PROVIDING CAPPED AND VALVED OUTLETS ON DOMESTIC WATER RISERS AND PLUGGED OUTLETS ON THE SANITARY AND VENT STACKS.

2.02 ABOVE GRADE

- A. INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.

- B. ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES AND ALL LOW POINTS IN PIPING.

- C. USE EXISTING CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME. ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

3. TESTING

- A. AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.

- B. TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.

- C. THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT BEING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR BEAMS. FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.

- D. THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.

- E. ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.

- F. WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.

- G. ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.

- H. ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.

- J. ALL EQUIPMENT WILL BE FACTORY TESTED.

- I. CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.

- K. REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

- L. TESTING REQUIREMENTS

a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125 PSIG.

b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH NO VARIATION FOR 120 MINUTES.

c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.

d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.
- M. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.
- N. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.
4. WARRANTY

A. EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.

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REVISION SCHEDULE

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RESTAURANT BUILD-OUT  
HAPPY LEMON

DRAWN BY:

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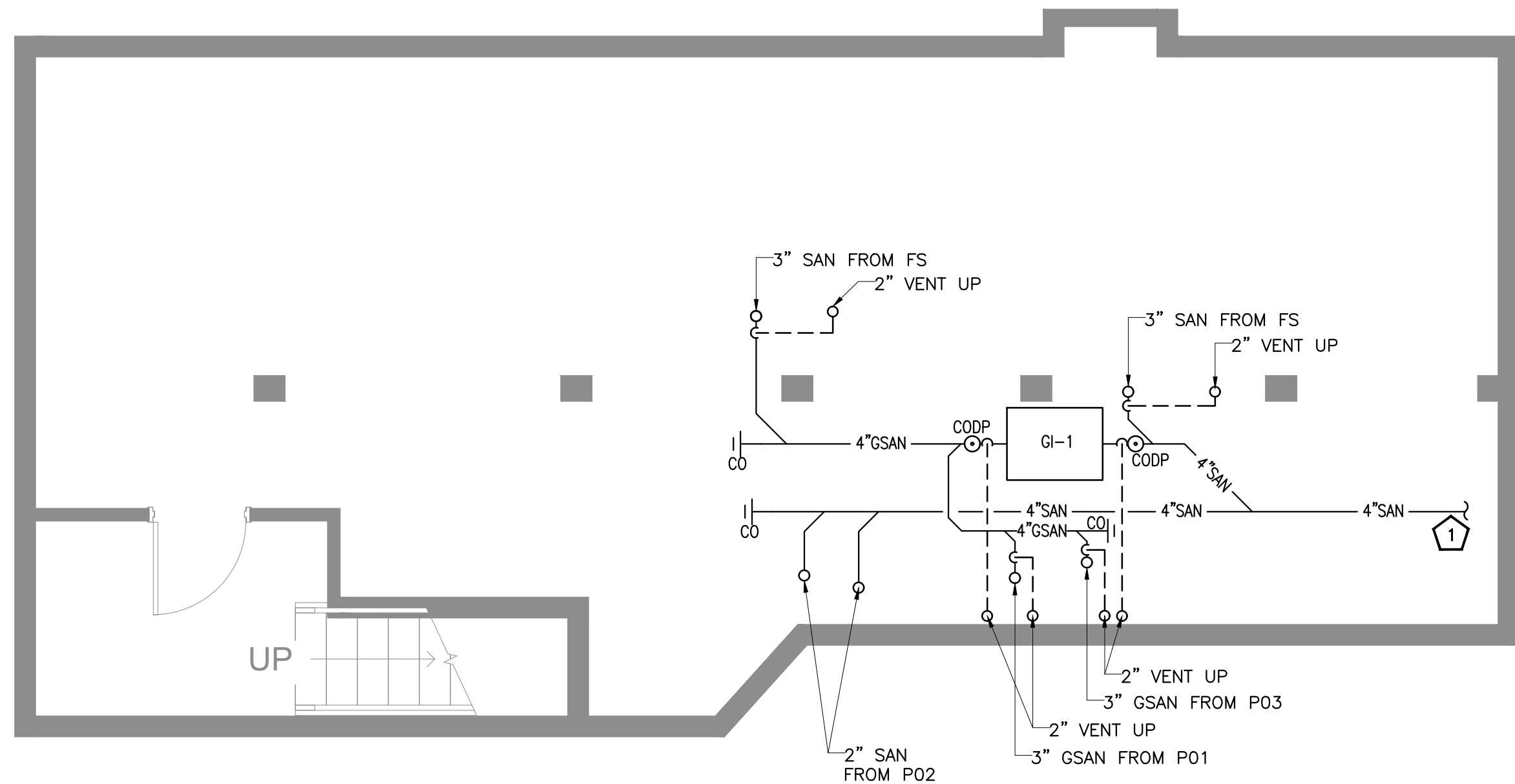
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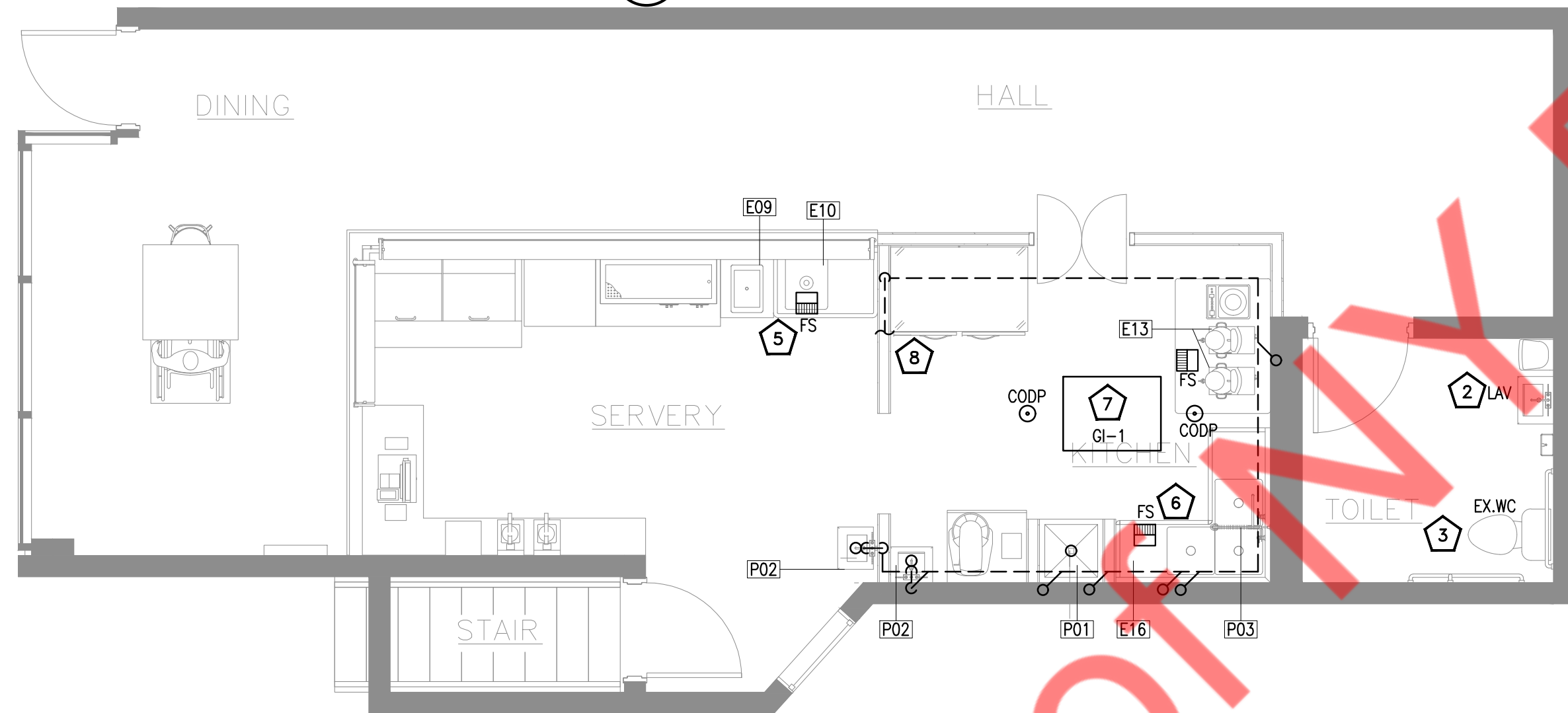
PLUMBING NOTES,  
SYMBOLS, ABBREVIATIONS  
& SPECIFICATIONS

P1.1

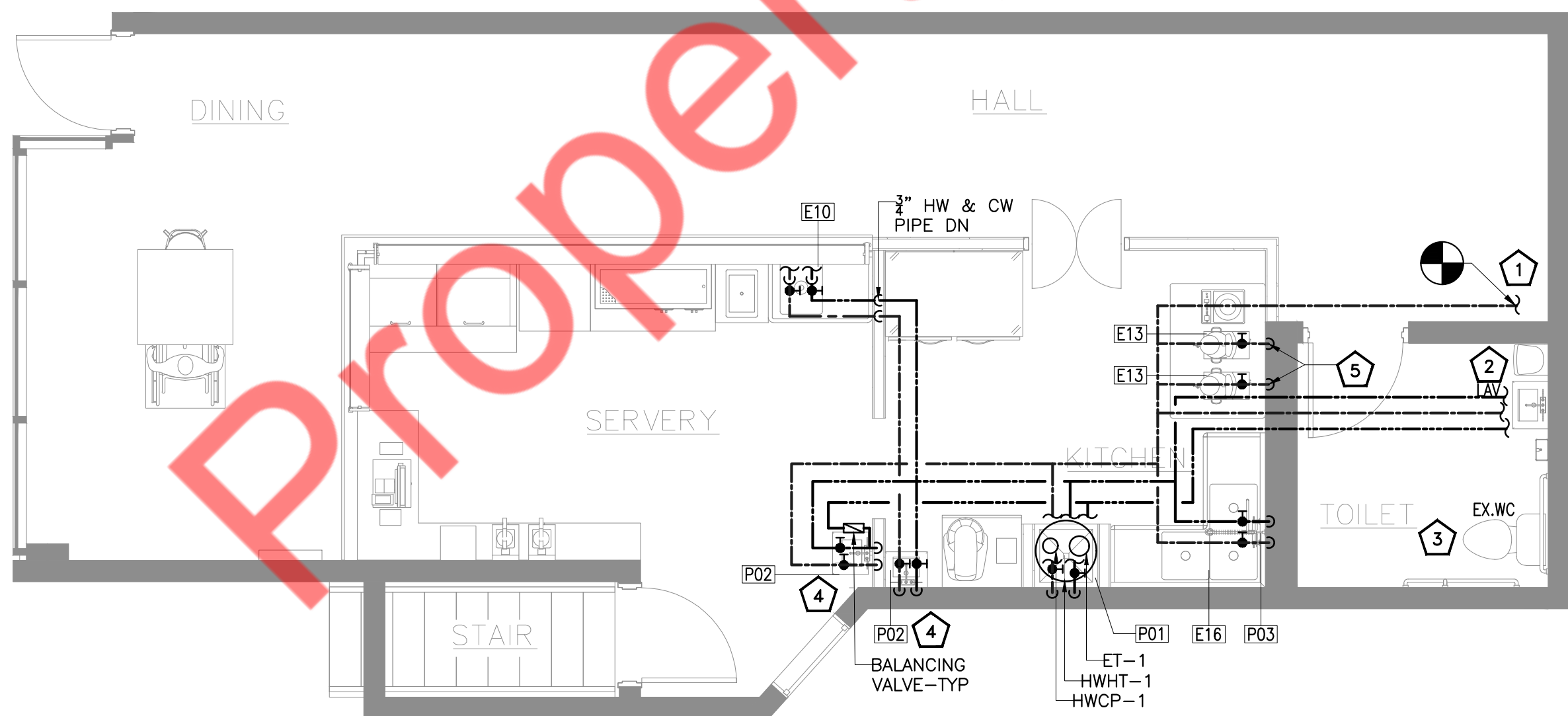




**1 BASEMENT SANITARY PLAN**  
P2.1 SCALE: 1/4" = 1'-0"



**2 FIRST FLOOR SANITARY PLAN**  
P2.1 SCALE: 1/4" = 1'-0"



**3 DOMESTIC WATER PIPING PLAN**  
P2.1 SCALE: 1/4" = 1'-0"

**GENERAL NOTES:**

1. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
2. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.

**SANITARY PIPING PLAN NOTES:**

1. CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT ON SITE.
2. REPLACE EXISTING LAVATORY WITH NEW LAVATORY AND CONNECT TO EXISTING SANITARY AND VENT LINES. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION AND UPGRADE IF REQUIRED.
3. EXISTING CLOSET TO REMAIN WITH EXISTING SANITARY VENT LINES WITH ASSOCIATED ACCESSORIES AND FITTINGS.
4. ROUTE INDIRECT WASTE FROM TEA BREWER TO FLOOR SINK WITH APPROVED AIR GAP.
5. ROUTE INDIRECT WASTE FROM RINSE SINK AND ICE BIN TO FLOOR SINK WITH APPROVED AIR GAP.
6. ROUTE INDIRECT WASTE FROM 3-COMPARTMENT SINK TO FLOOR SINK WITH APPROVED AIR GAP.
7. GREASE INTERCEPTOR, SCHIER GB-3, 50 GPM, 272.7 LBS CAPACITY 4" INLET W/ FLOW CONTROL 1-1/2" VENT UP. FIELD VERIFY EXACT PLACEMENT OF GREASE TRAP AND COORDINATE WITH FOOD SERVICE EQUIPMENT PLANS TO AVOID LEG CONFLICTS. PROVIDE ALL APPURTENANCES FOR A COMPLETE INSTALLATION INCLUDING FLOW CONTROL AND AIR VENT. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH CITY REGULATIONS AND MANUFACTURER'S INSTRUCTIONS. PROVIDE PEDESTRIAN RATED POLYPROPYLENE COVER COVER OVER-LAYS WHEN INSTALLED IN PEDESTRIAN TRAFFIC AREAS. P.C. TO ENSURE A MINIMUM OF 2% SLOPE FOR SANITARY FROM FLOOR SINK TO GREASE TRAP SUCH THAT GREASE TRAP INLET IS LOWER THAN THE FLOOR SINK OUTLET. INSTALL GREASE TRAP EXTENSION IF NECESSARY TO ALLOW FOR SLOPE FROM FLOOR SINK. P.C. TO ENSURE A MAXIMUM OF 50 GPM FLOW RATE FROM 3-COMPARTMENT SINK INTO FLOOR SINK AND INSTALL A SECONDARY FLOW CONTROL DEVICE PRIOR TO FLOOR SINK IF NECESSARY.
8. CONNECT NEW 3" VENT LINE TO EXISTING VENT LINE IN THE SPACE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND LOCATION ON SITE.

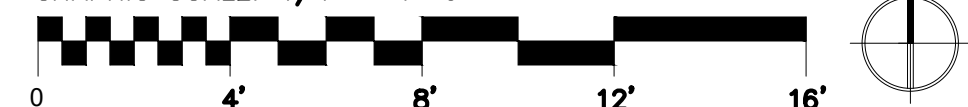
**GENERAL NOTES:**

1. CW/HW PIPING TO BE PROVIDED WITH INSULATION AS PER CHICAGO ENERGY CONSERVATION CODE (ECC 2018) (REFER SHEET P001)
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 85 PSI.
3. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
4. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
5. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
6. ALL EXISTING FIXTURES MENTIONED IN THE DRAWINGS CONNECTED TO THE EXISTING GREASE INTERCEPTOR TO REMAIN.
7. AS PER 2021 AMENDMENTS TO THE CHICAGO PLUMBING CODE, PVC SHALL BE USED FOR ALL PLUMBING FIXTURE DRAINS FOR A COMMERCIAL SPACE.

**DOMESTIC WATER NOTES:**

1. ROUTE NEW 1" CW PIPING WITH SHUT OFF VALVE AND TIE-INTO THE EXISTING WATER LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING, WATER SUBMETER AND BACKFLOW PREVENTER REQUIREMENTS WITH LANDLORD.
2. REPLACE EXISTING LAVATORY WITH NEW LAVATORY AND CONNECT TO EXISTING WATER LINES. RECONNECT EXISTING WATER LINES TO NEW PROPOSED WATER LINES.
3. EXISTING WATER CLOSET WITH EXISTING COLD WATER PIPING TO REMAIN. CONTRACTOR TO FIELD VERIFY EXISTING PIPING CONDITION. REPLACE IF REQUIRED.
4. PROVIDE TEMPERING VALVE FOR LAVATORIES AND HAND SINK ASSE 1070 APPROVED OR EQUAL. SET TEMPERATURE TO A MAXIMUM OF 110F
5. PROVIDE ASSE 1032 LOW HAZARD CROSS CONNECTION CONTROL ASSEMBLY FOR TEA BREWER.

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



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ISSUE DATE:

**RESTAURANT BUILD-OUT**  
**HAPPY LEMON**

DRAWN BY: NYE

CHECKED BY:

APPROVED BY:

PROJECT NUMBER:

PLUMBING PLANS

**P2.1**



TERMINATE SLEEVE  
FLUSH WITH FINISHED  
WALL SURFACES  
SEAL OR CAULK SLEEVE  
THRU FIRE WALLS IN  
A SMOKE TIGHT MANNER

PIPE AND INSULATION TO BE  
CENTERED IN SLEEVE - DO NOT  
SUPPORT PIPE FROM SLEEVE  
PIPE COVERING INSULATION  
(SEE NOTE # 2)

FIRE STOP MATERIAL WRAP  
STRIP (SEE NOTE # 1)

STANDARD WEIGHT STEEL  
PIPE SLEEVE OF SIZE TO  
PASS PIPE AND INSULATION

FINISHED ESCUTCHEON PLATE FLUSH  
AGAINST WALL AND OF SIZE TO  
COMPLETELY COVER OPENING  
FINISHED WALL  
SURFACE

INTERIOR WALLS

SEALING AND ANCHORING COLLAR  
SEAL WATER TIGHT WITH  
MASTIC OR ASPHALT

CENTER PIPE IN SLEEVE  
CONTINUOUS WELD  
PIPE COVERING INSULATION  
(SEE NOTE # 2)

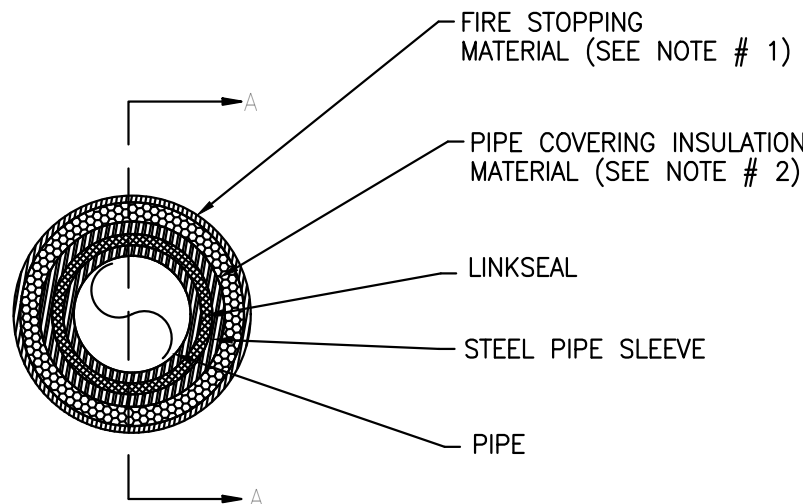
FIRE STOP MATERIAL WRAP  
STRIP (SEE NOTE # 1)  
STANDARD WEIGHT STEEL PIPE  
SLEEVE INSTALLED DURING  
WALL CONSTRUCTION

FIRE STOP MATERIAL WRAP  
STRIP (SEE NOTE # 4)

FINISHED WALL SURFACE  
SEAL SLEEVE WITH TIGHTLY  
LINKSEAL  
COAT EXTERIOR  
SURFACES WITH TAR  
COMPOUND

NOTE: PIPE SLEEVE FOR  
EXTERIOR WALL ABOVE OR  
BELOW GRADE.

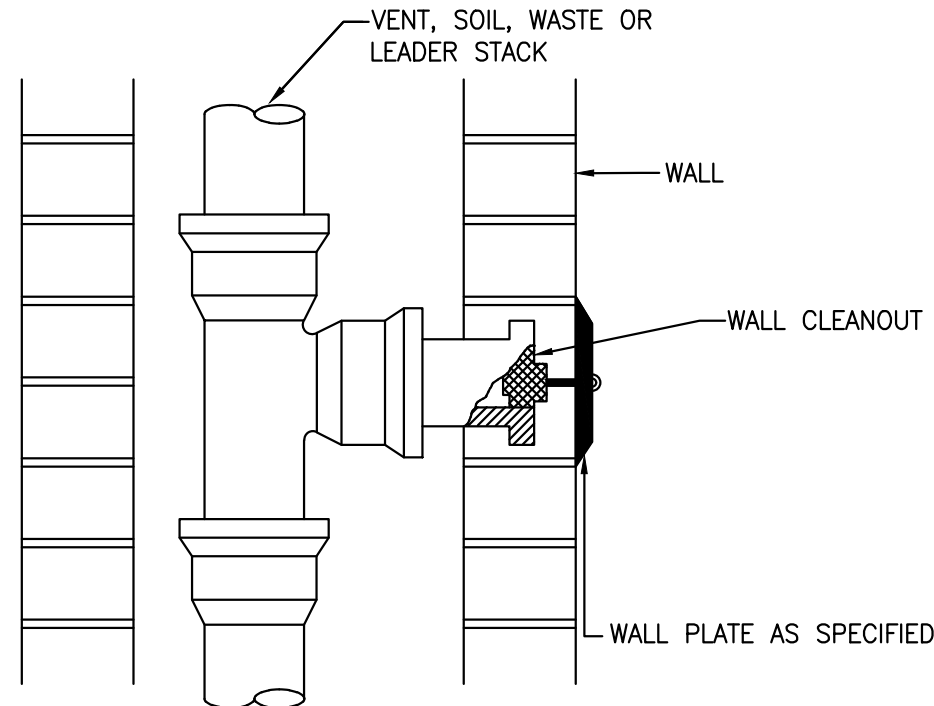
FOR GAS SERVICE EXTEND  
SLEEVE 1" PAST INSIDE FACE OF  
WALL & 4" PAST OUTSIDE FACE  
OF WALL.



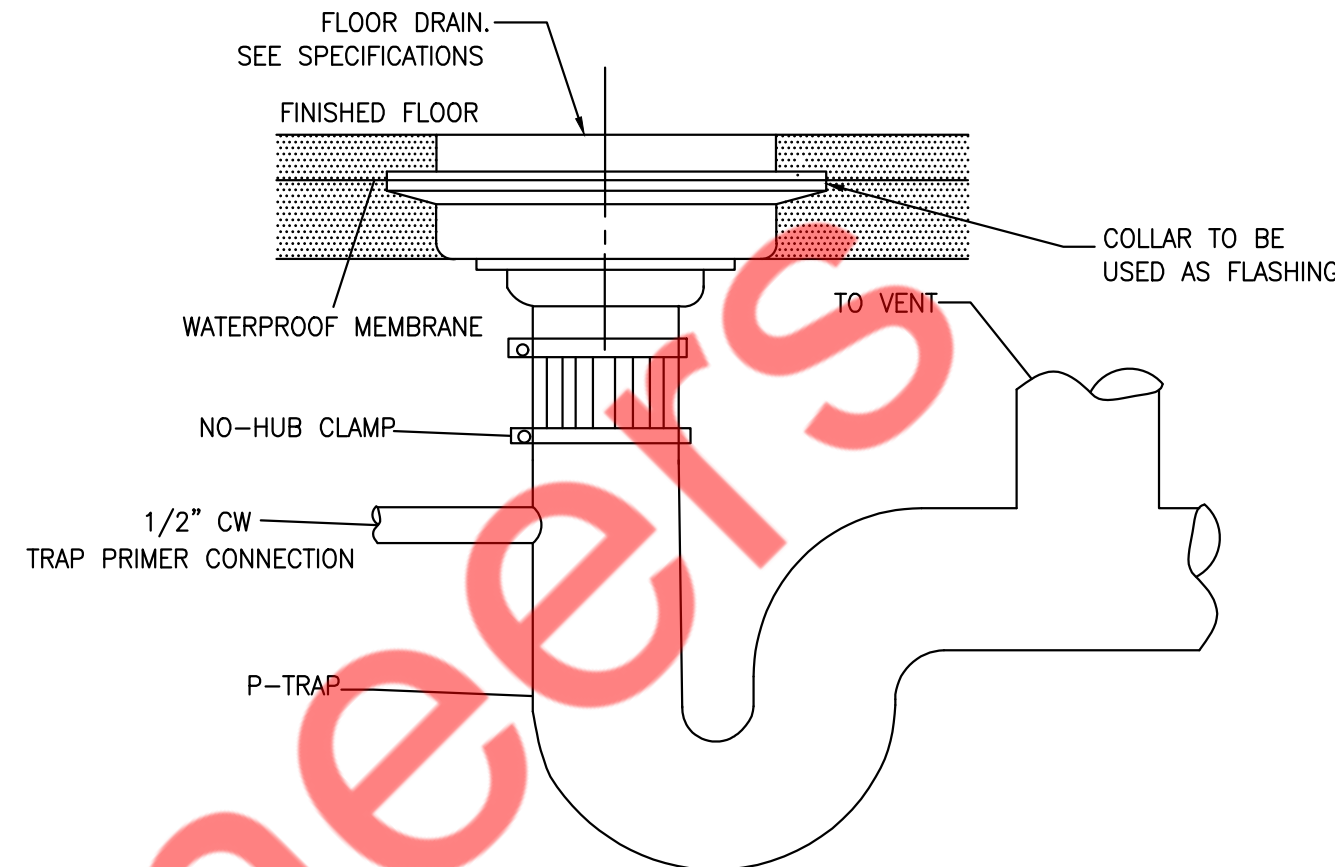
PIPE SLEEVE VIEW

NOTES:

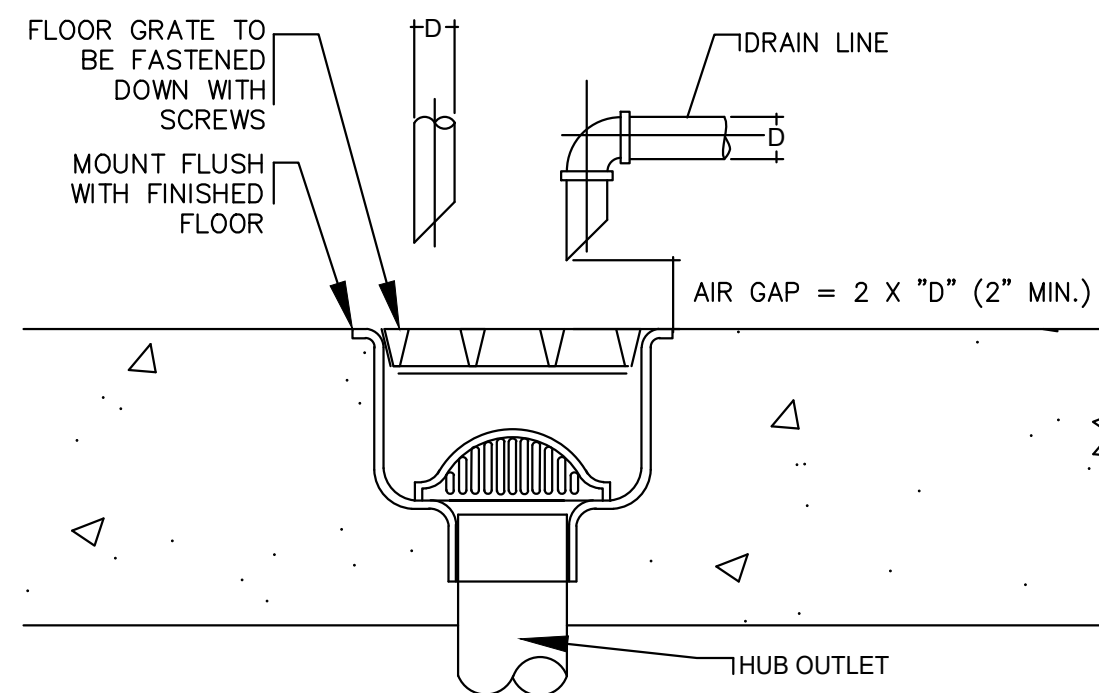
1. FIRESTOP MATERIAL WRAP STRIP SHALL BE  $\frac{1}{4}$ " THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL SUPPLIED IN 2 IN. WIDE STRIPS AND WRAP AROUND THE PIPE AS PER UL MATERIAL LISTED 3M COMPANY FS-195+ OR FILL CAVITY WITH CAULK OR SEALANT MIN.  $\frac{1}{4}$ " DIA. CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED OF THE WRAP STRIP LAYER APPROX.  $\frac{3}{4}$ " FROM WALL SURFACE. AS PER UL LISTED 3M COMPANY CP25WB+, IC 15WB+, FIRE DAM 150+CAULK.
2. PIPE COVERING INSULATION SHALL BE 2" THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKETED, AS PER UL CLASSIFICATION AND MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
3. DETAILS ARE ONLY DIAGRAMMATIC WITH RESPECT TO PENETRATION PROTECTION REQUIRED IN ACCORDANCE WITH SECTION 714 OF 2020 FLORIDA BUILDING CODE, 7TH EDITION. A LISTED PENETRATION FIRESTOP SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE LISTING CRITERIA.



2 WALL CLEANOUT DETAIL  
P3.1 N.T.S



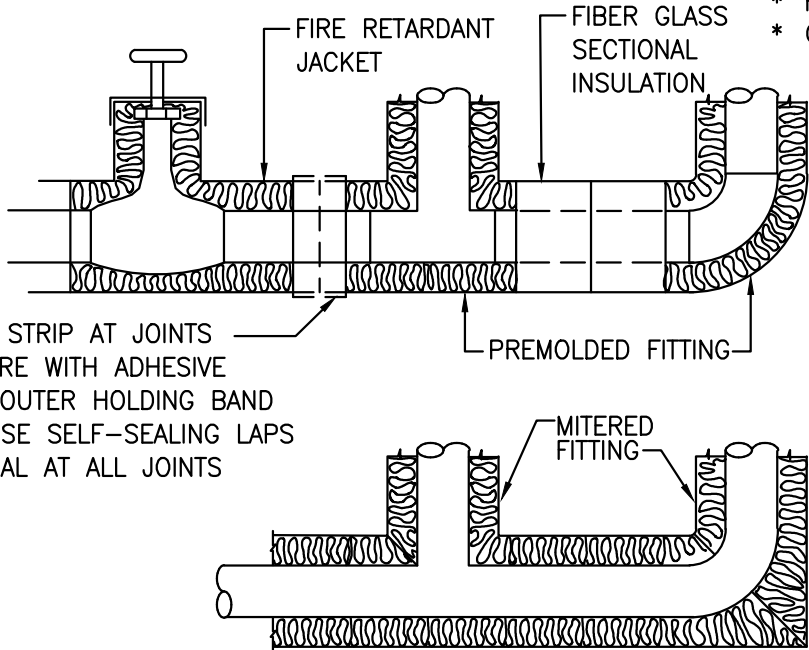
3 FLOOR DRAIN DETAIL  
P3.1 N.T.S



7 FLOOR SINK DETAIL  
P3.1 N.T.S

CONCEALED VALVES AND FITTINGS

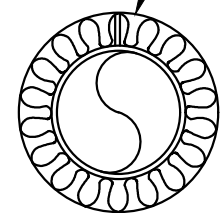
- \* WRAP WITH 1-INCH THICK, 1-POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
- \* SECURE WITH WIRE OR TAPE.
- \* VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.



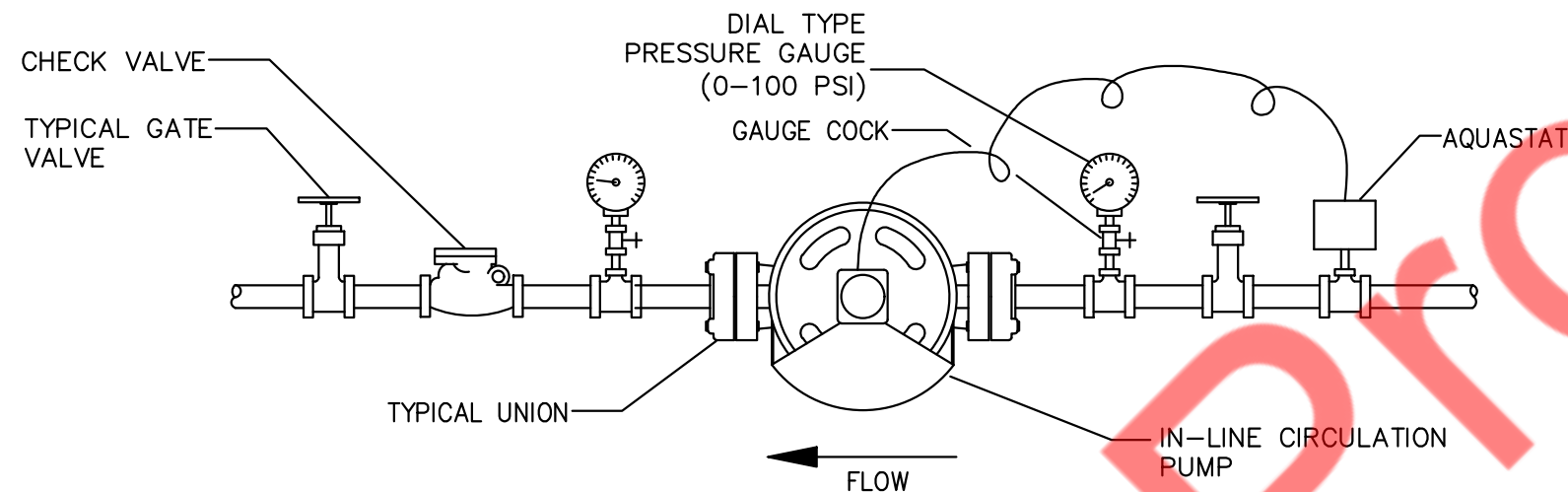
CONCEALED VALVES AND FITTINGS

- \* PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
- \* SKIM COAT OF INSULATION CEMENT
- \* COAT OF MASTIC
- \* WRAP WITH FIBER GLASS REINFORCING CLOTH.
- \* FINISH COAT OF MASTIC
- \* OVERLAP 2-INCHES ON PIPE INSULATION.

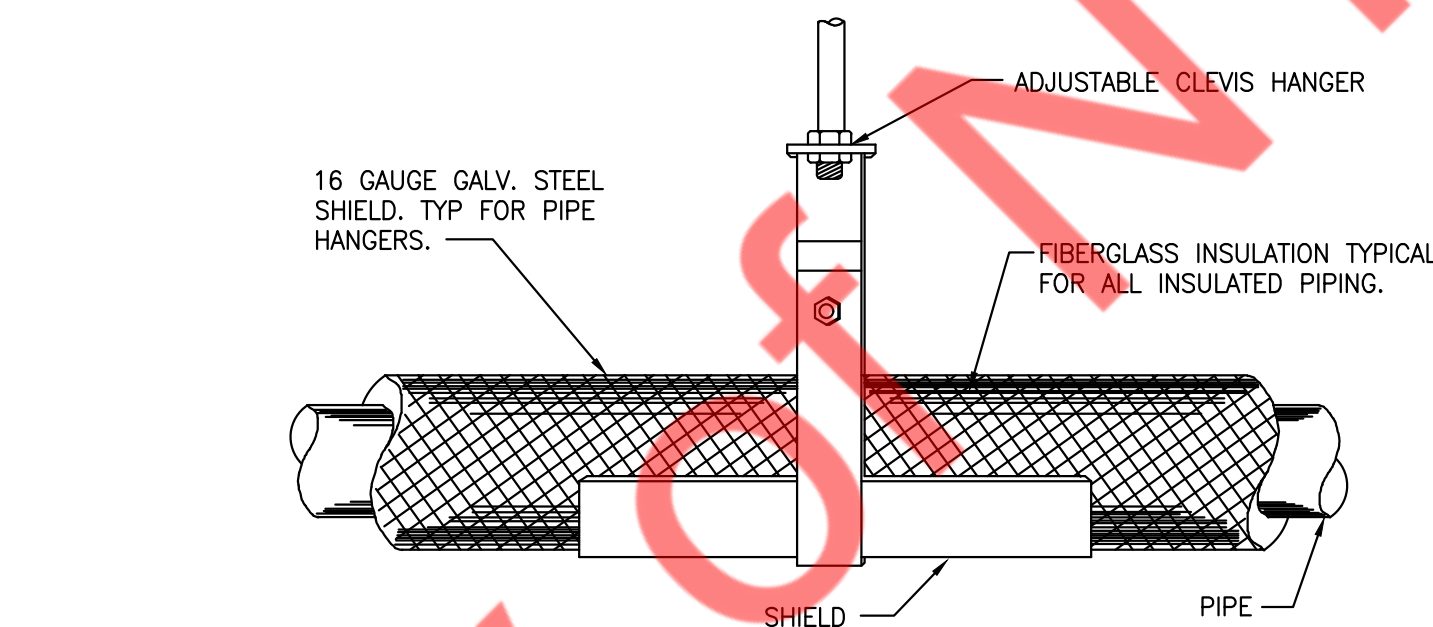
SEALING LAP  
SECURE WITH ADHESIVE  
ALL SEALS AND LAPS  
AT TOP.



4 INSULATION OF PIPING, VALVES AND FITTINGS  
FOR EXPOSED AND CONCEALED LOCATIONS  
P3.1 N.T.S

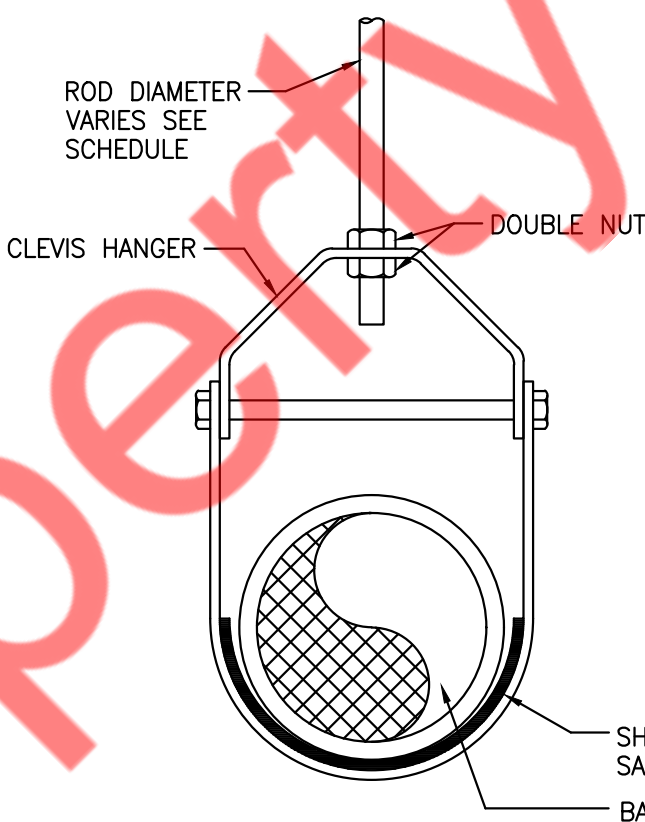


5 INLINE RECIRCULATION PUMP DETAIL  
P3.1 N.T.S

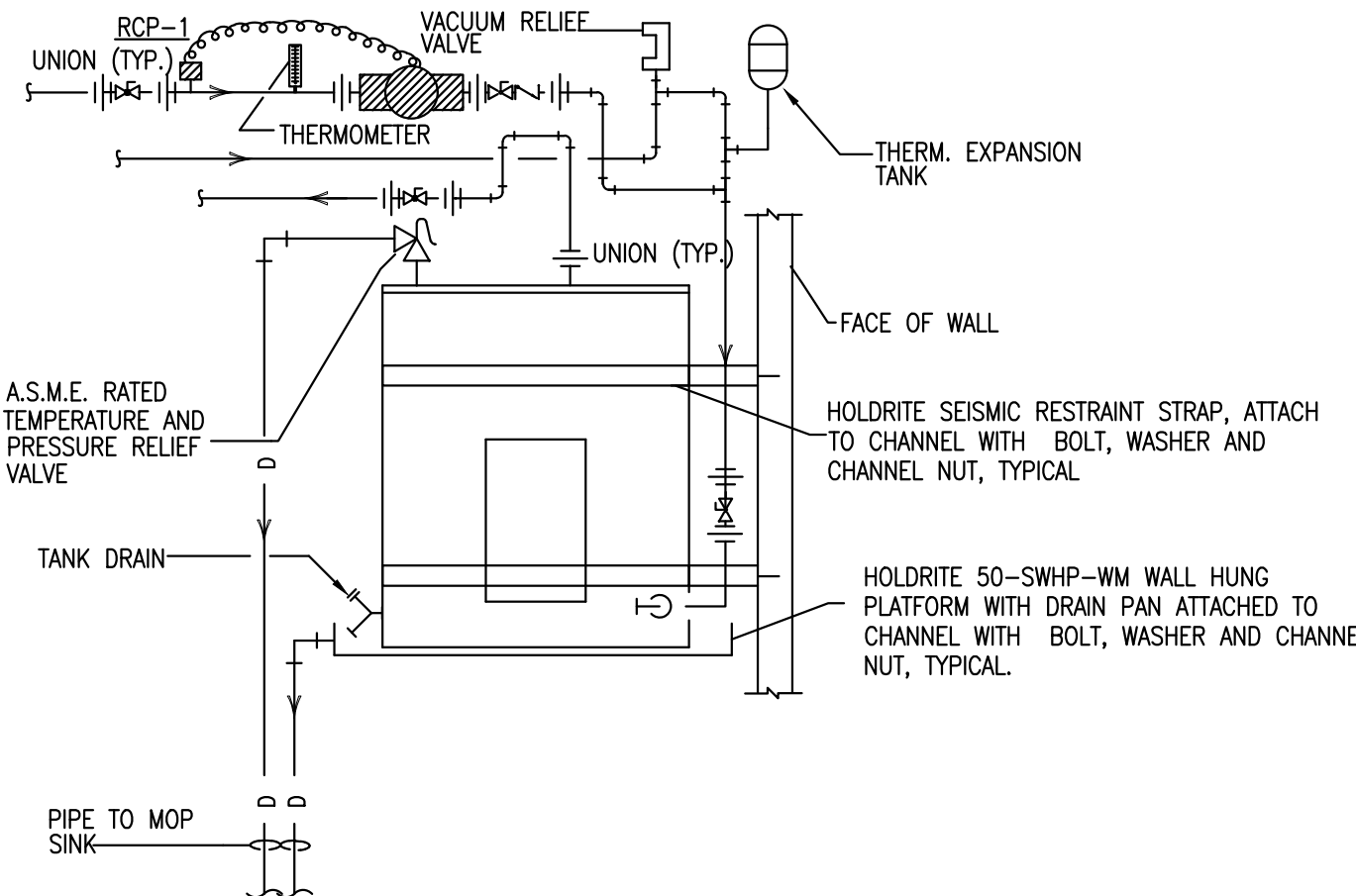
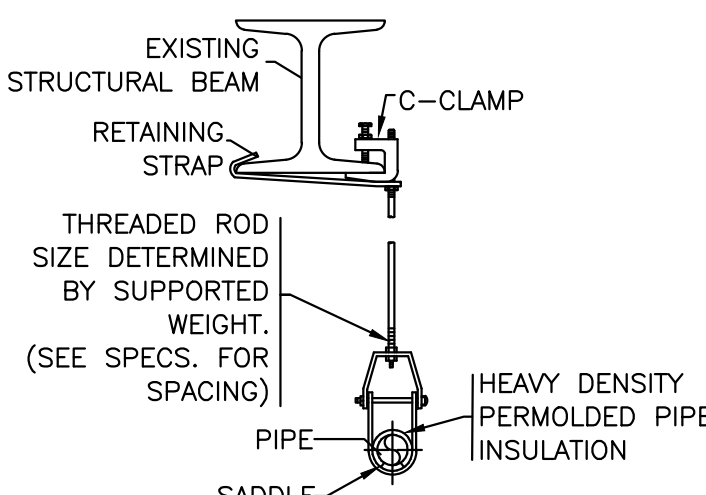


ROD DIAMETER  
VARIES SEE  
SCHEDULE

ROD SCHEDULE	
PIPE SIZE	ROD SIZE
1/2"	3/8"
3/4"	3/8"
1"	3/8"
1 1/4"	3/8"
1 1/2"	3/8"
2"	3/8"
2 1/2"	3/8"
3"	3/8"
4"	1/2"
5"	1/2"
6"	1/2"



6 HANGER DETAIL  
P3.1 N.T.S



8 WATER HEATER DETAILS  
P3.1 N.T.S

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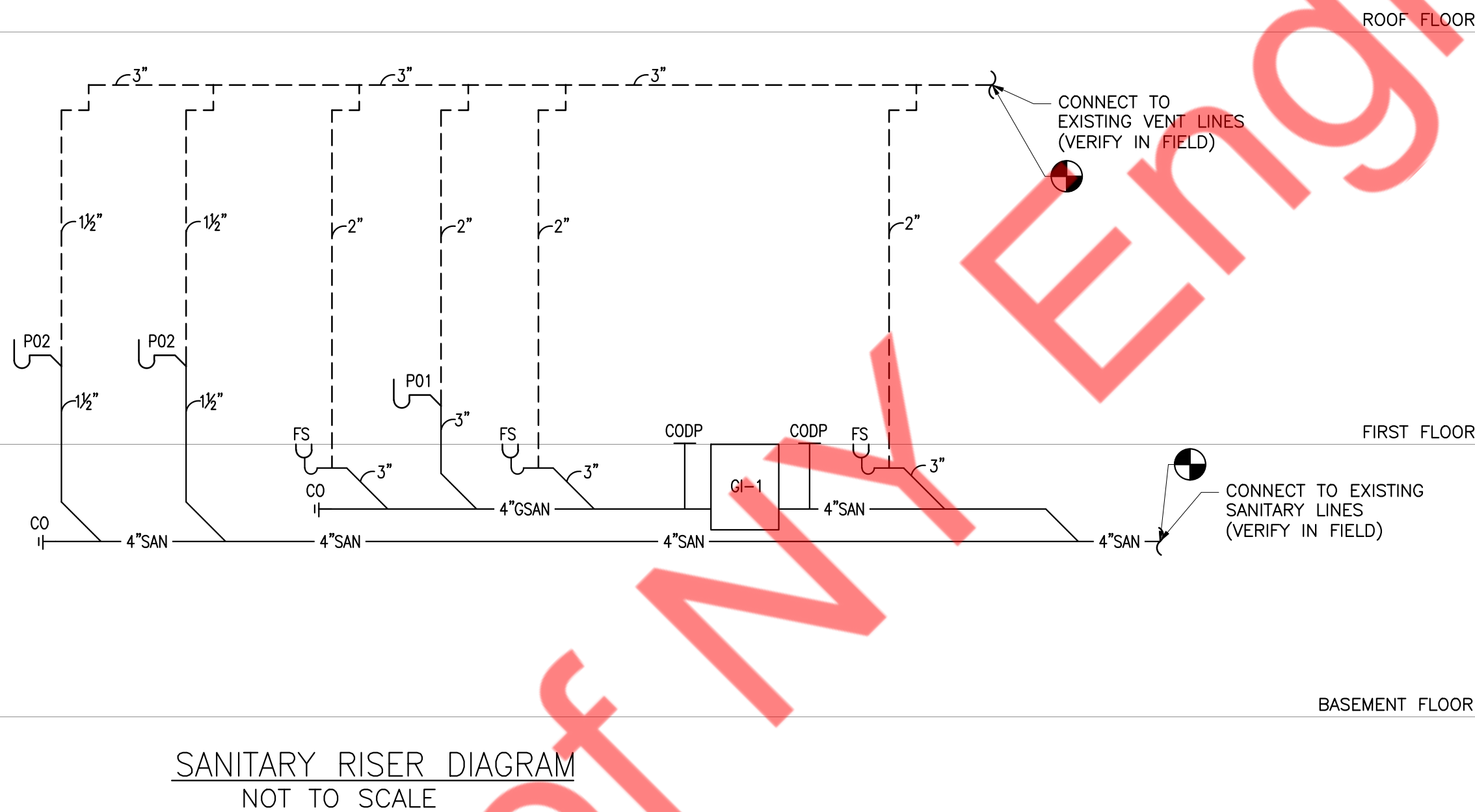
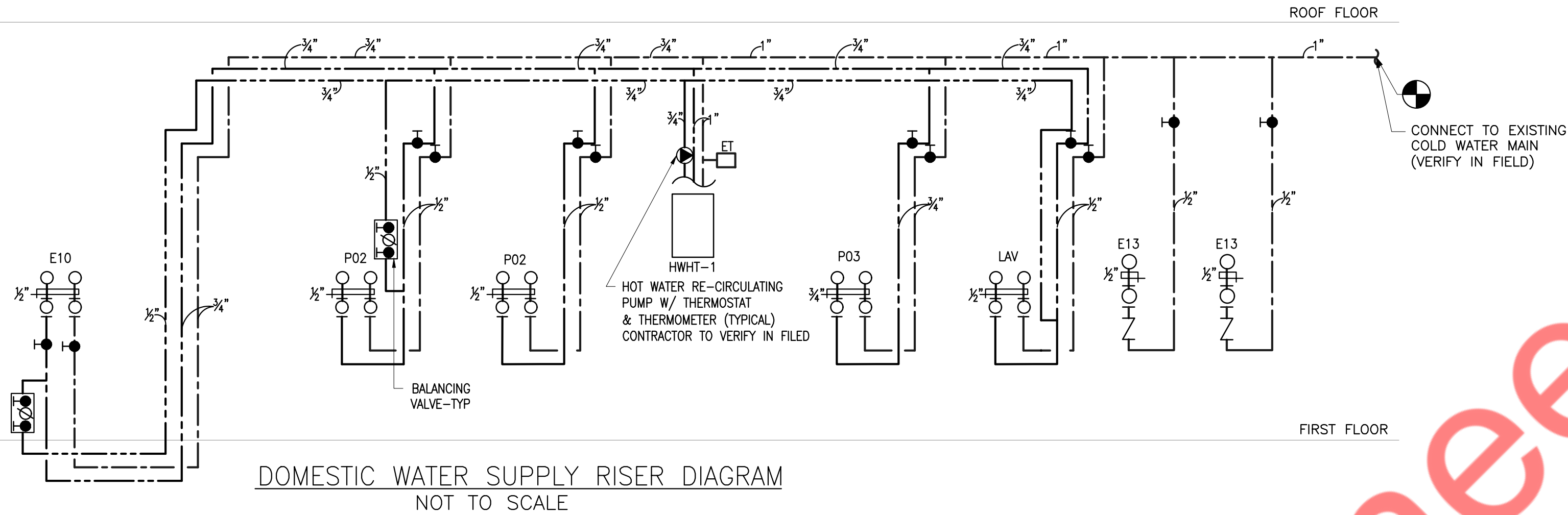
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PLUMBING DETAILS

P3.1





FIXTURE SCHEDULE								
FIXTURE	EQUIPMENT CATEGORY	MANUFACTURER	MODEL	SAN		VENT	CW	HW
				DIRECT	INDIRECT			
WC	WATER CLOSET	EXISTING	E	E	-	E	E	-
LAV	LAVATORY	-	-	E	-	E	E	E
P01	MOP SINK	MUSTEE	63M	3"	-	2"	1/2"	1/2"
P02	HAND SINK	JOHN BOOS	PBHS-W-0909-SSLR	1 1/2"	-	1 1/2"	1/2"	1/2"
P03	3-COMP SINK FAUCET	-	-	-	-	-	3/4"	3/4"
E09	ICE BIN	ADVANCE TABCO	D12-IBL	-	-	3/4"	-	-
E10	1 COMP SINK	ADVANCE TABCO	T9-1-24-18R-X	-	2"	2"	1/2"	1/2"
E13	TEA BREWER	FRESER	TB-35 PLUS	-	2"	-	1/2"	-
E16	3 COMP SINK	JOHN BOOS	3BCS-184-2D18	-	2"	2"	-	-
FS	FLOOR SINK	-	-	3"	-	2"	-	-

NOTE: ALL FIXTURE MAY BE SUBSTITUTED WITH APPROVED EQUAL. CONTACT OWNER FOR APPROVAL.

ELECTRIC WATER HEATER SCHEDULE								
HEATER TAG	LOCATION	STORAGE GALLONS	FUEL TYPE	INPUT KW	RECOVERY RATE AT 100°F (GPH)	TYPE	MANUFACTURER & MODEL NO.	REMARKS
HWHT-1	ABOVE MOP SINK	40	ELECTRICAL	9KW(1Ø, 240V, 60HZ)	36	STORAGE ELECTRIC WATER HEATER (SHELF MOUNTED)	A.O SMITH DEL-40	-DIMENSION 23" DIA X 32" H -INDOOR SHELF MOUNTED

RECIRCULATING PUMP SCHEDULE					
ITEM	QUANTITY	GPM	TOTAL HEAD(FT)	MOTOR HP	MANUFACTURER & MODEL NO
HWCP-1	1	2	10	0.115	GRUNDFOS UPS 15-18

EXPANSION TANK SCHEDULE						
TAG	LOCATION	SERVICE	CAPACITY (GALLONS)	MANUFACTURER & MODEL	DIMENSION (DIA X HEIGHT)	NO. OF EXPANSION TANK
ET-1	REFER FLOOR PLANS	HW	2	THERM-X-TROL-ST-5	8" X 13"	1

FIXTURE UNIT CALCULATION								
FIXTURE	QTY	EQUIPMENT CATEGORY	UNITS PER FIXTURE			TOTAL		
			CW	HW	TOTAL	CW	HW	TOTAL
WC	1	WATER CLOSET(E)	5	0	5	5	0	5
LAV	1	LAVATORY	1.5	1.5	2	3	3	4
E10	1	1-COMP SINK	3	3	4	3	3	4
P02	2	HAND SINK	1.5	1.5	2	3	3	4
E16	1	3 COMP SINK	3	3	4	3	3	4
P01	1	MOP SINK	2.25	2.25	3	2.25	2.25	3
E13	2	TEA BREWER	0.5	0	0.5	1	0	1
			TOTAL FIXTURE UNITS			20.25	14.25	25
TOTAL FIXTURE UNITS 25 = 17 GPM								
WSFU VALUES AS PER CHICAGO PLUMBING CODE 2019 - TABLE 18-29-604.10.2								
PER CHICAGO PLUMBING CODE 2019(UPC 2018) CHART A 103(2) FOR 22 GPM CALCULATED PIPE SIZE IS 1"								

GREASE INTERCEPTORS SIZING										
FIXTURE	QUANTITY	DIMENSIONS			VOLUME		PERCENTAGE USAGE(%)	ACTUAL USAGE (GALLONS)	FLOW RATE(GPM)	
		LENGTH(IN)	WIDTH(IN)	DEPTH(IN)	CUBIC INCHES	GALLONS			1 MIN.	2 MIN.
3 COMP SINK	1	18	18	14	13608	58.9	0.75	44.2	44.2	22.1
MOP SONK	1	24	24	10	5760	24.9	0.75	18.7	18.7	9.4
1 COMP SINK	1	20	16	12	3840	16.6	0.75	12.5	12.5	6.2
								TOTAL:	75.4	37.68
PROPOSED GREASE INTERCEPTOR, SCHIER MODEL GB-3										

GREASE INTERCEPTOR SCHEDULE					
ITEM	SERVICE	LOCATION	FLOW CAPACITY (GPM)	GREASE CAPACITY (LBS)	LIQUID CAPACITY (GALLON)
GREASE INTERCEPTOR GI-1	KITCHEN WASTE	FIRST FLOOR	50	272.7	40
NOTE- CONTRACTOR TO PROVIDE ALL REQUIRED ACCESSORIES FOR SATISFACTORY WORKING OF GREASE TRAP AS PER SITE CONDITIONS.					

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PLUMBING RISERS  
AND SCHEDULES

P4.1