

SCOPE OF WORK

REUSE 10 TON EXISTING GAS ROOFTOP UNIT. REUSE EXISTING DUCTWORK AND PROVIDE NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEMS.

REUSE KITCHEN EXHAUST FAN WITH MODIFIED CAPACITY AS MENTIONED ON PLAN.

COORDINATE WITH GC ANY ADDITIONAL REFRIGERATION WORK REQUIRED AND WORK REQUIRED ON KITCHEN EXHAUST SYSTEMS AND WITH GC AND PLUMBING CONTRACTOR PROVIDING CONDENSATE LINES FOR MECHANICAL EQUIPMENT AND GAS FLUE FOR WATER HEATERS, IF REQUIRED.

MECHANICAL PLAN NOTES

- A. REUSE 10 TON EXISTING GAS ROOFTOP UNIT. REUSE EXISTING DUCTWORK AND PROVIDE NECESSARY ACCESSORIES FOR COMPLETE HVAC SYSTEMS.
- B. FOR SYSTEM OVER 2,000 CFM CHECK FOR DUCT MOUNTED AIR SMOKE DETECTORS AND THAT MEET THE REQUIREMENTS OF U.L. 268A, INTERLOCKED TO SHUTDOWN HEAT PUMP UNIT UPON DETECTION OF SMOKE. IF NECESSARY PROVIDE SMOKE DETECTOR WITH AN ANNUNCIATOR, ALARM AND POWER L.E.D.'S FOR VISIBLE AND AUDIBLE ALARM SIGNAL, AND VISIBLE TROUBLE SIGNAL. MOUNT ANNUNCIATOR ON ROOM SIDE OF CEILING.
- C. ALL DUCTS SHALL BE MINIMUM 26 GAUGE SHEET METAL WITH EXTERNAL DUCT WRAP INSULATION FOR CONCEALED DUCTS AND ALL EXPOSED DUCTS WITH INTERNAL INSULATION. ALL DUCTS TO BE MANUFACTURED AND INSTALLED ACCORDING TO ASHRAE AND SMACNA METAL DUCT CONSTRUCTION STANDARD, LATEST EDITION. ALL MATERIALS WILL CONFORM TO NFPA 90A.
- D. FACTORY-MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOW OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE.
- E. THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE. MOUNT THERMOSTAT 48" A.F.F. COORDINATE LOCATION OF THERMOSTAT.
- F. ALL INTERIOR AIR DUCTS WITH INSULATION SHALL HAVE A MINIMUM OF THICKNESS OF 1.5". R-8 INSULATION. EXTERIOR AIR DUCTS TO HAVE R-8 INSULATION ACCORDING TO CALIFORNIA ENERGY CONSERVATION CODE - 2022.
- G. ALL SEAMS, JOINTS, ETC WILL BE SEALED TO MAKE AIR DUCT AIRTIGHT. PRESSURE SENSITIVE MATERIALS AND OTHERS APPROVED BY LATEST SMACNA. SEALING MATERIALS WILL BE USED.
- H. ALL EVAPORATOR UNITS SHALL HAVE A FLOAT SWITCH TO CONTROL OVERFLOW THAT WILL AUTOMATICALLY SHUT DOWN THE A/C SYSTEM. THE DEVICE SHALL BE ATTACHED TO THE SECONDARY DRAIN OUTLET ON THE UNIT.
- I. ALL NEW AC UNIT CONDENSATE DRAINS WILL BE PVC FULL DIAMETER OF OUTLET AND WILL TERMINATE IN THE NEAREST APPROVED PLACE OF DISPOSAL.
- J. ALL EQUIPMENT AND MATERIALS WILL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO THE BEST PRACTICE.
- K. TESTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (N.E.B.B.), THE ASSOCIATED AIR BALANCE COUNCIL (A.A.B.C) NATIONAL STANDARDS OR EQUIVALENT PROCEDURES.
- L. HANGER ATTACHMENTS TO THE STEEL STRUCTURE WILL BE RATED POWDER ACTUATED FASTENERS, "C" CLAMPS, WELDED STUDS, CLAMP HANGERS, JOIST CLAMPS OR OTHER METHODS RECOMMENDED BY SMACNA'S "METAL AND FLEXIBLE STANDARDS", CHAPTER 4, AND WILL HAVE A MINIMUM SAFETY MARGIN OF 4:1. SUSPENDED FROM TOP CHORD OF JOISTS, NOTHING FROM DECK OR CROSS BRACING.
- M. ALL HVAC CONTROLS AND CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
- N. ALL COMBUSTIBLE MATERIALS EXPOSED WITHIN THE PLENUM SPACE MUST COMPLY WITH CMC SECTION 602.2. FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50.
- O. ENVIRONMENTAL EXHAUST DUCT TERMINATIONS SHALL BE NO CLOSER THAN 3' FROM A PROPERTY LINE OR 3' FROM OPENINGS BACK INTO THE BUILDING OR 3' TO THE WINDOW.
- P. AIR MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000CFM INDIVIDUALLY OR IN AGGREGATE SHALL BE EQUIPPED WITH SMOKE DUCT DETECTORS THAT INITIATE HVAC SHUTDOWN. SMOKE DUCT DETECTORS SHALL BE MONITORED BY THE BUILDING'S FIRE ALARM SYSTEM.
- Q. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS/SLABS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.

GENERAL NOTES

- A. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET. PAY SPECIAL ATTENTION TO THE RESPONSIBILITY SCHEDULE. WORK DESIGNATED ON SCHEDULE SHALL BE CONSIDERED INCLUDED IN YOUR SCOPE OF WORK AND CONTRACT AMOUNT.
- B. CONTRACTOR TO VERIFY THAT ALL EQUIPMENT SHOWN AS EXISTING MATCHES THE DESCRIPTIONS AND SPECIFICATIONS SHOWN ON DRAWINGS AND SCHEDULES. IF DIFFERENT NOTIFY ARCHITECT/ENGINEER BEFORE BIDDING, ORDERING, OR PROCEEDING WITH WORK.
- C. DRAWINGS/DETAILS ARE TO BE CONSIDERED DIAGRAMMATIC, NOT NECESSARILY SHOWING IN DETAIL OR TO SCALE ALL MINOR ITEMS. UNLESS SPECIFIC DIMENSIONS ARE SHOWN, THE STRUCTURAL, ARCHITECTURAL AND SITE CONDITIONS SHALL GOVERN EXACT LOCATIONS. CONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK, AND CHECK/COORDINATE DRAWINGS OF ALL TRADES.
- D. COORDINATE WITH THE WORK OF OTHERS SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCT RISES AND DRIPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- E. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM.
- F. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- G. USE OF COMBUSTIBLE MATERIALS IS NOT ALLOWED IN THE RETURN AIR PLENUM. MATERIALS USED IN THE PLENUM SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25, AND SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL EXPOSED WIRING IN THE PLENUM SHALL BE PLENUM RATED.
- H. VERIFY LOCATION OF PERMISSIBLE NEW STRUCTURAL ROOF PENETRATIONS AND ADAPT THE REQUIRED DUCTS ACCORDINGLY. THE OPENINGS MUST BE LOCATED USING A REBAR LOCATOR, TRYING TO LEAVE A TRANSVERSE BAR WITHIN 4" FROM THE OPENING. LOCATE OPENINGS AT MID-DISTANCE BETWEEN THE STEMS OF THE DOUBLE TEE AND LONGITUDINAL REINFORCEMENT. SHALL NEVER BE CUT. CALL THE ARCHITECT'S OFFICE IN CASE OF UNEXPECTED DIFFICULTIES.
- I. ALL A/C AND FRESH AIR ROUND EXPOSED DUCTS WILL BE SPIRAL GALVANIZED AND READY FOR PAINTING. ALL EXPOSED DUCT ARE INTERNALLY INSULATED AND ALL RECTANGULAR DUCTS OVER CEILINGS ARE EXTERNALLY INSULATED.
- J. G.C. SHALL CONTRACT LANDLORD-APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL ALL ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY.
- K. IF APPLICABLE CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR KITCHEN VENTILATION SYSTEM INCLUDING TYPE 1 HOOD AND FOR THE WALK-IN COOLER & FREEZER.
- L. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- M. CONSTRUCTION "AS BUILT" DRAWINGS AND DOCUMENTS SHALL BE PROVIDED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF ACCEPTANCE AND PROVIDE COPY TO LL.
- N. OPERATION MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER.

LIVERMORE, CA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE CALIFORNIA BUILDING CODE 2022, AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

1. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
2. VENTILATION FOR ALL AREA SHALL COMPLY WITH CALIFORNIA ENERGY CODE 2022, SECTION 120.1-REQUIREMENTS FOR VENTILATION AND INDOOR AIR QUALITY.
3. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
4. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
6. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
7. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE CALIFORNIA MECHANICAL CODE 2022:
- A. VENTILATION SYSTEM BALANCING CALIFORNIA MECHANICAL CODE 2022 - 402
8. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
- A. STANDARDS OF HEATING - CALIFORNIA BUILDING CODE 2022 - 1203
- B. DUCT CONSTRUCTION AND INSTALLATION- CALIFORNIA MECHANICAL CODE 2022 - 602 & 603
- C. AIR INTAKES, EXHAUSTS AND RELIEF - CALIFORNIA MECHANICAL CODE 2022 -407.
- D. AIR FILTERS - CALIFORNIA MECHANICAL CODE 2022 - 401 (FILTERS SHALL BE A MINIMUM OF MERV 13 AS REQUIRED BY CENC 120.1(C))
9. OPERATION AND CONTROL REQUIREMENTS FOR MINIMUM QUANTITIES OF OUTDOOR AIR. TIMES OF OCCUPANCY - THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SECTION 120.1(C) SHALL BE SUPPLIED TO EACH SPACE AT ALL TIMES WHEN THE SPACE IS USUALLY OCCUPIED.
10. ALL MECHANICAL EQUIPMENT SHALL BE TESTED BY A CALIFORNIA CERTIFIED ACCEPTANCE TEST TECHNICIAN.

THERMOSTATIC CONTROLS

- (a) 120.2 (a) THERMOSTATIC CONTROLS FOR EACH ZONE. THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH SPACE-CONDITIONING ZONE OR DWELLING UNIT SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE AND THAT MEETS THE APPLICABLE REQUIREMENTS OF SECTION 120.2(d). AN ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) MAY BE INSTALLED TO COMPLY WITH THE REQUIREMENTS OF ONE OR MORE THERMOSTATIC CONTROLS IF IT COMPLIES WITH ALL APPLICABLE REQUIREMENTS FOR EACH THERMOSTATIC CONTROL.
- EXCEPTION TO SECTION 120.2(a): AN INDEPENDENT PERIMETER HEATING OR COOLING SYSTEM MAY SERVE MORE THAN ONE ZONE WITHOUT INDIVIDUAL THERMOSTATIC CONTROLS IF:
- 1.ALL ZONES ARE ALSO SERVED BY AN INTERIOR COOLING SYSTEM; AND
- 2.THE PERIMETER SYSTEM IS DESIGNED SOLELY TO OFFSET ENVELOPE HEAT LOSSES OR GAINS; AND
- 3.THE PERIMETER SYSTEM HAS AT LEAST ONE THERMOSTATIC CONTROL FOR EACH BUILDING ORIENTATION OF 50FEET OR MORE; AND
- 4.THE PERIMETER SYSTEM IS CONTROLLED BY AT LEAST ONE THERMOSTAT LOCATED IN ONE OF THE ZONES SERVED BY THE SYSTEM.)
- (b) 120. 2(d) HEAT PUMP CONTROLS. ALL HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH SECTION 110.2(b).
- (c) 120.2 (e) SHUT-OFF AND RESET CONTROLS FOR SPACE-CONDITIONING SYSTEMS. EACH SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:
1. THE CONTROL SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE:
- A. AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SECTION 110.9(c), WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE
- B. SYSTEM FOR UP TO 4 HOURS; OR
- C. AN OCCUPANCY SENSOR; OR
- D. 4-HOUR TIMER THAT CAN BE MANUALLY OPERATED.
- EXCEPTION TO SECTION 120.2(e)1: MECHANICAL SYSTEMS SERVING RETAIL STORES AND ASSOCIATED MALLS, RESTAURANTS, GROCERY STORES, CHURCHES AND THEATERS EQUIPPED WITH 7-DAY PROGRAMMABLE TIMERS.
2. THE CONTROL SHALL AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN:
- A. A SETBACK HEATING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL HEATING ;AND
- EXCEPTION TO SECTION 120.2(e)2A: THERMOSTAT SETBACK CONTROLS ARE NOT REQUIRED IN NONRESIDENTIAL BUILDINGS IN AREAS WHERE THE WINTER MEDIAN OF EXTREMES OUTDOOR AIR TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(b)3 IS GREATER THAN 32°F.
- B. A SETUP COOLING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL COOLING.
- EXCEPTION TO SECTION 120.2(e)2B: THERMOSTAT SETUP CONTROLS ARE NOT REQUIRED IN NON-RESIDENTIAL BUILDINGS IN AREAS WHERE THE SUMMER DESIGN DRY BULB 95 + PERCENT TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(b)3 IS LESS THAN 100°F.
- (d) 120.2 (f) DAMPERS FOR AIR SUPPLY AND EXHAUST EQUIPMENT. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.
- EXCEPTION 1 TO SECTION 120.2(f): EQUIPMENT THAT SERVES AN AREA THAT MUST OPERATE CONTINUOUSLY.
- EXCEPTION 2 TO SECTION 120.2(f): GRAVITY AND OTHER NON-ELECTRICAL EQUIPMENT THAT HAS READILY ACCESSIBLE MANUAL DAMPER CONTROLS.
- EXCEPTION 3 TO SECTION 120.2(f): AT COMBUSTION AIR INTAKES AND SHAFT VENTS.
- EXCEPTION 4 TO SECTION 120.2(f): WHERE PROHIBITED BY OTHER PROVISIONS OF LAW.

ROOFTOP UNIT SCHEDULE

UNIT TAG	RTU-1(E)
UNIT TYPE	S.A.E
MANUFACTURER	S.A.E
MODEL	S.A.E
STATUS	S.A.E
LOCATION	ROOF
TOTAL CAPACITY	10.0 TONS (V.I.F)
TOTAL COOLING MBH	S.A.E
TOTAL SENSIBLE MBH	S.A.E
EER	S.A.E
SEER	S.A.E
HEATING INPUT (BTU/H)	S.A.E
HEATING OUTPUT (BTU/H)	S.A.E
THERMAL EFF (%)	S.A.E
SUPPLY AIR (CFM)	S.A.E
OUTDOOR AIR (CFM)	500
VOLTAGE/PHASE/HZ	460/3/60 (V.I.F)
MCA (A)	S.A.E
MOCP (A)	S.A.E
ESP (IN. OF H2O)	S.A.E
WEIGHT (lbs)	S.A.E

NOTES :

1. EXISTING RTUs WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
2. S.A.E : SAME AS EXISTING, V.I.F: VERIFY IN FIELD.
3. CONTRACTOR TO FIELD VERIFY IF ALL RTUs ARE WORKING AT THEIR 100% RATED CAPACITIES/LOADS. INFORM TO DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND IN PERFORMANCE PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF UNIT ON SITE.
5. IF REQUIRED PROVIDE NEW THERMOSTAT AND TEMPERATURE SENSOR COMPATIBLE WITH EXISTING RTUS. CO-ORDINATE FINAL LOCATION OF T-SENSOR WITH ARCHITECT/OWNER.
6. CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTUs TO MATCH VALUES MENTIONED IN ABOVE TABLE.
7. REPLACE FILTERS, AS IF REQUIRED

FAN SCHEDULE

DESIGNATION	KEF-1(E)	EF-1(E)
STATUS	S.A.E	S.A.E
QUANTITY	1	1
MANUFACTURER	S.A.E	S.A.E
MODEL	S.A.E	S.A.E
CFM	400 CFM	S.A.E
AMPS	S.A.E	S.A.E
ACCESSORIES	S.A.E	S.A.E
WEIGHT (LBS)	S.A.E	S.A.E
V/PH/Hz	S.A.E	S.A.E

NOTES :

1. S.A.E : SAME AS EXISTING, V.I.F: VERIFY IN FIELD.
2. LOCK KEF-1(E) TO 400 CFM AIRFLOW CAPACITY.
3. INTERLOCK KEF-1(E) AND EF-1(E) WITH RTU-1(E).
4. PROVIDE BACK DRAFT DAMPER.

VENTILATION REQUIREMENTS PER AS PER CALIFORNIA ENERGY CODE 2022 - TABLE 120.1-A & B

DINING AREA	400 SQ. FT. X 0.5 CFM/SQ. FT. =	200 CFM
BACK OF KITCHEN	400 SQ. FT. X 0.15 CFM/SQ. FT. =	60 CFM
FRONT SERVICE AREA	165 SQ. FT. X 0.15 CFM/SQ. FT. =	25 CFM
OUTSIDE AIR REQUIRED		285 CFM

EXHAUST AIR

BACK OF KITCHEN	400 SQ. FT. X 0.7 CFM/SQ. FT. =	280 CFM
FRONT SERVICE AREA	165 SQ. FT. X 0.7 CFM/SQ. FT. =	120 CFM

AIR BALANCE

O/A PROVIDED THROUGH RTU-1(E)	+500 CFM
KEF-1(E)	-400 CFM
EF-1(E)	-70 CFM
BUILDING PRESSURE	+30 CFM

NOTES-

1. CONTRACTOR TO ADJUST MOTORIZED/MANUAL DAMPER ON FRESH AIR TAP TO PROVIDE OUTSIDE AIR AS MENTIONED IN ABOVE TABLE.

DIFFUSER SCHEDULE

MANUFACTURER	TITUS	TITUS	TITUS
DESIGNATION	A	B	R
USE	SUPPLY	SUPPLY	RETURN
MODEL	TDC-AA	TDC-AA	TDC-AA
MOUNTING	SAT / HARD CEILING	SAT / HARD CEILING	SAT / HARD CEILING
LOCATION	ANY	ANY	ANY
FACE SIZE	24" X 24"	12"X12"	24" X 24"
NECK SIZE	REFER TABLE A	REFER TABLE A	--

FRAME TYPE

























NOTES :

1. REUSE EXISTING DIFFUSERS/GRILLE AS MUCH AS POSSIBLE. SCHEDULE SHOWN IS FOR REFERENCE ONLY.
2. MAX. NC LEVEL 30 OR LESS.
3. PROVIDE SQUARE TO ROUND NECK ADAPTOR.
4. CO-ORDINATE WITH ARCHITECT FOR FINAL MOUNTING, FRAME TYPE,PAINT AND FINISH.
5. PROVIDE 4-WAY AIR THROW PATTERN UNLESS NOTED OR INDICATED.
6. PROVIDE INSULATED BACKS ON ALL DIFFUSERS.

AIR CURTAIN SCHEDULE

TAG	ACH-1(E)
MANUFACTURER	S.A.E
MODEL	S.A.E
NOZZLE WIDTH (IN.)	S.A.E
AIR VOLUME (CFM)	S.A.E
MOTOR HP	S.A.E
AMPS	S.A.E
V/PH/Hz	S.A.E

MECHANICAL SYMBOLS

	EXHAUST FAN WITH LIGHT		OPPOSED BLADE DAMPER
	SUPPLY OR OUTSIDE AIR DUCT		DUCT SMOKE DETECTOR
	RETURN OR EXHAUST AIR DUCT		PROGRAMMABLE THERMOSTAT
	INSULATED RIGID DUCTWORK		REMOTE SENSOR
	DUCT TRANSITION		TEMPERATURE SENSOR
	MANUAL VOLUME DAMPER		ROUND DUCT DIAMETER
	FIRE DAMPER		CFM
	FLEXIBLE DUCTWORK R-6.0		SUPPLY AIR
	ROOF MOUNTED EXHAUST FAN OUTLET		RETURN AIR
	ROOFTOP UNIT		SUPPLY GRILLE
	MOTORIZED DAMPER		CONDENSATE PIPING
			GENERAL CONTRACTOR

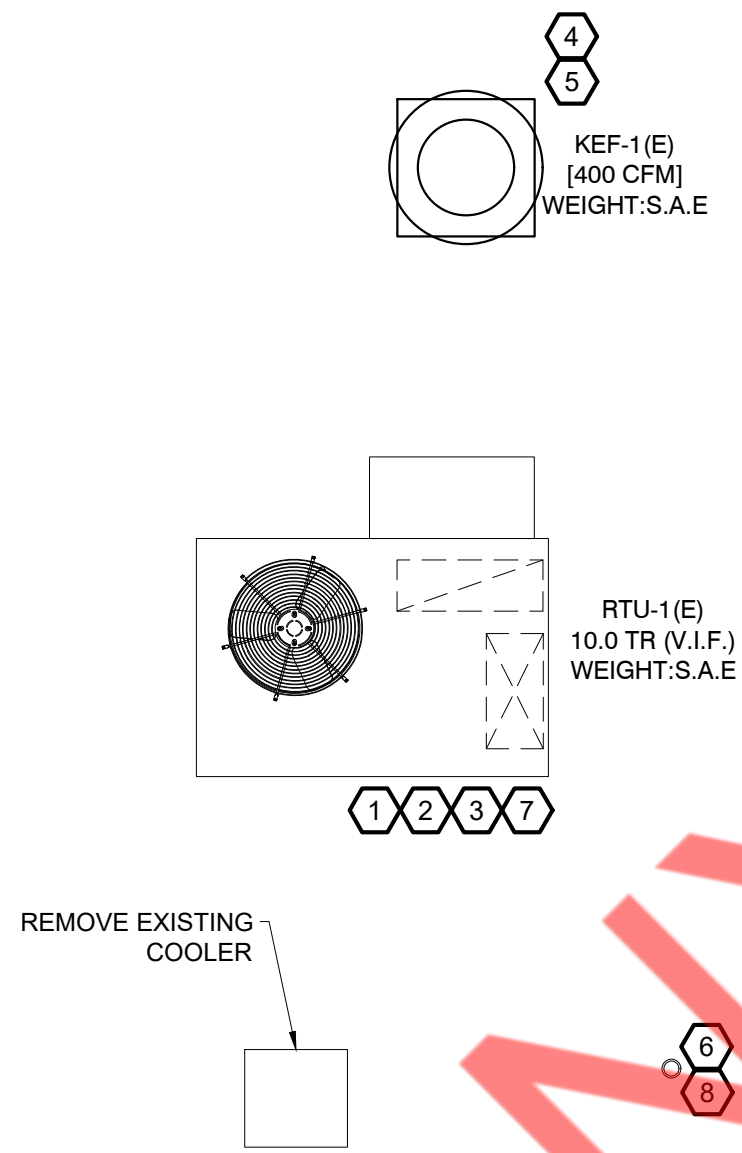
	SUPPLY DIFFUSER		RETURN DIFFUSER
	REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS		REFER TO DIFFUSER SCHEDULE FOR SPECIFICATIONS

NOTE: THIS PROJECT MAY NOT USE EVERY SYMBOL OR DEVICE APPEARING ON THIS LEGEND.

<div>1. CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.</div> <div>2. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS/ROOF.</div> <div>3. REUSE EXISTING DUCTWORK, DIFFUSERS, DAMPERS AS MUCH AS POSSIBLE. REPLACE AS/IF REQUIRED. REPLACE DUCT INSULATION IF DAMAGED. INSULATION VALUES SHALL MATCH WITH THE LOCAL CODE OR AS MENTIONED IN MECHANICAL SPECIFICATIONS.</div> <div>4. PROVIDE MINIMUM R-8 INSULATION (INTERNAL FOR EXPOSED DUCTS AND EXTERNAL FOR CONCEALED DUCTS) FOR SUPPLY & RETURN AIR DUCTS.</div> <div>5. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.</div> <div>6. ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.</div> <div>7. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.</div> <div>8. ARCHITECTURAL LAYOUT AND DIMENSIONS FOR EQUIPMENT TO TAKE PRECEDENCE OVER MEP.</div> <div>9. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING ROOF TOP UNITS AND OTHER EQUIPMENTS.</div> <div>10. EXISTING ROOF CURBS TO BE REUSED. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING CURBS, REPLACE EXISTING CURBS IF NOT IN A GOOD CONDITION & REDO ROOFING. COORDINATE WITH ROOFING CONTRACTOR.</div>		
GENERAL NOTES	SCALE	5
	1/4" = 1'-0"	

<div>1. EXISTING MECHANICAL ROOFTOP UNIT TO REMAIN & TO BE REUSED. CLEAN AND REFURBISH TO "LIKE-NEW" CONDITION. REPAIR/REPLACE ANY ACCESSORIES AS REQUIRED TO PROVIDE A FULLY FUNCTIONING UNIT. VERIFY IN FIELD PRIOR TO BID. VERIFY FINAL LOCATION & CONFIGURATION ON FILED. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO BID AND START OF WORK.</div> <div>2. EXISTING CONDENSATE DRAINS TO REMAIN AS IT IS. CONTRACTOR TO FLUSH THE EXISTING DRAIN.</div> <div>3. BALANCE OUTSIDE AIR DAMPER OF RTU TO 500 CFM IN NORMAL MODE.</div> <div>4. REUSE EXISTING EXHAUST FAN KEF-1(E) FOR BACK OF KITCHEN & SERVICE AREA. LOCK THE EXISTING FAN CFM TO 400 CFM. IF IT IS NOT POSSIBLE TO USE EXISTING FAN AS PER REQUIREMENT MENTIONED ON PLAN THEN PROVIDE NEW FAN OF SAME CAPACITY[400 CFM].</div> <div>5. PROVIDE WINDBAND FOR KEF-1(E). EXHAUST SHALL DISCHARGE MINIMUM 3 FT ABOVE OUTSIDE AIR INTAKE OF RTU-1(E).</div> <div>6. EXHAUST SHALL TERMINATE 3 FEET FROM THE PROPERTY LINE, 3 FEET FROM THE OPERABLE OPENING INTO THE BUILDING AND 10 FEET FROM THE OUTSIDE AIR INTAKE OPENINGS.</div> <div>7. ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.</div> <div>8. EXISTING TOILET EXHAUST TERMINATION TO REMAIN . CONTRACTOR TO FIELD VERIFY.</div>		
# ROOF PLAN KEY NOTES	SCALE	4
	1/4" = 1'-0"	

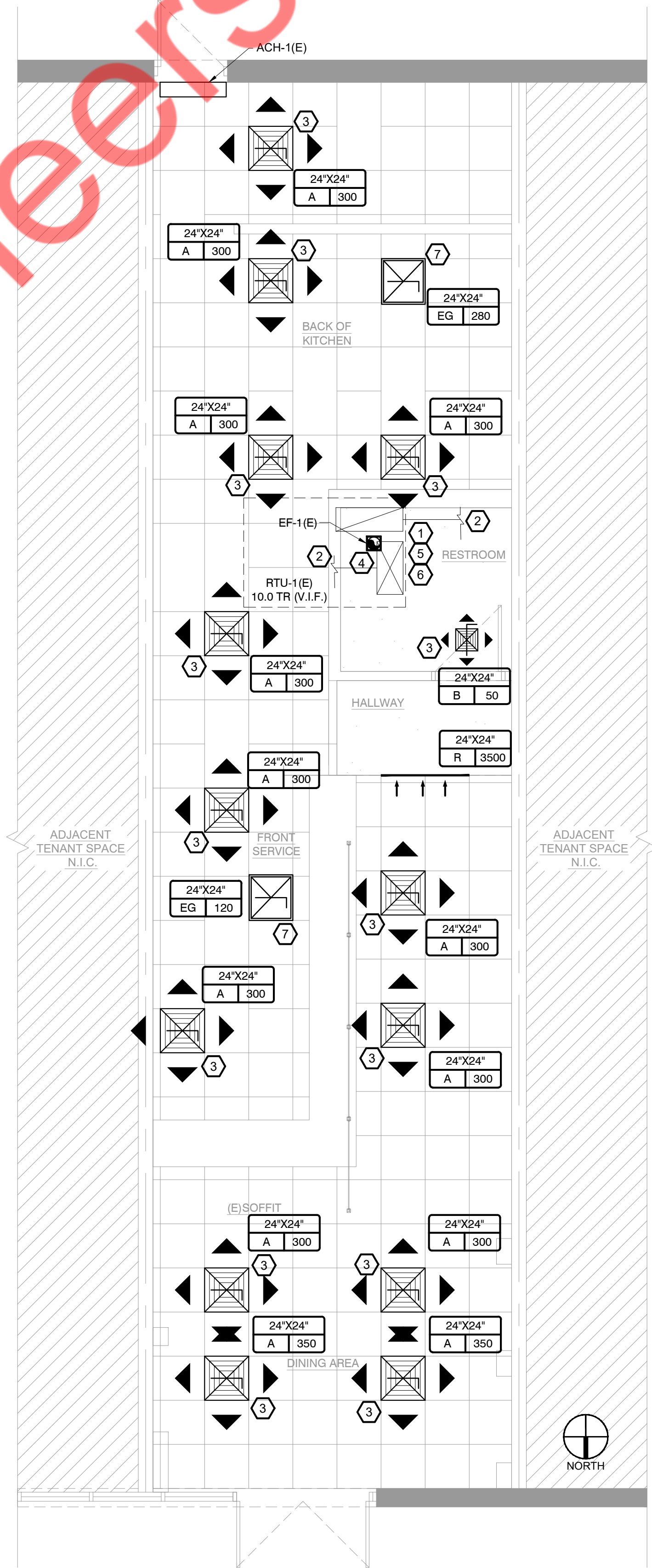
<div>1. APPROXIMATE LOCATION OF EXISTING DUCTWORKS DROP FOR RTU-1(E). CONTRACTOR TO VERIFY THE EXACT SIZE AND LOCATION IN FIELD.</div> <div>2. EXISTING SUPPLY & RETURN DUCTS FROM EXISTING RTU. MODIFY/EXTEND AS NEEDED TO CONNECT RELOCATED SUPPLY/RETURN DIFFUSER AS PER LATEST RCP. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO BID AND START OF WORK.</div> <div>3. EXISTING SUPPLY/RETURN DIFFUSERS TO REMAIN OR TO BE RELOCATED. VERIFY SIZE, LOCATION AND COORDINATE WITH LATEST REFLECTED CEILING PLAN FOR RELOCATIONS. CLEAN AND REFURBISH TO "LIKE NEW" CONDITION EXTEND/MODIFY DUCTWORK AS REQUIRED AT RELOCATED DIFFUSERS. REBALANCE THE CFM AS MENTIONED ON PLAN. PROVIDE VOLUME DAMPER OR COLLAR DAMPER IF REQUIRED, VERIFY IN FIELD PRIOR TO BID.</div> <div>4. EXISTING TOILET EXHAUST SYSTEM TO REMAIN & REUSED. CONTRACTOR TO FIELD VERIFY & CLEAN AND REFURBISH TO "LIKE NEW" CONDITION. IF EXISTING IS NOT IN CONDITION TO REUSE PROVIDE NEW EXHAUST FAN OF SIMILAR CAPACITY. TERMINATE ON ROOF WITH GOOSENECK & BIRD SCREEN.</div> <div>5. REUSE EXISTING THERMOSTAT, IF EXISTING THERMOSTAT IS NOT IN CONDITION TO REUSE THEN INSTALL NEW THERMOSTAT WITH LOCKABLE VENTED BOX TO BE MOUNTED AT 45° CENTER LINE A.F.F. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.</div> <div>6. CONTRACTOR TO FIELD VERIFY RTUS' TEMPERATURE SENSORS IN RETURN AIR DUCT. PROVIDE NEW IF EXISTING TEMPERATURE SENSORS ARE DAMAGED OR NOT WORKING.</div> <div>7. EXISTING KITCHEN EXHAUST GRILLE TO REMAIN & REUSED. CONTRACTOR TO FIELD VERIFY LOCATION & SIZE. CLEAN AND REFURBISH TO "LIKE NEW" CONDITION. BALANCE THE CFM AS MENTIONED ON PLAN. PROVIDE VOLUME DAMPER OR COLLAR DAMPER IF REQUIRED, VERIFY IN FIELD PRIOR TO BID.</div> <div>8. EXISTING AIR CURTAIN TO REMAIN & REUSED.</div>		
# FLOOR PLAN KEY NOTES	SCALE	3
	1/4" = 1'-0"	



HVAC ROOF PLAN

SCALE
1/4" = 1'-0"

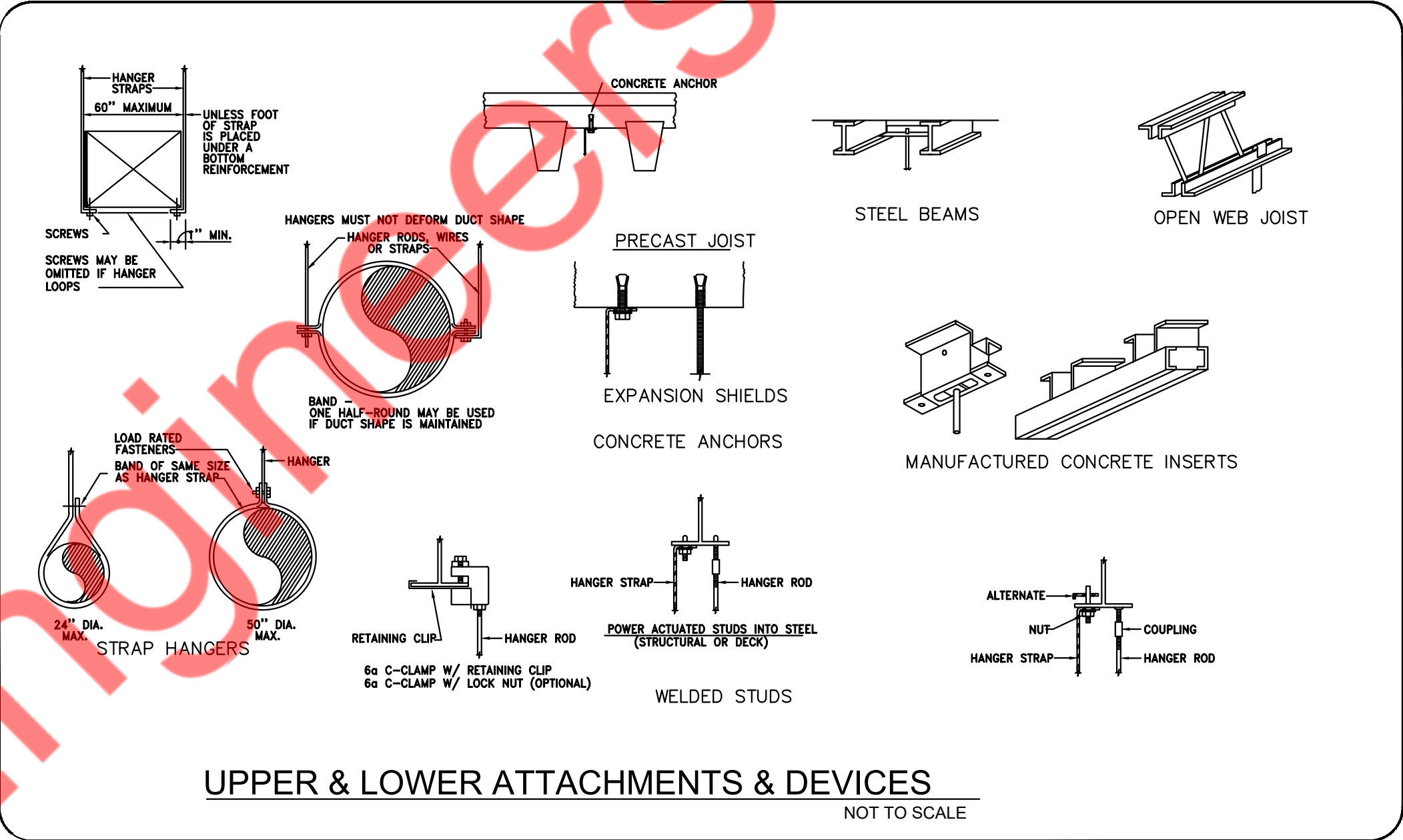
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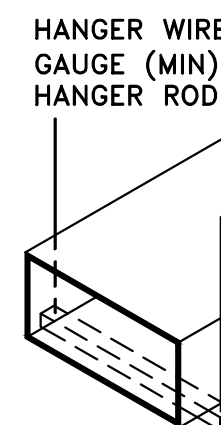
HVAC FLOOR PLAN

SCALE
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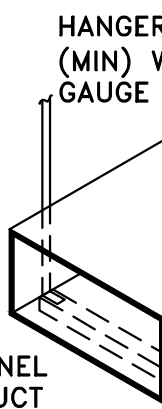
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CHANNEL SELECTION		
DUCT WIDTH MIN.	CHANNEL GAUGE MIN.	CHANNEL PROFILE
LESS THAN 18"	22 3"x 2"	
LESS THAN 30"	18 3"x 2"	



TYPICAL CHANNEL AND STRAP DUCT HANGING DETAIL



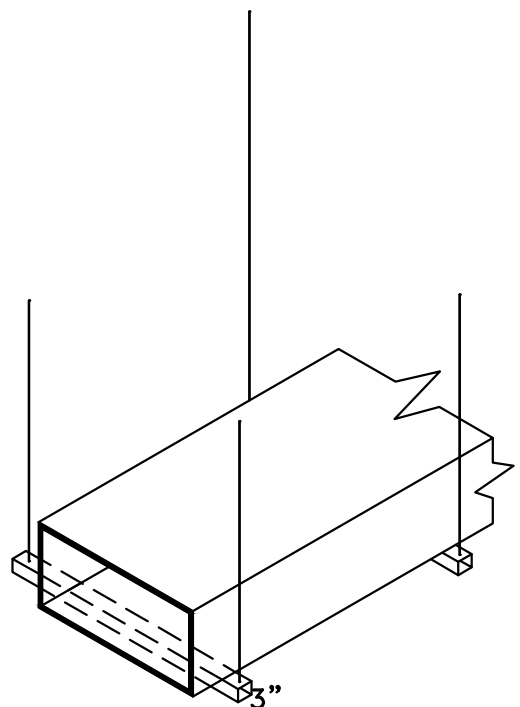
TYPICAL CHANNEL AND STRAP DUCT HANGING DETAIL

CLOSURE:

- PRESSURE SENSITIVE ALUMINUM FOIL TAPES LISTED UNDER UL 181A, PART I (P)
- HEAT ACTIVATED ALUMINUM FOIL/SCRIM TAPES LISTED UNDER UL 181A, PART II (H)
- MASTIC AND GLASS FABRIC TAPE CLOSURE SYSTEMS LISTED UNDER UL 181A, PART III (M)

DUCT SIZE, IN.	MAXIMUM HANGER SPACING
① WIDTH 48" OR GREATER	4'-0"
② LESS THEN 48"W X 12"H	6'-0"
③ WIDTH BETWEEN 24" & 48" & HEIGHT OVER 24"	6'-0"
④ WIDTH BETWEEN 24" & 48" & HEIGHT BETWEEN 12" & 24"	8'-0"
⑤ WIDTH LESS THAN 24" & HEIGHT GREATER THAN 12"	8'-0"

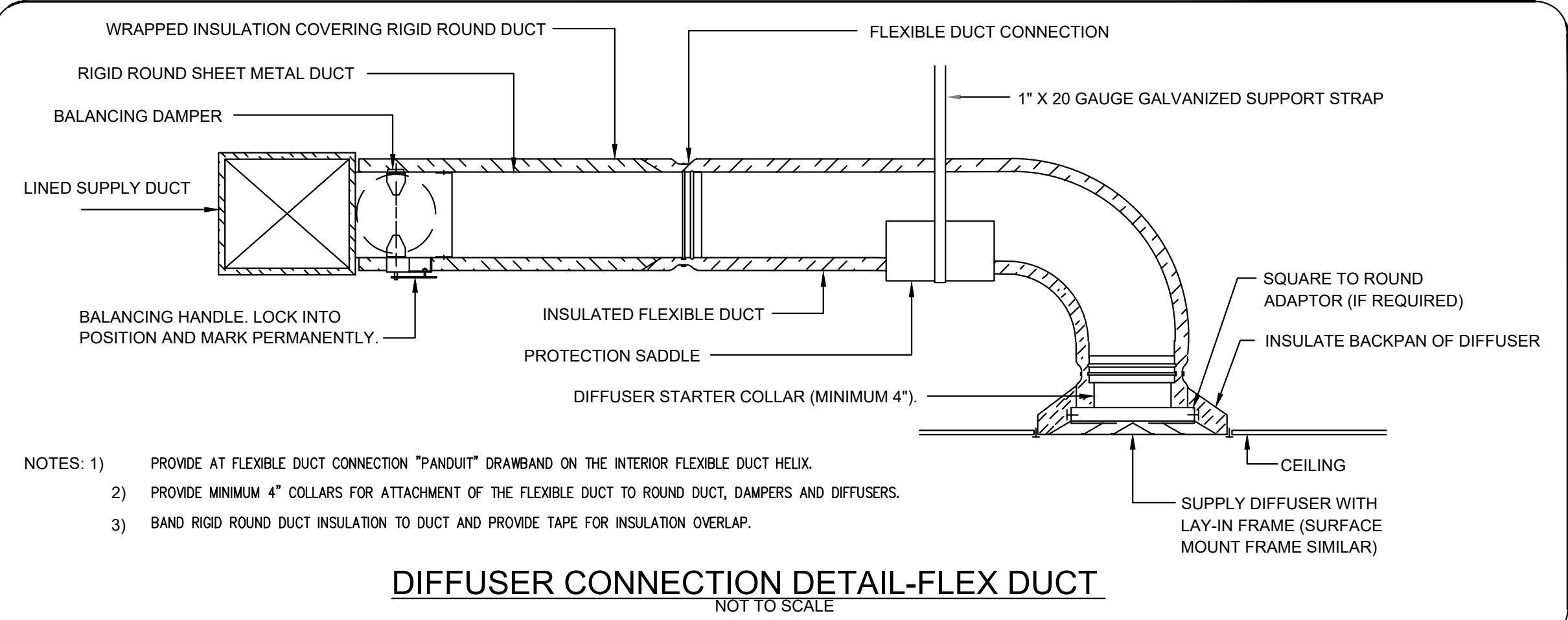
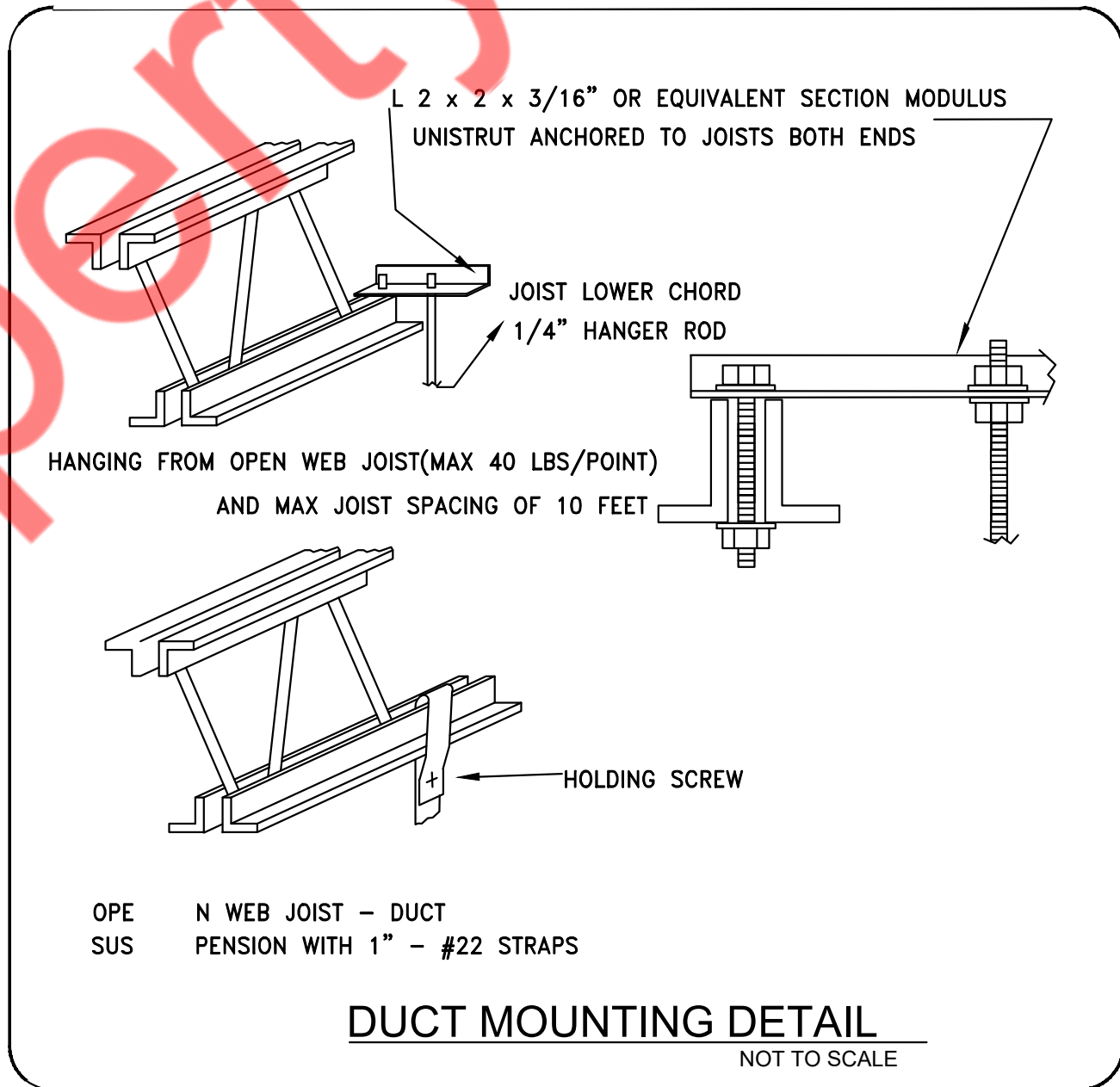
DUCT REINFORCING PER SMACNA REQUIRED



HANGER SPACING AND EXTENSION 3" WIDE CHANNELS

DUCT SUPPORTS

NOT TO SCALE













































- NOTES: 1) PROVIDE AT FLEXIBLE DUCT CONNECTION "PANDUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX.
- 2) PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEXIBLE DUCT TO ROUND DUCT, DAMPERS AND DIFFUSERS.
- 3) BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

SCOPE OF WORK

- REUSE THE EXISTING (1) 200A, 480Y/277V, 3-PHASE, 4-WIRE ELECTRICAL SERVICE PROVISIONS AT BASE BUILDING FOR THE TENANT SPACE.
- REUSE THE EXISTING (1) ELECTRICAL METER AND (2) DISCONNECTING SWITCHES.
- REUSE EXISTING (1) 250AMP (M.L.O.), 480Y/277V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3A".
- REUSE EXISTING (1) 112KVA DRY TYPE TRANSFORMER WITH PRIMARY 480Y/277V AND SECONDARY 208Y/120V.
- REUSE EXISTING (1) 400 AMP(MCB), 208Y/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3B".
- PROVIDE NEW (1) 50 AMP(MLO), 120/240V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3C".
- COORDINATE WITH G.C. FOR LOW VOLTAGE WIRING.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXHAUST FAN
	COMBINATION EXHAUST FAN/LIGHT (REFER TO MECHANICAL PLANS)
	SPEAKERS @ CEILING
	JUNCTION BOX
	CEILING MOUNTED SMOKE DETECTOR 110V., INTERCONNECTED W/ BATT. BACKUP. SMOKE DETECTOR SHALL COMPLY WITH NFPA 72, AND FBC 905.2.
	BATTERY BACK UP EXIT LIGHT
	BATTERY BACK UP EMERGENCY LIGHT
	WALL SWITCH (SINGLE, DOUBLE,)
	WALL SWITCH (3 WAY, 4 WAY)
	WALL SWITCH (TIMER)
	DIMMER WALL SWITCH
	OCCUPANCY SENSOR WALL SWITCH
	VARIABLE SPEED SWITCH
	CEILING MOUNTED OCCUPANCY SENSOR
	SIMPLEX RECEPTACLE, +18" AFF OR AS NOTED. SUFFIX DENOTES FOLLOWING: A - NEMA 5-15R B - NEMA 6-15R C - NEMA 14-30R D - NEMA 14-50R E - NEMA 10-30R
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE, 46" TO AFF AT KITCHEN, BATHS AND TOPS
	HALF SWITCHED DUPLEX RECEPTACLE
	230 VOLT RECEPTACLE
	QUADRUPEX RECEPTACLE
	FLOOR MOUNTED, FLUSH DUPLEX RECEPTACLE
	FLOOR MOUNTED, FLUSH QUAD. RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	CEILING MOUNTED QUAD. RECEPTACLE
	ELECTRICAL PANEL
	DISCONNECT SWITCH
	USB CHARGER RECEPTACLE
	TELEVISION OUTLET
	TELEPHONE OUTLET
	TELEPHONE/DATA OUTLET
	DATA OUTLET
	FLOOR MTD. FLUSH TELEPHONE/DATA OUTLET
	CEILING MTD. FLUSH DATA OUTLET
	QUAD. MTD. OUTLET RJ45
	THERMOSTAT DEVICE
	AC OUTDOOR UNIT MOTOR AS NOTED WITH WEATHERPROOF CONTROLLER AND DISCONNECT SWITCH WITH
	NON FUSED DISCONNECT SWITCH AMPERAGE,A ND NUMBER OF POLES AS NOTED
	30A/240V NON FUSED DISCONNECT SWITCH
	60A/240V NON FUSED DISCONNECT SWITCH
	100A/240V NON FUSED DISCONNECT SWITCH
	MOTORISED DAMPER
	MOTOR/PUMP

ABBREVIATIONS:

ABOVE FINISH FLOOR= A.F.F.
COUNTER TOP LEVEL= C
GROUND FAULT INTERRUPTER= GFCI
VERIFY PRIOR TO INSTALL= VH
WEATHER PROOF= WP

BELOW COUNTER= BC
PUSH BUTTON= PB
UNDER CABINET= UC
VAPOR PROOF= VP
SALVAGED= S

ELECTRICAL PLAN NOTES

ELECTRICAL SPECIFICATIONS

- GENERAL:
 - THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
 - DRAWING ARE DIAGRAMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISERS OF RUNS. THE CONTRACTOR SHALL ALLOW IN THEIR PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED. MAINTAIN HEADROOM AND SPACE CONDITIONS.
 - 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.
 - 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.
 - 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.
 - CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH WIRELESS EPOXY CEMENT FOR EACH 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.
 - DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
 - 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.
 - SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.
 - 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.
 - ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH SPEED EXCEPTED BY THE CONTRACTOR APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE. 2) ARE FLASH HAZARD ANALYSIS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
 - THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PRECEDON 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.
 - 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.
 - ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
 - INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
 - 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.
- GENERAL PROVISIONS FOR ELECTRICAL WORK:
 - DEFINITIONS:
 - "PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
 - "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
 - "TURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE, AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
 - "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
 - "WIRING": RACEWAY, FITTINGS, WIRE, BOXES, AND RELATED ITEMS.
 - "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.
 - "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
 - "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
 - 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 HOURS. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.
 - QUALITY ASSURANCE
 - QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND TESTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL. MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
 - GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.

- HEIGHTS OF OUTLETS:
 - REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER'S PLANS FOR DEVICE HEIGHTS IN NON BOH SPACES.
 - 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
 - EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.
 - REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER'S PLANS FOR DEVICE HEIGHTS IN NON BOH SPACES
 - PRODUCT DELIVERY, STORAGE AND HANDLING
 - MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.
 - 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.
 - MATERIALS
 - NAMEPLATES: PROVIDE BLACK LAMACOID 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.
 - CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR FULIBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.
 - 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 OF BOLTED ANGLES OR CHANNELS.
 - WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.
 - SUBMIT ELECTRICAL POWER SYSTEM STUDIES INCLUDING SUPPORTING DATA AND RECOMMENDATIONS FOR THE FOLLOWING:
 - SHORT CIRCUIT CURRENT AND PROTECTIVE DEVICE COMBINATION.
 - ARC FLASH HAZARD ANALYSIS.
- 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 PANELS AND JAIL 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 SURROUNDING SHARED SURFACES OR MARKED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.
- 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.
- FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.
- ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
- SCOPE OF WORK:
 - SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE 2008 NATIONAL ELECTRICAL CODE (NEC) NYC AMENDMENTS, AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
 - 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, AMENDED, SUPPLIED OR SPECIFIED HEREIN.
 - 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 OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, WORK AND PAY ALL FEES THEREFOR. 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.
 - CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE NYC BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES.
 - 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.
- SHOP DRAWINGS
 - 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.
 - INDICATE ON EACH SHOP DRAWINGS SUBMITTED:
 - PROJECT NAME AND LOCATION
 - NAME OF ARCHITECT AND ENGINEER
 - ITEM IDENTIFICATION
 - APPROVAL STAMP OF PRIME CONTRACTOR
 - SUBMISSIONS:
 - 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.
 - 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.
 - SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
 - SAFETY/DISCONNECT SWITCHES
 - FUSES
 - CIRCUIT BREAKERS
 - DISTRIBUTION EQUIPMENT INCLUDING SWITCHBOARDS, TRANSFORMERS, PANELBOARDS AND LOAD CENTERS.
 - RACEWAYS
 - WIRE AND CABLE
 - LIGHTING CONTROL DEVICES
 - INSERTION RECEPTACLES
 - MOMENTARY CONTACT SWITCHES
 - TIME SWITCHES
 - LIGHTING FIXTURES, BALLASTS AND LAMPS.
 - FIRE ALARM EQUIPMENT AND DEVICES.
 - MOTOR STARTERS.
- SUBMIT ELECTRICAL POWER SYSTEM STUDIES INCLUDING SUPPORTING DATA AND RECOMMENDATIONS FOR THE FOLLOWING:
 - SHORT CIRCUIT CURRENT AND PROTECTIVE DEVICE COORDINATION
 - ARC FLASH HAZARD ANALYSIS.
- EQUIPMENT SHOP DRAWINGS SHALL NOT BE SUBMITTED UNTIL THESE STUDIES HAVE BEEN COMPLETED.
- ASSIST AND PROVIDE ALL NECESSARY INFORMATION, DIAGRAMS, SKETCHES, ETC. TO THE HVAC CONTRACTOR, FOR THE PREPARATION OF COORDINATED AND MECHANICALLY IDENTIFIED 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, RELAYS, TRANSFORMERS, AND OTHER SYSTEMS AS DIRECTED BY THE ENGINEER.
- AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS
 - UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS FOR THE PREPARATION OF COORDINATED AND MECHANICALLY IDENTIFIED 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, RELAYS, TRANSFORMERS, AND OTHER SYSTEMS AS DIRECTED BY THE ENGINEER.
 - 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.
 - THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
- 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.
- LOW-VOLTAGE DISTRIBUTION EQUIPMENT:
 - PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
 - ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.
 - 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 HESBMAN 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 QUENCHING SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.
- FUSES:
 - OVERCURRENT AND SHORT CIRCUIT PROTECTION WITHIN FUSIBLE SWITCHES SHALL BE CLASS L CURRENT LIMITING TIME DELAY FUSES FOR SWITCHES RATED 800A AND LARGER AND CLASS RK-1 CURRENT LIMITING TIME DELAY FUSES FOR SWITCHES RATED 600A AND SMALLER. MANUFACTURER SHALL BE BUSSMAN.
 - INDIVIDUAL MOTOR STARTERS SHALL INCLUDE TWO SETSOF NORMALLY OPEN CONTACTS, ONE SET OF NORMALLY CLOSED CONTACTS, THREE OVERLOAD RELAYS, INDIVIDUAL FUSED CONTROL TRANSFORMER, HAND OFF AUTO SELECTOR SWITCH FOR AUTOMATIC START AND PILOT LIGHT(S) AS REQUIRED. COMBINATION STARTER DISCONNECTS SHALL INCLUDE FUSIBLE SWITCHES. CONTRACTORS SHALL BE NEMA TYPE WITH REPLACEABLE COIL AND CONTACT TIPS. MANUFACTURER SHALL BE EATON, SIEMENS OR SQUARE D.
- ALL FUSES SHALL BE PROVIDED BY SAME MANUFACTURER.

- PROVIDE 1 SPACE MATCHING FUSE FOR EACH SET OF 3. DIRECTED BY THE ARCHITECT. MANUFACTURER SHALL BE WIREMOLD.
- 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 NO CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED. FRAMES, IC AND INTERCHANGABLE TRIPS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
 - 120 VOLTS, 100-AMP FRAME: 10,000 AMPS, 1 POLE.
 - 120/240 VOLTS, 225-AMP FRAME: 22,000 AMPS MINIMUM
- DISTRIBUTION PANELBOARDS, CIRCUIT BREAKER TYPE:
 - DISTRIBUTION PANELBOARDS SHALL BE FULLY RATED WITH COPPER PHASE, NEUTRAL AND GROUND BUS, BRACED AT 60000 AC FOR 480/277 VOLT SYSTEM AND 42000 AC FOR 208Y/120 VOLT SYSTEM, OR MORE TO BE GREATER THAN THE AVAILABLE SHORT CIRCUIT CURRENT. NEUTRAL BUS SHALL BE RATED AT 200 PERCENT WITHIN PANELS SERVING NON-LINEAR LOADS. ISOLATED GROUND BUS SHALL BE AS REQUIRED. MANUFACTURER SHALL BE EATON, SIEMENS OR SQUARE D.
 - DISTRIBUTION PANELBOARDS, SWITCH AND FUSE:
 - THREE PHASE, 3 OR 4 WIRE WITH COPPER BUS BARS. ALL THROUGH BUS SHALL BE INSULATED.
 - NEMA CLASS 1 CONSTRUCTION TO ACCOMMODATE FUSIBLE, INDIVIDUALLY ENCLOSED SWITCHES, FRONT REMOVABLE, SWITCH AND DOOR INTERLOCKS. COVERS TO BE PAD-LOCKABLE.
 - 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.
 - ALL BRANCH SWITCHES SHALL HAVE INDIVIDUAL ENGRAVED LAMICOID NAMEPLATES (BLACK WITH WHITE CORE).
- DISCONNECTS
 - DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND SHALL BE HORSEPOWER RATED.
 - 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.
 - SWITCHES SHALL BE EQUIPPED WITH REJECTION TYPE FUSE HOLDERS, FUSIBLE AS SHOWN ON THE DRAWINGS; PROVIDE COMPLETE WITH FUSES AS SCHEDULED.
- INSTALLATION
 - DISTRIBUTION PANELBOARD SHALL BE MOUNTED TO STRUCTURAL STEEL CHANNEL (FLOORBOR) WHICH IS BOLTED TO THE WALL USING EXPANSION ANCHORS FOR LARGE PANELS.
- IDENTIFICATION
 - PROVIDE NAMEPLATE AT EACH SWITCH IDENTIFYING THE LOAD SERVED.
 - 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 "X" HIGH WHITE LETTERING.
- DISTRIBUTION AND SUB-DISTRIBUTION PANELBOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.
- POWER PANELBOARDS SHALL BE SIMILAR TO GENERAL ELECTRIC TYPE "QMR", AS MANUFACTURED BY ATLAS SWITCH COMPANY, ELECTRIC SWITCHBOARD COMPANY OR APPROVED EQUAL.
- 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.
- PANELBOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANELBOARD NAME, VOLTAGE, RATING OR MANS IN AMPS).
- MATERIALS
 - RACEWAYS:
 - RIGID STEEL CONDUIT: FULL-WEIGHT PIPE, GALVANIZED, THREADED.
 - ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREADED.
 - FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP, GALVANIZED.
 - WIREWAYS: STEEL WITH GROUND CONTINUITY. FINISH SHALL BE BAKED ENAMEL COVERS SHALL BE SCREW-ON.
 - SURFACE METAL RACEWAY: SURFACE METAL RACEWAY INCLUDING POWER DEVICES, FITTINGS, CONNECTORS, FEEDS, ELBOWS, COUPLINGS, BLANKS, TEES, WIRE CLIPS, DEVICE BRACKETS, DEVICE COVERS AND OTHER ASSOCIATED APPARATUS SHALL BE SIZED TO FACILITATE PULLING THE QUANTITY AND SIZE OF WIRES AND CABLES, AND INSTALLING THE DEVICES CONTAINED. RACEWAY SHALL BE OF CODE GAUGE GALVANIZED STEEL. SHALL INCLUDE MOUNTING KNOCK-OUTS, AND SHALL BE FINISHED AS

ELECTRICAL PLAN NOTES

ELECTRICAL SPECIFICATIONS (CONT.)

3) BOXES:

- a. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL, 4 IN. SQUARE OR OCTAGON FOR FIXTURES. BOXES ABOVE CEILING SHALL BE 1-1/2 IN. DEEP. BOXES IN CEILING OR SLAB SHALL BE 3 IN. DEEP. BOXES IN WALL FOR FIXTURES SHALL BE 2-3/4 IN. DEEP. BOXES IN WALL FOR RECEPTACLES AND SWITCHES SHALL BE 1-1/2 IN. DEEP. FURNISH WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WITHOUT FIXTURE OR DEVICE, FURNISH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 IN. SEPARATION. Manufacturer shall be Appleton, Raco or Steel City.
- b. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW-ON COVERS, EXCEPT AS NOTED. FURNISH WITH INSULATED SUPPORTS FOR CABLES. LOCATIONS SHALL BE AS NOTED OR REQUIRED AND ACCESSIBLE. PROVIDE BARRIERS IN NEW AND RENOVATED BOXES BETWEEN 120/208 VOLT AND 265/460 VOLT WIRING AND BETWEEN EMERGENCY AND NORMAL WIRING. FLOOR BOXES SHALL BE ADJUSTABLE CONCRETE TIGHT PRESSED STEEL WITH BRASS FLANGE AND COVERS. FLUSH FLOOR BOXES SHALL INCLUDE BRASS TRIM AND HINGED OUTLET OPENING COVERS. FIRE RATED POKE-THROUGH FLOOR FITTINGS SHALL BE UL LISTED AND APPROVED FOR THE FLOOR SLAB FIRE RATING. FLOOR MOUNTED SERVICE FITTING FOR SERVICE FITTINGS FOR CONNECTION TO UNDER-FLOOR ELECTRIFIED METAL DECK SHALL BE COMPATIBLE WITH THE DECK MANUFACTURER. ACCESS FLOOR MOUNTED FITTINGS FOR USE WITH RAISED FLOOR SHALL BE FLUSH TYPE WITH SPACE FOR EQUIPMENT CORD PLUG DEVICES AND SUITABLE FLIP TYPE COVER. MANUFACTURER SHALL BE HUBBELL, WIREMOLD, OR STEEL CITY.

c. PROVIDE RACEWAYS ONLY AS HEREIN SPECIFIED, EXCEPT AS NOTED. RACEWAYS SHALL BE RUN CONCEALED, EXCEPT AS NOTED.

PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS. PROVIDE U-BOLTS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING PLATES FOR THROUGH-THE-FLOOR SYSTEMS. UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE-THROUGH-FLOOR BOX SYSTEM. FOR ABOVE FLOOR FITTINGS, TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE RATING OF FLOOR.

SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS. SPACING: 1) PROVIDE CLEARANCE WITH OTHER 10 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS PER CODE AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE. MASONRY WITH TOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE. BRICK MACHINE SCREWS ON METAL. BEAM CLIPS ON FRAMEWORK, WOOD SCREWS ON WOOD, AND PAN THROUGH STRAPS IN METAL DECK, NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED. WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPLATES.

EXPPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. PROVIDE CLEARANCE WITH WATER, STEAM OR OTHER PIPING (MINIMUM 3 IN. SEPARATION FROM STEAM AND HOT WATER PIPES, EXCEPT 1 IN. FROM PIPE COVER AT CROSSINGS AND 18 IN. FOR PARALLEL RUN). FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE, RUN VERTICALLY ONLY.

MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR, AND FLEXIBLE CONDUIT FOR FEEDERS AND MOTOR TERMINAL CONNECTIONS.

EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FISH OR PULL WIRE, GALVANIZED OR NYLON ROPE.

RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS. PAINT MALE THREADS OF FIELD-THREADED CONDUIT WITH GRAPHITE-BASE PIPE COMPOUND AND BUTT CONDUIT ENDS. TOUCH UP WARRED SURFACES AND FIELD-CUT THREADS. CHC-COLD GALVANIZED. EMT SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY. IN DRY LOCATIONS, DRY WALLS, HUNG CEILINGS, HOLLOW BLOCK WALLS AND FURRED SPACES. EMT SHALL NOT BE PERMITTED IN RAISED FLOORS. FLEXIBLE STEEL CONDUIT SHALL BE UTILIZED FOR SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICAL. FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE: PROVIDE MINIMUM 4 FT AND MAXIMUM 6 FT LENGTHS. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMER AND OTHER VIBRATING EQUIPMENT: PROVIDE WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH: 18 IN. WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END. FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR ENDS.

CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAY COUPLING.

ALL COUPLINGS SHALL BE COMPRESSION TYPE. NO SET SCREW FITTINGS.

EXPANSION FITTINGS SHALL BE INSTALLED AT RIGHT ANGLES WITH CLIP JOINT CENTERED IN EXPANSION JOINT. PROVIDE A LENGTH OF RUN IN ACCORDANCE MANUFACTURER'S RECOMMENDATIONS. PRESET FITTINGS SHALL ALLOW FOR TEMPERATURE VARIATION.

RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION: SEAL OPENING WITH FIRE SEALANT.

d. PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH NATIONAL ELECTRIC CODE ARTICLE 300.19. CABLE SUPPORTS SHALL UTILIZE A ONE-PIECE PLUG WITH POZI-GRIP WEDGING PLUG AS MANUFACTURED BY OZ-GEENEY. TYPE SF SHALL BE USED FOR ARMORED CABLE.

INSTALL CABLE SUPPORTS AT THE TOP OF A VERTICAL RISE AND PROVIDE INTERMEDIATE ADDITIONAL SUPPORTS AS REQUIRED TO LIMIT SUPPORTED CONDUCTOR LENGTHS TO NOT GREATER THAN THOSE SPECIFIED IN NEC TABLE 300.19(A).

e. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY. VERIFY OUTLET LOCATIONS IN FINISHED SPACES WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150 VOLTS TO GROUND.

f. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. CONCEAL JUNCTION AND PULL BOXES IN

FINISHED SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. BOXES SHALL BE ACCESSIBLE. SUPPORT BOXES FROM BUILDING STRUCTURE. INDEPENDENT OF CONDUIT. PROVIDE FLOOR-TO-CEILING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILINGS SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON SUPPORT. MOTOR TERMINAL BOXES: COORDINATE WITH MOTOR BRANCH CIRCUIT CONDUIT AND WIRING. ADD BOX VOLUME WHERE REQUIRED.

g. FIRE SEALANTS: PROVIDE FOR RACEWAYS AND WIRE PASSING THROUGH FLOOR SLOTS, SLEEVES OR OPENINGS IN FIRE-PARTITIONS ROOMS.

h. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING 1 CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE 25 OHMS.

9. WIRE AND CABLE:

a. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.

b. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER). GENERAL USE CABLEING SHALL BE NO. 12 MINIMUM. AT 120 VOLTS AND OVER 100 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. AT 265 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. MANUFACTURER SHALL BE AMERICAN INSULATED WIRE CORP., CERRO, COLLYIER, CAPITOL WIRE AND CABLE, OKWITE, SENATOR, SOUTH WIRE OR TRIANGLE.

c. CONTROL AND ALARM CABLEING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM. AT 120 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 12 MINIMUM. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.

d. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCSA STANDARDS. TYPE THW OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED. TYPE SFT-2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG C. FOR UNGROUNDING ISOLATED BRANCH CIRCUITS PROVIDE CROSS-LINKED POLYETHYLENE INSULATION (TYPE XHHW).

e. ARMORED CABLE (BX) SHALL BE UTILIZED FOR BRANCH CIRCUITS IN DRY LOW HAZARD LOCATIONS, HUNG CEILINGS, AND BLOCK WALLS. WHEN USED IN LIEU OF WIRING IN CONDUIT, STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF HOSPITAL GRADE BX.

f. METAL-CLAD CABLE, NFPA 70 ARTICLE 330 TYPE MC:

1) INTERLOCKED FLEXIBLE GALVANIZED STEEL ARMOR SHEATH, CONFORMING TO UL REQUIREMENTS FOR TYPE MC METAL CLAD CABLE.

2) INSULATED COPPER CONDUCTORS, SUITABLE FOR 600 VOLTS, RATED 90°C, ONE OF THE TYPES LISTED IN NFPA 70 TABLE 310.13(A) OR OF A TYPE IDENTIFIED FOR USE IN TYPE MC CABLE.

3) INTERNAL FULL SIZE COPPER GROUND CONDUCTOR WITH GREEN INSULATION.

4) ACCEPTABLE COMPANIES: AFC CABLE SYSTEMS INC., SOUTHWIRE, GENERAL CABLE.

5) CONNECTORS FOR MC CABLE: AFC FITTING INC.'S AFC SERIES, ARLINGTON INDUSTRIES INC.'S SADDLE GRIP, OR THOMAS & BETTS CO.'S TITE-BITE WITH ANTI-SHORT BUSHINGS.

g. COLOR CODING SHALL BE AS FOLLOWS:

120/208 VOLT SYSTEM:	277/480 VOLT SYSTEM:
BLACK FOR A PHASE	BROWN FOR A PHASE
RED FOR B PHASE	ORANGE FOR C PHASE
BLUE FOR C PHASE	YELLOW FOR C PHASE

h. NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT. EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.

i. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6 IN. OF COLOR TAPING IN ACCESSIBLE LOCATIONS.

j. PERFORM FLAMEPROOF LINES OR FIBER TAGS IN ACCESSIBLE LOCATIONS. FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.

k. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND CLEAR NYLON-INSULATED COVERING. COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MOTOR CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISEIZE COMPOUND ON TANG.

l. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF 120/208 AND 265/480 VOLT SYSTEMS, EXCEPT 480 VOLT MOTOR BRANCH CIRCUIT WIRING AND RELATED 120 VOLT CONTROL WIRING. THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN LOWER AREA RAISED FLOORS.

m. PERFORM CONTINUITY AND INSULATION TESTS, MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP.

n. PERFORM TESTS PRIOR TO CONNECTING EQUIPMENT AND IN PRESENCE OF AUTHORIZED REPRESENTATIVES. SUBMIT WRITTEN REPORT OF RESULTS. CORRECT OR REPLACE CABLE TESTING BELOW MANUFACTURER'S STANDARDS.

10. WIRING DEVICES:

a. WIRING DEVICES SHALL BE SPECIFICATION GRADE UNLESS OTHERWISE SPECIFIED. ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.

b. LOCAL WALL SWITCHES SHALL BE ROCKER TYPE, QUIET OPERATING,

RATED 20 AMP, 120/277 VOLT, AC. SIMILAR TO LEVITON DECORA SERIES A5621 (SINGLE POLE), A5623 (3-WAY) AND A5624 (4-WAY).

c. STRAIGHT BLADE RECEPTACLES SHALL BE COMMERCIAL SPECIFICATION GRADE DUPLEX CONVENIENCE, 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT, DECORA SERIES BY LEVITON. GROUNDED, EXCEPT AS NOTED.

1) SINGLE GANG, RECESSED, DUPLEX RECEPTACLE: TAMPER RESISTANT, 2-POLE, 3-WIRE GROUNDING, 15A, 125V, NEMA 5-20R; LEVITON 689 SERIES (COLOR AS SPECIFIED BY ARCHITECT).

d. INSERTION RECEPTACLES SHALL BE HOSPITAL GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT, GROUNDED, EXCEPT AS NOTED.

2) HEALTH CARE FACILITIES:

a) DUPLEX, 20 AMP, 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT; SIMILAR TO HUBBELL NO. 8300 HOSPITAL GRADE.

b) SINGLE, 20 AMP, 125 VOLT, 2 POLE, 3 WIRE, U GROUND SLOT; SIMILAR TO HUBBELL NO. 8310 HOSPITAL GRADE.

3) GROUND FAULT INTERRUPTER RECEPTACLES:

a. 20 AMP DUPLEX FEED-THROUGH TYPE, SIMILAR TO NO. GF8300.

e. DEVICE PLATES: SEE ARCHITECT FOR TYPE. FOR RECEPTACLES WITH OTHER THAN 120 VOLT, INSCRIBED VOLTAGE AVAILABLE.

f. COLORS: COORDINATE COLORS WITH ARCHITECT.

g. MOUNTING ORIENTATION OF RECEPTACLES (HORIZONTAL OR VERTICAL): COORDINATE WITH ARCHITECT.

12. LIGHTING FIXTURES:

a. FIXTURES TO BE AS SPECIFIED BY ARCHITECT U.O.N. AND SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED AND EQUIPPED WITH ALL NECESSARY SOCKETS, BALLASTS, SUPPORTING HARDWARE AND ACCESSORIES. REFER TO DRAWINGS FOR INDIVIDUAL FIXTURE DESCRIPTIONS.

b. FIXTURE CATALOG NUMBERS USED TO ILLUSTRATE EQUIPMENT TYPE DO NOT NECESSARILY DENOTE REQUIRED MOUNTING EQUIPMENT OR ACCESSORIES. PROVIDE ACCESSORIES TO SUIT.

c. BALLAST: CLASS F, HIGH POWER FACTOR, LOWEST AVAILABLE NEMA RATED NOISE LEVEL, E11 AND CDM APPROVED. ENERGY SAVING TYPE. TRIGGER START FOR 24-INCH LAMPS AND RAPID START FOR 48-INCH. TWO LAMP BALLASTS; NO THREE LAMP BALLASTS. BALLASTS SHALL BE ADVANCE MAMETEK, UNIVERSAL OR EQUAL.

d. LED DRIVERS SHALL BE ELECTRONIC TYPE, LABELED AS COMPLIANT WITH RADIO FREQUENCY INTERFERENCE (RFI) REQUIREMENTS OF FCC TYPE 47, PART 15 AND COMPLY WITH NEMA SSL 1 "ELECTRONIC DRIVERS FOR LED DEVICES, ARRAYS OR SYSTEMS". LED DRIVERS SHALL HAVE A SOUND RATING OF "A", HAVE A MINIMUM EFFICIENCY OF 85% AND BE RATED FOR A THD OF LESS THAN 20% AT ALL INPUT VOLTAGES.

e. DIMMABLE LED DRIVERS SHALL BE CAPABLE OF DIMMING WITHOUT LED STROBING OR FLICKER ACROSS THEIR FULL DIMMING RANGE. PROVIDE TYPE OF LED DRIVER AS PER LIGHTING FIXTURE SCHEDULE. DIMMABLE LED DRIVERS SHALL BE 0-10V WHERE NOT INDICATED.

f. FLUORESCENT LIGHTING FIXTURES, INCLUDING GENERAL CONSTRUCTION, LAMPS AND BALLASTS SHALL CONFORM TO THE ENERGY EFFICIENCY REQUIREMENTS OF CONSOLIDATED Edison CO. AND QUALITY FOR A UTILITY REBATE TO OWNER UNDER CON EDISON'S ENLIGHTENED ENERGY LIGHTING REBATE PROGRAM. CONTRACTOR SHALL COORDINATE REBATE PROGRAM WITH CON EDISON AND ARRANGE FOR CON EDISON TO PERFORM A SURVEY TO INVENTORY ALL EXISTING FIXTURES PRIOR TO DEMOLITION.

g. EXIT SIGNS SHALL BE PRECISION DIE-CAST ALUMINUM HOUSING WITH LASER-FORMED ACRYLIC LEGEND. EXIT SIGNS SHALL COMPLY WITH UL 924 AND BE MEA APPROVED FOR USE IN NEW YORK CITY. AC POWERED WITH PREMIUM LONG-LIFE NICKEL CADMIUM BATTERY WITH STANDARD UL LISTED 3-HOUR RUN TIME. PROVIDE WITH INTEGRAL AUTOMATIC CHARGER IN A SELF CONTAINED POWER PACK. LED INDICATOR WITH PUSH TO TEST SWITCH.

13. VOICE/DATA CONDUIT SYSTEM:

a. PROVIDE COMPLETE SYSTEM OF: RACEWAYS AND ACCESSORIES, OUTLET BOXES, SLEEVES AND FISHWIRES.

b. OUTLETS SHALL BE:

1) PROVIDE A TWO-GANG J-BOX AND SINGLE OR DOUBLE GANG FLUSH WALL OPENING AS REQUIRED FOR EACH VOICE/DATA OUTLET.

d. PROVIDE PULLSTRINGS, IN RACEWAYS OVER 10 FT LONG.

e. CONDUIT SHALL BE 3/4 IN. MINIMUM.

14. GROUNDING AND BONDING:

a. PROVIDE GROUNDING SYSTEM IN ACCORDANCE WITH 2011 NATIONAL ELECTRICAL CODE WITH NYC AMENDMENTS, AND THESE SPECIFICATIONS. THE WIRING SYSTEM SHALL BE INSTALLED AS REQUIRED TO PROVIDE A CONTINUOUSLY GROUNDED SYSTEM.

b. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.

c. EXTEND EXISTING SYSTEM GROUND TO INCLUDE ALL THE ELECTRICAL EQUIPMENT IN THE SCOPE OF WORK.

d. WHERE FLEXIBLE METALLIC CONDUIT IS USED AN INTERNAL BONDING CONDUCTOR SHALL BE INSTALLED.

e. IN ADDITION, FURNISH A SEPARATE INSULATED GREEN EQUIPMENT GROUND CONDUCTOR WHERE INDICATED ON DRAWINGS AND FOR THE FOLLOWING BRANCH CIRCUITS:

1) CIRCUITS SERVING ANY WALL BOX DIMMER.

2) CIRCUITS SERVING ANY ISOLATED GROUND RECEPTACLES. TERMINATE GROUND DIRECTLY AT AN EQUIPMENT GROUNDING CONDUCTOR TERMINAL OF THE SOURCE, OR AS OTHER WISE NOTED ON DRAWINGS.

3) CIRCUITS SERVING ANY DUPLEX OR SIMPLEX COMPUTER RECEPTACLES

4) ANY CIRCUIT SERVED VIA AN ISOLATION TRANSFORMER OR COMPUTER POWER DISTRIBUTION UNIT.

TRANSFORMERS:

a. TRAPEZE MOUNTED TRANSFORMERS SHALL BE SUPPORTED BY HANGER ROD ISOLATORS WITH NEOPRENE-IN-SHEAR ELEMENT ENCASED IN A STEEL RETAINER HOUSING, SELECTED FOR 3/8 INCH STATIC DEFLECTION AS MADE BY MASON INDUSTRIES, INC., TYPE HD; KORFUND DYNAMICS CORP. TYPE H; VIBRATION ELIMINATOR CO. TYPE SNRC OR APPROVED. FLOOR MOUNTED TRANSFORMERS SHALL BE DIRECTLY MOUNTED ON DOUBLE DEFLECTION NEOPRENE-IN-SHEAR ISOLATORS, U.O.N. SELECTED FOR MINIMUM 3/8 INCH STATIC DEFLECTION AND SHALL BE MASON INDUSTRIES, INC. TYPE ND, KORFUND DYNAMICS, CORP. TYPE F, VIBRATION ELIMINATOR TYPE 386 50 OR APPROVED EQUAL.

b. LINE, LOAD AND GROUND CONDUCTORS SHALL BE INSTALLED IN LIQUID TIGHT FLEXIBLE CONDUIT NOT LESS THAN 18 INCHES LONG FOR FINAL CONNECTION TO TRANSFORMERS.

c. TRANSFORMER SECONDARY NEUTRAL SHALL BE CONNECTED TO A LUG AND BOLT INSIDE THE ENCLOSURE.

d. AFTER PERMANENT SERVICE TO THE TRANSFORMER IS ENERGIZED, THE CONTRACTOR SHALL DETERMINE THE VOLTAGE SUPPLIED AND SELECT TRANSFORMER TAPS TO PROVIDE THE VOLTAGE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL RECHECK VOLTAGE AFTER BUILDING LOADS ARE BEING SERVED BY TRANSFORMER AND CHANGE TAPS WHERE REQUIRED TO PROVIDE THE SPECIFIED VOLTAGE ON THE DRAWINGS. TRANSFORMER TAPS SHALL BE ADJUSTED TO PROVIDE NOMINAL VOLTAGE WITH TOLERANCE OF +1% DURING OFF PEAK LOADS.

e. TRAPEZE MOUNTED TRANSFORMERS SHALL BE SUPPORTED FROM AUXILIARY SUPPORT STEEL BEAMS SECURED TO THE BUILDING SUPPORT BEAMS.

17. SMOKE ALARMS

a. PROVIDE SOLID STATE, PHOTOELECTRIC TYPE, HARDWIRED SMOKE ALARM WITH SEALED IN 10 YEARS LITHIUM BATTERY BACKUP AND INTEGRAL TEMPORAL PATTERN EVACUATION HORN. KIDDE MODEL 112010S S17 SERIES OR APPROVED EQUAL.

b. THREE POSITION TEST FEATURE THAT SIMULATES ACTUAL SMOKE CONDITIONS. SHALL CONTAIN MAINTENANCE INDICATOR.

c. PROVIDE WITH INTEGRAL 135 DEGREE F ISOLATED HEAT DETECTION OR INTEGRAL RELAY RATED 0.6A AT 125V AC., AS INDICATED ON THE PLANS AND DRAWINGS.

d. DEVICE SHALL BE RATED TO OPERATE AT A RANGE OF 40°F TO 100°F.

e. UL LISTED TO UL217 AND APPROVED FOR USE IN NEW YORK CITY.

f. CARBON MONOXIDE DETECTOR: HARDWIRED WITH BATTERY BACKUP. KIDDE MODEL KN-COP-IC OR APPROVED EQUAL.

g. COMBINATION SMOKE/CARBON MONOXIDE DETECTOR: HARDWIRED WITH BATTERY BACKUP. KIDDE MODEL 112010SCO OR APPROVED EQUAL.

15. INTERCOM CONDUIT SYSTEM:

a. PROVIDE COMPLETE SYSTEM OF: RACEWAYS AND ACCESSORIES, J-BOXES, SLEEVES AND FISHWIRES.

b. EQUIPMENT SHALL CONFORM TO REQUIREMENTS OF INTERCOM MANUFACTURER.

c. J-BOXES SHALL BE:

1) WALL: 4 IN. SQUARE WITH SINGLE GANG COVER PLATE.








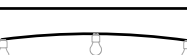
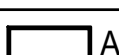

d. PROVIDE FISHWIRES, IN RACEWAYS OVER 10 FT LONG.

e. CONDUIT SHALL BE 3/4 IN. MINIMUM. FURNISH EMPTY CONDUIT FROM EACH APARTMENT TO MAIN INTERCOM CONTROLLER AT ENTRANCE.

LIGHTING GENERAL NOTES

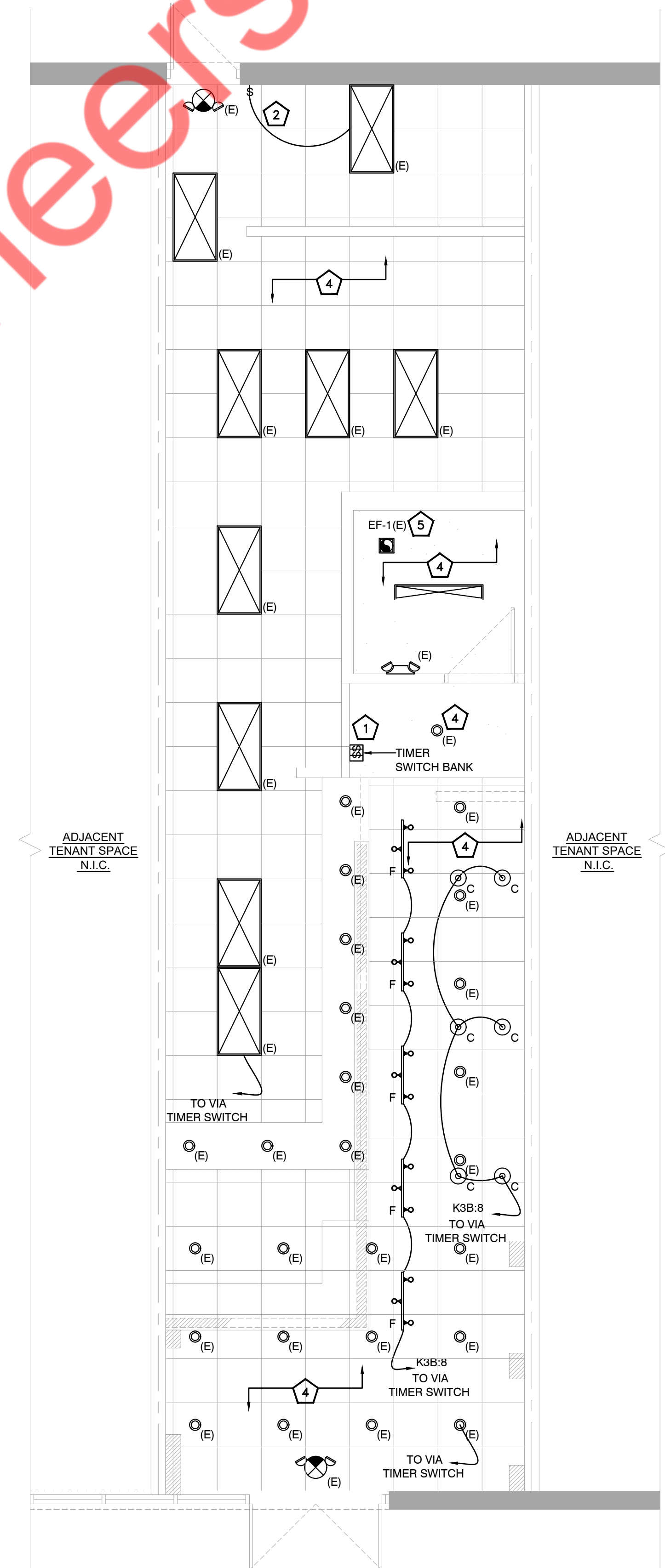
- A. PRIOR TO ROUGH-IN, THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL LIGHT FIXTURES / EXIT SIGN LOCATION/ PLACEMENT WITH THE CITY FIELD BUILDING INSPECTOR PRIOR TO ROUGH INSPECTION APPROVAL: ALL CONFLICTS SHALL BE REPORTED TO THE ENGINEER /ARCHITECT.
- B. ALL FIXTURES INSTALLED OUTDOORS SHALL BE RATED FOR DAMP/WET LOCATIONS AS REQUIRED. THE CONTRACTOR SHALL COORDINATE DAMP/WET LOCATION RATING PER NEC ARTICLE 410.10(A). ALL INSTALLATIONS SHALL CONFORM TO NEC ARTICLE 410, ALL SUB ARTICLES.
- C. ALL FLUORESCENT FIXTURES THAT UTILIZE DOUBLE ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL BE CODE COMPLIANT WITH N.E.C. 410.130(G)
- D. COORDINATE ALL EXTERIOR BUILDING MOUNTED LIGHT FIXTURES WITH ARCHITECTURAL BUILDING ELEVATIONS FOR HEIGHTS AND LOCATIONS.
- E. PROVIDE EXIT SIGNS FOR ALL EXITS DESIGNATED BY THE CODE STUDY PLAN. REFER TO ARCHITECTURAL CODE PLANS FOR LOCATIONS AND REQUIREMENTS.
- F. ALL EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO UNSWITCHED CIRCUIT LEG.
- G. CONDUIT AND WIRING SHOWN FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE THE NUMBER OF CONDUCTORS REQUIRED FOR HOT-LEGS, NEUTRAL, AND GROUNDING AT EACH DEVICE FOR PROPER BRANCH CIRCUITING SHOWN FOR EACH AREA OR ROOM.

LIGHTING FIXTURE LEGEND

SYMBOL	DESCRIPTION
	2X4 RECESSED LAY-IN FLOUROSCENT
	2X2 RECESSED LAY-IN FLOUROSCENT
	EXIT SIGN
	DECORATIVE PENDANT (BOTTOM OF FIXTURE AT 6'-00" A.F.F.)
	WALL MOUNTED EMERGENCY LIGHTS
	RECESSED LOW VOLTAGE DIMMABLE DOWNLIGHT
	TRACK LIGHTING
	LED COMMERCIAL STRING LIGHTS
 A	EMERGENCY FULL CUT-OFF WALL PACK
 B	OUTDOOR EMERGENCY CANOPY FIXTURE
(E)	EXISTING FIXTURE SHALL REMAIN

LIGHTING PLAN KEY NOTES

1. TIMER SWITCH/BANK, E.C. TO COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER IN FIELD.
2. LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPILED AS PER NEC 110.26(D).
3. WIRE ALL EMERGENCY AND EXIT LIGHT TO THE NEAREST CIRCUIT AHEAD OF ALL CONTROLS & SWITCHING FOR CONTINUOUS OPERATION.
4. EXISTING LIGHTING FIXTURES DENOTED BY (E) AND ITS ELECTRICAL CIRCUIT TO BE E.C. SHALL PROVIDE THE CONTROL AS SHOWN IN DRAWING AND VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION IN FIELD. REPLACE IF FOUND INOPERABLE.
5. EXISTING MECHANICAL UNIT SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL PANEL. E.C. TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY REQUIREMENT BASED ON FIELD CONDITION. E.C. SHALL VERIFY THE OPERABLE CONDITION OF EXISTING ELECTRICAL CONNECTION. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.



KITCHEN EQUIPMENT NOTES

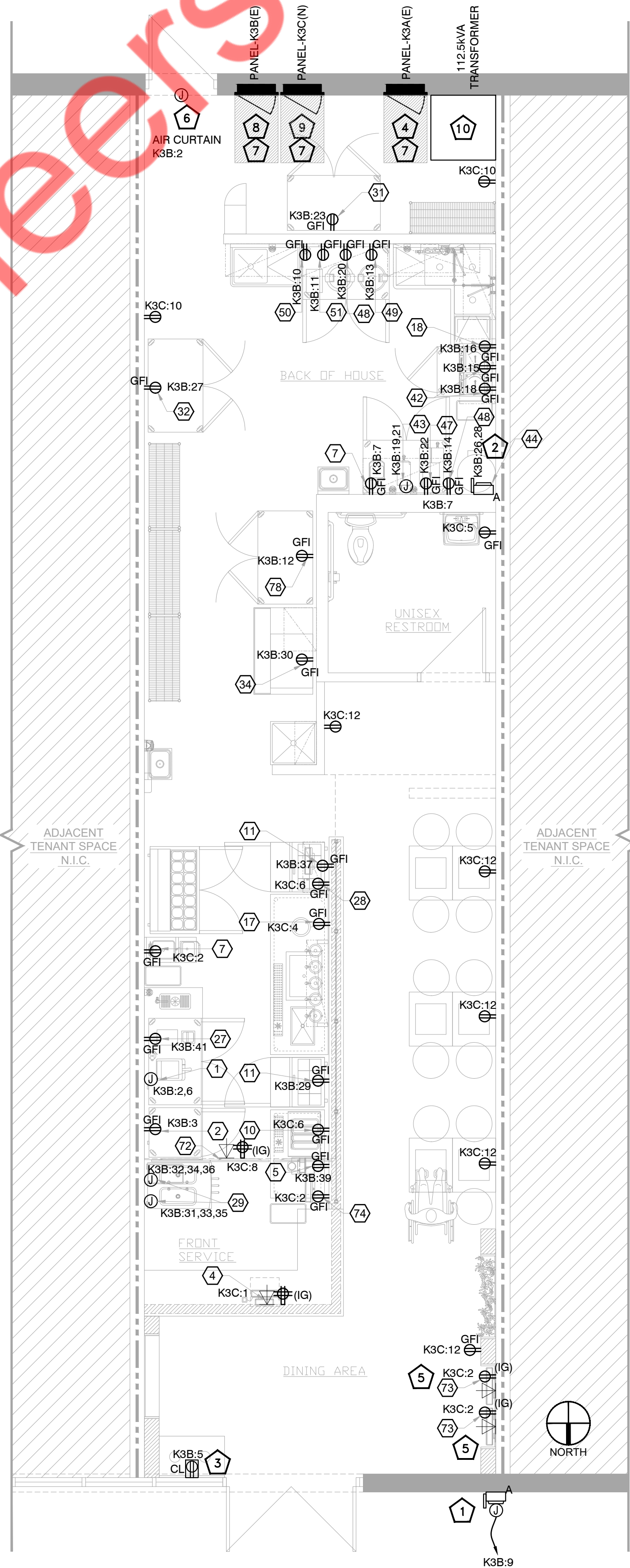
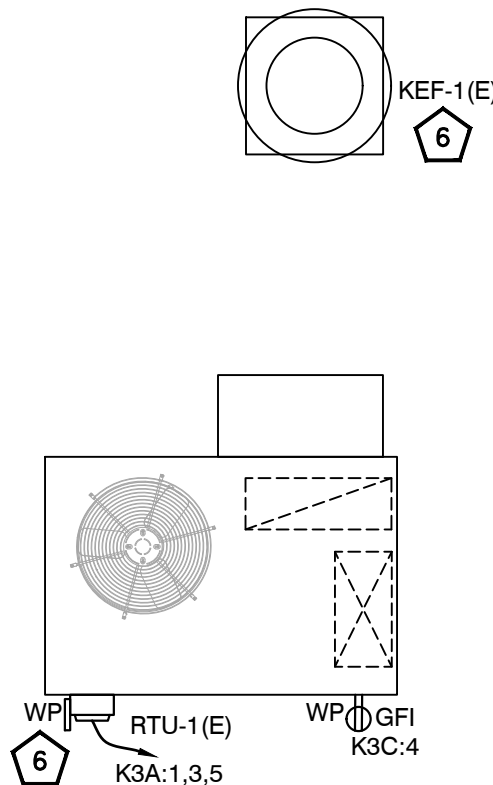
- A. FINAL CONNECTION TO ALL HARD—WIRED EQUIPMENT SHALL BE MADE WITH "SEAL—TITE" FLEXIBLE CONDUIT.
- B. THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS TO ALL RELATED EQUIPMENT.
- C. "CALL OUT" —INDICATES EQUIPMENT IDENTIFICATION NUMBER. REFER TO EQUIPMENT SCHEDULE. COORDINATE WITH EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- D. THE ELECTRICAL CONTRACTOR SHALL VERIFY ROUGH —IN REQUIREMENTS: LOCATIONS, MOUNTING HEIGHTS, VOLTAGE, PHASE, AMPS, HP, KW, ETC. FOR ALL EQUIPMENT PRIOR TO ROUGH —IN.
- E. PROVIDE SEAL—OFF'S FOR ALL CONDUITS ENTERING OR LEAVING WALK—IN BOXES.
- F. KITCHEN HOOD EXHAUST FAN AND MAKE—UP AIR UNIT SHALL BE INTERLOCKED AND THE CONTROL CIRCUIT SHALL BE ROUTED THROUGH DRY CONTACTS PROVIDED IN THE FIRE PROTECTION SYSTEM. THE MAKE—UP AIR UNIT FAN(S) SHALL SHUT DOWN UPON ACTIVATION OF THE FIRE PROTECTION SYSTEM. (PROVIDE RELAY IF REQUIRED).
- G. ALL CIRCUIT BREAKERS PROVIDED WITH SHUNT TRIPPING DEVICES SHALL HAVE THE CONTROL CIRCUIT ROUTED THROUGH DRY CONTACTS PROVIDED IN THE FIRE PROTECTION SYSTEM. UPON ACTIVATION OF FIRE PROTECTION SYSTEM THOSE CIRCUIT BREAKERS SHALL BE AUTOMATICALLY TRIPPED.
- H. ALL CIRCUITS SHALL HAVE AN INSULATED GROUND WIRE (BOND) SIZED PER N.E.C. #250.122, #12 MINIMUM GROUND, WIRE NOT SHOWN ON DRAWINGS.
- I. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL DISCONNECT SWITCHES, CONDUIT, WIRE AND INSTALL UNDER SUPERVISION OF THE EQUIPMENT SUPPLIER.
- J. THE ELECTRICAL CONTRACTOR SHALL VERIFY PLUG CONFIGURATIONS FOR APPLICABLE EQUIPMENT WITH SUPPLIER PRIOR TO ROUGH —IN.
- K. PROVIDE GFCI PROTECTION FOR ALL EQUIPMENT/KITCHEN RECEPTACLES PER NEC 210.8 (B)(2).

POWER GENERAL NOTES

- A. ALL EXTERIOR DISCONNECTS SHALL BE W.P. TYPE.
- B. ALL RECEPTACLES WITHIN 6"—0" OF A SINK TO BE GFCI RATED.
- C. REFER TO MECHANICAL AND PLUMBING PLANS FOR EXACT SIZE, LOCATION, AND ELECTRICAL REQUIREMENTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT.
- D. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL CONNECTION REQUIREMENTS (HP, AMPS, VOLTAGE, PHASE, MOUNTING HEIGHT, AND DISCONNECTING MEANS) FOR ALL EQUIPMENT SUPPLIED BY OTHERS BEFORE ROUGH —IN. DISCONNECT SWITCHES SHALL BE LOCATED WITH NEC CODE CLEARANCE OR PROVIDE LOCKOUT TYPE C/B.
- E. ELECTRICAL CONTRACTOR RESPONSIBLE FOR COORDINATING EXACT LOCATION, QUANTITIES, AND INSTALLATION REQUIREMENTS OF ELECTRICAL EQUIPMENT IN MILL WORK.
- F. ALL EXTERIOR RECEPTACLES SHALL BE W.P. /GFCI TYPE.
- G. ALL ELECTRICAL PANEL BOARDS SHALL MAINTAIN 3"—0" INFRONT WORKING CLEARANCE. REFER TO ONE—LINE FOR DETAILS.
- H. ELECTRICAL CONTRACTOR SHALL PROVIDE #6 COPPER GROUND TO ANY NEW METAL GAS PIPE SYSTEMS PER NEC 250.
- I. CONDUIT AND WIRING SHOWN FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE THE NUMBER OF CONDUCTORS REQUIRED FOR HOT—LESS, NEUTRAL, AND GROUNDING AT EACH DEVICE FOR PROPER BRANCH CIRCUITING SHOWN FOR EACH AREA OR ROOM.
- J. COORDINATE EXACT LOCATION OF HVAC EQUIPMENTS WITH MECHANICAL CONTRACTOR/ARCHITECT.
- K. ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. COORDINATE LOCATION OF DISCONNECT WITH MANUFACTURER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.

POWER PLAN KEY NOTES

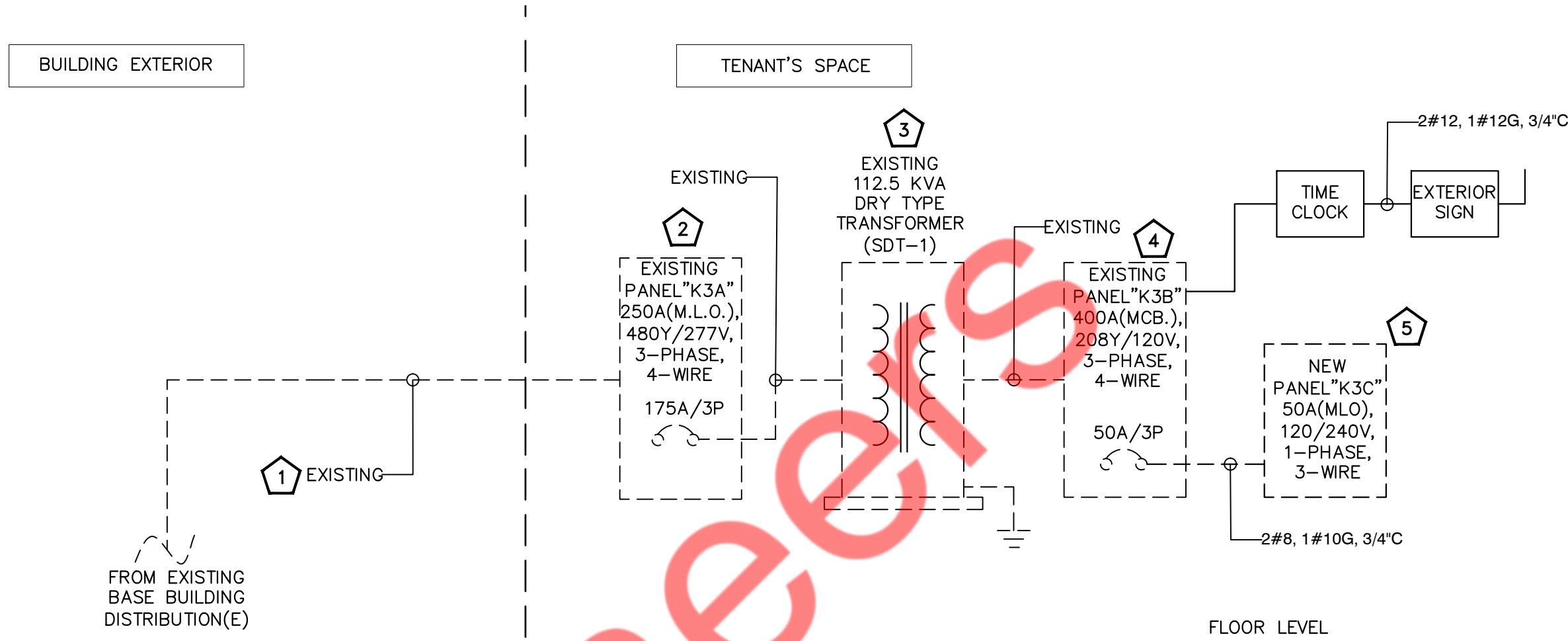
- 1 ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOX WITH TOGGLE DISCONNECT SWITCH AS PER NEC FOR CONNECTION TO THE EXTERIOR BUILDING SIGNAGE. THE SIGNS SHOULD BE SUPPLIED WITH WHIPS FOR FINAL CONNECTION TO THIS JUNCTION BOX. E.C. SHALL VERIFY LOCATION WITH ARCHITECTURAL DRAWINGS AND SIGN VENDOR PRIOR TO INSTALLING. ALL SIGNS SHALL BE CONTROLLED VIA TIME CLOCK.
- 2 EXISTING WATER HEATER WITH ITS ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE TO REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION OF ELECTRICAL CONNECTION AND ELECTRICAL FIXTURE ON FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY. E.C. SHALL COORDINATE WITH LANDLORD FOR THE EXACT LOCATION OF WATER HEATER AND ITS ELECTRICAL CONNECTIONS ON FIELD.
- 3 E.C. TO PROVIDE SHOW WINDOW RECEPTACLE AS PER NEC 210.62
- 4 EXISTING 250A(M.L.O.), 480Y/277V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3A" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- 5 KIOSK RECEPTACLE. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING DETAIL OF OUTLET AND DATA IN FIELD.
- 6 EXISTING MECHANICAL UNIT SHALL REMAIN CONNECTED TO THE EXISTING ELECTRICAL PANEL. E.C. TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY REQUIREMENT BASED ON FIELD CONDITION. E.C SHALL VERIFY THE OPERABLE CONDITION OF EXISTING ELECTRICAL CONNECTION. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
- 7 E.C. SHALL VERIFY/PERFORM THE INSTALLATION OF ELECTRICAL PANELS IN COMPLIANCE WITH 2020 NEC ARTICLE 110.26(A) AND (B). E.C. SHALL FIELD VERIFY THAT THE PANELS ARE UNOBSTRUCTED AND THE AREA WHERE THE PANELS ARE PLACED SHALL NOT BE USED AS A STORAGE SPACE.
- 8 EXISTING 400A(MCB), 208Y/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3B" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- 9 NEW 50A(MLO), 120/240V 1-PH ELECTRICAL PANEL K3C. E.C TO COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION OF THE PANEL.
- 10 EXISTING 112.5KVA, 3-PHASE DRY TYPE TRANSFORMER WITH PRIMARY 480Y/277V AND SECONDARY 208Y/120V SHALL REMAIN. E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.



PANEL: K3A(E)										MOUNTING:		SURFACE			
480Y/277		VOLTS,		3		PHASE,		4		WIRE					
MAIN CB		NA		MLO:		250A		BUS:		EXISTING		MIN,			
										FED FROM:		EXISTING UTILITY SUPPLY			
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	C						
1	30/3P	RTU-1	H	3.85	EXISTING	21.17			EXISTING	17.33	O	112.5 KVA TRANSFORMER(E)	175/3P	2	
3			H	3.85			22.13			18.28	O			4	
5			H	3.85				15.02			11.18			O	6
7	20	SPARE					0.00					SPARE	20	8	
9	20	SPARE						0.00				SPARE	20	10	
11	20	SPARE							0.00			SPARE	20	12	
13	20	SPARE					0.00					SPARE	20	14	
15	20	SPARE						0.00				SPARE	20	16	
17	20	SPARE							0.00			SPARE	20	18	
19	20	SPARE					0.00					SPARE	20	20	
21	20	SPARE						0.00				SPARE	20	22	
23	20	SPARE							0.00			SPARE	20	24	
25	20	SPARE					0.00					SPARE	20	26	
27	20	SPARE						0.00				SPARE	20	28	
29	20	SPARE							0.00			SPARE	20	30	
31	20	SPARE					0.00					SPARE	20	32	
33	20	SPARE						0.00				SPARE	20	34	
35	20	SPARE							0.00			SPARE	20	36	
37	20	SPARE					0.00					SPARE	20	38	
39	20	SPARE						0.00				SPACE		40	
41		SPACE							0.00			SPACE		42	
TOTAL CONNECTED LOAD (KVA)							21.17	22.13	15.02						

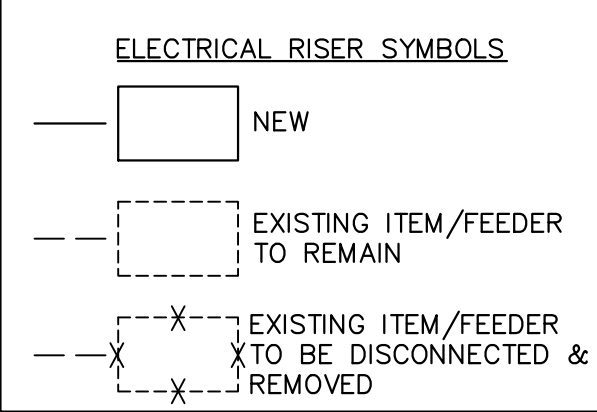
PANEL: K3B (EXISTING)										MOUNTING:		SURFACE						
208Y/120		VOLTS,	3	PHASE,		4	WIRE		LOCATION :		BOH							
MAIN CB		400A		MLO:	NA		BUS:	400A		MIN,								
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD			LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT		PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD		TRIP AMPS	CKT NO.
								A	B	C								
1	20	EXISTING RESTROOM LIGHTING			L	0.10	2#12, #12G, 3/4"C		0.41			2#12, #12G, 3/4"C	0.31	H	AIR CURTAIN		20	2
3	20	2_UNDERCOUNTER FREEZER			E	0.22	2#12, #12G, 3/4"C			1.57		2#12, #12G, 3/4"C	1.35	E	1_ESPRESSO CAPUCCINO MACHINE		20/2P	4
5	20	SHOW WINDOW RECEPTACLE			L	1.40	2#12, #12G, 3/4"C				2.75		1.35	E			6	
7	20	7_BLENDER			E	1.80	2#12, #12G, 3/4"C		2.80			2#12, #12G, 3/4"C	1.00	L	FRONT COUNTER LIGHTING(E)		20	8
9	20	EXTERIOR SIGNAGE			L	1.20	2#12, #12G, 3/4"C			1.32		2#12, #12G, 3/4"C	0.12	E	50_RICE BALL MAKER MACHINE		20	10
11	20	51_RICE WARMER			E	0.08	2#12, #12G, 3/4"C				0.46	EXISTING	0.38	E	78_REACH-IN REFRIGERATOR(E)		20	12
13	20	49_RICE/GRAIN COOKER			E	1.56	2#12, #12G, 3/4"C		1.84			2#12, #12G, 3/4"C	0.28	E	48_REFRIGERATED WORKTOP		20	14
15	20	42_INDUCTION RANGE COOKTOP			E	1.44				1.72		2#12, #12G, 3/4"C	0.28	E	18_UNDERCOUNTER REFRIGERATOR		20	16
17	20	EXISTING BOH LIGHTING (E)			L	1.00	2#12, #12G, 3/4"C				2.44	2#12, #12G, 3/4"C	1.44	E	42_INDUCTION RANGE COOKTOP		20	18
19	2P-30	43_HOT WATER DISPENSER			E	2.03	2#10, #10G, 3/4"C		2.30			2#12, #12G, 3/4"C	0.28	E	48_REFRIGERATED WORKTOP		20	20
21					E	2.03			3.71			2#12, #12G, 3/4"C	1.68	E	47_ICE TEA BREWER		20	22
23	20	31_REACH-IN REFRIGERATOR			E	0.38	2#12, #12G, 3/4"C				0.38	EXISTING			SPARE		20	24
25	20	44_HOT WATER HEATER			E	0.48	2#12, #12G, 3/4"C		2.48				2	O	WATER HEATER(E)		2P-50	26
27	20	32_REACH-IN FREEZER			E	1.03	2#12, #12G, 3/4"C			3.03			2	O				28
29	20	11_REFRIGERATED SANDWICH PREP TABLE			E	0.28	2#12, #12G, 3/4"C				1.66	2#12, #12G, 3/4"C	1.38	E	34_ICE MAKER (E)		20	30
31	3P-15	29_SOFT SERVE MACHINE			E	1.56	3#12, #12G, 3/4"C		3.12			3#12, #12G, 3/4"C	1.56	E	29_SOFT SERVE MACHINE		3P-15	32
33					E	1.56				3.12			1.56	E			34	
35					E	1.56					3.12		1.56	E			36	
37	20	11_REFRIGERATED SANDWICH PREP TABLE			E	0.28	2#12, #12G, 3/4"C		4.38			2#8, #10G, 3/4"C	4.10	O	PANEL K3C		2P-50	38
39	20	5_AUTOMATIC CUP SEALER			E	0.48	2#12, #12G, 3/4"C			3.82			3.34	O				40
41	20	27_COFFEE GRINDER			E	0.36	2#12, #12G, 3/4"C				0.36				SPARE		20	42
TOTAL CONNECTED LOAD (KVA)									17.33	18.28	11.18							

PANEL: K3C (NEW)										MOUNTING:		SURFACE						
120/240		VOLTS,		1	PHASE,		3	WIRE		LOCATION :		BOH						
MAIN CB		NA		MLO:		50A		BUS:		100A		MIN,						
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.
1	20	4_POS SYSTEM				R	0.72	2#12, #12G, 3/4"C		2.52		2#12, #12G, 3/4"C	1.80	E	7_BLENDER		20	2
2	20	73_KIOSK				R	0.36	2#12, #12G, 3/4"C			1.36	2#12, #12G, 3/4"C	1.00	E	17_FOOD PAN WARMER		20	4
3	20	74_KDS KITCHEN DISPLAY SCREEN				R	0.36	2#12, #12G, 3/4"C		1.08		2#12, #12G, 3/4"C	0.72	E	10_BEVERAGE DISPENSER		20	6
4	20	ROOFTOP RECEPTACLE				R	0.18	2#12, #12G, 3/4"C			0.90	2#12, #12G, 3/4"C	0.72	R	72_40" LED TV MENUBOARD		20	8
5	20	RESTROOM RECEPTACLE				R	0.18	2#12, #12G, 3/4"C		0.50		2#12, #12G, 3/4"C	0.32	R	GENERAL RECEPTACLES-BOH		20	10
6	20	28_KDS KITCHEN DISPLAY SCREEN				R	0.36	2#12, #12G, 3/4"C			1.08	2#12, #12G, 3/4"C	0.72	R	GENERAL RECEPTACLES		20	12
7	20	SPARE								0.00					SPACE			14
8	20	SPARE								0.00	0.00				SPACE			16
9	20	SPARE								0.00	3.34				SPACE			18
TOTAL CONNECTED LOAD (KVA)										4.10	3.34							



ELECTRICAL RISER KEYED NOTES:

- EXISTING 200A, 480Y/277V, 3-PHASE, 4-WIRE ELECTRICAL FEEDER TO THE EXISTING ELECTRICAL PANEL "K3A" FOR THE PROJECT SPACE FROM THE EXISTING BASE BUILDING ELECTRICAL METER AND DISCONNECT SWITCH SHALL REMAIN. E.C. SHALL GET INFORMATION ABOUT THE EXISTING POWER DISTRIBUTION PRIOR TO COMMENCING ANY WORK AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES. BASE BID ACCORDINGLY.
- EXISTING 250A(M.L.O.), 480Y/277V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3A" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 112.5KVA, 3-PHASE DRY TYPE STEP DOWN TRANSFORMER (SDT-1) WITH PRIMARY 480Y/277V AND SECONDARY 208Y/120V SHALL REMAIN. E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- EXISTING 400A(MCB), 208Y/120V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "K3B" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- NEW 50A(MLO), 120/240V 1-PH ELECTRICAL PANEL K3C. E.C TO COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION OF THE PANEL.



ELECTRICAL RISER GENERAL NOTES:

- 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 COMMENCING ANY WORK.
- E.C. TO VERIFY OPERABLE CONDITIONS OF EXISTING DEVICES IN FIELD. REPLACE/RECTIFY IF FOUND IN OPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL RISER

SCALE

N.T.S.

1

KITCHEN EQUIPMENT SCHEDULE

CALLOUT	DESCRIPTION	VOLTS	AMPS	MOCP	WIRE CALLOUT	NOTE
1	ESPRESSO CAPUCCINO MACHINE	120V 1P 2W	13	20	2#12,#12G, 3/4"C	NEMA 6-20P PLUG
2	UNDERCOUNTER FREEZER	120V 1P 2W	1.8	15	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
4	POS SYSTEM	120V 1P 2W	1.5	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
5	AUTOMATIC CUP SEALER	120V 1P 2W	4	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
7	BLENDER	120V 1P 2W	15	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG, JB MOUNTED UNDER BLENDER STATION
10	BEVERAGE DISPENSER	120V 1P 2W	6	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
11	REFRIGERATED SANDWICH PREP TABLE	120V 1P 2W	2.3	15	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
17	FOOD PAN WARMER	120V 1P 2W	8.3	15	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
18	UNDERCOUNTER REFRIGERATOR	120V 1P 2W	2.3	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
27	COFFEE GRINDER	120V 1P 2W	3	15	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
28	KDS KITCHEN DISPLAY SCREEN	120V 1P 2W	1	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
29	SOFT SERVE MACHINE	208V 3P 3W	13	15	3#12,#12G, 3/4"C	
31	REACH IN REFRIGERATOR	120V 1P 2W	3.2	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
32	REACH-IN FREEZER	120V 1P 2W	8.6	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
34	ICE MAKER, CUBE STYLE	120V 1P 2W	11.5	20	2#12,#12G, 3/4"C	
42	INDUCTION RANGE COUNTERTOP	120V 1P 2W	12	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
43	HOT WATER DISPENSER	208V 2P 2W	19.5	30	2#10,#10G, 3/4"C	
44	HOT WATER HEATER					
47	ICE TEA BREWER	120V 1P 2W	14	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
48	REFRIGERATED WORK TOP	120V 1P 2W	2.3	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
49	RICE/GRAIN COOKER	120V 1P 2W	13	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
50	RICE BALL MAKER MACHINE	120V 1P 2W	1	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
51	RICE WARMER	120V 1P 2W	0.64	15	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
61	LABEL PRINTER	120V 1P 2W	1	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG
72	40" LED TV MENUBOARD	120V 1P 2W	1	20	2#12,#12G, 3/4"C	NEMA 5-15P PLUG

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: JUNBI

Report Page: (Page 1 of 7)

Project Address: 3046 W Jack London Blvd. Ste K-3, Livermore CA 94551

Date Prepared: 2024-05-31T11:10:11-04:00

A. GENERAL INFORMATION				
01ProjectLocation(city)	LIVERMORE	04TotalConditionedFloorArea(ft2)	287.6	
02ClimateZone	12	05TotalUnconditionedFloorArea(ft2)	0	
03OccupancyTypesWithinProject(selectallthatapply):		06HofStories(HabitableAboveGrade)	1	
●Restaurant				

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6/170.2(e) or 141.0(b)2/180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft ²)	Calculation Method	Area (ft ²)
<input checked="" type="checkbox"/> New Lighting System	Complete Building Method	287.6	Complete Building Method	0
<input type="checkbox"/> New Lighting System - Parking/Garage	N/A	0	N/A	0
Total Area of Work (ft ²)	287.6			

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C. COMPLIANCE RESULTS									
If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D for guidance.									
Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1/170.2(e)	Allowed Lighting Power per 140.6(b)/170.2(e) (Watts)					Adjusted Lighting Power per 140.6(a)/170.2(e) (Watts)			Compliance Results
	01	02	03	04	05	06	07	08	
	Complete Building 140.6(c)1	Area Category 140.6(c)2/ 170.2(e)4	Area Category Additional 140.6(c)2c/ 170.2(e)4Av (+)	Tailored 140.6(c)3/ 170.2(e)4B (+)	Total Allowed (Watts)	Total Designed (Watts)	PAF Lighting Control Credits 140.6(a)2/ 170.2(e)1B (-)	Total Adjusted (Watts) * Includes Adjustments	
	(See Table J)	(See Table J)	(See Table J)	(See Table K)		(See Table F)	(See Table F)		
Conditioned	189.8				189.8	68		68	COMPLIES
Unconditioned									COMPLIES
Controls Compliance (See Table H for Details)									COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)									

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedited comments because of selections made or data entered in tables throughout the form.

Track Lighting has been included in this project, details are provided in Table G.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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F. INDOOR LIGHTING FIXTURES SCHEDULE									
This table includes all planned permanent and portable lighting other than dwelling unit/hotel/motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.									
Designed Wattage: Conditioned Spaces									
01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change 1	Watts per luminaire 2	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3/ 170.2(e)2C	Design Watts	Field Inspector
C	DECORATIVE PENDANT	No	NA	3	Mfr. Spec	6	No	18	Pass Fail
F	TRACK LIGHTING	Yes	NA	10	See Other Section	5	No	50	Pass Fail
Total Designed Watts: CONDITIONED SPACES								68	

¹ FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(e)4B/170.2(e)2D is adjusted to be 75%/80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

² AUTHORITY: Having jurisdiction may ask for luminaire cut sheets to confirm wattage used for compliance per 130.0(c)/160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS									
This table calculates wattage for modular lighting systems/track lighting fixtures indicated on Table F and transfers wattage to Table F.									
01	02	03						04	
Name or Item Tag	Complete Track Description	Calculation Method per 130.0(c)6						Track Wattage	
F	TRACK LIGHTING	<input type="checkbox"/> Installed Luminaires vs Default 30W/ft	<input checked="" type="checkbox"/> ii Current Limiter	<input type="checkbox"/> iii Overcurrent Protection Panel	<input type="checkbox"/> iv Powers supplied by driver, power supply or transformer 1	VA of current limiter			10
10									

¹ FOOTNOTE: For power-over-Ethernet lighting systems, power provided to installed non-lighting devices may be subtracted from the total power rating of the power-over-Ethernet system.

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H. INDOOR LIGHTING CONTROLS (Not including PAFs)											
This table includes lighting controls for conditioned and unconditioned spaces.											
Building Level Controls											
01				02				03			
Mandatory Demand Response 110.12(c)				Shut-off controls 130.1(c)/160.5(b)4C				Field Inspector			
NA < 4,000 W subject to multilevel				Whole Building Auto Time Switch				Pass	Fail		
								<input type="checkbox"/>	<input type="checkbox"/>		
Area Level Controls											
04		05		06	07	08	09	10	11	12	
Area Description		Complete Building or Area Category Primary Function Area		Manual Area Controls 130.1(a)/ 160.5(b)4A	Multi-Level Controls 130.1(b)/ 160.5(b)4B	Shut-Off Controls 130.1(c)// 160.5(b)4C	Primary/sky lit Daylighting 130.1(d)/ 160.5(b)4D	Secondary Daylighting 130.1(d)/ 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
DINING AREA		Restaurant		Auth. Personnel	Dimmer	Auto. Time Switch	NA: Not daylight zone	NA: Not daylight zone	No	Pass	Fail
							13				
							Plan Sheet Showing Daylit Zones:				

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS						
Each area complying using the Complete Building or Area Category Method per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used.						
Conditioned Spaces						
01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft ²)	Area (ft ²)	Allowed Wattage (Watts)	Additional Allowance/Adjustment Area Category	PAF
DINING AREA	Restaurant	0.65	292	189.8	No	No

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I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS				
TOTALS:	292	189.8	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE / SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

Report Page: NRCC-LTI-E (Page 7 of 7)

Project Name: JUNBI


Date Prepared: 2024-05-31T11:10:11-04:00

Project Address: 3046 W Jack London Blvd. Ste K-3, Livermore CA 94551

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Michael Tobias

Documentation Author Signature: 

Company: NY Engineers

Signature Date: 2024-05-31

Address: 382 NE 191ST. ST. SUITE 49674

CEA/HERS Certification Identification (if applicable):

City/State/Zip: MIAMI, FL 33179

Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.


2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).

3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Michael Tobias

Responsible Designer Signature: 

Company: NY Engineers

Date Signed: 2024-05-31

Address: 382 NE 191ST. ST. SUITE 49674

License:

City/State/Zip: MIAMI, FL 33179

Phone:

Generated Date/Time: Documentation Software: EnergyCodeAce

CA Building Energy Efficiency Standards-2022 Nonresidential Compliance

Report Version: 2022.0.000 Compliance ID: 202800-0524-0002

Schema Version: rev20220101 Report Generated: 2024-05-31 08:10:15

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Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-OR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS-CONTROL SECTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title

NRCC-LTI-E-Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: <http://www.energy.ca.gov/title24/attcp/providers.html>

Form/Title

Systems/Spaces To Be Field Verified

NRCA-LTI-02-A-Must be submitted for occupancy sensors and automatic timeswitch controls.

DINING AREA

Generated Date/Time: Documentation Software: EnergyCodeAce

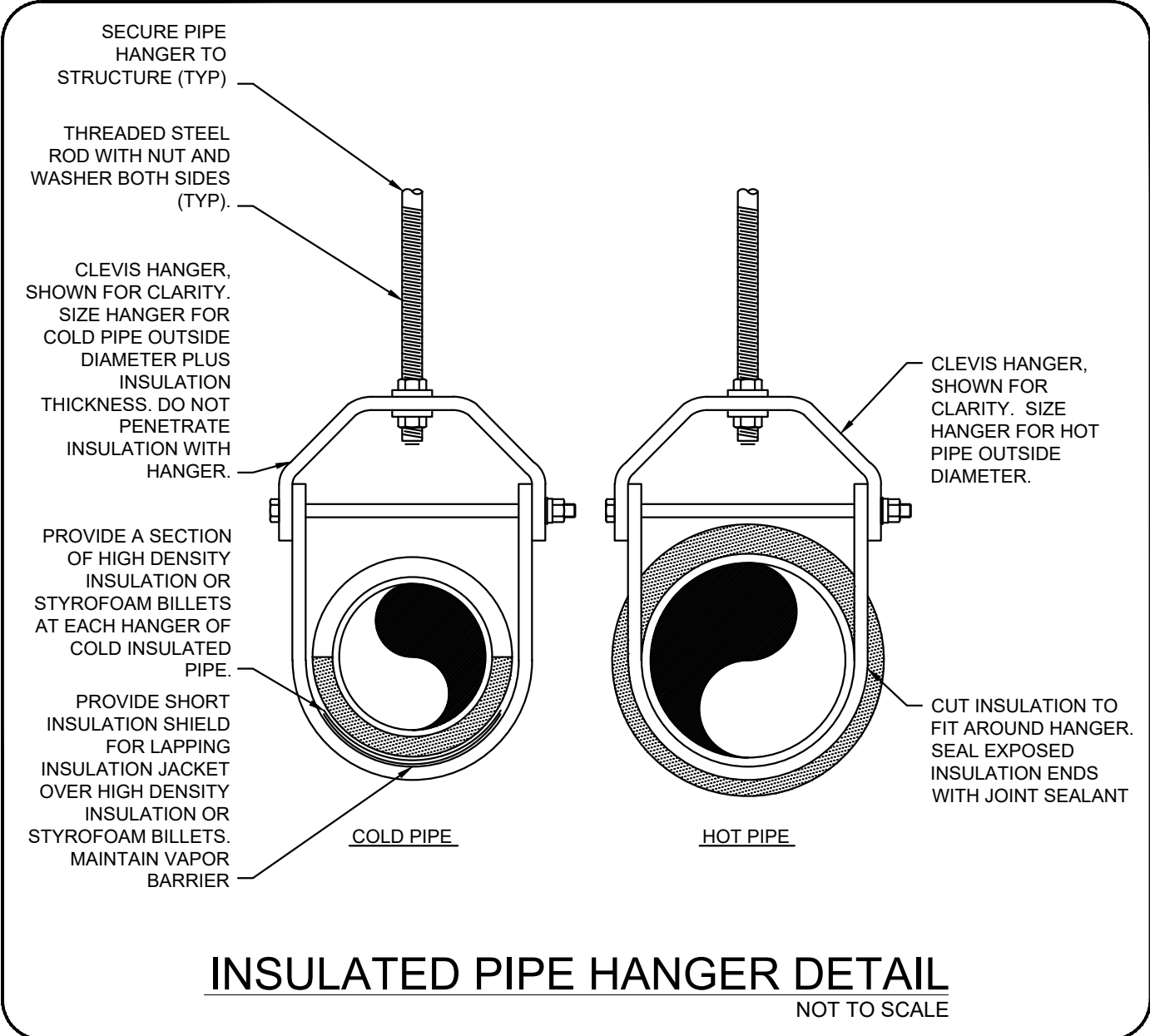
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Report Version: 2022.0.000 Compliance ID: 202800-0524-0002


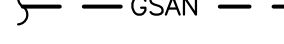

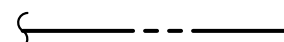
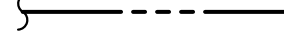
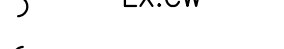

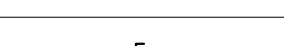

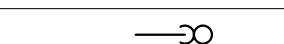

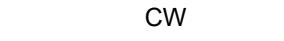

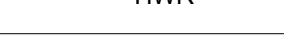
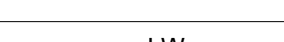




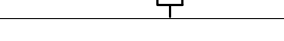
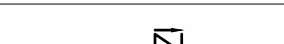


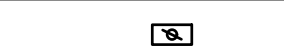






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SCOPE OF WORK
PROVIDE ALL PLUMBING FOR NEW FOOD & BEVERAGE SPACE WITHIN AN EXISTING BUILDING SHELL, INCLUDING ALL WATER, GAS, GREASE & SANITARY LINES AND CONNECT TO EXISTING UTILITIES. REUSE THE EXISTING STORAGE TYPE WATER HEATER.
COORDINATE WITH G.C. AND MECHANICAL CONTRACTOR FOR ANY REQUIRED CONDENSING WATER LINES.

PLUMBING NOTES
A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY OWNER'S CONSTRUCTION MANAGER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
B. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE OWNER'S CONSTRUCTION MANAGER REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS.
C. PROVIDE TO THE OWNER'S CONSTRUCTION MANAGER A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.
D. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD. OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.
E. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
F. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF CONNECTION BEFORE START OF PIPING INSTALLATION.
G. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
H. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
I. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
J. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
K. PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED; EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.
L. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
M. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
N. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
O. PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
P. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
Q. PAINT ALL EXPOSED GAS AND WATER PIPING USING RUST INHIBITOR PAINT. PAINT AND COLOR SHALL BE COORDINATED WITH THE ARCHITECT AND / OR OWNER.
R. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
S. INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.
T. SEAL ALL PENETRATIONS THROUGH RATED WALLS AND CEILINGS.
U. EXAMINE THE CONTRACT DRAWINGS AND ALL AVAILABLE INFORMATION CONCERNING EXISTING INSTALLATION, STRUCTURE, AND LOCAL CONDITIONS. VISIT THE SITE TO UNDERSTAND THE NATURE AND SCOPE OF ALL WORK TO BE PERFORMED AND VERIFY EXISTING CONDITIONS. THE SUBMISSION OF A BID WILL BE TAKEN AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND THAT ALL EXISTING CONDITIONS HAVE BEEN CONSIDERED. NO ALLOWANCES WILL BE MADE AFTER THE PROJECT HAS BEEN AWARDED FOR FAILURE TO VERIFY EXISTING CONDITIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THAT OF THESE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
V. PLUMBING CONTRACTOR MUST PROVIDE CAMERA VERIFICATION OF EXACT LOCATION OF WASTE LINE TO GC DURING BID. VERIFICATION MUST BE MADE PRIOR TO ISSUANCE OF PERMIT AND AFTER ACCEPTANCE OF CONTRACT TO PROCEED.
W. CONTRACTOR TO FIELD VERIFY EXISTING DOMESTIC WATER SYSTEM IS PROVIDED WITH A REDUCED PRESSURE BACKFLOW PREVENTER (RPBP). IF NOT EXISTING, PROVIDE AN APPROVED RPBP ASSEMBLY SIZED TO MATCH BUILDING WATER METER. INSTALL NEW RPBP BETWEEN THE WATER METER AND THE BUILDING PER LOCAL JURISDICTIONS REQUIREMENTS.



PLUMBING PIPE MATERIAL SCHEDULE	
PIPING SYSTEM	PIPING MATERIAL
SANITARY, GREASE SANITARY & VENT (ABOVE GRADE)	HUBLESS CAST IRON (PVC DWV OPTIONAL)
SANITARY, GREASE SANITARY & VENT (BELOW GRADE)	SERVICE WEIGHT CAST IRON (PVC DWV OPTIONAL)
POTABLE WATER (ABOVE GRADE)	TYPE L HARD DRAWN COPPER (PEX TUBING UP TO 2" OPTIONAL)
POTABLE WATER - 2" & SMALLER (BELOW GRADE)	TYPE K SOFT ANNEALED COPPER (CPVC SCH 80 OPTIONAL)
PIPING MATERIALS WITHIN AIR PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED AND LABELED AS HAVING A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723.	

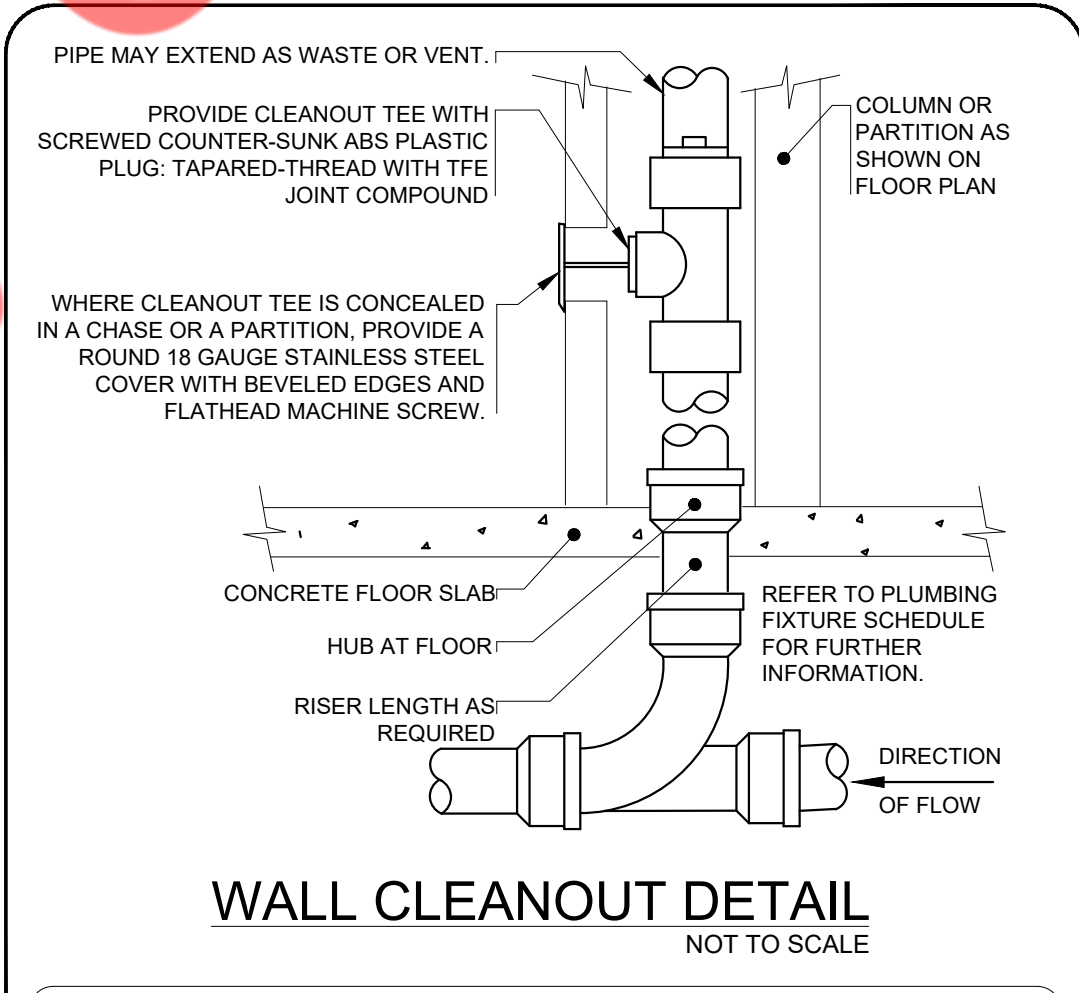
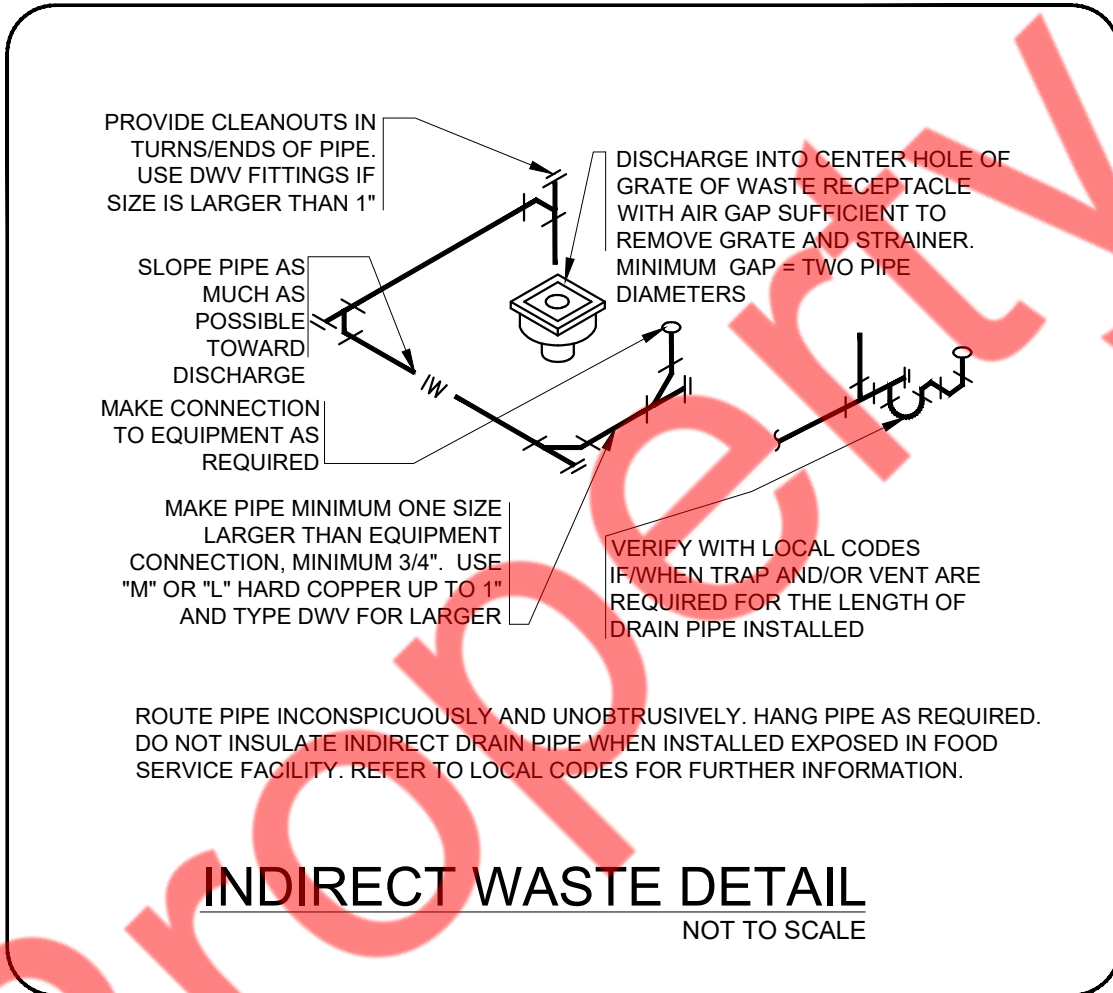
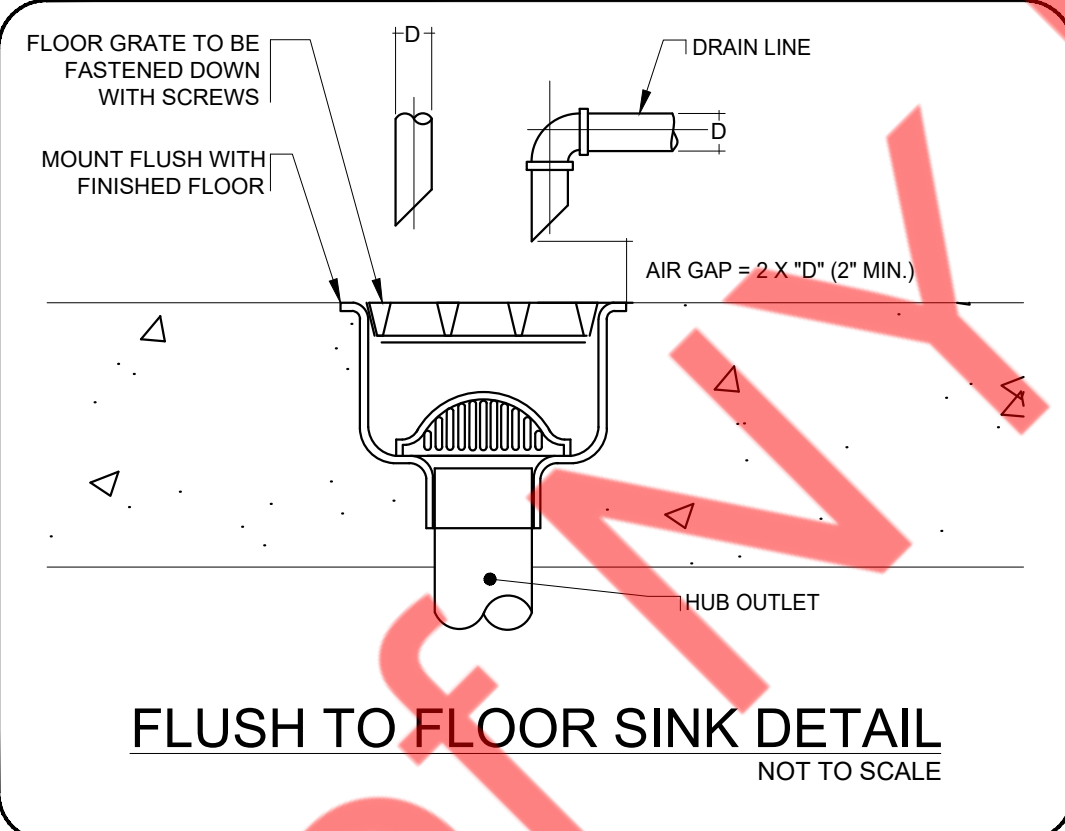
PLUMBING LEGEND	
	SANITARY SEWER PIPING (UNDERGROUND)
	GREASE SANITARY SEWER PIPING (UNDERGROUND)
	VENT PIPING
	DOMESTIC COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	EXISTING DOMESTIC COLD WATER PIPING
	PIPE RISE
	PIPE DROP
	CAPPED END OF PIPE
	FLOOR CLEAN OUT
	P-TRAP
	SHUT - OFF VALVE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	WALL CLEAN OUT
	INDIRECT WASTE
	FLOOR SINK
	FLOOR SINK EXISTING
	GATE VALVE
	GAS COCK
	WATER HAMMER ARRESTER
	FLOOR DRAIN
	DUAL CHECK VALVE
	FLOOR SINK
	FLOOR SINK (E)
	BALANCING VALVE
	POINT OF CONNECTION
	THERMOSTATIC MIXING VALVE (TMV)

FIXTURE BRANCH SCHEDULES				
FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
MOP SINK (E)	E	E	E	E
HAND SINK (E)	E	E	E	E
FLOOR SINK	--	--	3"	2"
FLOOR SINK (E)	--	--	E	E

ENERGY CONSERVATION NOTES

1. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 110.3(C)(6), INSTANTANEOUS WATER HEATERS WITH AN INPUT RATING GREATER THAN 6.8KBTU/HR (2KW) SHALL HAVE ISOLATION VALVES ON BOTH THE COLD WATER SUPPLY AND HOT WATER PIPE LEAVING THE WATER HEATER.
2. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 110.3(C)(4), AN AUTOMATIC AIR RELEASE VALVE SHALL BE INSTALLED ON THE RECIRCULATION LOOP PIPING ON THE INLET SIDE OF THE RECIRCULATION PUMP AND NO MORE THAN 4 FEET FROM THE PUMP. THIS VALVE SHALL BE MOUNTED ON TOP OF A VERTICAL RISER AT LEAST 12 INCHES IN LENGTH AND SHALL BE ACCESSIBLE FOR REPLACEMENT AND REPAIR. ALTERNATIVELY, THE PUMP SHALL BE INSTALLED ON A VERTICAL SECTION OF THE RETURN LINE.
3. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 110.3(C)(4), A CHECK VALVE OR SIMILAR DEVICE SHALL BE LOCATED BETWEEN THE RECIRCULATION PUMP AND THE WATER HEATING EQUIPMENT TO PREVENT WATER FROM FLOWING BACKWARDS THOUGH THE RECIRCULATION LOOP.
4. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 110.3(C)(4), ISOLATION VALVES SHALL BE INSTALLED ON BOTH SIDES OF THE PUMP. THESE VALVES MAY BE PART OF THE FLANGE THAT ATTACHES THE PUMP TO THE PIPE.
5. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 110.3(C)(4), A CHECK VALVE SHALL BE INSTALLED ON THE COLD WATER SUPPLY LINE BETWEEN THE HOT WATER SYSTEM AND THE NEXT CLOSEST TEE ON THE COLD WATER SUPPLY LINE.
6. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 120.3, ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER.
7. AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SECTION 110.3(C)(1), SERVICE WATER HEATING EQUIPMENT SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE OF ADJUSTING FROM THE LOWEST TO THE HIGHEST ACCEPTABLE TEMPERATURE SETTING FOR THE INTENDED USE AS PER TABLE 613.0 OF THE CALIFORNIA STATE PLUMBING CODE.

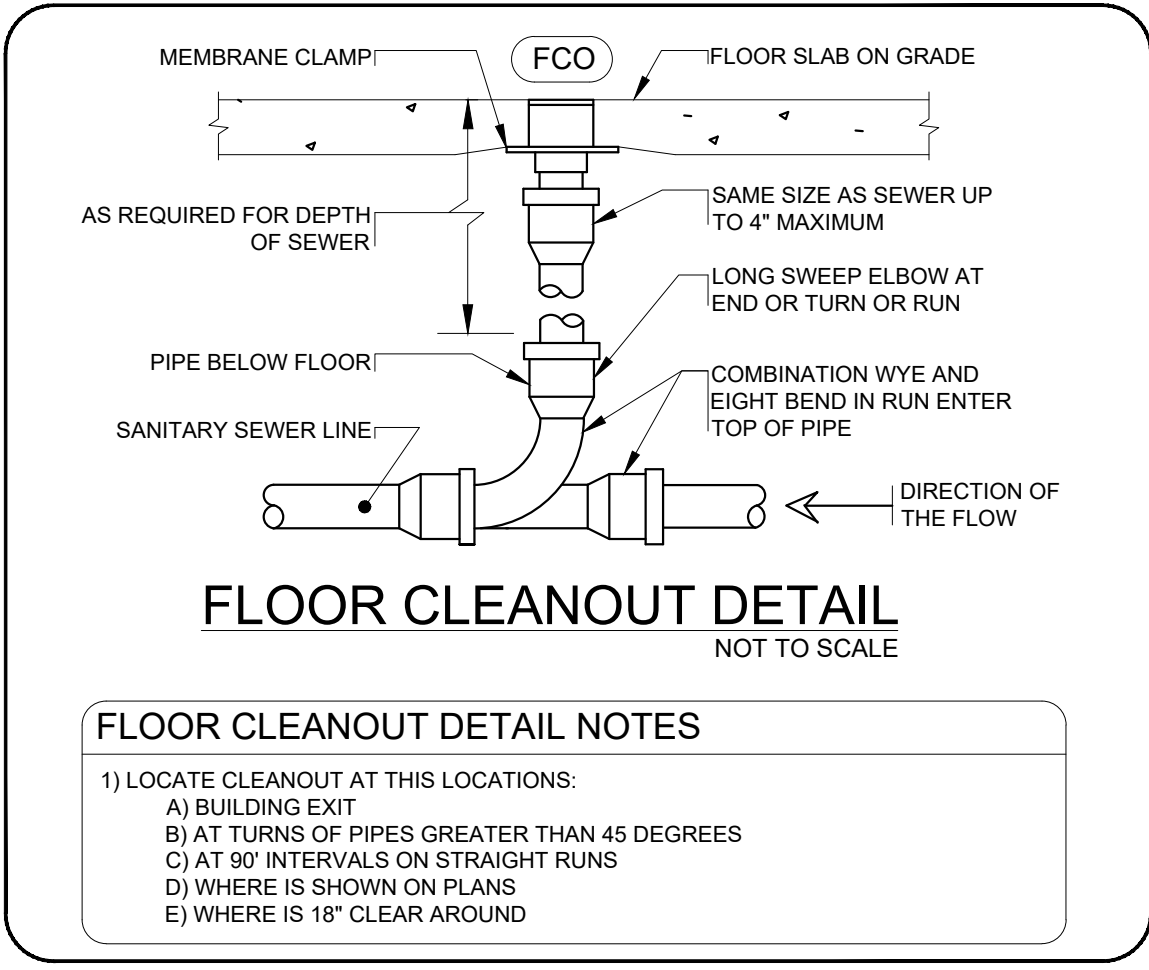
MINIMUM PIPE INSULATION THICKNESS (IN INCHES)					
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY	NOMINAL PIPE OR TUBE SIZE (INCHES)			
	CONDUCTIVITY BTU x INJ (H x FT² x °F)	MEAN RATING TEMPERATURE, °F	< 1	1 to < 1½	1½ to < 4
141-200	0.25-0.29	125	1.5	1.5	2.0
105-140	0.22-0.28	100	1.0	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0



WALL CLEANOUT DETAIL NOTES
1) PROVIDE WCO WHERE SHOWN ON PLANE, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT.
2) LOCATE ABOVE FIXTURE FLOOR RIM WITHIN 4" OF FLOOR.
3) CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.
4) LONG SWEEP AT END OF LINE OR COMBINATION WYE AND EIGHT BEND IN RUN OF LINE.
5) CLEAN OUT FACE SHALL BE WITHIN 4" OF WALL SURFACE. PROVIDE A PIPE EXTENSION IF REQUIRED.

PLUMBING RESTROOM FIXTURE SCHEDULE					WATER			WASTE
Item No.	Qty.	Description	Manufacturer	Model	Hot	Cold	Direct	
A	1	WATER CLOSET	EXISTING TO REMAIN	EXISTING TO REMAIN				E
B	1	RECTANGLE - WALL MOUNTED LAVATORY	EXISTING TO REMAIN	EXISTING TO REMAIN				E
C	1	LAVATORY FAUCET	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E		

PLUMBING EQUIPMENT SCHEDULE					WATER			WASTE	NOTES
Item No.	Qty.	Description	Manufacturer	Model	Hot	Cold	Direct	Indirect	
1	1	ESPRESSO CAPUCCION MACHINE	NUOVO SIMONELLI	APPIA LIFE 1GR VOL		1/2"		1-1/4"	FILTERED WATER, DRAIN TO FS, DCV
6	1	BLENDER STATION	GLASTENDER	C-B5B-14	1/2"	1/2"		1-1/2"	DRAIN TO FS, TMV
9	1	GLASS RINSER	KROME	C460		1/2"		2"	DRAIN TO FS
12	1	CUSTOM COUNTER W/BUILT-IN GLASS RINSER	KEMLEE	CUSTOM		1/2"		2"	DRAIN TO FS
13	1	COLD FOOD WELL UNIT, DROP-IN, ICE-COOLED	WELLS	IPC-100				1"	DRAIN TO FS
15	1	DROP-IN ICE BIN	KROWNE	D2712				1"	DRAIN TO FS
20	2	HAND SINK	GSW USA	HS-1615S	1/2"	1/2"	1-1/2"		TMV
25	1	PITCHER RINSER DRIP TRAY	KROME DISPENSER	C4008		1/2"		2"	DRAIN TO FS
26	1	DECK-MOUNTED FAUCET	T&S BRASS	5F-1SLX05A		1/2"			FILTERED WATER
34	1	ICE MAKER, CUBE-STYLE	EXISTING TO REMAIN	EXISTING TO REMAIN		E		E	FILTERED WATER, DRAIN TO FS, DCV
35	1	ICE STORAGE BIN	EXISTING TO REMAIN	EXISTING TO REMAIN				E	DRAIN TO FS
36	1	ONE (1) COMPARTMENT SINK	EXISTING TO REMAIN	EXISTING TO REMAIN				E	DRAIN TO FS
37	1	WALL/SPLASH MOUNT FAUCET	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E			TMV
38	1	DRAIN, LEVER / TWIST WASTE	EXISTING TO REMAIN	EXISTING TO REMAIN				E	
39	1	GLASS FILLER	T&S BRASS	B-0211		1/2"			FILTERED WATER
43	1	HOT WATER DISPENSER	BUNN	43600.0002		1/4"		1-1/4"	DRAIN TO FS, FILTERED WATER, DCV
44	1	HOT WATER HEATER	EXISTING TO REMAIN	EXISTING TO REMAIN		E		E	
45	1	MOP SINK	EXISTING TO REMAIN	EXISTING TO REMAIN				E	
46	1	HEAVY DUTY SERVICE FAUCET W/PAIL HOOK	T&S BRASS	B0664, B-0230-K, B-0618-01, B-0653	3/4"	3/4"			
47	1	ICED TEA BREWER	FETCO	TBS-2121XTS (T212101)		1/4"			FILTERED WATER, DCV
53	1	THREE (3) COMPARTMENT SINK	EXISTING TO REMAIN	EXISTING TO REMAIN				E	
54	1	PRE-RINSE FAUCET ASSEMBLY, WITH ADD ON FAUCET	EXISTING TO REMAIN	EXISTING TO REMAIN	E	E			
57	5	WATER FILTER	EVERPURE	QL2-OW200L		1/2"			
59	2	WATER FILTER - ESPRESSO MACHINE	3M	PS124		1/2"			
60	1	DRAIN, LEVER / TWIST WASTE	KROWNE	22-204				2"	
DCV	3	DUAL CHECK VALVE WITH ATMOSPHERIC PORT	ZURN	WILKINS 740		1/2"			ASSE 1022 STD.
WCO	2	WALL CLEANOUT	ZURN	ZN1446					
FS	6	FLOOR SINKS	ZURN	Z1900-KC-2-23-NL				3"	
TMV	1	THERMAL MIXING VALVE	ZURN	WILKINS ZW1070XL	1/2"	1/2"			



FLOOR CLEANOUT DETAIL NOTES
1) LOCATE CLEANOUT AT THIS LOCATIONS: A) BUILDING EXIT B) AT TURNS OF PIPES GREATER THAN 45 DEGREES C) AT 90° INTERVALS ON STRAIGHT RUNS D) WHERE IS SHOWN ON PLANS E) WHERE IS 18" CLEAR AROUND

GENERAL NOTES

1. SLOPE OF DRAINAGE PIPING SHALL BE 1/8" PER FOOT OF RUN FOR PIPE 4" OR LARGER AND 1/4" PER FOOT OF RUN FOR PIPE SMALLER THAN 4". VENT PIPING SHALL BE PITCHED TO DRAIN.
2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
4. ALL CLEANOUTS TO BE ACCESSIBLE.
5. PROVIDE TRAP PRIMER FOR ALL FLOOR DRAINS.
6. CONTRACTOR TO COORDINATE WITH LANDLORD/OWNER FOR THE LOCATION AND THE CAPACITY OF GREASE INTERCEPTOR. CONTRACTOR TO MAKE SURE THAT THE CAPACITY OF EXISTING GREASE INTERCEPTOR SHOULD BE MINIMUM OF 1250 GALLONS OR IT SHOULD BE SUFFICIENT AS PER THE LOCAL CODES. LET THE ENGINEER KNOW IF THE EXISTING GREASE INTERCEPTOR CAN NOT BE USED FOR OUR SPACE BEFORE COMMENCING OF BID.

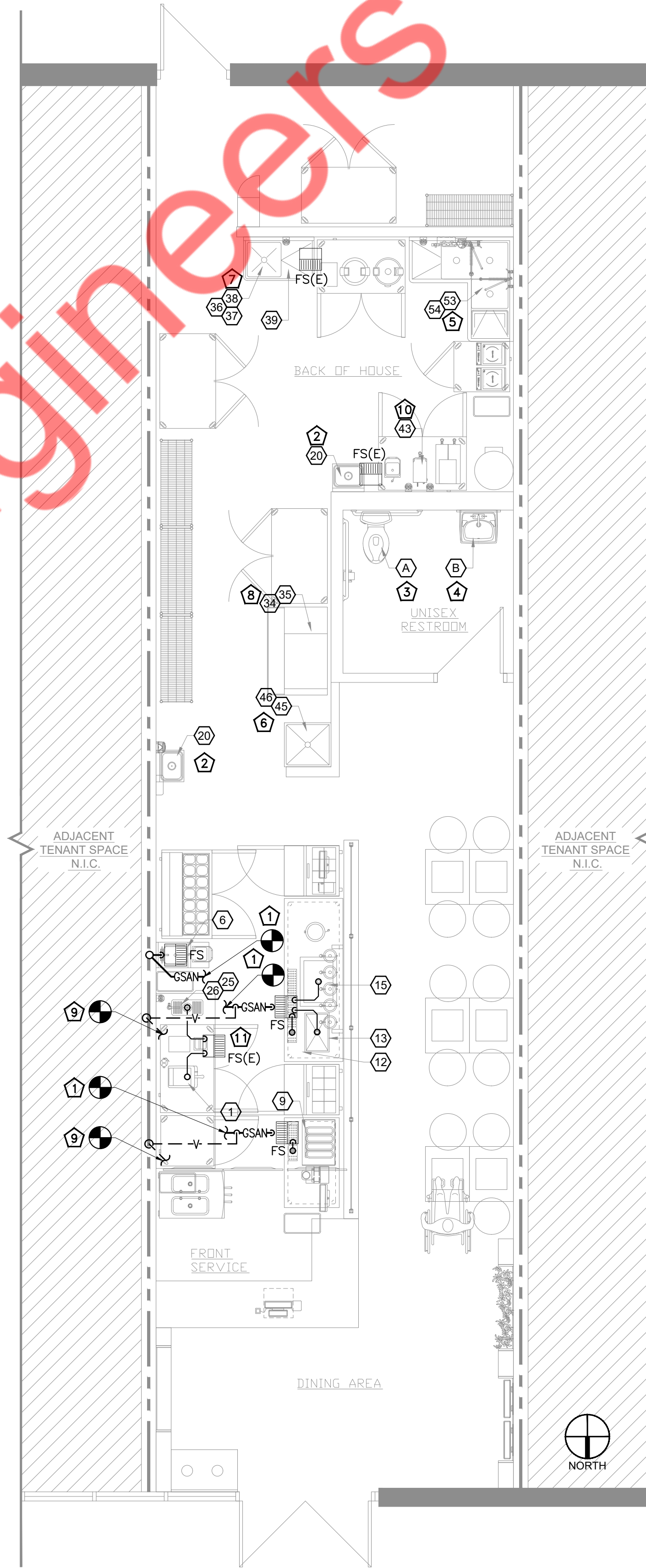
SANITARY PLAN & RISER KEY NOTES

1. EXTEND & CONNECT NEW 3" GREASE SANITARY WASTE PIPING TO EXISTING GREASE SANITARY MAIN LINE OF ADEQUATE SIZE IN AREA WITH EXISTING GREASE INTERCEPTOR. CONTRACTOR TO FIELD VERIFY EXACT SIZE, LOCATION, ROUTING AND INVERT OF EXISTING GREASE SANITARY LINE AND UPGRADE IF REQUIRED. ALSO, CONTRACTOR TO CLEAN & FIELD VERIFY THE CONDITION, CAPACITY & LOCATION OF EXISTING GREASE INTERCEPTOR AND REPLACE IF REQUIRED.
2. EXISTING HAND SINK TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
3. EXISTING WATER CLOSET TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
4. EXISTING LAV TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
5. EXISTING 3 COMPARTMENT SINK TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
6. EXISTING MOP SINK TO REMAIN WITH EXISTING SANITARY AND VENT CONNECTION, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
7. EXISTING 1 COMPARTMENT SINK TO REMAIN WITH EXISTING INDIRECT WASTE WITH EXISTING FLOOR SINK IN SPACE, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
8. EXISTING ICE MAKER AND ICE STORAGE BIN TO REMAIN WITH EXISTING INDIRECT WASTE WITH EXISTING FLOOR SINK IN SPACE, ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
9. EXTEND & CONNECT NEW 2" VENT PIPING TO EXISTING VENT OF ADEQUATE SIZE IN SPACE. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND UPGRADE IF REQUIRED.
10. EXTEND AND CONNECT NEW INDIRECT WASTE PIPE OF HOT WATER DISPENSER WITH EXISTING FLOOR SINK IN SPACE. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING FLOOR SINK PIPING AND REPLACE IF REQUIRED.
11. EXTEND AND CONNECT NEW INDIRECT WASTE PIPE OF PITCHER RINSER DRIP TRAY AND ESPRESSO CAPUCCINO MACHINE WITH EXISTING FLOOR SINK IN SPACE. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING FLOOR SINK PIPING AND REPLACE IF REQUIRED.

GREASE INTERCEPTOR SIZING:

FIXTURE	QUANTITY	DFU PER FIXTURE	TOTAL DFU
HAND SINK	2	1	2
MOP SINK	1	3	3
FLOOR SINK	6	6	36
TOTAL DRAINAGE FIXTURE UNITS (DFU) CONNECTED TO GREASE INTERCEPTOR			41
AS PER 2022 CALIFORNIA PLUMBING CODE TABLE 1014.3.6, MINIMUM SIZE OF GRAVITY GREASE INTERCEPTOR REQUIRED			1250

CONTRACTOR TO FIELD VERIFY THE EXISTING GREASE INTERCEPTOR'S CAPACITY AND CONDITION. IF THE CAPACITY IS INSUFFICIENT BASED ON THE CALCULATED GALLONS REQUIRED, REPLACE THE GREASE INTERCEPTOR, BEFORE REUSING, ENSURE THE EXISTING GREASE INTERCEPTOR IS THOROUGHLY CLEANED.



GENERAL NOTES

- CW/HW/HWR PIPING TO BE PROVIDED WITH INSULATION AS PER 2022 CALIFORNIA ENERGY CODE, TITLE 24, PART 6 (REFER NOTES ON SHEET P-1).
- PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
- PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR & SHUT-OFF VALVES AS REQUIRED.
- CONTRACTOR TO CONNECT THE COLD WATER LINE TO WATER FILTER FOR ALL THE EQUIPMENTS THAT ARE PROVIDED WITH FILTER & MENTIONED IN THE SCHEDULE. AFTER THAT, CONNECT THE FILTERED LINE TO THE KITCHEN EQUIPMENT AS REQUIRED.

EXISTING WATER HEATER SCHEDULE

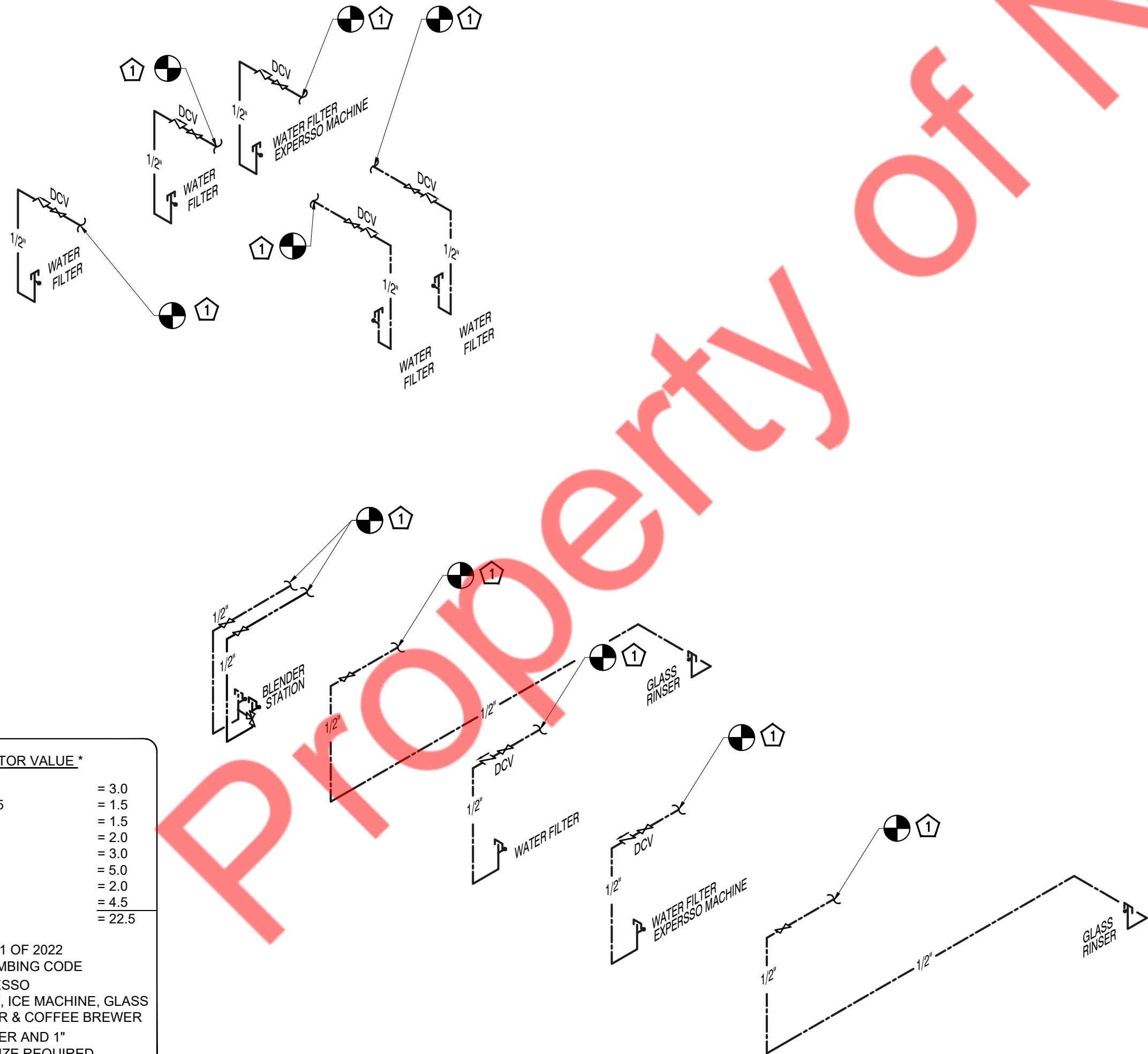
MANUFACTURER	AO SMITH
MODEL	DEN-66 110
EQUIPMENT TAG	WH-1(E)
STATUS	EXISTING
QUANTITY	1
CAPACITY	60 GAL.
FUEL	ELECTRIC
FLOW RATE	41 GPH*
VOLTAGE	208/1/60
AMPERAGE	43.3
WEIGHT (EMPTY)	176 LBS.

NOTES:

- * @ 90°F TEMPERATURE RISE.
- EXISTING EXPANSION TANK TO REMAIN.

WATER SUPPLY PLAN & RISER KEY NOTES

- EXTEND & CONNECT NEW 1/2" CW/HW LINE TO EXISTING CW/HW PIPING IN SPACE. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION OF EXISTING CW PIPING AND UPGRADE IF REQUIRED.
- EXISTING MOP SINK TO REMAIN WITH EXISTING CW/HW CONNECTION. ASSOCIATED ACCESSORIES & FITTINGS AND PROVIDE NEW PRESSURE VACUUM BREAKER BACKFLOW PREVENTERS COMPLIES WITH ASSE1020. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED. IF A TEMPERATURE MIXING VALVE IS NOT ALREADY PRESENT, PROVIDE NEW ONE.
- EXISTING 3-COMP SINK TO REMAIN WITH EXISTING CW/HW CONNECTION. ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED. IF A TEMPERATURE MIXING VALVE IS NOT ALREADY PRESENT, PROVIDE NEW ONE.
- EXISTING 1-COMP SINK TO REMAIN WITH EXISTING CW/HW CONNECTION. ASSOCIATED ACCESSORIES & FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING & REPLACE IF REQUIRED. IF A TEMPERATURE MIXING VALVE IS NOT ALREADY PRESENT, PROVIDE NEW ONE.
- EXISTING FILTER WATER SUPPLY TO REMAIN WITH THE EXISTING FILTER AND BFP FOR ICE MAKER, CUBE STYLE. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
- EXISTING WATER CLOSET TO REMAIN WITH EXISTING CW PIPING CONNECTION. ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
- EXISTING LAV TO REMAIN WITH EXISTING CW/HW PIPING CONNECTION. ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED. IF A TEMPERATURE MIXING VALVE IS NOT ALREADY PRESENT, PROVIDE NEW ONE.
- EXISTING WATER HEATER TO REMAIN WITH EXISTING EXPANSION TANK, WATER PIPING AND ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING WATER HEATER AND PROVIDE NECESSARY ACCESSORIES IF REQUIRED.
- EXISTING HS TO REMAIN WITH EXISTING CW/HW PIPING CONNECTION. ASSOCIATED ACCESSORIES AND FITTINGS. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED. IF A TEMPERATURE MIXING VALVE IS NOT ALREADY PRESENT, PROVIDE NEW ONE.
- EXISTING RTU-1(E) WITH EXISTING GAS PIPING, GAS METER & GAS PRESSURE REGULATOR TO REMAIN. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING GAS PIPING & GAS PRESSURE REGULATOR, REPLACE IF REQUIRED.



FIXTURE FACTOR VALUE *

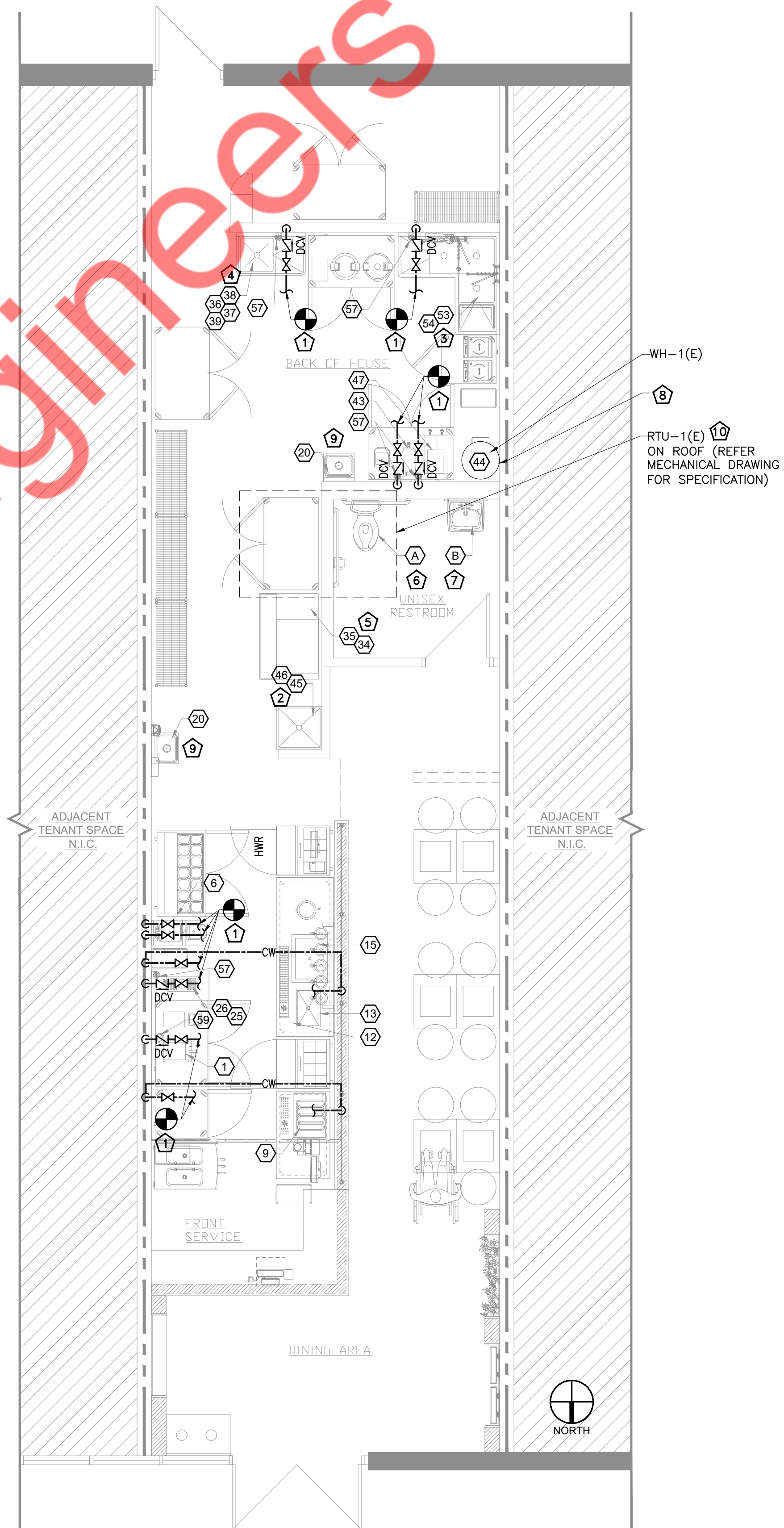
2 HAND SINK @ 1.5	= 3.0
1 BLENDER STATION @ 1.5	= 1.5
1 1-COMP SINK @ 1.5	= 1.5
1 3-COMP SINK @ 2.0	= 2.0
1 MOP SINK @ 3.0	= 3.0
1 WC TANK(E) @ 5.0	= 5.0
1 LAV (E) @ 2.0	= 2.0
9**MISC @ 0.5	= 4.5
TOTAL	= 22.5

* TABLE A 103.1 OF 2022 CALIFORNIA PLUMBING CODE
** ESPRESSO MACHINE, RINSER, FAUCET, ICE MACHINE, GLASS FILLER, WATER DISPENSER & COFFEE BREWER
1" WATER METER AND 1" WATER SERVICE SIZE REQUIRED

WATER SUPPLY RISER

SCALE
N.T.S.

2



WATER SUPPLY PLAN

SCALE
1/4" = 1'-0"

1