MECHANICAL SYMBOLS LIST

AC-1 / EF-1	EQUIPMENT SYMBOL
	POINT OF NEW CONNECTION TO EXISTING

AIR DEVICES

	CEILING DIFFUSER SUPPLY
	CEILING DIFFUSER RETURN/EXHAUST
	SUPPLY GRILLE - SIDEWALL
	RETURN GRILLE - SIDEWALL

DUCT ACCESSORIES

BD	BACKDRAFT DAMPER

CONTROLS AND SENSORS

T	THERMOSTAT
T_S	TEMPERATURE SENSOR
S_D	DUCT SMOKE DETECTOR

DUCTWORK

	AIR DUCT W/ 1.5" ACOUSTICAL LINING
	FLEXIBLE DUCT
FC FC	FLEXIBLE CONNECTION
24X12	RECTANGULAR DUCT (WIDTH X DEPTH)
Ø12	ROUND DUCT (DIAMETER)
	ROUND DUCT CROSS SECTION
	SUPPLY AIR RECTANGULAR DUCT CROSS SECTION
	RETURN AIR RECTANGULAR DUCT CROSS SECTION

MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AL	ACOUSTIC LINING
BD	BACKDRAFT DAMPER
CDS	CEILING DIFFUSER SUPPLY
CDR	CEILING DIFFUSER RETURN
CFM	CUBIC FEET OF AIR PER MINUTE
CP	CONDENSATE PUMP
CD	CONDENSATE DRAIN PIPE
EF	EXHAUST FAN
FC	FLEXIBLE CONNECTION
FD/AD	FIRE DAMPER W/ACCESS DOOR
FD	FIRE DAMPER W/FUSIBLE LINK
FSD	FIRE SMOKE DAMPER
MD	MOTORIZED DAMPER
OAI	OUTSIDE AIR INTAKE
T-X	THERMOSTAT
VD	VOLUME DAMPER
W.M.S.	WIRE MESH SCREEN
S.A.E	SAME AS EXISTING
V.I.F	VERIFY IN FIELD
RTU	ROOF TOP UNIT

MECHANICAL DRAWING LIST

CODE COMPLIANCE

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY. NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THESE PROJECT:

A. 2022 CALIFORNIA BUILDING CODE

B. 2022 CALIFORNIA MECHANICAL CODE

C. 2022 CALIFORNIA PLUMBING CODE

D. 2022 CALIFORNIA FIRE CODE

E. 2022 CALIFORNIA ELECTRICAL CODE

F. 2022 CALIFORNIA ENERGY CODE.

CALIFORNIA 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. SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION 606 OF CALIFORNIA MECHANICAL CODE 2022 TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.
6. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
7. 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.
8. 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
   B. SMOKE CONTROL SYSTEMS - CALIFORNIA MECHANICAL CODE 2022 - 606
9. 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 - 603
   C. AIR INTAKES, EXHAUSTS AND RELIEF - CALIFORNIA MECHANICAL CODE 2022 -502.
   D. AIR FILTERS - CALIFORNIA MECHANICAL CODE 2022 - 401 (FILTERS SHALL BE A MINIMUM OF MERV 13 AS REQUIRED BY CENC 120.1(C))
   E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - CALIFORNIA MECHANICAL CODE 2022 - 606
10. PORTIONS OF SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHELL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8:
    1.OUTDOOR; OR
    2.IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR
    3.IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENING TO THE OUTSIDE OR UNCONDITIONED SPACE ; OR
    4.IN AN UNCONDITIONED CRAWLSPACE ; OR
    5.IN OTHER UNCONDITIONED SPACES.
11. 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.
12. ALL MECHANICAL EQUIPMENT SHALL BE TESTED BY A CALIFORNIA CERTIFIED ACCEPTANCE TEST TECHNICIAN.

GENERAL NOTES

1. CONTRACTOR SHALL SURVEY THE AREA OF THIS WORK BEFORE SUBMITTING A BID AND SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK AS SHOWN ON DRAWINGS.
2. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
3. BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO OWNER FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS WORK ONLY AT THE TIMES DESIGNATED BY OWNER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF-DAYS WITHOUT PRIOR WRITTEN APPROVAL.
4. THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.
5. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
6. CONTRACTOR SHALL ASCERTAIN THE APPROPRIATE METHOD FOR BRINGING THE UNITS INTO AND THROUGH THE BUILDING TO POSITION UNIT IN LOCATION SHOWN ON THE PLANS. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTIVE SPACES. COORDINATE WITH BUILDING OWNER APPROPRIATE TIMES OF DAY SUCH EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.
7. DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL MAKE ALLOWANCE IN PRICING FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH THE EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES IS REQUIRED.
8. SUPPORT ALL DUCTWORK FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING. INSERTS SHALL BE STEEL, SLOTTED TYPE AND FACTORY PAINTED. SINGLE ROD SHALL BE SIMILAR TO GRINNELL FIG. 281. MULTI-ROD SHALL BE SIMILAR TO FEE & MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS. MAXIMUM LOADING INCLUDING PIPES, DUCTWORK CONTENTS AND COVERING SHALL NOT EXCEED 75% OF RATED INSERT CAPABILITY. WHEN SUPPORTING FROM BUILDING USE BEAM CLAMPS IN APPROVED MANNER.
9. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.
10. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL (FIBERGLASS INSULATION IS NOT ACCEPTABLE).
11. WHERE PENETRATIONS THROUGH FIRE RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.
12. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
13. ACCESS DOORS ARE REQUIRED FOR ALL BUILDING SERVICE VALVES THAT RUN THROUGH THE SPACE, AND ACCESS DOOR SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL. COORDINATE ALL LOCATIONS OF ACCESS DOORS WITH THE ARCHITECT.
14. REMOVABLE ACCESS TILE AND/OR ACCESS DOOR ARE REQUIRED IN HUNG CEILINGS, SHAFTS AND WALLS FOR ALL VOLUME AND FIRE DAMPERS, AUTOMATIC DAMPERS AND ALL OTHER MECHANICAL EQUIPMENT AND DEVICES. HVAC CONTRACTOR TO FURNISH ACCESS LOCATION REQUIREMENTS TO GENERAL CONTRACTOR. ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS, AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES, DAMPERS AND EQUIPMENT.
15. 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.
16. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
17. ALL EQUIPMENT SHALL BE PROVIDED WITH ONE YEAR WARRANTY PARTS AND LABOR AND FIVE YEARS ON COMPRESSORS. WARRANTY PERIOD BEGINS UPON PROJECT ACCEPTANCE
18. ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST, OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FAILURE OF ANY DUCTWORK SYSTEM OR EQUIPMENT TO FUNCTION PROPERLY UPON COMPLETION OF HIS WORK UPON SAID SYSTEM OR EQUIPMENT.
21. SUBMIT SHOP DRAWING OF ALL WORK WHICH MUST BE APPROVED BY THE ARCHITECT AND ENGINEER BEFORE WORK COMMENCES.
22. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON-SITE INSPECTION SHALL VERIFY EXISTING DUCTWORK, PIPING (SIZES, CLEARANCES, ETC) AND CONDITIONS.
23. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS THE CONTRACTOR SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
24. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
25. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.
26. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS, THE SPECIFICATIONS OR ANY OTHER CONSTRUCTION DOCUMENT, THE ONE WITH THE MOST STRINGENT REQUIREMENT(S) SHALL APPLY.

DEFINITIONS:

1)"PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.

2) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

3) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

SCOPE OF WORK

SCOPE OF WORK

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

GENERAL HVAC NOTES

GENERAL:

1. PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
3. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
4. WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.
5. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
6. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
7. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
8. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
9. ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.
10. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
11. MAINTAIN A MINIMUM 6'-8" CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
12. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
13. NOTHING IS PERMITTED TO BE ATTACHED TO, SUSPENDED FROM, OR PENETRATE LANDLORD'S STRUCTURE, FLOOR DECK, OR ROOF DECK. TENANT MAY ATTACH, NON-DESTRUCTIVELY, TO OR SUSPEND FROM THE TOP CHORD OF THE JOIST OR THE STRUCTURAL STEEL WHICH EXISTS ABOVE THE TENANT SPACE. WHEN ATTACHING TO LANDLORD'S STRUCTURE, DO NOT DRILL, WELD, SCREW, OR SHOOT INTO STRUCTURE. ALTERNATIVE METHODS OF ATTACHMENT ONLY, NOTHING TO DAMAGE LANDLORD'S BASE BUILDING STRUCTURE. TENANT SHALL PROVIDE SIGNED AND SEALED STRUCTURAL DRAWINGS, BY A STRUCTURAL ENGINEER WITH LEGALLY ACTIVE REGISTRATION AS INDICATED BY ALL JURISDICTIONAL REQUIREMENTS, FOR ALL STRUCTURAL MODIFICATIONS FOR LANDLORD RECORDS.
14. ALL PENETRATIONS TO ROOF MUST BE APPROVED BY LANDLORD. ALL RELATED ROOF WORK MUST BE DONE BY MALL'S DESIGNATED ROOFING CONTRACTOR, AT TENANT'S EXPENSE. COORDINATE ALL WORK WITH PROPERTY MANAGEMENT ON SITE.
15. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
16. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANELS SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL.
17. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
18. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
19. ALL DUCTWORK, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PERMITTED.
20. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
21. ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.
22. TENANT MUST REMOVE ALL ABANDONED ROOFTOP AND/ OR MECHANICAL EQUIPMENT ABOVE THE LEASED PREMISES AND WITHIN THE LEASED PREMISES, AT TENANT EXPENSE. PATCH AND REPAIR ROOF AS NEEDED.
23. TENANT'S GC TO LABEL ALL ROOF TOP EQUIPMENT WITH TENANT NAME SPACE NUMBER AND EQUIPMENT IDENTIFICATION (RTU-1, EF-1), PER MALL SPECIFICATIONS/ STANDARDS.
24. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH "P" TRAP, AND PIPED TO THE NEAREST DRAIN. CONDENSATE DRAIN PIPING SHALL BE COPPER. SEE THE DETAILS SHOWN IN THE DRAWINGS OR THE CONTRACT SPECIFICATIONS FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP.
25. REFER TO TYPICAL DETAILS FOR DUCTWORK, AND EQUIPMENT INSTALLATION.
26. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED. HVAC SYSTEM MUST BE TESTED & BALANCED BY A LICENSED CONTRACTOR. COPY OF BALANCE REPORT MUST BE PROVIDED TO THE PROPERTY MANAGEMENT OFFICE ON-SITE.
27. TESTING, ADJUSTING, AND BALANCING AGENCY SHALL BE A MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). TESTING, ADJUSTING, AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE AABC STANDARDS.
28. NO PITCH POCKETS ARE PERMITTED ON THE ROOF FOR ANY CONDENSATE DRAINS, REFRIGERATION PIPING OR CONTROL WIRING. ALL CONNECTIONS ARE TO BE MADE INSIDE THE EQUIPMENT CURB OR THROUGH PRE-MANUFACTURED PIPING CURB.
29. ALL UNEXPOSED SUPPLY AIR AND OUTSIDE AIR DUCTWORK SHALL BE EXTERNALLY INSULATED WITH 1 ½" THICK FOIL FACE INSULATION. INTERNALLY LINED DUCTWORK MAY BE USED FOR ACOUSTIC PURPOSES ONLY, NOT AS A SUBSTITUTE FOR EXTERNAL INSULATION.
30. ALL DUCTWORK SHALL BE SHEET METAL. FLEX DUCT MAY BE ONLY USED IN RUNS OF 5'-0" OR LESS.
31. AT CONCLUSION OF PROJECT, HVAC SYSTEM MUST BE TESTED AND BALANCED BY A LICENSED CONTRACTOR. COPY OF BALANCE REPORT MUST BE PROVIDED TO PROPERTY MANAGEMENT OFFICE ON-SITE.
32. LANDLORD STRONGLY PREFERS TO USE OF ENERGY STAR PRODUCTS AND/OR EQUIPMENT WHENEVER POSSIBLE DURING TENANT BUILD OUT, WHICH CAN REDUCE ENERGY CONSUMPTION.

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CHAGEE
SOUTH COAST PLAZA

△ ISSUANCE NAME	DATE
01 CITY COMMENTS	10-27-25
02 CITY COMMENTS	11-26-25

MECHANICAL SPECIFICATIONS (1 OF 2)

M0.01

SPECIFICATIONS

SECTION 0001 - NOTICE TO BIDDERS

1.1 BIDDERS REPRESENTATIONS

A. THE BIDDER BY MAKING A BID REPRESENTS THAT:

THE BIDDER HAS READ AND UNDERSTANDS THE BIDDING DOCUMENTS, TO THE EXTENT THAT SUCH DOCUMENTATION RELATES TO THE WORK FOR WHICH THE BID IS SUBMITTED, AND FOR OTHER PORTIONS OF THE PROJECT, IF ANY, BEING BID CONCURRENTLY OR PRESENTLY UNDER CONSTRUCTION.

B. THE BID IS MADE IN COMPLIANCE WITH THE BIDDING DOCUMENTS.

C. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS FOR THE BIDDER TO SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR.

D. SHOULD CONFLICTS OR DISCREPANCIES OCCUR WITHIN THE BIDDING DOCUMENTS, THE ITEM OR ITEMS IN DISPUTE THAT REPRESENT THE GREATER COST SHALL PREVAIL IN THE FINAL BID.

E. THE BID IS BASED UPON THE MATERIALS, EQUIPMENT AND SYSTEMS REQUIRED BY THE BIDDING DOCUMENTS WITHOUT EXCEPTION.

1.2 EXISTING CONDITIONS AND COORDINATION

A. THE BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH THE REQUIREMENTS OF THE PROPOSED BIDDING DOCUMENTS.

B. THE BIDDER SHALL PROPOSE COORDINATION OF WORK SUCH THAT CONFLICTS WITH OTHER TRADES AND SPACE ALLOCATIONS ARE AVOIDED.

1.3 RESPONSIBILITIES

A. THE BIDDER UNDERSTANDS THAT ANY CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TIMELY COMPLETION AND ACCEPTANCE OF THEIR WORK AND THAT ANY ITEMS DAMAGED, LOST OR STOLEN DURING TIME OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED WITHOUT ANY ADDITIONAL COST TO THE OWNER.

B. THE BIDDER UNDERSTANDS THAT ANY PROPOSED WORK IN OCCUPIED TENANT SPACES SHALL BE PERFORMED DURING TIMES OF NON-TENANT OCCUPANCY OR AS SCHEDULED OR DIRECTED BY THE GENERAL CONTRACTOR.

C. THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT-DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE-ARRANGED WITH THE GENERAL CONTRACTOR AND THAT SUCH SHUT-DOWNS ARE TO BE KEPT TO A MINIMUM.

END OF SECTION 0001

SECTION 0101 - QUALITY OF WORK

1.1 WORKMANSHIP

A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

A. ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0101 - QUALITY OF WORK

1.1 WORKMANSHIP

A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

B. ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

A. ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0102 -REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

A. A SET OF PRINTS FOR ANY MECHANICAL WORK INCLUDING BUT NOT LIMITED TO, DUCTWORK AND PIPING LAYOUT SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION OR PURCHASE OF MATERIALS.

1.2 SUBMITTALS

A. WITHIN 90 DAYS, EQUIPMENT SUBMITTALS OF ALL PROPOSED MECHANICAL AND ANCILLARY EQUIPMENT INCLUDING ALL ACCESSORIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ALL PERTINENT MODELS, SIZES, ACCESSORIES AND CHOICES SHALL BE CLEARLY CHECKED, PRINTED OR OTHERWISE INDICATED ON THE SUBMITTALS.

1.3 RECORD DRAWINGS

A. WITHIN 90 DAYS, UPON COMPLETION OF THE WORK, A RECORD DRAWING SHALL BE SUBMITTED TO THE OWNER DEPICTING ALL SUBSEQUENT CHANGES, ADDITIONS AND OR CORRECTIONS TO THE CONTRACT DRAWINGS AND OR CONTRACT SCOPE MADE DURING CONSTRUCTION. THIS DRAWING SHALL REPRESENT A COMPLETE RECORD OF THE WORK INSTALLED.

1.4 EQUIPMENT OPERATING INSTRUCTIONS

A. WITHIN 90 DAYS, ON COMPLETION AND ACCEPTANCE OF WORK, THIS CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS,EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

B. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE-RING BINDERS WITH CLEAR ACETATE COVERS. THE CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE ELECTRONIC COPY TO THE ENGINEER.

C. THE INSTRUCTION BOOKLET SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.

END OF SECTION 0102

SECTION 078413-PENETRATION FIRE-STOPPING

1.1 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: AN FM GLOBAL-APPROVED FIRE-STOP CONTRACTOR OR A UL-QUALIFIED FIRE-STOP CONTRACTOR.

B. FIRE-TEST-RESPONSE CHARACTERISTICS: UL, INTERTEK ETL SEMKO OR FM GLOBAL

1.2 PENETRATION FIRESTOPPING

A. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: F-RATINGS PER ASTM E 814 OR UL 1479.

B. PENETRATIONS IN HORIZONTAL ASSEMBLIES: F- AND T-RATINGS PER ASTM E 814 OR UL 1479:

C. PENETRATIONS IN SMOKE BARRIERS: L-RATINGS PER UL 1479.

D. W-RATINGS: PER UL 1479.

1.3 INSTALLATION

A. IDENTIFICATION: PREPRINTED METAL OR PLASTIC LABELS.

1.4 FIELD QUALITY CONTROL

A. INSPECTION OF INSTALLED FIRE-STOPPING: BY OWNER-ENGAGED AGENCY ACCORDING TO ASTM E 2174.

1.5 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

WHERE UL-CLASSIFIED SYSTEMS ARE INDICATED, THEY REFER TO SYSTEM NUMBERS IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHEZ.

FOR THE FOLLOWING SYSTEMS:

METALLIC AND NON-METALLIC PIPES, CONDUIT, OR TUBING, ELECTRICAL CABLES, CABLE TRAYS WITH ELECTRIC CABLES, MISCELLANEOUS ELECTRICAL PENETRANTS, INSULATED PIPES, GROUPINGS OF PENETRANTS, USE ON OR MORE THE FOLLOWING MATERIALS:

a. LATEX SEALANT
b. SILICONE SEALANT
c. INTUMESCENT PUTTY
d. MORTAR
h. SILICONE FOAM
i. PILLOWS/BAGS
j. INTUMESCENT WRAP STRIPS
k. INTUMESCENT COMPOSITE SHEET

1.6 MANUFACTURERS

1. HILTI CONSTRUCTION CHEMICAL, INC
2. TREMCO INC.
3. 3M FIRE PROTECTION PRODUCTS

END OF SECTION 078413

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:

1. AIR SYSTEMS: CONSTANT AND VARIABLE VOLUME SYSTEMS.
2. MOTORS.
3. HYDRONIC SYSTEM

1.2 QUALITY ASSURANCE

A. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS. THE TAB AGENT SHALL HAVE THE FOLLOWING QUALIFICATIONS: AABC, NEBB OR TABB CERTIFIED.

1.3 EXECUTION

A. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL EXISTING AIR AND HYDRONIC SYSTEMS THAT ARE TO REMAIN OR TO BE INCORPORATED INTO NEW WORK PRIOR TO THE STARTING OF WORK IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.

B. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL NEW AIR AND HYDRONIC SYSTEMS AS LISTED ABOVE IN THE PROJECT SCOPE. A REPORT OF THESE MEASUREMENTS, INDICATING ANY AND ALL DEFICIENCIES SHALL BE SUBMITTED FOR OWNER REVIEW.

C. THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS.

D. PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN.

E. THE CONTRACTOR SHALL HAVE FURNISH AND INSTALL ALL ADDITIONAL BALANCING EQUIPMENT, PRESSURE TAPS, GAUGES AND OTHER EQUIPMENT AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COST TO THE OWNER. SUCH ADDITIONAL EQUIPMENT SHALL ADHERE IN STRICT ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

F. THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS S3ECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.

G. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.

H. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.

I. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.

J. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

SECTION 230713 - DUCT INSULATION

1.1 QUALITY ASSURANCE

SURFACE-BURNING CHARACTERISTICS: ALL INSULATION SHALL HAVE COMPOSITE (INSULATION JACKET OR FACING AND ADHESIVE USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) A FLAME-SPREAD INDEX OF 25, AND SMOKE-DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOOR, 75, AND SMOKE-DEVELOPED INDEX OF 150 FOR INSULATION INSTALLED OUTDOORS; ACCORDING TO ASTME 84.

1.2 FIELD QUALITY CONTROL

A. FIELD INSPECTIONS: BY OWNER-ENGAGED AGENCY.

1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

A. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION:

B. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:

UNCONDITIONED SPACES WITHIN BUILDING:	R-8
WITHIN BUILDING ENVELOPE ASSEMBLY:	R-8
OUTSIDE OF BUILDING:	R-8

1.4 ITEMS NOT INSULATED:

1. FIBROUS-GLASS DUCTS.
2. METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE ANDASHRAE/IESNA 90.1.
3. FACTORY-INSULATED FLEXIBLE DUCTS.
4. FACTORY-INSULATED PLENUMS AND CASINGS.
5. FLEXIBLE CONNECTORS.
6. VIBRATION-CONTROL DEVICES.
7. FACTORY-INSULATED ACCESS PANELS AND DOORS.
8. DUCTS THAT HAVE INTERNAL ACOUSTICAL LINING.

1.5 PRODUCTS

A. THE FOLLOWING INSULATION MANUFACTURERS WILL BE ACCEPTABLE:

1. JOHNS-MANVILLE
2. OWENS-CORNING

1.6 ACOUSTICAL TREATMENT

1. WHERE SHOWN ON THE DRAWINGS, LOW PRESSURE DUCTWORK SHALL BE LINED WITH 1.5" THICK R-6 AS MANUFACTURED BY DUCTMATE, 1-1/2 POUND MINIMUM DENSITY, NEOPRENE COATED, FLEXIBLE FIBERGLASS DUCT LINER. LINING SHALL COMPLY WITH NFPA 90A AND SHALL HAVE A FLAME SPREAD CLASSIFICATION OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING NOT MORE THAN 50. DUCT SIZES WHERE LINING IS INDICATED ON PLANS ARE MINIMUM INSIDE CLEAR DIMENSIONS REQUIRED,

END OF SECTION 230713

SECTION 233113 - METAL DUCTS

1.1 CONSTRUCTION

A. EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC SMACNA DUCT PRESSURE CLASSIFICATIONS SHOWN ON THE CONTRACT DRAWINGS. WHERE NO PRESSURE CLASSES ARE SPECIFIED BY THE DESIGNER, THE SMACNA 1 INCH WG PRESSURE, SEAL CLASS "A".

B. ALL DUCTWORK SHALL BE CONSTRUCTED TO SMACNA 1" WG DESIGN AND NOT LESS THAN THE FOLLOWING STANDARDS:

1. CONSTRUCT SO THAT ALL INTERIOR SURFACES ARE SMOOTH. USE SLIP AND DRIVE OR FLANGED AND BOLTED CONSTRUCTION WHEN FABRICATING RECTANGULAR DUCTWORK. USE SPIRAL LOCK SEAM CONSTRUCTION WHEN FABRICATING ROUND SPIRAL DUCTWORK. SHEET METAL SCREWS MAY BE USED ON DUCT HANGERS, TRANSVERSE JOINTS AND OTHER SMACNA APPROVED LOCATIONS IF THE SCREW DOES NOT EXTEND MORE THAN 1/2 INCH INTO THE DUCT.
2. SHEET STEEL SHALL COMPLY WITH ASTMA653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC IRON ALLOY-COATED (GALVANINEALED) BY HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENT FOR SHEET METALLIC-COATED BY HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES ALL 90° ELBOWS.
3. USE ELBOWS AND TEES WITH A CENTER LINE RADIUS TO WIDTH OR DIAMETER RATIO OF 1.5 WHEREVER SPACE PERMITS. WHEN A SHORTER RADIUS MUST BE USED DUE TO LIMITED SPACE, INSTALL SINGLE WALL SHEET METAL SPLITTER VANES IN ACCORDANCE WITH SMACNA PUBLICATIONS, TYPE RE 3. WHERE SPACE WILL NOT ALLOW AND THE C VALUE OF THE RADIUS ELBOW, AS GIVEN IN SMACNA PUBLICATIONS, EXCEEDS 0.31, USE RECTANGULAR ELBOWS WITH TURNING VANES AS SPECIFIED IN SECTION 23 33 00. SQUARE THROAT-RADIUS HEEL ELBOWS WILL NOT BE ACCEPTABLE. STRAIGHT TAPS OR BULLHEAD TEES ARE NOT ACCEPTABLE.
4. WHERE RECTANGULAR ELBOWS ARE USED, PROVIDE TURNING VANES IN ACCORDANCE WITH SECTION 23 33 00.
5. PROVIDE EXPANDED TAKE-OFFS OR 45 DEGREE ENTRY FITTINGS FOR BRANCH DUCT CONNECTIONS WITH BRANCH DUCTWORK AIRFLOW VELOCITIES GREATER THAN 700 FPM. SQUARE EDGE 90-DEGREE TAKE-OFF FITTINGS OR TRAIGHT TAPS WILL NOT BE ACCEPTED.
6. BUTTON PUNCH SNAP-LOCK CONSTRUCTION WILL NOT BE ACCEPTED ON ALUMINUM DUCTWORK.
7. ROUND DUCTS MAY BE SUBSTITUTED FOR RECTANGULAR DUCTS IF SIZED IN ACCORDANCE WITH ASHRAE TABLE OF EQUIVALENT RECTANGULAR AND ROUND DUCTS. NO VARIATION OF DUCT CONFIGURATION OR SIZES PERMITTED EXCEPT BY WRITTEN PERMISSION OF THE ENGINEER.

C. WHERE LATEST EDITION OF SMACNA DOES NOT CLEARLY STATE GAUGES AND/OR STIFFENERS TO BE USED OR, WHERE SMACNA STANDARDS REQUIRE INTERPRETATION, THE FOLLOWING MINIMUM METAL GAUGES AND BRACING SHALL BE USED:

USG	MAX. SIDE INCHES BRACING	TRANSVERSE JOINTS AND
22	UP TO 12	S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS
22	13 TO 24	1"X1"X1/8" ANGLES ON 4 FOOT CENTERS
20	25 TO 35	1"X1"X1/8" ANGLES ON 2 FOOT CENTERS

D. PROVIDE TAPPING IN DUCTS FOR THERMOMETERS WHERE SPECIFIED. IN ADDITION, PROVIDE AN AIRTIGHT PLUGGED TAPPING LOCATED AS FOLLOWS:

1. UPSTREAM OF EACH REHEAT COIL AND VAV BOX.
2. DOWNSTREAM OF EACH REHEAT COIL AND VAV BOX.

E. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK, AND AS PER SMACNA FLAT OVAL DUCT CONSTRUCTION STANDARDS SHOWN IN FIG. 3-6 AND AS SHOWN IN FIG. 3-1 AND 3-2 FOR ROUND DUCTWORK.

F. ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEAT SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.

1.2 MATERIALS

A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS.

B. SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.

C. SHEET METAL MATERIALS:

1. GALVANIZED SHEET STEEL.
2. STAINLESS-STEEL SHEETS.
3. ALUMINUM SHEETS.
4. FACTORY-APPLIED ANTI-MICROBIAL COATING.

D. DUCT LINER:

1. FIBROUS GLASS, TYPE I, FLEXIBLE.
   a. WITH ANTI-MICROBIAL EROSION-RESISTANT COATING.
2. FLEXIBLE ELASTOMERIC.
3. NATURAL FIBER.

E. SEALANT MATERIALS:

1. TWO-PART TAPE SEALING SYSTEM.
2. WATER-BASED JOINT AND SEAM SEALANT.
3. SOLVENT-BASED JOINT AND SEAM SEALANT.
4. FLANGED JOINT SEALANT.
5. FLANGE GASKETS.
6. ROUND DUCT JOINT O-RING SEALS.

1.3 DUCT CLEANING

A. CLEAN EXISTING DUCT SYSTEM(S) BEFORE TESTING, ADJUSTING, AND BALANCING.

B. CLEAN THE FOLLOWING ITEMS:

1. AIR OUTLETS AND INLETS.
2. SUPPLY, RETURN, AND EXHAUST FANS.
3. AIR-HANDLING UNITS.
4. COILS AND RELATED COMPONENTS.
5. RETURN-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
6. SUPPLY-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
7. DEDICATED EXHAUST AND VENTILATION COMPONENTS AND MAKEUP AIR SYSTEMS.

1.4 DUCT SCHEDULE

A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:

8. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113

SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES

1.1 PRODUCTS

A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS. ALL REGISTERS AND DIFFUSERS SHALL BE PRIME COATED STEEL OR EXTRUDED ALUMINUM FINISHED UNLESS OTHERWISE NOTED IN BAKED WHITE ENAMEL.

B. MANUFACTURERS: TITUS

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:

a. CARNES.
b. HART & COOLEY INC.
c. KRUEGER.
d. METALAIRE, INC.
e. NAILOR INDUSTRIES INC.
f. RUSKIN

C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

END OF SECTION 233713

THERMOSTATIC CONTROL NOTES:-

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(B). 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 50 FEET 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. 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 SYSTEM FOR UP TO 4 HOURS; OR

B. AN OCCUPANCY SENSOR; OR

C. 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 SET POINT 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 SUMMER 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 SET POINT 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 0.5 PERCENT TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(B)3 IS LESS THAN 100°F.

C. 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.

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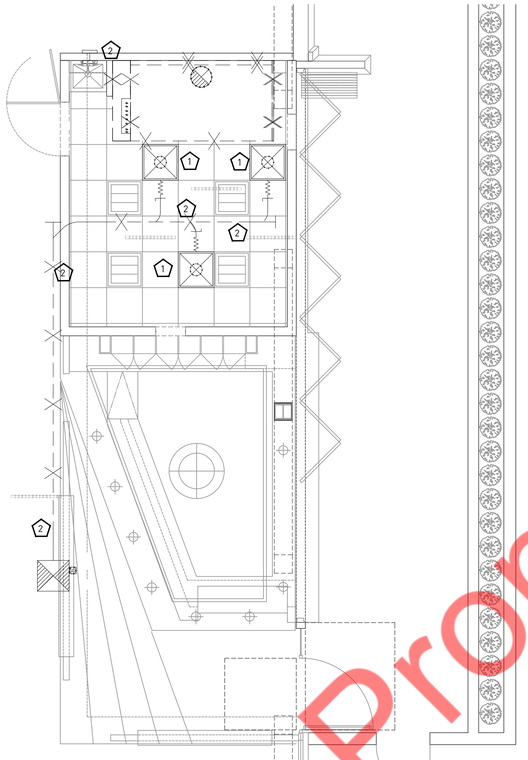
CHAGEE
SOUTH COAST PLAZA

△	ISSUANCE NAME	DATE
01	CITY COMMENTS	10-27-25
02	CITY COMMENTS	11-26-25

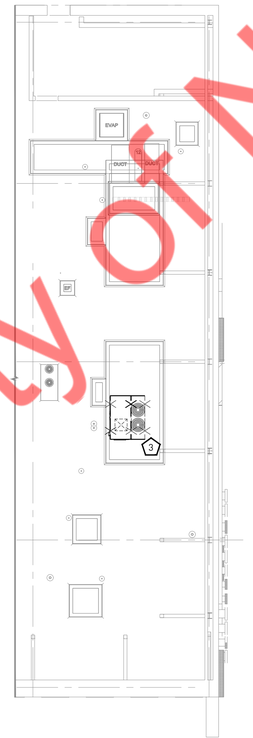
MECHANICAL
SPECIFICATIONS
(2 OF 2)

M0.02



MECHANICAL DEMO FLOOR PLAN | 1

1/4" = 1'-0"



MECHANICAL DEMO ROOF PLAN | 2

1/4" = 1'-0"

LEGEND:

----------	MECHANICAL DEMOLITION WORK
☒ ⧄	SUPPLY/RETURN DIFFUSERS

DEMO PLAN KEY NOTES:

1. ALL EXISTING SUPPLY/RETURN & EXHAUST DIFFUSERS TO BE DEMOLISHED.
2. ALL EXISTING DUCTWORKS TO BE DEMOLISHED.
3. ALL EXISTING HVAC EQUIPMENT TO BE DEMOLISHED.

DEMO NOTES-

1. PATCH ALL THE ROOF PENETRATIONS WHICH ARE NOT REUSED. COORDINATE WITH ROOFING CONTRACTOR.
2. ALL SHUT DOWNS OF EXISTING SYSTEMS SHALL BE SCHEDULED AND APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK.
3. NO DUCTWORK, PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED, OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE OWNER AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL, OR DISCONNECTION, 1 WEEK NOTICE MUST BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD.
4. ALL ITEMS REMOVED SHALL BECOME PROPERTY OF THE OWNER AND SHALL BE DISPOSED OF AS PER OWNER'S INSTRUCTIONS, UNLESS INDICATED OTHERWISE. ALL ITEMS WHICH ARE NOT TO BE STORED ON SITE BY OWNERS SHALL BE REMOVED FROM THE BUILDING IMMEDIATELY.
5. ALL NEW, RELOCATED, OR EXISTING EQUIPMENT AFFECTED BY THIS SCOPE OF WORK SHALL BE REBALANCED BEFORE BEING PLACED IN SERVICE.
6. PROVIDE ALL REQUIRED CUTTING AND PATCHING AS REQUIRED TO COMPLETE THE INSTALLATION OF NEW MECHANICAL SYSTEM. PATCH ALL SURFACES TO MATCH AND MAINTAIN ALL FIRE RATINGS.
7. EXISTING ROOF CUTTING, FLASHING, SEALING, ETC. TO BE ACCOMPLISHED BY A ROOFING CONTRACTOR APPROVED BY THE EXISTING ROOF MANUFACTURER AND INSTALLED IN ACCORDANCE WITH ROOF MANUFACTURER'S RECOMMENDATIONS SO AS NOT TO VOID ROOF WARRANTY.
8. THE FIRE PROOFING OF THE EXISTING STRUCTURE IS NOT TO BE REMOVED FOR THE INSTALLATION OF HANGERS, SUPPORTS AND DUCTWORK ETC. IF FIRE PROOFING IS DAMAGED, IT SHALL BE REPAIRED AT THE EXPENSE OF THE TRADE.
9. REUSE EXISTING ROOF CURBS WHEREVER POSSIBLE. REFER TO THE MECHANICAL ROOF PLAN ON SHEET M1.02.
10. REPAIR EXISTING ROOF CURBS IF REQUIRED. PROVIDE CURB ADAPTORS AS/IF REQUIRED.

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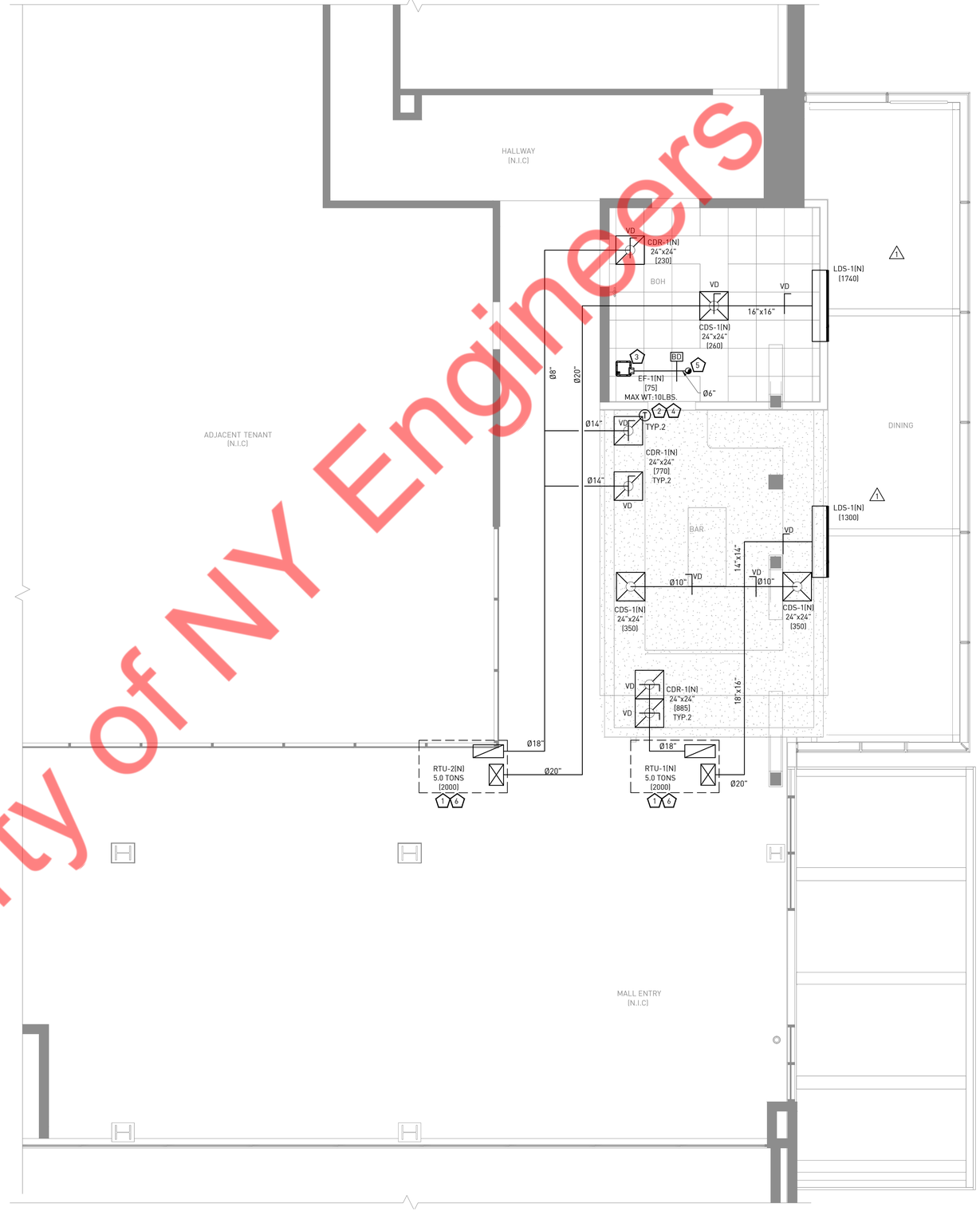
CHAGEE
SOUTH COAST PLAZA

△	ISSUANCE NAME	DATE
01	CITY COMMENTS	10-27-25
02	CITY COMMENTS	11-26-25

MECHANICAL
DEMOLITION
PLAN

MD1.01



GENERAL NOTES:

A. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
B. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
C. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
D. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
E. ALL EXPOSED ROUND DUCTWORK SHALL BE INTERNALLY LINED. ALL DUCTWORK DIMENSIONS ARE INSIDE CLEAR.
F. PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FIRE RATINGS OF THE WALLS.
G. PROVIDE MINIMUM R-8 INSULATION (INTERNAL FOR EXPOSED DUCTS AND EXTERNAL FOR CONCEALED DUCTS) FOR SUPPLY & RETURN AIR DUCTS. PROVIDE ACOUSTIC INSULATION ON MAIN SUPPLY AND RETURN DUCTS UP TO 10 FT. FROM HVAC UNIT.
H. ALL SUPPLY AND RETURN AIR PLENUMS SHALL BE STENCILED WITH RTU NUMBERS FOR IDENTIFICATION.
I. KEEP ALL ADJOINING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS.

MECHANICAL FLOOR PLAN KEY NOTES

1. EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM ROOFTOP UNITS TO SPACE. EXTEND AS SHOWN. TRANSITION DUCT AS NECESSARY TO MAKE CONNECTION. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS.
2. INSTALL NEW 7-DAY PROGRAMMABLE THERMOSTAT. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
3. PROVIDE A NEW CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND ROUTE 6"Ø EXHAUST DUCT TERMINATE TO ROOF WITH GOOSENECK. MAINTAIN A MINIMUM OF 10 FT. FROM ALL OUTSIDE AIR INTAKES, 3 FT. FROM PROPERTY LINE AND 3 FT. FROM ANY OPERABLE OPENING INTO THE BUILDING.
4. HUMIDITY SENSOR TO BE SET WITH HONEYWELL T7350 THERMOSTAT. HUMIDITY SENSOR SHALL CONTROL REFRIGERATION SYSTEM AND INITIATE HOT GAS REHEAT AS REQUIRED TO MAINTAIN SPACE HUMIDITY AT 55% RH.
5. TERMINATE 6"Ø EXHAUST DUCT UP TO ROOF WITH GOOSENECK.
6. PROVIDE TEMPERATURE SENSOR IN RETURN AIR DUCT AND WIRE BACK TO RTU.

MECHANICAL FLOOR PLAN | 1
1/4" = 1'-0"

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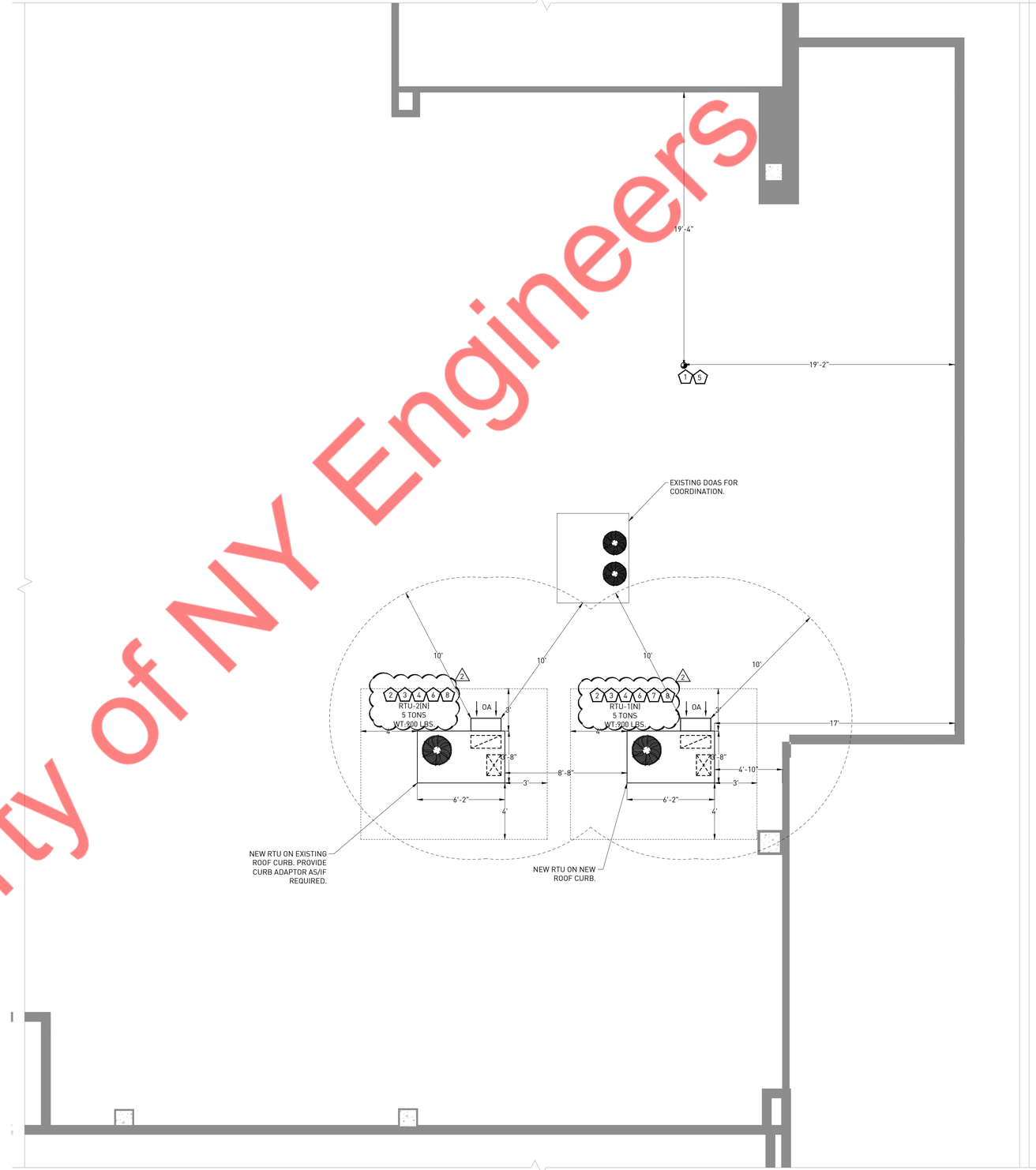
MECHANICAL
FLOOR PLAN

M1.01



GENERAL NOTES

A. COORDINATE LOCATION AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.

B. EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.

C. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.

D. ALL SOURCE OF MECHANICAL INTAKE SHALL REMAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTHS AS NEEDED.

E. TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO GENERAL CONTRACTOR AND OWNER.

F. RTU WEIGHTS ARE INCLUDED ROOF CURBS AND/OR ADAPTORS.

G. KEEP ALL ADJOINING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS.

MECHANICAL ROOF PLAN KEY NOTES:

1. CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY INTAKE SOURCE FROM ADJACENT TENANTS SHOULD BE AT LEAST 10' AWAY FROM ANY EXHAUST DUCT TERMINATING ON ROOF.
2. ALL OUTSIDE AIR INTAKES ON THE ROOF SHALL BE MINIMUM 10 FT. AWAY FROM ANY EXHAUST SOURCE.
3. PROVIDE NEW ROOF TOP UNITS. PROVIDE FLEXIBLE CONNECTOR ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. SET OUTSIDE AIR AS INDICATED ON ROOFTOP UNIT SCHEDULE. MECHANICAL CONTRACTOR SHALL SCRIBE INTO UNIT POSITION OF OUTSIDE AIR DAMPER AND LABEL OUTSIDE AIR VOLUME AND PERCENTAGE OF OUTSIDE AIR. TRANSITION AND CONNECT SUPPLY AND RETURN DUCTWORK FROM BELOW. COORDINATE ROUTING THROUGH STRUCTURAL TRUSSES AND OFFSET AS REQUIRED IN CURB SPACE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF RTU ON SITE.
4. CONDENSATE DRAIN FOR RTUS SHALL BE CONVEYED TO AN APPROVED PLACE OF DISPOSAL. SUCH PIPING SHALL MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN THE 1/8TH UNIT VERTICAL IN 12 UNITS HORIZONTAL (1% SLOPE). CONDENSATE SHALL NOT DISCHARGE INTO A STREET, ALLEY OR OTHER AREAS SO AS TO CAUSE A NUISANCE.
5. ROUTE 6"Ø GENERAL EXHAUST DUCT UP THROUGH ROOF WITH TALL CONE FLASHING, WEATHER SKIRT AND GOOSENECK. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES AND TERMINATES.
6. COORDINATE NEW UNITS ON ROOF WITH STRUCTURAL ENGINEER OR DRAWINGS.
7. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION OF NEW RTU-1(N) WITH EXISTING UNIT & CONFIRM THE FINAL LOCATION WITH LANDLORD.
8. ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE FULLY SCREENED FROM VIEW FROM ANY PUBLIC RIGHT-OF-WAY AND ADJACENT PROPERTIES. CONTRACTOR SHALL VERIFY COMPLIANCE WITH ARCHITECTURAL REQUIREMENTS AND COORDINATE SCREENING DETAILS WITH THE ARCHITECT PRIOR TO INSTALLATION.

MECHANICAL ROOF PLAN 1
1/4" = 1'-0"

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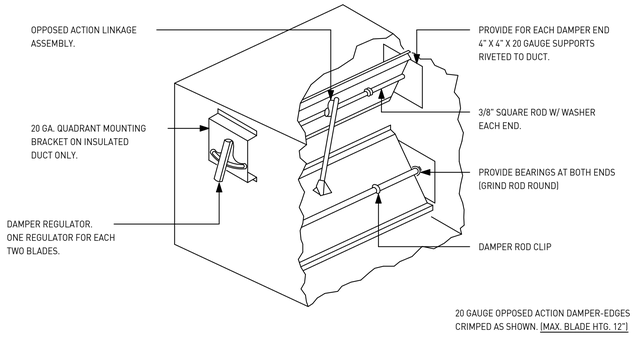
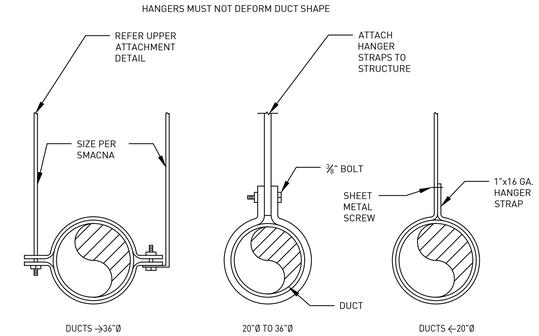
MECHANICAL
ROOF PLAN

M1.02

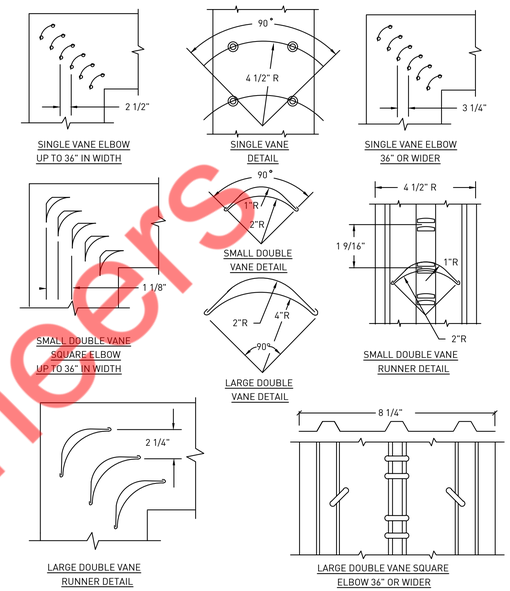


NOTE : 1. FOR DUCTS OVER 29" WIDE AND/OR OVER 12" HIGH.

1 / M5.01 LOW PRESSURE BALANCING DAMPER
N.T.S

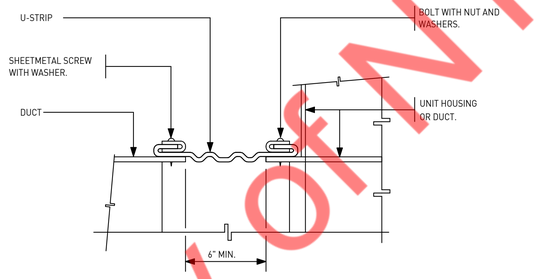


2 / M5.01 ROUND DUCT SUPPORT DETAIL
N.T.S

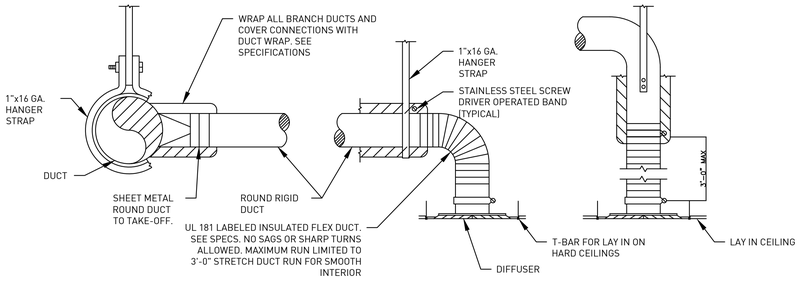


3 / M5.01 LOW VELOCITY DUCTWORK ELBOWS
N.T.S

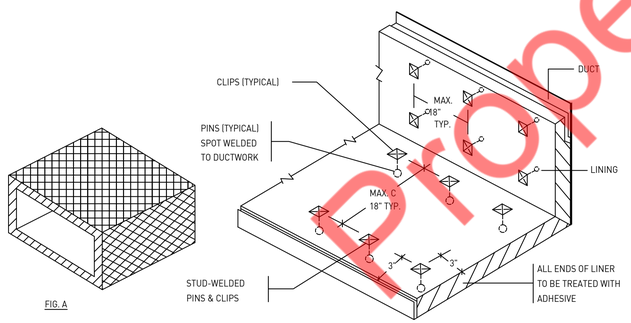
4 / M5.01 SUPPLY AIR DUCTWORK SUB-MAIN/BRANCH DUCT CONNECTION
N.T.S



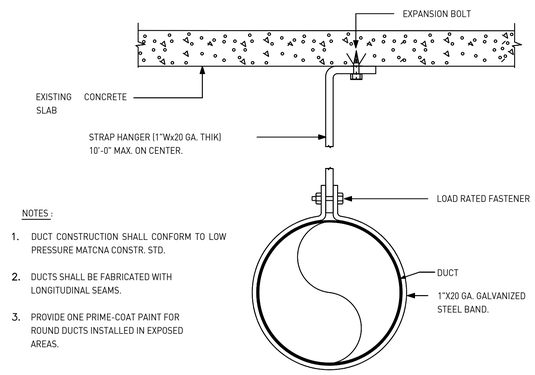
5 / M5.01 FLEXIBLE CONNECTION (DUCT-EQUIPMENT)
N.T.S



6 / M5.01 TYPICAL DIFFUSER CONNECTION DETAIL
N.T.S



7 / M5.01 ACOUSTICAL TREATMENT DUCT LINING
N.T.S



8 / M5.01 METHOD OF HANGING DUCTWORK
N.T.S

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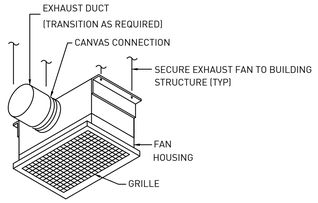
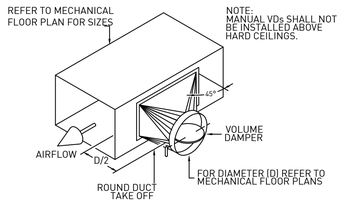
MECHANICAL DETAILS (1 OF 2)

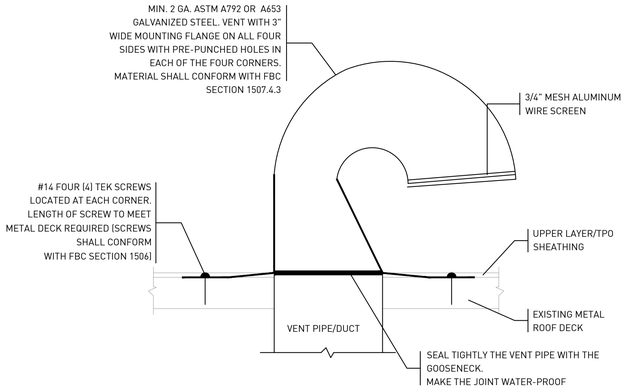
M5.01



1 M5.02 CEILING EXHAUST FAN DETAIL
N.T.S



2 M5.02 ROUND DUCT TAKE OFF DETAIL
N.T.S



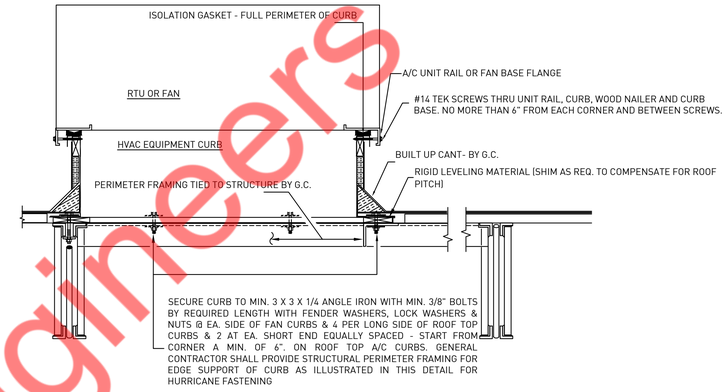
3 M5.02 TYPICAL DETAIL OF ROOF GOOSENECK
N.T.S

ATTACHMENT METHOD:
CUT OUT THE GOOSENECK VENT OPENING IN THE ROOF SHEATHING ACCORDING WITHIN MAXIMUM DIMENSIONS. DO NOT CUT INTO TRUSSES OR RAFTERS WHEN CUTTING OPENING IN THE ROOF.

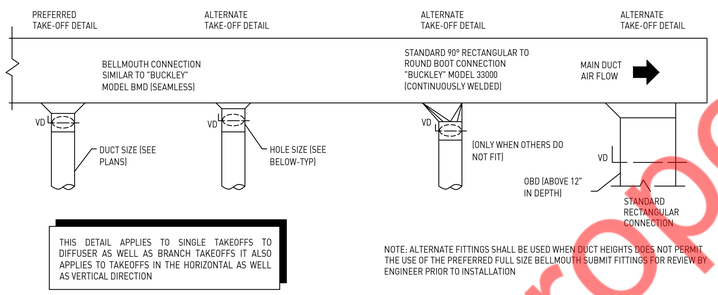
REMOVE INTERFERING SHINGLE NAILS AROUND THE PERIMETER OF THE OPENING AND ANY DEBRIS SO THAT THE NAILING FLANGE OF THE VENT LAYS FLAT TO THE ROOF SHEATHING. SLIDE THE TOP AND SIDE FLANGES OF THE VENT UNDERNEATH THE SHINGLES AND ALLOW THE BOTTOM FLANGE TO LIE ON THE TOP OF THE SHINGLES. CARE SHOULD BE TAKEN IN KEEPING THE VENT PROPERLY ALIGNED. VENT PIPE IS SEALED IF UTILIZED. SCREW IN PLACE USING FOUR (4) TEK SCREWS LOCATED AT EACH CORNER (SCREWS SHALL CONFORM WITH FBC SECTION 1506). ROOFING CEMENT SHOULD BE APPLIED TO ALL SHINGLE EDGES NEAR THE OUTER EDGE AND AROUND THE ENTIRE PERIMETER.

ALLOWABLE ROOF COVERINGS: ASPHALT SHINGLES

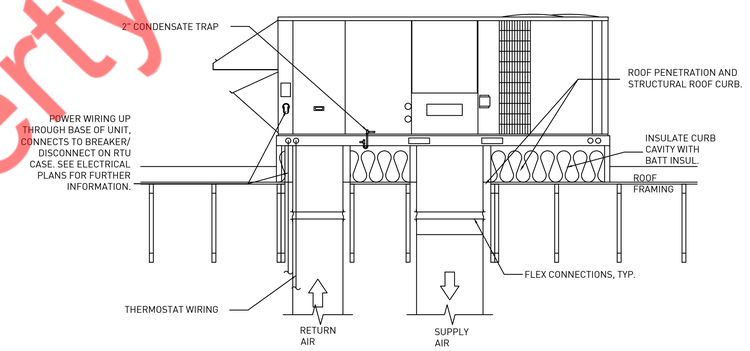
MAXIMUM DESIGN PRESSURE:
-52.5 PSF FOR INSTALLATIONS OVER PLYWOOD DECK
-22.5 PSF FOR INSTALLATION OVER OSB DECK
PRESSURES CALCULATED USING 2.1 MARGIN OF SAFELY PER 1504.9.



4 M5.02 ROOF TOP UNIT INSTALLATION DETAILS
N.T.S



5 M5.02 DUCT TAKEOFFS
N.T.S



6 M5.02 RTU UNIT SUPPORT DETAIL
N.T.S

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MECHANICAL
DETAILS
(2 OF 2)

M5.02

NEW ROOF TOP UNIT SCHEDULE

UNIT ID	MANUFACTURER	QUANTITY	MODEL	AREA SERVED	NOMINAL TONS	SUPPLY FAN			HEATING CAPACITY		COOLING CAPACITY				ELECTRICAL DATA				HSPF2/COP	EER2	SEER2	MAX WEIGHT (LBS.)
						SUPPLY AIR CFM	OUTSIDE AIR CFM	MAX. ESP (IN. OF W.G.)	TOTAL MBH (HEAT PUMP)	COP	TOTAL MBH	SENSIBLE MBH	AMBIENT TEMP. DB (°F)	ENTERING TEMP. DB / WB (°F)	VOLTS	PHASE	MCA (A)	MOCP (A)				
RTU-1(N), RTU-2(N)	CARRIER OR EQUIVALENT	2	50FEQA06A2A5-0B9A0	SEE PLAN	5	2000	230 (EACH)	1	56.9	3.8	63.4	49.5	95	80/67	208/230	3	35	50	6.7/3.7	11.5	13.4	900

NOTES / ACCESSORIES -

1. PROVIDE ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF & FDD.
2. CONNECT CONDENSATE DRAIN LINE FROM RTUS ON THE ROOF TO THE NEAREST DRAIN POINT. CONNECT TO A DRAIN LINE VIA AIR GAP IN AN APPROVED MANNER.
3. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF RTUs ON SITE.
4. CONTRACTOR TO REBALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON RTUs TO MATCH VALUES MENTIONED IN ABOVE TABLE.
5. PROVIDE MINIMUM MERV-13 FILTERS.
6. REUSE EXISTING ROOF CURB. PROVIDE NEW ROOF CURB ADAPTOR.
7. PROVIDE FACTORY MOUNTED AND WIRED VARIABLE FREQUENCY DRIVE FOR 2-SPEED SUPPLY FAN OPERATION.
8. PROVIDE FACTORY MOUNTED WEATHER HOOD AND BIRDSCREEN.
9. PROVIDE WITH FACTORY INSTALLED DIRTY FILTER SWITCH AND BLOWER PROVING SWITCH.
10. PROVIDE WITH FACTORY HAIL GUARDS.
11. PROVIDE FACTORY CONDENSATE OVERFLOW SWITCH.
12. PROVIDE WITH HOT-GAS REHEAT COIL AND DEHUMIDIFICATION CONTROLS.
13. PROVIDE UNIT IDENTIFICATION IN ACCORDANCE WITH SPECIFICATIONS.
14. INSTALL ACCESSORIES SHIPPED LOOSE TO THE FIELD.
15. PROVIDE A COMPLETED START UP CHECKLIST CONFIRMING ALL UNITS ARE WORKING PROPERLY STARTED AND RUNNING.
16. SUPPLY FAN SET TO RUN CONTINUOUS.
17. BOTTOM DISCHARGE AND RETURN CONFIGURATION.
18. UNIT TO BE PROVIDED WITH LOW LEAKAGE VOLUME CONTROL DAMPER, NEMA 3R DISCONNECT, FAN WITH VFD, VIBRATION ISOLATION SPRING SUPPORTED BLOWER, INTAKE HOOD, SCREEN INTAKE.
19. PROVIDE FLEXIBLE CONNECTION AT DUCT CONNECTION TO UNIT.
20. PROVIDE VIBRATION ISOLATOR FOR UNIT MOUNTING.
21. PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.
22. ANTI SHORT CYCLE TIMER.

FAN SCHEDULE

TAG	LOCATION	QTY	FLOW RATE	STATIC PRESSURE		ELECTRIC DATA			MAXIMUM LOUDNESS	WEIGHT	BASIS OF DESIGN		NOTES
				EXTERNAL	SPEED	BHP	MCA/ MOCP (A)	V/PH/HZ					
			CFM	IN W.G.	RPM				SONES	LBS.	MANUFACTURER	MODEL	
EF-1(N)	SEE PLAN	1	75	0.51	773	0.01	0.4/15	115/1/60	3	10	GREENHECK OR EQUIVALENT	SP-LP0511-1	1,2,3,4

NOTES:-

1. PROVIDE INTEGRAL BACKDRAFT DAMPER, FACE GRILLE.
2. INTERLOCK WITH RTU-1(N).
3. PROVIDE FACTORY MOUNTED AND INSTALLED DISCONNECT.
4. PROVIDE ACCESS DOOR TO SERVICE UNIT IF IN HARD CEILING.

AIR BALANCE

UNIT	AREA SERVED	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-1(N)	SEE PLAN	2000 CFM	230 CFM	1770 CFM	-
RTU-2(N)	SEE PLAN	2000 CFM	230 CFM	1770 CFM	-
EF-1(N)	SEE PLAN	-	-	-	75 CFM
	TOTAL:	4000 CFM	460 CFM	3540 CFM	75 CFM
	BUILDING PRESSURE:	.....		385 CFM	**POSITIVE**

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

MECHANICAL AIR TERMINAL DEVICES SCHEDULE

TAG	FACE SIZE (IN.)	NECK SIZE (IN.)	DESCRIPTION	MATERIAL	BASIS OF DESIGN		NOTES
					MANUFACTURER	MODEL	
CDS-1(N)	24"X24"	REFER TABLE BELOW	ALUMINIUM HIGH PERFORMANCE THREE CONE DIFFUSER	ALUMINIUM	TITUS OR EQUIVALENT	TMS-AA	1-5
LDS-1(N)	60"X5-3/16"	REFER PLAN	SUPPLY AIR SLOT DIFFUSER	ALUMINIUM	TITUS OR EQUIVALENT	FL-30 1-SLOT-3"	1-5
CDR-1(N)	24"X24"	REFER TABLE BELOW	ALUMINIUM EGGCRATE RETURN	ALUMINIUM	TITUS OR EQUIVALENT	50F	1-5

NOTES FOR NEW:

1. COORDINATE BORDER AND FRAME MOUNTING TYPE WITH ARCHITECTURAL CEILING.
2. COORDINATE FINISH AND COLOR WITH ARCHITECT PRIOR TO ORDERING.
3. VERIFY ACTUAL DIMENSIONS WITH ARCHITECT PRIOR TO ORDERING.
4. MAXIMUM NOISE CRITERION RATING < 30 DBA.
5. PROVIDE CORD OPERATED DAMPER IN INACCESSIBLE CEALING.

FOR ROUND NECK DIFFUSER NECK SIZE SHALL BE :

16"DIA : 801 & ABOVE
14" DIA : 601-800
12" DIA : 401-650
10" DIA : 251-400
8" DIA : 101-250
6" DIA : 0-100

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

ROOM NAME	AREA (SQ.FT.)	OCCUPANCY AS PER LAYOUT	TOTAL OUTDOOR AIR RATE CFM/SQ.FT	REQUIRED OA (CFM)	PROVIDED OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT OR CFM/UNIT)	REQ EXHAUST AIRFLOW RATE (CFM)	PROVIDED EXHAUST AIRFLOW RATE (CFM)
L1-01 DINING	525	22	0.50	263	460	0	0	0
L1-02 BOH	198	4	0.15	30		0.3	59	75
L1-03 BAR	319	4	0.50	160		0	0	0
TOTAL	**1042**	**30**	**-**	**452**	**460**	-	**59**	**75**

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MECHANICAL
SCHEDULES

M6.01

A. GENERAL INFORMATION

01	Project Location (city)		04	Total Conditioned Floor Area	1042
02	Climate Zone	6	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1
● Restaurant					

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01 Air System(s)	02 Wet System Components	03 Dry System Components
☒ Heating Air System	☐ Water Economizer	☒ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES with Exceptional Conditions
Mandatory Measures Compliance (See Table Q for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS

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

The permit applicant has indicated on Table J that ventilation calculations have been attached or included elsewhere on the plans.

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01 System Name	02 Quantity	03 System Serving	04 System Status	05 Space Type	06 Utilizing Recovered Heat
RTU-1(N), RTU-2(N)	2	Single zone	New/ Addition	Retail	☐

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(e)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
RTU-1(N), RTU-2(N)	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	Yes	56.9	56.9	0	49.5	63.4	56	109.5

[1] FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(e) and 170.2(c)1. Healthcare facilities are exempted.
[2] It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
RTU-1(N), RTU-2(N)	>=65,000 and <135,000	47 °Fdb/ 43 °Fwb OSA	COP	3.4	3.7	EER IEER	11 14.1	11.5 14.1

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	RTU-1(N), RTU-2(N)	Quantity	2	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	54	Economizer	Differential Enthalpy
01	02	03	04			05		06	07	08	09			10	11
Fan Name or Item Tag	Fan Type	Qty	Component			Airflow through Component (%)		Water Gauge (w.g)	Allowance		Design				
									Component Allowance (watt/cfm)	Fan Allowance (watt/cfm)[1]	Design Electrical Input Power Method			Motor Nameplate Horsepower	Fan Electrical Input Power (kW)
RTU-1(N), RTU-2(N)	Supply	2	Hydronic/DX cooling coil or heat pump coil			0.13			0.139	0.0002	Manufacturer provided				0.19
Supply Fan Base Allowance (watt/cfm)			Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)						Fan System Allowance (kW)[1]			Fan System Electrical Input Power (kW)			0.38

[1] FOOTNOTES: Fans serving spaces with design background noise goals below NC35
[2] Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.
[3] Fan system allowance includes fan system base allowance.
[4] Filter pressure loss can only be counted once per fan system.
[5] Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
[6] Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document..

Fan Energy Index (FEI)

01 Name or Item Tag	02 FEI Exception	03 FEI

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 140.4(f) and (n), 170.2(c)4D 170.2(c)4L or requirements in 141.0(b)2E 180.2(b)2 for altered space conditioning systems.

01	02	03	04	05	06	07	08	09	10
System Name	System Zoning	Conditioned Floor Area Being Served (ft^2)	Thermostats 110.2(b) & (c)[1], 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D	Direct Digital Control (DDC) per 120.2
RTU-1(N), RTU-2(N)	Single zone	<= 25,000 ft^2	Setback	NA: 7 day per 120.2(e)1	NA: Single Zone	DR Tstat per 110.12	NA: Single Zone	NA: No operable windows	NA: Single Zone

[1]FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and dt24refnolink/f160.2, 160.3(a)3D, 170.2(a)4H, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☒	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☐	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	NEW DUCT	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

CONSULTANTS
(MEP ENGINEER):

NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET SUITE
49674, MIAMI, FL 33179
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WWW.NY-ENGINEERS.COM

CHAGEE
SOUTH COAST PLAZA

△ ISSUANCE NAME	DATE
01 CITY COMMENTS	10-27-25
02 CITY COMMENTS	11-26-25

TITLE 24
SHEETS
(1 OF 2)

M7.01

L. DISTRIBUTION (DUCTWORK and PIPING)

			Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	---
			Duct leakage testing per CMC Section 603.9.2 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities		
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.		
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.		
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:		
15	No	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.		
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.		
17	Yes	All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A		
18	No	All ductwork is an extension of an existing duct system		
19	No	Ductwork serving individual dwelling unit		
20		< 25 ft of new or replacement space conditioning ducts installed		
21	R-8	Duct Insulation R-value		
22	No	Ductwork Existing To Remain		
23	No	Duct System Connected To Altered Space Conditioning System		

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	RTU-1(N), RTU-2(N)
NRCA-MCH-05-A - Air Economizer Controls	RTU-1(N), RTU-2(N)
NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	RTU-1(N), RTU-2(N)

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	No	Plan sheet or construction document location
03		04
Mandatory Measure		**Plan sheet or construction document location**
Heating Equipment Efficiency per 110.1		REFER SHEET M6.01
Cooling Equipment Efficiency per 110.1		REFER SHEET M6.01
Furnace Standby Loss Control per 110.2(d)		N/A
Duct Insulation per 120.4		R-8
Heat Pump with Supplemental electric Resistance Heater Controls per 110.2(b)		N/A
The air duct and plenum system is designed per 120.4(a)-(f)		REFER TO MECHANICAL NOTES ON SHEET M0.02
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2		N/A

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: 2025-06-25
Address: 382 NE 191st, SUITE 49674	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: MIAMI, FLORIDA 33179	Phone: (646) 878-9217

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. I 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: 2025-06-25
Address:	License: M33750
City/State/Zip: MIAMI, FLORIDA 33179	Phone:

CONSULTANTS
(MEP ENGINEER):

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CHAGEE
SOUTH COAST PLAZA

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TITLE 24
SHEETS
(2 OF 2)

M7.02

DRAWING INDEX

ELECTRICAL DESIGN SPECIFICATION

I. PROJECT OVERVIEW
1. THIS DESCRIPTION IS BASED ON THESE DRAWINGS.
2. CONSTRUCTION LOCATION: CHAGEE DEL AMO.

II. DESIGN BASIS
1. RELEVANT STANDARDS AND REGULATIONS FOR REFERENCE INCLUDE:
   CALIFORNIA FIRE CODE (CFC) 2022
   CALIFORNIA ELECTRICAL CODE (CEC) 2022
   CALIFORNIA ENERGY CODE (TITLE 24, PART 6) 2022
2. CLIENT REQUIREMENTS, SITE SURVEY CONDITIONS, AND ENGINEERING DESIGN DATA PROVIDED BY OTHER DISCIPLINES.
3. MEET LOCAL LAWS AND REGULATIONS.

III. DESIGN SCOPE
1. THE ELECTRICAL DESIGN INTERFACE INCLUDES ALL COMPONENTS AFTER THE COMMERCIAL SHOP'S ELECTRICITY METERING BOX; THE SPECIFICATIONS OF THE INCOMING POWER CABLES AND THE SIZE OF CIRCUIT BREAKERS SHOULD BE DETERMINED ACCORDING TO THIS DESIGN'S POWER DISTRIBUTION SYSTEM.
2. THIS PROJECT DESIGNS THE STRONG AND WEAK CURRENT SYSTEMS INSIDE THE BUILDING ACCORDING TO THE REQUIREMENTS OF THE DECORATION SPECIALTY, SPECIFICALLY INCLUDING:
   a. LIGHTING, SOCKETS, AND POWER DISTRIBUTION SYSTEMS;
   b. INTEGRATED WIRING, CATV, SURVEILLANCE, FIRE AUTOMATIC ALARM, ETC., AS WEAK CURRENT SYSTEMS;

IV. POWER SUPPLY AND POWER SYSTEM
1. THE PROJECT'S POWER SUPPLY COMES FROM THE MAIN DISTRIBUTION CABINET; THE SPECIFICATIONS AND NUMBER OF INCOMING POWER SUPPLIES ARE REFERRED TO IN THE DISTRIBUTION BOX SYSTEM DIAGRAM, WITH INCOMING POWER CABLES THAT MUST NOT BE LESS THAN THE ORIGINAL BUILDING'S ELECTRICAL DESIGN REQUIREMENTS FOR FLAME RESISTANCE AND FIRE RESISTANCE LEVELS;
   ALL INCOMING DISTRIBUTION CABINETS ARE INSTALLED AGAINST THE WALL WITH A CHANNEL STEEL FOUNDATION AND ARE RELIABLY GROUNDED.
   THE DISTRIBUTION BOX IS VENTILATED BY OPENING HOLES.
2. THE SETTING OF THE INCOMING ELECTRICITY METERING BOX IS DETERMINED AFTER CONSULTATION BETWEEN THE PROPERTY MANAGEMENT AND THE CLIENT.
3. THE EMERGENCY LIGHTING OF THIS PROJECT IS POWERED BY SECONDARY LOAD; ALL EMERGENCY CIRCUIT LAMPS HAVE BUILT-IN BATTERIES CAPABLE OF SUSTAINING OPERATION FOR NO LESS THAN 90 MINUTES WITHOUT POWER.
4. FIRE PROTECTION EQUIPMENT AND EMERGENCY LIGHTING PIPELINES SHOULD BE COATED WITH FIREPROOF COATING WHEN EXPOSED, OR INSTALLED WITHIN NON-COMBUSTIBLE STRUCTURAL MEMBERS WITH A PROTECTIVE LAYER THICKNESS OF NO LESS THAN 30MM WHEN CONCEALED.

V. POWER DEVICE POWER DISTRIBUTION
1. ALL LINES ARE RUN THROUGH CONDUITS OR LAID WITHIN METAL TRAYS; PIPELINES FOR FIRE PROTECTION AND EMERGENCY CIRCUITS SHOULD BE FLAME RETARDANT TREATED.
2. KIOSK LAYOUT AND EQUIPMENT ARRANGEMENTS ARE PROVIDED BY KIOSK EQUIPMENT MANUFACTURERS AND CLIENTS BASED ON DEVICE PARAMETERS AND CONTROL REQUIREMENTS TO DESIGN POWER DISTRIBUTION SYSTEMS AND CONTROL SYSTEMS.
3. ALL SOCKETS IN THE KITCHEN USE SPLASHPROOF BOXES; THE RATED CURRENT OF SOCKETS IS GREATER THAN OR EQUAL TO THE CORRESPONDING CIRCUIT BREAKER'S SET CURRENT; LARGE LOAD DEVICES SHOULD HAVE FEEDER CABLES RESERVED AT INSTALLATION LOCATIONS; THE WORK OF CABLE ACCESS INTO DEVICES IS RESOLVED BY KIOSK EQUIPMENT SUPPLIERS DURING INSTALLATION.
4. INDUCTION MOTOR LOADS SUCH AS FANS SHOULD USE DEDICATED CONTROL BOXES TO CONTROL START AND STOP OF EQUIPMENT; CONTROL PANELS SHOULD HAVE INDICATOR LIGHTS FOR POWER STATUS AND WORKING STATUS, STOP AND START BUTTONS.

VI. LIGHTING INSTRUCTIONS
1. THE ARRANGEMENT AND SELECTION OF IN THE KIOSK AREA IS COMPLETED BY THE DECORATION SPECIALTY; ALL LAMP MODELS AND LIGHT SOURCES REFER TO CONSTRUCTION DRAWINGS BY THE DECORATION SPECIALTY, COMPLETE THE DESIGN OF LIGHTING POWER DISTRIBUTION, CIRCUIT DIVISION, AND CONTROL METHODS ACCORDING TO DRAWINGS PROVIDED BY THE DECORATION SPECIALTY.
2. THE KIOSK AREA LIGHTING LINE IS DIRECTLY LED OUT FROM THE DISTRIBUTION CABINET; ADOPT METAL BRIDGE CEILING WIRING INSIDE, THEN USE STEEL PIPES TO LEAD TO EACH LAMP; ALL CONDUCTORS USE FLAMELESS LOW SMOKE FLAME RETARDANT WIRES;
3. ALL INDUCED LAMPS AND LAMPS WITH DOTTED FRAMES IN THE DIAGRAM ARE THREE-WIRE EMERGENCY LAMPS EQUIPPED WITH BUILT-IN BATTERIES CAPABLE OF BEING CONTROLLED FOR BRIGHTNESS AT WILL, SERVING ALSO AS NIGHT DUTY LIGHTING; WHEN POWER IS CUT OFF, BATTERIES FLOAT UP, ILLUMINATING LAMPS AS EMERGENCY LIGHTING FOR A DURATION OF 90 MINUTES, EMERGENCY LIGHTING USES FIREPROOF TYPE FLAMELESS LOW SMOKE FLAME RETARDANT WIRE POWER DISTRIBUTION.
4. ALL FLUORESCENT LAMPS AND DAYLIGHT LAMPS SHOULD USE ELECTRONIC BALLAST PLUS COMPENSATION CAPACITOR TO IMPROVE POWER FACTOR TO ABOVE 0.9.

VII. AIR CONDITIONING POWER DISTRIBUTION
1. THE AIR CONDITIONING VENTILATION EQUIPMENT POWER SUPPLY CIRCUIT IS SEPARATE FROM THAT OF THE KIOSK PART; AIR CONDITIONING EQUIPMENT POWER DISTRIBUTION USES METAL BRIDGE CEILING WIRING INSIDE, THEN USES STEEL PIPES TO LEAD TO EACH DEVICE; OUTDOOR UNITS USE CROSSLINKED POLYETHYLENE CABLES; INDOOR UNITS USE PLASTIC COPPER WIRES; WHERE CABLES PASS THROUGH DIFFERENT FIRE ZONES, FLAME RETARDANT SEALING IS ADDED; OUTDOOR UNITS' OUTLET HAS GOOD WATERPROOF MEASURES APPLIED.
2. CONDUCTOR SPECIFICATIONS AND CONDUIT COORDINATION DETAILS ARE SHOWN IN FIGURE NOTES; AIR CONDITIONING INDOOR AND OUTDOOR UNIT CONNECTION SUPPLIERS AND INSTALLATION UNITS FOLLOW MANUFACTURERS' REQUIREMENTS FOR CONSTRUCTION. ROOM TEMPERATURE CONTROLLER USES WIRED CONTROLLER, SPECIFIC LOCATION AS SHOWN IN DRAWINGS, INDOOR AND OUTDOOR UNIT CONNECTIONS AND ROOM TEMPERATURE CONTROLLER WIRING BOTH USE PLASTIC COPPER WIRE STEEL PIPE CONCEALED WIRING, SAME AS ABOVE NOTE REQUIREMENT. EXHAUST FANS, PRESSURE FAN BLOWERS, MANUAL TWO-POINT CONTROL WITH OVERLOAD ALARM FUNCTION;

VIII. ELECTRICAL INSTALLATION
1. IF A LINE EXCEEDS MORE THAN 30 METERS IN LENGTH, CONSIDER ADDING A MANHOLE BOX.
2. METAL BRIDGE MUST CONNECT AT LEAST TWO PLACES WITH GROUNDING BUSBAR, AND WHERE BRIDGES AND TROUGHS MEET, A JUMPER COPPER CORE GROUND WIRE SHOULD BE USED FOR GROUNDING CONNECTION.
3. FOR EMERGENCY LIGHTING, PROTECTIVE COVERS MADE OF GLASS OR OTHER NONFLAMMABLE MATERIALS SHOULD BE USED PROTECTIVE ENCLOSURE.
4. WHERE CABLE TRENCHES CROSS DIFFERENT FIRE ZONES, FLAME RETARDANT SEALING SHOULD BE APPLIED FIRE BARRIER; METAL FRENCHES SHOULD HAVE METAL COVERS ADDED FOR PROTECTION FIRE BARRIER COVER.

IX. GROUNDING SYSTEM
1. THE GROUNDING SYSTEM IS CONSISTENT WITH THE ORIGINAL BUILDING SYSTEM; THE GROUNDING DEVICE PLANS TO UTILIZE EXISTING GROUNDING DEVICES INSIDE THE BUILDING'S DISTRIBUTION ROOM. GROUNDING BUSBAR BRINGS ALONG WITH POWER SUPPLY CABLES.
2. ALL METAL PARTS OF ELECTRICAL EQUIPMENT SUCH AS CASINGS, BASES AND BRACKETS MUST BE RELIABLY GROUNDED. PIPES FOR WIRING; RELIABLE CROSS-CONNECTION FOR TRAYS, CONNECTED TOGETHER WITH THE GROUNDING DEVICE. THE MEASURED GROUND RESISTANCE IS LESS THAN 1 OHM.
3. AT THE POWER SUPPLY ENTRANCE, A MAIN EQUIPOTENTIAL TERMINAL BOX (MEB) IS SET UP. LOCAL EQUIPOTENTIAL TERMINAL BOXES (LEB) ARE INSTALLED IN KITCHENS AND BATHROOMS.
   ALL METAL PIPES ENTERING THIS BUILDING ARE TO BE PROPERLY CONNECTED TO EQUIPOTENTIAL BONDS NEARBY. ALL FIXED EQUIPMENT METAL PARTS INSIDE KITCHENS ARE TO BE PROPERLY CONNECTED TO EQUIPOTENTIAL BONDS NEARBY.
4. WHEN AIR CONDITIONER EXTERNAL UNITS, SMOKE EXHAUST FANS, AND SMOKE PURIFICATION DEVICES ARE PLACED ON ROOFTOPS, THEY SHOULD BE RELIABLY CONNECTED TO THE ROOFTOP LIGHTNING PROTECTION DEVICES.

GENERAL

1. REQUIREMENTS SPECIFIED ON COVER SHEET, ALONG WITH ELECTRICAL SPECIFICATIONS AND ALL ITS SECTIONS, COMPRISE THE CONTRACT DOCUMENTS FOR THE ELECTRICAL CONTRACT. DRAWINGS AND ALL THEIR REVISIONS UP TO THE BID SUBMITTAL DATE BECOME A BINDING PART OF THE CONTRACT, ALONG WITH THESE SPECIFICATIONS AS THOUGH THEY WERE ONE, AND ANYTHING IMPLIED BY THE SPECIFICATIONS SHALL BE INTERPRETED AS ALSO IMPLIED BY THE DRAWINGS AND VICE VERSA. PROVIDE NECESSARY ITEMS FOR A COMPLETE INSTALLATION OF ALL ELECTRICALLY OPERATED EQUIPMENT LISTED IN THE SPECIFICATIONS OR SHOWN ON THE CONTRACT DRAWINGS.

2. THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND EQUIPMENT DRAWINGS AND SPECIFICATIONS ARE INCORPORATED INTO, AND BECOME A PART OF THIS DIVISION. THIS CONTRACTOR SHALL EXAMINE ALL SUCH DRAWINGS AND SPECIFICATIONS AND BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS CONTAINED THEREIN. THE SUBMISSION OF HIS BID SHALL INDICATE SUCH KNOWLEDGE.

3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT AND CONDUIT. DIMENSIONS GIVEN ON THE PLANS, IN FIGURES, SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT, AS PURCHASED, FITS IN THE ROOM OR SPACE SHOWN. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUIT FIELD CONDITIONS.

4. UNTIL THE TIME OF INSTALLATION, THE ARCHITECT RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF CONDUIT AND EQUIPMENT WITHOUT ADDITIONAL COST TO THE CONTRACT.

5. THE ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. MATERIAL AND LABOR NECESSARY TO THE PROJECT SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. LABOR AND/OR MATERIALS NEITHER SHOWN NOR SPECIFIED, BUT OBVIOUSLY NECESSARY FOR THE COMPLETION AND PROPER FUNCTIONING OF THE SYSTEM, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST.

6. ARRANGE ALL EQUIPMENT SUBSTANTIALLY AS SHOWN ON THE DRAWINGS. MAKE DEVIATIONS ONLY WHERE NECESSARY TO AVOID INTERFERENCE. CHECK ALL EQUIPMENT SIZES AGAINST AVAILABLE SPACE PRIOR TO SHIPMENT TO AVOID INTERFERENCE.

7. EXAMINE THE WORK OF OTHER TRADES INSOFAR AS THEIR WORK COMES IN CONTACT WITH OR IS COVERED BY THIS WORK. IN NO CASE ATTACH TO, OR FINISH AGAINST ANY DEFECTIVE WORK OR INSTALL WORK IN A MANNER WHICH WILL PREVENT PROPER INSTALLATION OF THE WORK OF OTHER TRADES.

8. ELECTRICAL CONTRACTOR SHALL VERIFY WITH OTHER TRADES ALL ELECTRICAL CHARACTERISTICS OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. CONTRACTOR SHALL VERIFY VOLTAGE, PHASE AND HORSEPOWER AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF WORK. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECTING MEANS AND OVERLOAD PROTECTION FOR ALL EQUIPMENT, UNLESS FURNISHED INTEGRAL WITH EQUIPMENT PACKAGE.

9. IT IS THE INTENT OF THESE DRAWINGS THAT THIS BE A COMPLETE ELECTRICAL JOB. ANY ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING THE JOB.

VISIT TO THE SITE

THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK. THE SUBMISSION OF HIS PROPOSAL SHALL INDICATE SUCH KNOWLEDGE. NO ADDITIONAL PAYMENT SHALL BE MADE ON CLAIMS THAT ARISE FROM A LACK OF KNOWLEDGE OF THE EXISTING CONDITIONS.

CODE AND PERMITS

1. INSTALLATION SHALL BE IN FULL ACCORDANCE WITH ALL CODES, RULES AND REGULATIONS OF MUNICIPAL, CITY, COUNTY, STATE AND PUBLIC UTILITIES AND ALL OTHER AUTHORITIES HAVING JURISDICTION OVER THE PREMISES.

2. COMPLY WITH ANY SPECIFICATION REQUIREMENTS THAT ARE IN EXCESS BUT NOT IN CONFLICT WITH CODE REQUIREMENTS.

3. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, PLAN REVIEWS AND CERTIFICATES OF INSPECTION IN CONNECTION WITH HIS WORK, REQUIRED BY THE FOREGOING AUTHORITIES. BEFORE FINAL PAYMENT OF THE CONTRACT IS ALLOWED, ALL CERTIFICATES SHALL BE DELIVERED TO THE ARCHITECT IN DUPLICATE.

4. ELECTRICAL MATERIAL AND EQUIPMENT SHALL BEAR THE UL LABEL EXCEPT WHERE UL DOES NOT LABEL SUCH TYPES OF MATERIAL AND EQUIPMENT.

SHOP DRAWINGS SUBMITTALS

1. THE ELECTRICAL CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS. THE SHOP DRAWINGS OF THE FOLLOWING EQUIPMENT USING THE INDICATED NUMBERING SYSTEM AND TITLES, SHALL BE SUBMITTED THROUGH THE ARCHITECT TO THE ENGINEER AND THEN RESUBMITTED FOR FINAL APPROVAL, IF NECESSARY. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:
   A. WIRING DEVICES
   B. PANELBOARDS AND SAFETY SWITCHES INCLUDING FAULT CURRENT STUDY BASED ON EQUIPMENT BEING SUPPLIED.
   C. CONTACTORS, TIME SWITCHES AND PHOTOCELL
   D. LIGHTING FIXTURES
   E. SUPERVISORY ALARM SYSTEM

2. ALL SUBMITTED SHOP DRAWINGS (MANUFACTURERS "EQUIPMENT DESCRIPTIVE SHEETS OR VENDORS" PREPARED DRAWINGS) SHALL HAVE THE GENERAL CONTRACTOR'S OR SUBCONTRACTOR'S "STAMP OF APPROVAL" INDICATING THAT THE ITEM SUBMITTED IS AS CALLED FOR ON THE PLANS AND SPECIFICATIONS, IS APPROVED BY THE GENERAL CONTRACTOR OR SUBCONTRACTOR, THE DATE OF APPROVAL AND INITIALED BY THE PERSON APPROVING THE SUBMITTAL AND THE NAME OF THE COMPANY SUBMITTING SAID EQUIPMENT FOR APPROVAL.

3. SUBMIT BOUND BROCHURES COMPLETE WITH A TABLE OF CONTENTS. LOOSE OR STAPLED TOGETHER SHEETS ARE NOT ACCEPTABLE. ANY SUBMITTALS NOT IN BROCHURE FORM OR NOT AS SPECIFIED SHALL BE RETURNED AT THE CONTRACTOR'S EXPENSE FOR RESUBMITTAL.

4. ALL DESCRIPTIVE LITERATURE SHALL BE SUBMITTED IN A THREE (3) HOLE BROCHURE WITH A COVER IDENTIFYING THE FOLLOWING:
   A. NAME OF THE JOB
   B. LOCATION OF THE JOB, ADDRESS, CITY AND STATE.
   C. NAME AND ADDRESS OF THE COMPANY SUBMITTING THE BROCHURES.
   D. DATE OF THE SUBMITTAL.

5. EVERY EFFORT SHALL BE MADE, IN CHECKING THE SHOP DRAWINGS, TO DETECT AND CORRECT ALL ERRORS, OMISSIONS AND INACCURACIES. FAILURE TO DO THIS WILL NOT RELIEVE THE ELECTRICAL CONTRACTOR OF THE RESPONSIBILITY FOR THE PROPER AND COMPLETE INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

RECORD DRAWINGS

SUBMIT TO THE ARCHITECT ONE SET OF REPRODUCIBLE (MYLARS) ELECTRICAL DRAWINGS SHOWING THE RECORD CONDITIONS.

STANDARDS AND SUBSTITUTIONS

1. WHEREVER THE WORDS "APPROVED BY", "APPROVED EQUAL", "AS DIRECTED" OR SIMILAR PHRASES ARE USED IN THE FOLLOWING SPECIFICATIONS, THEY SHALL BE UNDERSTOOD TO REFER TO THE OWNER AS THE APPROVING AGENCY. THE NAME OR MAKE OF ANY EQUIPMENT OR MATERIALS NAMED IN THIS SPECIFICATION (WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED) SHALL BE KNOWN AS THE "STANDARD".

2. THESE SPECIFICATIONS ESTABLISH QUALITY STANDARD OF MATERIALS AND EQUIPMENT TO BE PROVIDED. SPECIFIC ITEMS ARE IDENTIFIED BY MANUFACTURER, TRADE NAME OR CATALOG DESIGNATION. THIS CONTRACTOR SHALL SUBMIT HIS BASE BID PRICE BASED UPON STANDARD SPECIFIED EQUIPMENT DESCRIBED HEREIN AND AS DETAILED ON DRAWINGS AND ASSOCIATED CONTRACT DOCUMENTS. THESE SPECIFICATIONS ARE NOT TO BE CONSIDERED PROPRIETARY THE CONTRACTOR MAY SUBMIT INFORMATION ON MATERIALS AND MANUFACTURERS (OTHER THAN THOSE LISTED) FOR REVIEW BY THE ARCHITECT AND ENGINEER NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED.

   IN ADDITION, SAMPLES OF PROPOSED EQUIPMENT MAY BE REQUIRED TO BE SUBMITTED TO THE ENGINEER FOR REVIEW NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. MANUFACTURERS OF PRODUCTS ACCEPTED BY THE ARCHITECT AND ENGINEER WILL BE LISTED IN AN ADDENDUM TO THE SPECIFICATIONS AS AN ACCEPTABLE SUBSTITUTION EQUIPMENT ACCEPTED AS DETAILED BELOW AND SHALL BE SHOWN AS A SEPARATE ADD OR DEDUCT PRICE TO BE FACTORED INTO THE BASE BID PRICE BY THE ARCHITECT AND OWNER IF ACCEPTED.

3. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED OR APPROVED BY ADDENDUM, SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ARCHITECT AT THE BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID; BE ACCOMPANIED WITH COMPLETE DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. FAILURE BY THIS CONTRACTOR TO THE REQUISITE DOCUMENTATION DETAILED ABOVE SHALL BE UNDERSTOOD BY THE ARCHITECT AND ENGINEER TO INDICATE THAT SUBSTITUTE EQUIPMENT WILL NOT BE PRESENTED BY THE CONTRACTOR FOR CONSIDERATION. SUCH SUBSTITUTIONS WILL NOT BE CONSIDERED AFTER THE BID OPENING DATE AND DELAY OF PROJECT WILL NOT BE PERMITTED FOR FURTHER INSPECTION AND EVALUATION AFTER THIS DATE.

4. WHERE SUCH SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS INDICATED ON THE DRAWINGS, INCLUDE ALL ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION INCLUDING COST OF ALL ALLIED TRADES INVOLVED.

5. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT (AT HIS COST) INSPECTION SAMPLES OF BOTH THE SPECIFIED AND PROPOSED SUBSTITUTE ITEMS.

6. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR ANY EXTRA COST OF EVALUATING THE QUALITY OF THE MATERIAL AND EQUIPMENT TO BE PROVIDED, INCLUDING ALL ARCH/ENGINEER FEES ASSOCIATED WITH CHANGE.

TESTING AND PLACING IN SERVICE

1. ANY MATERIAL OR EQUIPMENT FAILING A TEST SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

2. TESTS SHALL INCLUDE THE FOLLOWING:
   A. MEASURE THE LOAD ON EACH PHASE OF THE MAIN SERVICE AND EACH PHASE OF EVERY FEEDER UNDER FULL LOAD CONDITIONS.
   B. MEASURE THE NO-LOAD AND FULL-LOAD VOLTAGES (PHASE TO PHASE, PHASE TO NEUTRAL AND PHASE TO GROUND FOR EACH PHASE OF EACH SERVICE, OF EACH SEPARATELY DERIVED SYSTEM, AND AT EACH PANELBOARD OR TRANSFORMER).
   C. MEASURE THE GROUND RESISTANCE OF THE MAIN SERVICE GROUNDING ELECTRODE AND THE GROUND RESISTANCE OF EACH SEPARATELY DERIVED SYSTEM'S GROUNDING ELECTRODE.
   D. MAKE INSULATION RESISTANCE TESTS ON ALL DRY TYPE TRANSFORMERS AND MOTORS.

INTERFERENCES

1. BEFORE THE INSTALLATION OF ANY ITEM BEGINS, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY ASCERTAIN THAT IT DOES NOT INTERFERE WITH CLEARANCES FOR THE ERECTION OF FINISH BEAMS, COLUMNS, PILASTERS, WALLS OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF ANY WORK IS INSTALLED AND THE ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE CHANGES IN HIS WORK AS DIRECTED BY THE ARCHITECT TO PERMIT THE COMPLETION OF THE ARCHITECTURAL WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.

2. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO REPORT ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF ANY OF THE OTHER CONTRACTORS AS SOON AS THEY ARE DISCOVERED. THE ARCHITECT SHALL DETERMINE WHICH EQUIPMENT WILL BE RELOCATED, REGARDLESS OF WHICH WAS INSTALLED FIRST. HIS DECISION WILL BE FINAL.

QUALITY ASSURANCE

ALL PRODUCTS SHALL BE NEW AND OF THE TYPE AND QUALITY SPECIFIED. WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OF CATALOG NUMBER, SUCH DESIGNATION SHALL ESTABLISH THE STANDARDS OF THE DESIRED QUALITY AND STYLE. IT IS THE INTENT OF THESE SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY OF MATERIALS AND EQUIPMENT INSTALLED.

NAMEPLATES

1. FURNISH AND MOUNT ON EACH PANELBOARD, SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, STARTER, REMOTE CONTROL, PUSH BUTTON STATION, AND ALL SIMILAR CONTROLS, A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED.

2. PROVIDE BLACK AND WHITE NAMEPLATES CONSTRUCTED FROM LAMINATED PHENOLIC WITH A WHITE CENTER CORE. LETTERS SHALL BE ENGRAVED IN THE PHENOLIC TO FORM WHITE LETTERS 3/8" HIGH. FASTEN THE NAMEPLATES WITH SCREWS AND AN ADHESIVE TYPE FASTENER.

MOUNTING ACCESSORIES

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ANGLE IRON, CHANNEL IRON, RODS, SUPPORTS, HANGERS, CONCRETE OR PLYWOOD REQUIRED TO INSTALL, MOUNT AND SUPPORT ANY ELECTRICAL EQUIPMENT OR DEVICE CALLED FOR ON THE PLANS.

2. SUPPORTING MATERIAL SHALL BE COMPLETE WITH HANGERS, CONNECTORS, BOLTS, CLAMPS AND NECESSARY ACCESSORIES TO MAKE A COMPLETE INSTALLATION. SUPPORTING MATERIAL SHALL BE GALVANIZED, PAINTED OR OTHERWISE SUITABLY FINISHED. PRODUCTS BY BRINKLEY, STEEL CITY OR RACO WILL BE ACCEPTABLE.

3. ALL SURFACE-MOUNTED EQUIPMENT ON BLOCK WALLS SHALL BE MOUNTED ON 3/4" PLYWOOD BACKBOARD. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED ON A 4" HIGH CONCRETE HOUSEKEEPING PAD.

EXECUTION

1. THE ELECTRICAL WORK FOR CONSTRUCTION PROPOSED SHALL CONFORM TO ALL FEDERAL (OSHA), STATE, ALL SPECIFIC SAFETY REQUIREMENTS AND THE REQUIREMENTS OF THE CURRENT EDITION OF THE NEC.

2. CHECK THE HVAC AND PLUMBING SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS AND INCLUDE THE SAME IN THE CONTRACT COST.

3. EQUIPMENT CONNECTIONS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS AND PUSHBUTTON STATIONS FOR THE EQUIPMENT FURNISHED BY THE OWNER OR UNDER A SEPARATE CONTRACT SHALL BE INSTALLED AND CONNECTED UNDER THIS DIVISION, AS INDICATED ON THE CONTRACT DRAWINGS.

4. ALL CUTTING, PATCHING, EXCAVATING, BACKFILLING AND CONCRETE WORK RELATED TO THIS CONTRACT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF PROVIDING THE SLEEVES, CHASES AND OPENINGS NECESSARY FOR THE ELECTRICAL INSTALLATION AND FOR THEIR REPAIR IN AN ACCEPTABLE MANNER, AS DETERMINED BY THE ARCHITECT. ALL HOLES SHALL BE CORE-DRILLED. PROVIDE FIRE STOP IN ALL OPENINGS CREATED THROUGH FIRE-RATED WALLS, FLOORS OR CEILINGS.

5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED ACCESS PANELS NECESSARY FOR HIS WORK, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.

MATERIALS AND WORKMANSHIP

1. ALL WORK SHALL BE INSTALLED IN A PRACTICAL AND WORKMANLIKE MANNER, BY MECHANICS SKILLED IN THE SEVERAL TRADES NECESSARY.

2. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS UNLESS SPECIFIED OR INDICATED ON THE DRAWINGS TO HE CONTRARY.

3. DURING EACH PHASE AND AT THE COMPLETION OF THE CONSTRUCTION, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK. HE SHALL LEAVE THE AREA OF OPERATION BROOM CLEAN.

4. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR ETL LABEL.

5. THIS CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIAL (LAMPS EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF BUILDING OPENING AND LEAVE HIS WORK IN PERFECT ORDER AT THE COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THE CONTRACTOR SHALL, UPON NOTICE OF THE SAME, REMEDY THE DEFECTS AND HAVE ALL DAMAGES TO OTHER WORK OR FURNISHINGS CAUSED BY THE REPAIRS CORRECTED AT HIS EXPENSE TO THE CONDITION BEFORE SUCH DAMAGE.

SCOPE OF WORK

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, STORAGE, UNPACKING AND PLACEMENT; TO INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:
   A. COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEM.
   B. COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
   C. COMPLETE POWER WIRING FOR ALL AIR CONDITIONING EQUIPMENT, PLUMBING SYSTEM, HEATING EQUIPMENT, VENTILATING AND EXHAUST EQUIPMENT.
   D. LIGHTING FIXTURE INSTALLATION.
   E. COMPLETE TELEPHONE AND COMMUNICATION CONDUIT SYSTEM INCLUDING PULL BOXES, OUTLET BOXES, AND CONDUIT AS SPECIFIED, SHOWN ON THE DRAWINGS AND REQUIRED BY THE LOCAL TELEPHONE COMPANY AND/OR OWNER. FROM EACH OUTLET PROVIDE A 1" EMPTY EMT CONDUIT ROUTED INTO THE CEILING CAVITY OR TO THE CLOSEST TELECOMMUNICATIONS CLOSET. PROVIDE A DRAG LINE IN EACH RUN AND TERMINATE IN A BUSED ELBOW.
   F. TEMPORARY ELECTRICAL POWER AND LIGHTING AS REQUIRED FOR CONSTRUCTION.
   G. TESTING OF ALL CABLES AND CIRCUIT WIRING AFTER INSTALLATION.
   H. EXIT LIGHT SYSTEM.
   I. WIRING DEVICES.
   J. LIGHTING CONTROLS.
   K. GROUNDING OF THE ELECTRICAL SYSTEM.
   L. IDENTIFY RACEWAYS AND CABLES WITH COLOR BANDING AS FOLLOWS:

2. COLORS: FIRE ALARM SYSTEM: RED SECURITY SYSTEM: BLUE AND YELLOW. TELECOMMUNICATION SYSTEM: GREEN AND YELLOW.

GROUNDING AND BONDING

1. GROUND ALL EQUIPMENT PER N.E.C.
2. ALL CONDUITS SHALL CONTAIN A CODE-SIZED GROUND WIRE SIZED PER N.E.C. IN ADDITION TO THE CONDUCTORS SHOWN ON THE PLANS. WHERE CIRCUIT CONDUCTORS ARE INCREASED IN SIZE FOR VOLTAGE DROP, THE GROUND WIRE SIZE SHALL BE INCREASED PROPORTIONATELY.
3. AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

WIRE AND CABLE

1. COLOR CODE CONDUCTORS (EXCEPT CONTROL AND INSTRUMENTATION CONDUCTORS) AS FOLLOWS:
   208/120V SYSTEM
   A. PHASE A BLACK;
   B. PHASE B RED;
   C. PHASE C BLUE;
   D. NEUTRAL WHITE; GROUND GREEN.
      a. #12 AND #10 CONDUCTORS SHALL HAVE CONTINUOUS INSULATION COLOR, AS LISTED ABOVE.
      b. COLOR CODE CONDUCTORS LARGER THAN ABOVE, WHICH DO NOT HAVE CONTINUOUS INSULATION COLOR BY APPLICATION OF AT LEAST TWO LAPS OF COLORED TAPE ON EACH CONDUCTOR AT ALL POINTS OF ACCESS INCLUDING JUNCTION BOXES. COLOR TAPE SHALL BE THE EQUAL OF 3M PRODUCTS SCOTCH #35.
      c. CONDUCTORS SHALL BE SOFT ANNEALED COPPER INSULATED FOR 600 VOLTS UNLESS SPECIFICALLY INDICATED OTHERWISE. ALUMINUM AND NM (ROMEX) CONDUCTORS ARE NOT ALLOWED ON THIS PROJECT.

2. INSULATION TYPE SHALL BE TYPE THWN FOR WIRE SIZES #8 AWG AND LARGER AND THHN OR THWN FOR #10AWG AND SMALLER. THHN SHALL NOT BE USED IN WET OR DAMP LOCATIONS.

3. FLEXIBLE CORD SHALL BE HEAVY DUTY TYPE SO WITH AN EQUIPMENT GROUND CONDUCTOR IN ADDITION TO THE CURRENT CARRYING CONDUCTORS.

4. PROVIDE #12 CONDUCTORS, UNLESS OTHERWISE INDICATED.
   A. CONTROL CONDUCTORS SHALL BE #14 MINIMUM FOR NEC CLASS I AND #16 FOR NEC CLASS II.

5. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED.

6. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID.

7. INSTALL WIRING IN CONDUIT. CONCEALED WIRING IN WALLS OR ABOVE CEILINGS, OR EXPOSED IN UNFINISHED AREAS (WHERE NOT SUBJECT TO PHYSICAL DAMAGE) MAY BE RUN IN MC OR AC CABLE.

8. CONNECT #10 AND SMALLER WIRES WITH CONSTANT PRESSURE EXPANDABLE SPRING TYPE CONNECTORS, "SCOTCHLOK" BY 3M OR B-CAP BY BUCHANAN.

9. CONNECT #8 AND LARGER WIRES WITH COMPRESSION CONNECTORS OR SPLICES AS MANUFACTURED BY BURNDY OR T&B.

10. INSULATE SPLICING CONNECTORS TO AT LEAST 200% OF THE WIRE INSULATION. USE PRE-STRETCHED TUBING CONNECTOR INSULATORS, 3M PST FOR #2 AND LARGER CONDUCTORS.

11. PULL CONDUCTORS USING RECOGNIZED METHODS AND EQUIPMENT LEAVING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS.
    A. CLEANOUT EACH CONDUIT SYSTEM BEFORE PULLING WIRE.

12. FORM AND TIE ALL WIRING IN PANELBOARDS.

13. THERE SHALL BE NO WIRENUT JOINTS OR SPLICES MADE INSIDE SWITCHBOARDS/PANELBOARDS. BRANCH CIRCUIT WIRE SIZES (AND CONDUITS) SHALL BE INCREASED FROM THOSE INDICATED ON THE PLANS TO PREVENT EXCESSIVE VOLTAGE DROP. BRANCH CIRCUITS SHALL BE INSTALLED WITH WIRES OF SUFFICIENT SIZE SO THAT VOLTAGE DROP BETWEEN THE PANEL AND THE LOADS DOES NOT EXCEED LIMIT OF 3%.

14. WIRE SIZES SHALL BE BASED ON THE 75 DEGREES C. AMPACITIES.

15. CIRCUITS MAY BE MULTI-PLEXED IN CONDUIT PROVIDED WIRE IS PROPERLY DERATED AND CONDUIT SIZED PER CODE. UNDER NO CIRCUMSTANCE SHALL MORE THAN (8) CURRENT CARRYING CONDUCTORS BE RUN IN A SINGLE CONDUIT.

RACEWAYS

1. ALL WIRE SHALL BE RUN IN ACCORDANCE WITH CODE IN CORROSION RESISTANT, RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (E.M.T.) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.
   A. CONDUIT IN EXTERIOR WALLS, BELOW FLOOR SLAB, OR UNDERGROUND SHALL BE RIGID, THREADED, GALVANIZED, HEAVY WALL TYPE.
   B. CARLON PVC TYPE 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.
   C. CONDUIT RUN EXPOSED TO THE WEATHER SHALL BE HEAVY WALL, METAL THREADED TYPE. PROVIDE BRANCH CIRCUIT CONDUCTORS THAT ARE TYPE THHN OR THWN AS REQUIRED. MC CABLE CAN BE USED FOR LIGHT FIXTURE TO LIGHT FIXTURE.

2. CONDUIT SIZE SHALL BE 3/4" MINIMUM.

3. CONDUIT SHALL BE SECURELY FASTENED IN PLACE.

4. ALL CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR AND CEILINGS WHEREVER POSSIBLE. EXPOSED CONDUIT IN FINISHED AREAS WILL NOT BE PERMITTED. EXPOSED CONDUIT WILL BE PERMITTED IN UNFINISHED AREAS WITH THE SPECIFIC APPROVAL OF THE ARCHITECT.

CHAGEE
SOUTH COAST PLAZA

△ ISSUANCE NAME	DATE
01 CITY COMMENTS	10-27-25
02 CITY COMMENTS	11-26-25

ELECTRICAL SPECIFICATIONS (1 OF 2)

E0.01

5. USE FLEXIBLE CONDUIT FOR THE CONNECTION TO RECESSED OR SEMI-RECESSED LIGHTING FIXTURES (6' LENGTH MAXIMUM). USE LIQUID TIGHT METAL CONDUIT FOR ALL CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SUBJECT TO VIBRATION AND IN AREAS SUBJECT TO MOISTURE.

6. USE WATERTIGHT JOINTS WITH BURIED AND CONCRETE ENCASED CONDUIT. ALL BURIED CONDUITS OUTSIDE OF BUILDINGS SHALL HAVE A MINIMUM OF 24" OF COVER. METAL CONDUITS BURIED IN EARTH SHALL BE PAINTED (TWO COATS) WITH HEAVY ASPHALTUM PAINT.

7. SUPPORT RUNS OF CONDUIT AS DETAILED IN THE APPROPRIATE TABLE OF THE NATIONAL ELECTRICAL CODE (NEC).

8. INSTALL EXPOSED RUNS OF CONDUIT AND CONDUIT ABOVE LAY-IN CEILINGS PARALLEL OR PERPENDICULAR TO THE WALLS, STRUCTURAL MEMBERS OF INTERSECTIONS OF VERTICAL PLANES AND CEILINGS. PROVIDE RIGHT ANGLE TURNS USING FITTINGS OR SYMMETRICAL BENDS. SUPPORT CONDUITS WITHIN 1" OF ALL CHANGES IN DIRECTION.

9. IF A CONDUIT IS SUSPENDED, IT SHALL BE SUPPORTED ON TRAPEZE HANGERS WHICH USE "ALL-THREAD" RODS FROM THE STRUCTURAL STEEL. THE USE OF CEILING SUPPORT WIRE OR SIMILAR MATERIAL WILL NOT BE ACCEPTED.

10. INSTALL EMPTY CONDUIT FOR FUTURE USE AS INDICATED ON THE DRAWINGS. CONDUIT SHALL BE COMPLETE WITH JETLINE OR PULL ROPE, JUNCTION/OUTLET BOXES, TILE RINGS AND APPROPRIATE COVER PLATES.

11. PROVIDE PITCHPOCKETS WHERE CONDUITS PENETRATE THE ROOF.

12. THREAD LUBRICATION/SEALANT IS REQUIRED ON OUTDOOR AND UNDERGROUND THREADED METAL JOINTS.

13. INSTALL FIRE SEAL FITTINGS WHERE CONDUITS PENETRATE CONCRETE FLOOR SLABS OR MASONRY WALLS REQUIRED TO BE FIRE RATED.

14. HORIZONTAL PORTION OF CONDUIT EXPOSED ON THE ROOF AND FEEDING EQUIPMENT SHALL NOT BE MORE THAN 5'-0" UNLESS THE WRITTEN APPROVAL FROM ARCHITECT OR ENGINEER IS OBTAINED.

PULL AND JUNCTION BOXES

1. INSTALL PULL AND JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS, AND WHERE REQUIRED FOR CHANGES IN DIRECTION, AT JUNCTION POINTS, AND TO FACILITATE WIRE PULLING. FURNISH BOX SIZES IN ACCORDANCE WITH NEC UNLESS LARGER BOXES ARE INDICATED.

2. PROVIDE STEEL BOXES AND REMOVABLE COVERS OF CODE GAUGE, HOT ROLLED SHEET STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, FOR ABOVE GROUND WORK. FURNISH WEATHERPROOF BOXES WHEN INSTALLED ABOVE GROUND OUTSIDE.

3. PROVIDE CAST IRON BOXES, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE WHERE SHOWN ON THE DRAWINGS. FURNISH REMOVABLE COVERS WITH GASKETS AND STAINLESS STEEL, BRASS OR BRONZE SCREWS.

4. PROVIDE CONCRETE BOXES FOR UNDERGROUND WORK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FURNISH STEEL FRAMES AND COVERS WITH THE COVER ATTACHED TO THE FRAME WITH HEXAGON HEAD, BRASS OR BRONZE CAP SCREWS, 3/8" DIAMETER. PROVIDE A RUBBER GASKET FOR SEALING BETWEEN THE COVER AND THE FRAME. PAINT THE COVER WITH TWO COATS OF HEAVY ASPHALTUM.

OUTLET BOXES

1. USE SHEET STEEL BOXES, ZINC COATED OR CADMIUM PLATED, FOR CONCEALED INTERIOR WORK.

2. USE CAST BOXES, ZINC-CADMIUM FINISH MALLEABLE IRON, FOR EXPOSED INTERIOR WORK, AND FOR EXPOSED OR CONCEALED WORK IN WET, DAMP OR EXTERIOR LOCATIONS.

3. WALL BOX SIZES (MINIMUM) SHALL BE 4" SQUARE x 2-1/2" DEEP WHERE WALL CONSTRUCTION PERMITS. WHERE WALL CONSTRUCTION DICTATES, THE WIDTH MAY BE REDUCED TO 2-1/8" OR 1-1/2" UNDER SPECIAL CONDITIONS.

4. FIXTURE OUTLETS IN CEILINGS (MINIMUM) SHALL BE 4" OCTAGONAL x 1-1/2" DEEP (4-11/16" OCTAGONAL x 2-1/2" DEEP WHERE REQUIRED TO ACCOMMODATE LARGER CONDUIT OR LARGER NUMBER OF WIRES).

5. GANG BOXES SHALL BE ONE PIECE (MINIMUM), 2-1/8" DEEP.

6. PROVIDE CONCRETE-TIGHT FLOOR BOXES WITH ADJUSTABLE COVERS SET FLUSH AND LEVEL WITH THE FINISHED FLOOR, WITH OUTLETS AS INDICATED ON THE DRAWINGS. PROVIDE WIREMOLD #EFB6S SERIES BOXES WITH LEVELING SCREWS FOR ABOVE GRADE APPLICATIONS, AND WIREMOLD #EFB6S-OG FOR ON-GRADE APPLICATIONS. FLUSH TYPE COVERS AND OPENINGS TO SERVE OUTLETS USED. FURNISH FLUSH CAPS FOR CLOSING OFF BOX WHEN NOT IN USE.

7. PROVIDE WIREMOLD EVOLUTION SERIES WALL BOX BEHIND ALL WALL MOUNTED FLAT SCREEN MONITORS. COORDINATE HEIGHT WITH ARCHITECT.

8. FLUSH MOUNT BOXES IN ALL FINISHED WALLS. INSTALL THE PLASTER RINGS IN DRYWALLED PLASTERED WALLS AND RAISED COVERS AS REQUIRED IN WALLS WITH OTHER FINISHES SO THAT THE COVER PLATES FIT TIGHTLY AGAINST BOXES OR RINGS, 3/16" MAXIMUM GAPS ARE ALLOWED FOR NONCOMBUSTIBLE WALLS.

9. ADJUST LOCATION OF OUTLETS IN MASONRY OR TILE CONSTRUCTION TO OCCUR IN THE NEAREST JOINT TO THE HEIGHT SPECIFIED. HEIGHTS SHALL MEET A.D.A. REQUIREMENTS.

10. SUPPORT ALL BOXES TO MAINTAIN PROPER ALIGNMENT AND RIGIDITY.

11. CLEAN BOXES OF ALL FOREIGN MATTER PRIOR TO THE INSTALLATION OR WIRING OF DEVICES.

12. MOUNTING HEIGHTS ON THE DRAWINGS ARE TO THE CENTERLINE OF THE BOX UNLESS OTHERWISE NOTED.

WIRING DEVICES

1. WIRING DEVICE COLOR SHALL BE WHITE, UNLESS OTHERWISE INDICATED.

2. OCCUPANCY SENSOR SWITCHES SHALL BE 120/277 VOLT, DUAL TECHNOLOGY 0-10V DIMMING WALL SWITCH OCCUPANCY SENSORS, WATTSTOPPER #DW-311.

3. DIMMER SWITCHES SHALL BE WIDE SLIDE 0-10V PRESET DIMMER WITH INTEGRATED POWER PACK EQUAL TO PASS & SEYMOUR WS4FBL3PW.

4. GENERAL SWITCHES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY PASS & SEYMOUR.

5. CEILING MOUNTED OCCUPANCY SENSORS SHALL BE LOW VOLTAGE DUAL TECHNOLOGY, WATTSTOPPER #DT-300.

6. PROVIDE NEMA CONFIGURATION 5-20R DUPLEX 125 VOLT GROUNDING TYPE RECEPTACLES RATED FOR 20 AMPERES UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

7. RECEPTACLES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY PASS & SEYMOUR.

8. RECEPTACLES REQUIRING AMPERAGES, VOLTAGES OR CONFIGURATIONS DIFFERENT FROM THE DUPLEX CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS.

9. PROVIDE OTHER RECEPTACLES OF A QUALITY, MATERIAL AND WORKMANSHIP EQUAL TO THAT SPECIFIED FOR DUPLEX CONVENIENCE RECEPTACLES.

10. PROVIDE COVER OR DEVICE PLATES FOR OUTLET BOXES AS FOLLOWS UNLESS OTHERWISE NOTED:
    A. FINISHED AREAS: STAINLESS STEEL.
    B. UNFINISHED AREAS: ZINC COATED SHEET METAL, ALUMINUM, OR CAST METAL, AS APPROPRIATE FOR THE TYPE OF BOX.
    C. EXTERIOR AREAS: COPPER FREE ALUMINUM WITH GRAY, POWDER EPOXY FINISH, GASKET, WEATHERPROOF. TELEPHONE, COMMUNICATION, AND SIGNAL OUTLET PLATES, SHALL MATCH THOSE USED FOR RECEPTACLES AND SWITCHES. ALL OUTLET AND/OR JUNCTION BOXES SHALL BE COMPLETE WITH A COVER PLATE BY THIS CONTRACTOR.
    D. WHERE DEVICES ARE GANGED, THEY SHALL BE INSTALLED UNDER A COMMON COVERPLATE.

11. LOCATE THE SWITCHES APPROXIMATELY 4'-0" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS OTHERWISE INDICATED. THE LONG DIMENSION OF THE SWITCHES SHALL BE VERTICAL.

12. LOCATE RECEPTACLES APPROXIMATELY 1'-6" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS NOTED OTHERWISE. THE LONG DIMENSION OF RECEPTACLES SHALL BE VERTICAL.

SAFETY SWITCHES

1. SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE (TYPE HD) WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD LOCKABLE OPERATING HANDLE.

2. SAFETY SWITCHES SHALL BE RATED FOR 240 OR 600 VOLTS AS APPLICABLE. THEY SHALL BE HORSEPOWER RATED WHEN USED IN MOTOR CIRCUITS.

3. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, 2, 3, OR 4 POLE AS INDICATED ON THE DRAWINGS.

4. SAFETY SWITCHES SHALL BE SINGLE THROW UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

5. ENCLOSURES SHALL BE NEMA 1 INDOORS AND NEMA 3R OUTDOORS UNLESS OTHERWISE INDICATED ON DRAWINGS.

6. MANUFACTURER SHALL BE SQUARE D, SIEMENS, OR CUTLER-HAMMER. ALL SAFETY SWITCHES SHALL BE BY ONE MANUFACTURER.

7. MOUNT THE SAFETY SWITCHES SECURELY BETWEEN 3' & 6' LEVELS ABOVE THE FLOOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

8. WITCHES ON BLOCK WALLS SHALL BE MOUNTED ON A 3/4" PLYWOOD BACKBOARD, WHERE LOCATED INDOORS.

DISTRIBUTION AND PANELBOARDS

1. PANELBOARDS SHALL BE FULLY RATED TO INTERRUPT SYMMETRICAL SHORT CIRCUIT AT THE TERMINALS.

2. PANELBOARDS SHALL BE LABELED WITH PHENOLIC NAMEPLATES INSCRIBED AS INDICATED ON THE DRAWINGS. PROVIDE LABELS AFFIXED TO PANELBOARDS AS REQUIRED BY NFPA 70E.

3. PANELBOARDS SHALL BE ENCLOSED DEAD FRONT SAFETY TYPE WITH FEATURES AND RATINGS AS SCHEDULED ON THE DRAWINGS.

4. MOLDED CASE CIRCUIT BREAKERS SHALL BE AS SCHEDULED ON THE DRAWINGS AND SPECIFIED IN THIS DIVISION.

5. ALL BUS BARS SHALL BE RECTANGULAR TIN PLATED ALUMINUM.

6. SPACE, WHERE SHOWN IN PANEL SCHEDULES, DESIGNATES SPACE FOR FUTURE PROTECTIVE DEVICES AND SHALL INCLUDE BUS AND SUPPORT.

7. INSTALL CABINETS SO THAT CENTER OF THE TOP BREAKER DOES NOT EXCEED 6'-6" ABOVE THE FINISHED FLOOR.

8. ENTRIES ON DIRECTORY CARDS SHALL BE TYPED, COMPLETE AND ACCURATE.

9. ALL BOLTED CONNECTIONS SHALL BE TORQUED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.

10. ELECTRICAL CONTRACTOR SHALL ARRANGE CIRCUITS AS NEAR AS POSSIBLE TO CIRCUIT NUMBERS ON THE DRAWINGS. AT COMPLETION OF JOB, ELECTRICAL CONTRACTOR SHALL TAKE CURRENT READING CHECKS OF RESPECTIVE PHASES. A MINIMUM OF CIRCUIT CONNECTIONS SHALL BE REARRANGED TO BALANCE, AS CLOSELY AS POSSIBLE, THE LOAD IN THE PANEL.

11. ALL BREAKERS SHALL BE BOLT-ON TYPE.

12. MANUFACTURER SHALL BE SQUARE D AS THE PREFERRED SWITCHGEAR.

LIGHTING FIXTURES

1. NEW LIGHTING FIXTURES SHALL BE AS LISTED IN THE LIGHTING FIXTURE SCHEDULE.

2. ALL LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE, INCLUDING LAMPS. LAMPS SHALL BE OF SAME MANUFACTURER FOR ALL TYPES.

3. ALL FIXTURES SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

4. BALLASTS FOR LINEAR FLUORESCENT LAMPS SHALL BE AS LISTED IN THE LIGHTING FIXTURE SCHEDULE.

5. HIGH INTENSITY DISCHARGE BALLASTS SHALL BE CONSTANT WATTAGE TYPE.

6. THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY SUPPORT MEDIA FOR ALL LIGHTING FIXTURES INCLUDING STRUCTURAL STEEL, ANGLE, RODS, ETC. IN GENERAL, FLUORESCENT AND HIGH INTENSITY DISCHARGE FIXTURES SHALL BE SUPPORTED IN A MANNER ACCEPTABLE TO THE LOCAL INSPECTION AUTHORITIES. ALL FIXTURES SHALL BE FIRMLY SUPPORTED FROM BEAMS OR JOISTS.
    A. PROVIDE ALL NECESSARY BACKING, BLOCKING AND SUPPORTS FOR WALL MOUNTED FIXTURES.
    B. FIXTURES SHALL NOT BE SUPPORTED FROM ROOF DECK.

7. ALL FIXTURES SHALL BE U.L. LISTED AND APPROVED FOR THE PURPOSE INTENDED.

8. RECESSED FIXTURES IN FIRE RATED CEILING OR SUPPLY AIR PLENUMS SHALL BE APPROVED FOR THE FIRE RATING OF THE CEILING. PROVIDE AIR-TIGHT GASKETS TO SEAL AROUND OPENINGS.

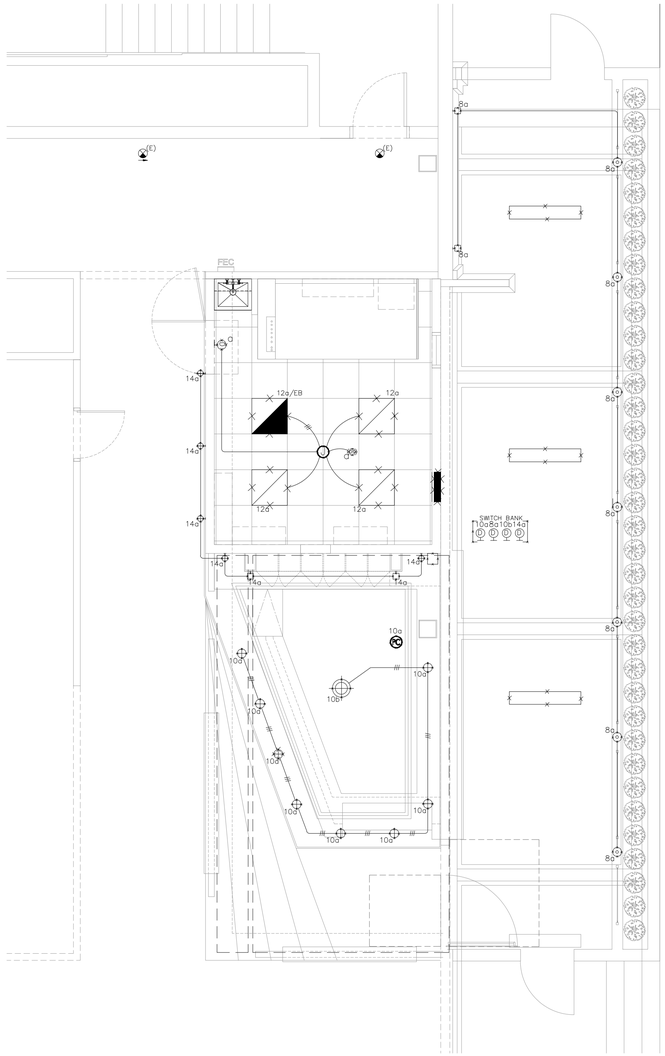
9. ALL ADJUSTABLE FIXTURES SHALL BE AIMED AND ADJUSTED DURING EVENING HOURS TO THE SATISFACTION OF THE ARCHITECT.

CHAGEE
SOUTH COAST PLAZA

△	ISSUANCE NAME	DATE
01	CITY COMMENTS	10-27-25
02	CITY COMMENTS	11-26-25

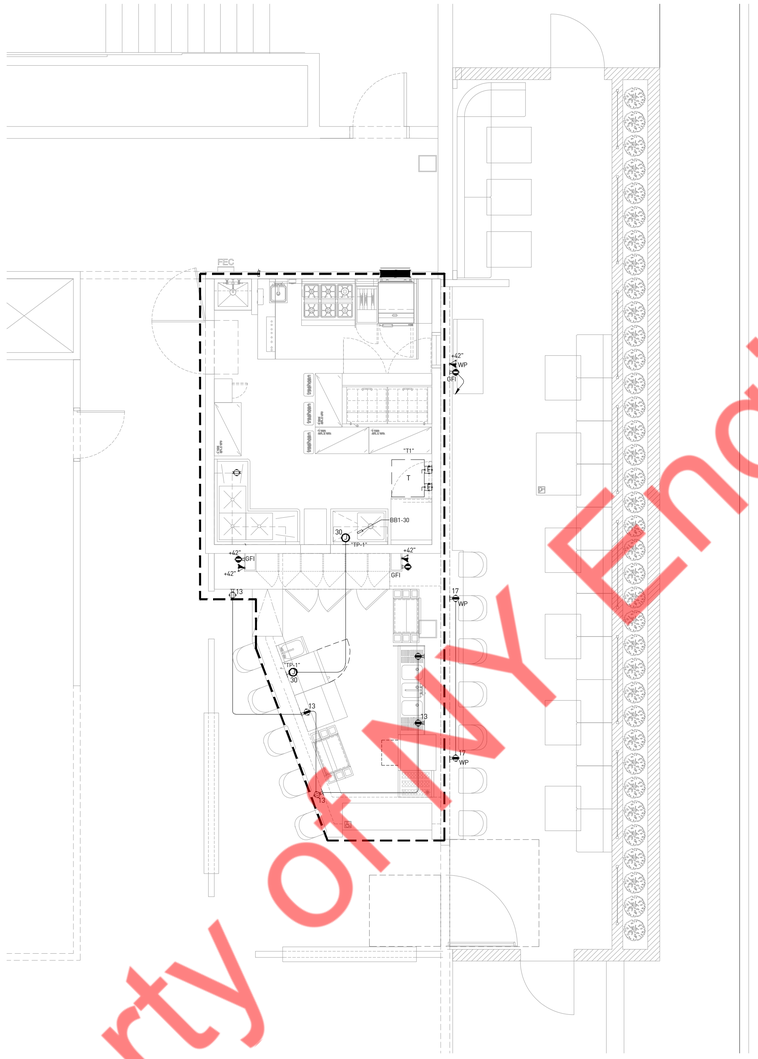
ELECTRICAL
SPECIFICATIONS
(2 OF 2)

E0.02



ELECTRICAL LIGHTING DEMOLITION PLAN | 1

1/4" = 1'-0"



ELECTRICAL POWER DEMOLITION PLAN | 2

1/4" = 1'-0"

LEGEND EXPLANATION:

LEGEND	EXPLANATION
	DEMOLISHED

GENERAL NOTES:

1. IN EVERY INSTANCE OF DEMOLITION AND/OR REMODELING, THE ELECTRICAL CONTRACTOR SHALL FIGURE OUT A COMPLETE JOB AS NONE OTHER SHALL BE ACCEPTED.
2. THE DRAWINGS ARE TO BE USED ONLY AS A GUIDELINE FOR DEMOLITION. THE ELECTRICAL CONTRACTOR MUST VISIT THE SITE BEFORE BIDDING TO VERIFY ALL WORK REQUIRED FOR THE COMPLETE JOB AND INCLUDE THE COST OF SUCH JOB IN THE BID.
3. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN EXISTING SERVICES TO & IN THE EXISTING AREA AS REQUIRED.
4. IF NECESSARY, THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES IN THE EXISTING AREAS.
5. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT & REMOVE ELECTRIC SERVICE TO ALL MECHANICAL EQUIPMENT BEING REMOVED AS A RESULT OF THE REMODELING.
6. ELECTRICAL EQUIPMENT & DEVICES SHALL BE REMOVED COMPLETELY INCLUDING CONDUIT & WIRE.
7. FLUSH-MOUNTED WALL OUTLETS SHALL BE BLANKED OFF WITH A COVER PLATE. THE COVER PLATE COLOR SHALL BE SELECTED BY THE ARCHITECT.
8. ANY EXISTING CONDUIT, WIRING, AND/OR ELECTRICAL & MECHANICAL DEVICES BEING DISTURBED BY THE WORK SHALL BE REWORKED BY THIS CONTRACTOR AND REQUIRED TO RETURN TO THEIR FORMER EXISTING OPERATING CONDITION.
9. ANY CIRCUITS FEEDING THROUGH DEVICES OR EQUIPMENT BEING RELOCATED, REWORKED, OR ABANDONED & SERVING OTHER ELECTRICAL DEVICES, AND/OR EQUIPMENT SHALL BE MAINTAINED BY PROVIDING J-BOXES OR OTHER ACCEPTABLE METHODS AS REQUIRED.
10. ALL WALLS, CEILINGS, FLOORS, ETC., BEING DISTURBED BY THE WORK, SHALL BE RETURNED TO FINISHED CONDITIONS TO MATCH EXISTING BY THE ELECTRICAL CONTRACTOR, & HE SHALL DO HIS CUTTING & PATCHING AS NECESSARY UNDER HIS CONTRACT.
11. EXISTING MATERIALS SHALL BE TURNED OVER TO THE OWNER. IF NOT REQUIRED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL REMOVE THESE MATERIALS FROM THE PREMISES.
12. ALL CONDUIT AND CABLING SHALL BE PROPERLY SUPPORTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND/OR REWORK EXISTING CONDUIT AND/OR CABLING THAT IS NOT IN COMPLIANCE WITH THIS REQUIREMENT.
13. CONTRACTOR SHALL FIELD VERIFY SLAB ON GRADE FLOOR CONSTRUCTION TYPE BEFORE CUTTING. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR CUT A STRUCTURAL FLOOR SLAB THICKER THAN FOUR [4"] INCHES WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. NOTIFY THE ENGINEER OF THE RECORD OF ANY SLAB THICKNESS GREATER THAN FOUR [4"] INCHES BEFORE PROCEEDING WITH ANY SAW CUTTING.

CHAGEE
SOUTH COAST PLAZA

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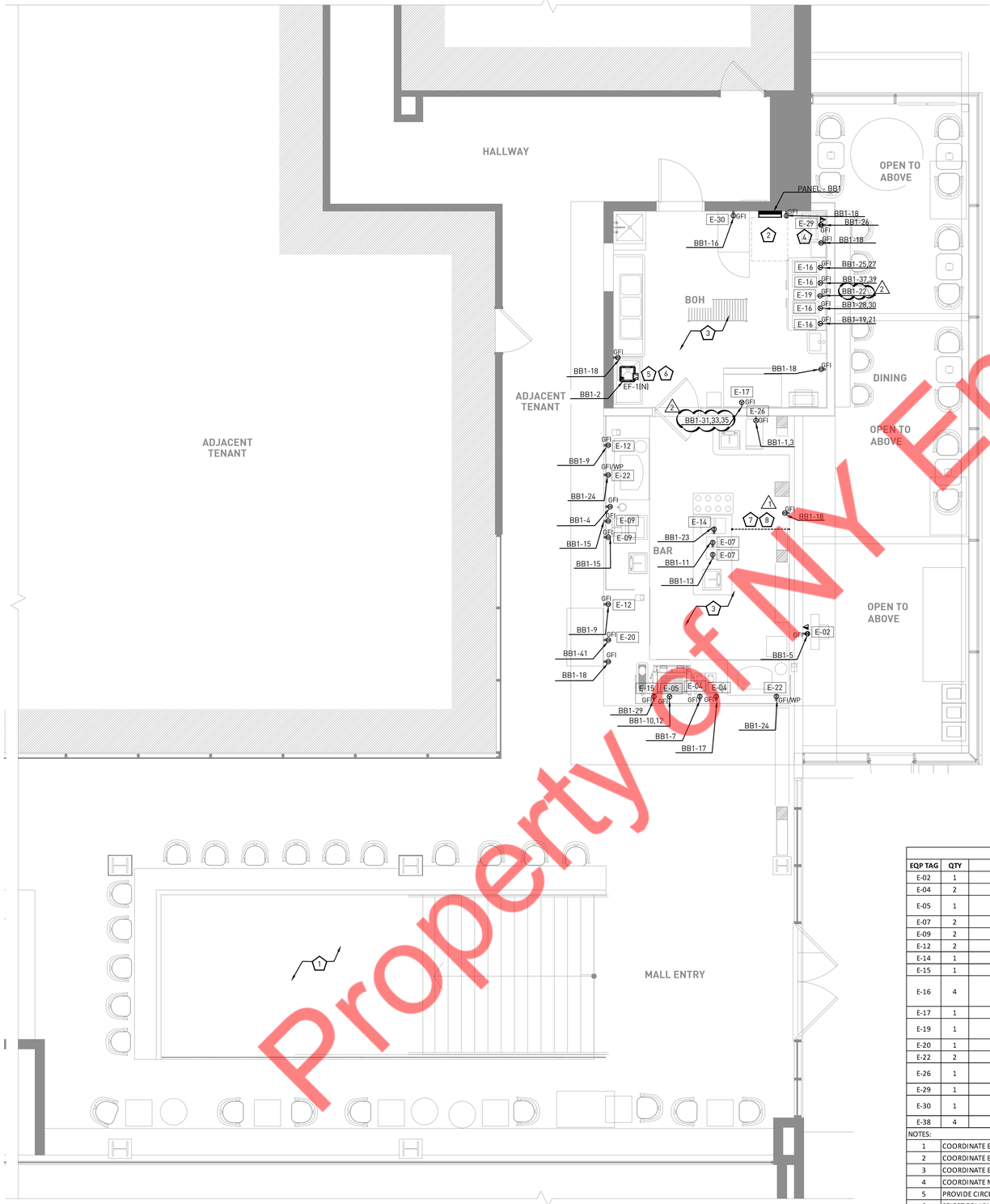
ELECTRICAL DEMOLITION PLAN

ED1.00



ELECTRICAL POWER FLOOR PLAN | 1

1/4" = 1'-0"

LEGEND EXPLANATION:

LEGEND	EXPLANATION	LEGEND	EXPLANATION
	20A DUPLEX RECEPTACLE		ELECTRICAL PANEL
	DATA TELEPHONE OUTLET	J	RESERVED POWER SUPPLY (JUNCTION BOX)
	DISCONNECT SWITCH		DATA OUTLET
	20A QUAD RECEPTACLE		SPECIAL RECEPTACLE RATING AS NOTED
GFI	GROUND FAULT CIRCUIT INTERRUPTER	WP	WATER PROOF

POWER PLAN GENERAL NOTE:

A. POWER AND LOCATION OF ALL THE MECHANICAL AND PLUMBING UNITS SHALL BE COORDINATED WITH THE RESPECTIVE CONTACTORS BEFORE BID.

B. GFI MARKED ON THE PLAN INDICATES THAT THE CIRCUIT SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE A GFI RECEPTACLE DISCONNECT IN THE READILY ACCESSIBLE LOCATION. PROVIDE A GFI BREAKER IN THE PANEL IF EITHER THE RECEPTACLE IS NOT AVAILABLE OR NOT ACCESSIBLE WHEN INSTALLED IN THE DESIRED LOCATION.

C. COORDINATE THE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENTS OF THE DUCT SMOKE DETECTORS, FIRE DAMPERS, FIRE SMOKE DAMPERS, MOTORIZED DAMPERS, AND THERMOSTATS IN THE FIELD WITH THE MECHANICAL DRAWING. PROVIDE WIRING AS REQUIRED.

D. POWER AND LOCATION OF ALL THE MECHANICAL AND PLUMBING UNITS SHALL BE COORDINATED WITH THE RESPECTIVE CONTACTORS BEFORE BID.

E. ELECTRICAL OUTLETS PLACED ON BOTH SIDES OF THE WALL PARTITION TO BE LOCATED OFFSET OF EACH OTHER.

F. THE DISCONNECT SWITCHES FOR THE BRANCH CIRCUIT SHOWN ON THE PLAN SHALL BE RATED EQUAL TO OR HIGHER THAN THE BREAKER RATING. REFER TO BREAKER RATING IN THE PANEL SCHEDULE AND PROVIDE DISCONNECT AS NEEDED.

G. ALL 125V-250V RECEPTACLES SUPPLIED BY SINGLE-PHASE CIRCUITS RATED 150V OR LESS TO GROUND, 50A OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150V OR LESS TO GROUND, 100A OR LESS INSTALLED IN THE LOCATIONS SPECIFIED IN NEC 210.8(B)(1) THROUGH (12) SHALL HAVE GFCI PROTECTION.

POWER PLAN KEY NOTE: (#)

1. EXISTING ELECTRICAL EQUIPMENT SHALL REMAIN CONNECTED TO THE EXISTING CIRCUIT. E.C. SHALL REARRANGE THE CIRCUITS ON THE SITE IF REQUIRED. PROVIDE NEW CIRCUIT IF REQUIRED.
2. E.C. SHALL COORDINATE WITH THE ARCHITECT/OWNER FOR THE EXACT LOCATION OF THE METER, DISCONNECT, AND PANELS IN THE FIELD. ALSO, ENSURE CLEAR WORKING AND DEDICATED SPACE AS PER NEC 110.26.
3. E.C. SHALL COORDINATE WITH THE ARCHITECT/OWNER FOR THE EXACT LOCATION AND MOUNTING HEIGHT OF THE ELECTRICAL OUTLET IN THE FIELD. MAKE PROVISION ACCORDINGLY.
4. PLYWOOD-BACKED OUTLETS FOR DATA AND TELEPHONE SERVICES. COORDINATE WITH THE ARCHITECT/OWNER/SERVICE PROVIDER FOR OTHER REQUIREMENTS. PROVIDE CONDUIT AND CONNECTION AS REQUIRED.
5. E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR THE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENT OF THE HVAC UNIT IN THE FIELD. PROVIDE CIRCUIT AND CONTROLS AS REQUIRED.
6. INTERLOCK EF-1(N) WITH RTU-1(N).
7. E.C. TO PROVIDE UNDERGROUND CONDUIT PATHWAY FROM WALL TO ISLAND FOR ELECTRICAL EQUIPMENT. COORDINATE ROUTING AND SLEEVE LOCATIONS WITH ARCHITECT/OWNER.
8. E.C. TO COORDINATE WITH LANDLORD FOR THE ROUTING OF CONDUITS UNDERGROUND FOR THE ISLAND ELECTRICAL EQUIPMENT.

CONDUIT ROUTING NOTE:

1. E.C. TO ENSURE CONDUITS OF ALL TYPES SHALL BE INSTALLED WITHIN WALLS AS PRACTICABLE. WHERE THIS IS NOT POSSIBLE, MULTIPLE RUNS OR CLUSTERS OF PIPING SHOULD BE FURRED IN, ENCASED IN AN APPROVED RUNWAY OR OTHER APPROVED, SEALED ENCLOSURE. ALL EXPOSED FLEX CONDUIT IS TO BE "SEAL TIGHT" OR EQUIVALENT.

ELECTRICAL EQUIPMENT SCHEDULE

EQP TAG	QTY	EQUIPMENT DESCRIPTION	MAKE	MODEL	LOAD IN VA	VOLTS	PHASE	AMPS	CONNECTION	NOTES
E-02	1	POS	MENUSIFU	MENUSIFU	-	-	-	-	-	-
E-04	2	COFFEE GRINDER	MAHLKONIG	CUSTOM EK43 S BLK	1300	120	1	10.83	-	3,4,5
E-05	1	TEA EXTRACTION MACHINE	CONTI MONACO	MC ULT ULN	6000	230	1	-	-	3,4,5,6
E-07	2	BLENDER	VITAMIX	36019 ABAB	1800	120	1	15	-	3
E-09	2	DRINK MIXER	WARING	WDM120TX	375	120	1	1.15	NEMA 5-15P	-
E-12	2	LABELLING MACHINE	STAR	TSP143IV SK	190	115	1	1.6	-	1,2,3
E-14	1	MILK STEAMER FROTHER	CONTI MONACO	STA1800	2000	110	1	20	NEMA 5-20P	-
E-15	1	UNDERCOUNTER REFRIGERATOR	BEVEAGE AIR	UCR27AHC 23	240	115	1	2	NEMA 5-15P	-
E-16	4	TEA BREWING MACHINE	JIANGSU YUSHENG EQUIPMENT TECHNOLOGY CO	HZ-6ZCF-33SWG	3300	220	1	16	-	3
E-17	1	ICE MAKER MACHINE	HOSHIZAKI	KM-1301SAJ3	3422.5	208	3	9.5	-	1,2,3
E-19	1	REFRIGERATED WORK TOP	BEVERAGE AIR	WTR60AHC-FIP	345	115	1	3	NEMA 5-15P	
E-20	1	UNDERCOUNTER REFRIGERATOR	BEVEAGE AIR	UCR48AHC 23	253	115	1	2.2	NEMA 5-15P	-
E-22	2	SUGAR & MILK MACHINE	LANGTUO	4.0H AUTOMATIC TEA BEVERAGE	680	115	1	5.66	-	1-5
E-26	1	RAPID COOK OVEN	MERRYCHEF USA	CONNEX 12 POWER CARBON BLACK	6000	208	1	28.84	NEMA L6-30P	1,2,3
E-29	1	IT RACK	-	-	-	-	-	-	-	1-5
E-30	1	REACH-IN REFRIGERATOR	BEVERAGE AIR	HR1HC-1S	310.5	115	1	2.7	NEMA 5-15P	-
E-38	4	TV	-	-	-	-	-	-	-	

NOTES:

1	COORDINATE EXACT MAKE/MODEL NUMBER WITH THE OWNER/ARCHITECT.
2	COORDINATE EXACT POWER REQUIREMENT WITH THE EQUIPMENT VENDOR.
3	COORDINATE EXACT CONNECTION TYPE WITH THE VENDOR PRIOR TO ROUGH IN.
4	COORDINATE MOUNTING HEIGHT OF THE RECEPTACLE OR DISCONNECTION WITH THE ARCHITECT/OWNER.
5	PROVIDE CIRCUIT BREAKER, WIRING, JUNCTION BOX, RECEPTACLES, DISCONNECTS AS REQUIRED.
6	SELECT EQUIPMENT RATED FOR SERVICE VOLTAGE ELSE PROVIDE THE ADAPTER/TRANSFORMER AS NEEDED.

CHAGEE
SOUTH COAST PLAZA

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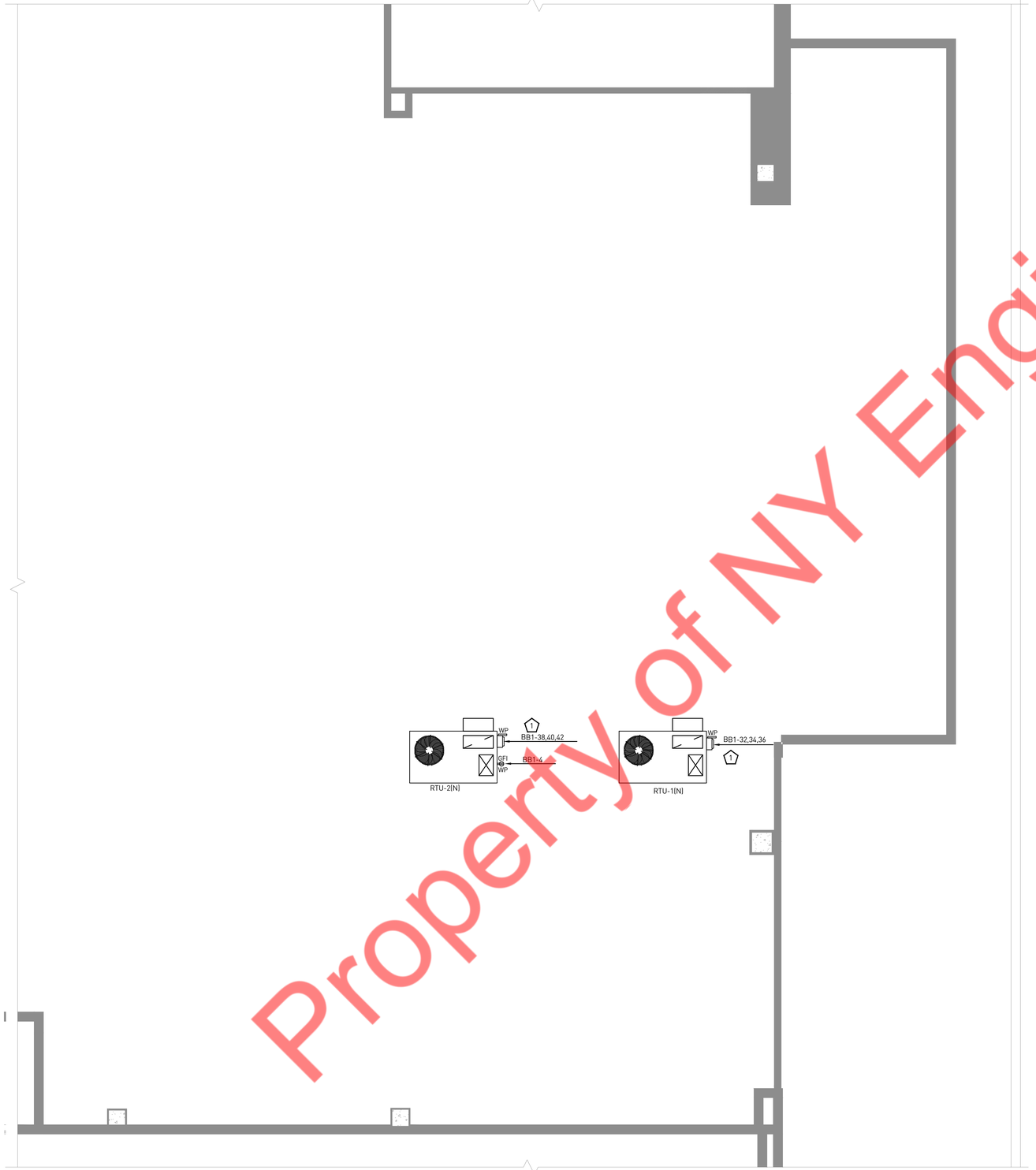
ELECTRICAL POWER FLOOR PLAN

E1.00



ELECTRICAL POWER ROOF PLAN | 1

1/4" = 1'-0"

LEGEND EXPLANATION:

LEGEND	EXPLANATION	LEGEND	EXPLANATION
WP GFI	20A DUPLEX RECEPTACLE WEATHER PROOF, GFI RATED		NON-FUSED DISCONNECT

POWER ROOF PLAN GENERAL NOTE:

A. ALL THE ELECTRICAL ELEMENTS, VIZ., CONDUITS, WIRING, AND DISCONNECT SWITCHES, SHALL BE RATED FOR EXTERIOR USE.

B. THE DISCONNECT SWITCHES FOR THE BRANCH CIRCUIT SHOWN ON THE PLAN SHALL BE RATED EQUAL TO OR HIGHER THAN THE BREAKER RATING. REFER TO BREAKER RATING IN THE PANEL SCHEDULE AND PROVIDE DISCONNECT AS NEEDED.

C. GFI MARKED ON THE PLAN INDICATES THAT THE CIRCUIT SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE A GFI BREAKER IN THE PANEL FOR THE INDICATED CIRCUIT IF EITHER THE RECEPTACLE IS NOT AVAILABLE OR NOT ACCESSIBLE.

D. A 125-VOLT, SINGLE-PHASE, 15- OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION WITHIN 7.5 M (25 FT) OF THE EQUIPMENT AS SPECIFIED IN 210.63(A) AND (B) AS PER NEC 210.63.

KEY NOTE: (#)

1. E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR THE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENT OF THE HVAC UNIT IN THE FIELD. PROVIDE CIRCUIT AND CONTROLS AS REQUIRED.

CHAGEE
SOUTH COAST PLAZA

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ELECTRICAL
POWER ROOF
PLAN

E1.01

LC - LIGHTING CONTACTOR
TC - TIME CLOCK

LIGHTING PLAN GENERAL NOTES:

A. ALL WIRES FOR LIGHTING SHALL BE COPPER. UNLESS NOTED OTHERWISE, WIRE SIZE SHALL BE CU. 2#12,1#12G,3/4"C.

B. AT FIRE RATED WALL AREA, LIGHTING SWITCH SHALL BE SURFACE MOUNTED WITH EXPOSED CONDUIT. IF FIRE WALL PENETRATION IS NEEDED, UL LISTED SEALING OF CONDUIT SHALL BE APPLIED.

C. E.C. SHALL COORDINATE WITH THE EQUIPMENT VENDOR/ARCHITECT/OWNER FOR EXACT LOCATION, MOUNTING HEIGHT AND COLOR OF THE SWITCHES AND SENSORS PRIOR TO BID.

D. LIGHT FIXTURE MARKED AS "EM" OR E, INDICATES THE EMERGENCY LIGHT FIXTURE. THE LIGHT FIXTURE WITH THE BATTERY BACKUP SHALL BE PROVIDED AND E.C. SHALL CONNECT THE "EM" FIXTURE TO THE LIGHTING CIRCUIT AHEAD OF SWITCHING.

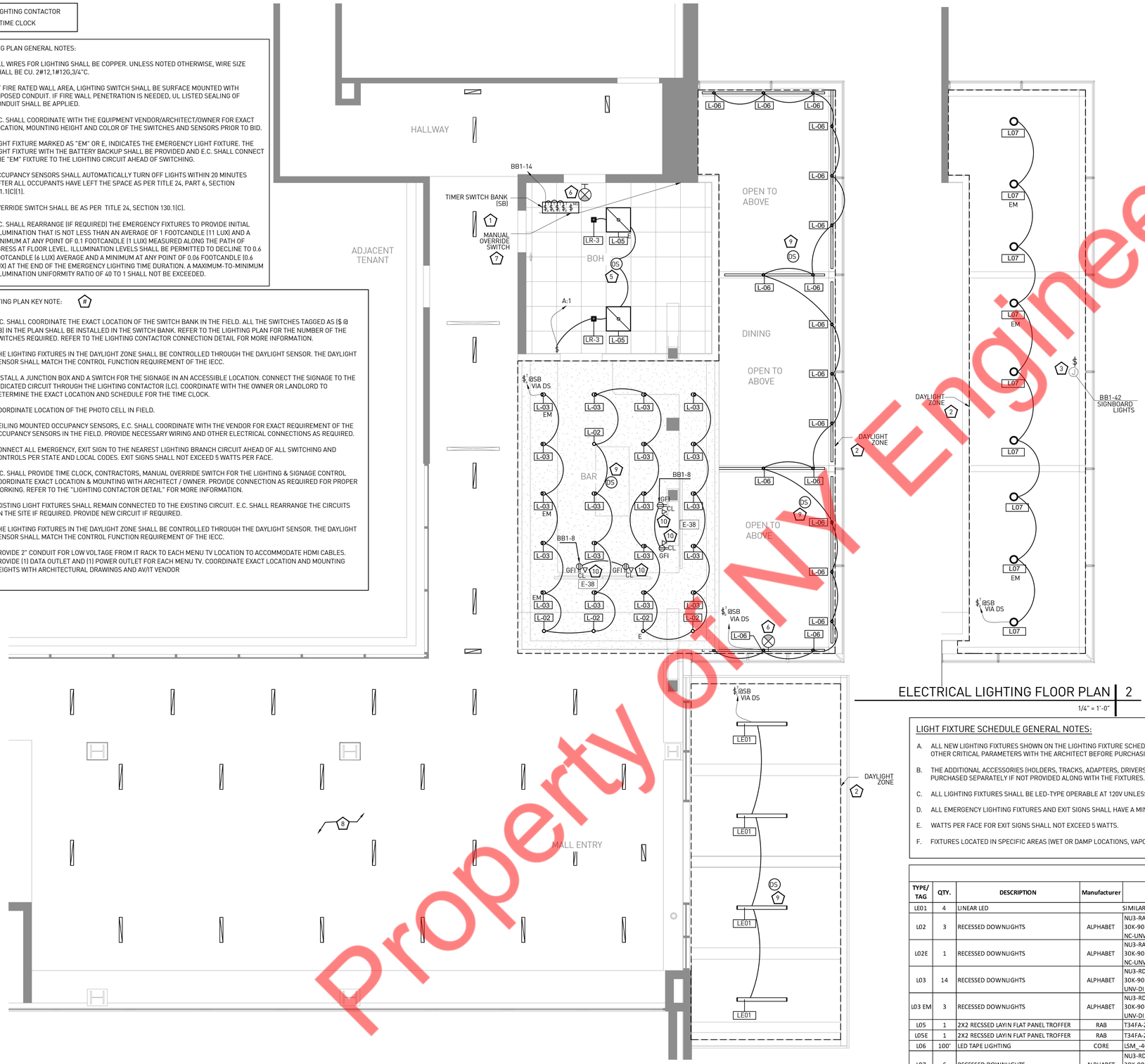
E. OCCUPANCY SENSORS SHALL AUTOMATICALLY TURN OFF LIGHTS WITHIN 20 MINUTES AFTER ALL OCCUPANTS HAVE LEFT THE SPACE AS PER TITLE 24, PART 6, SECTION 131.1(C)(1).

F. OVERRIDE SWITCH SHALL BE AS PER TITLE 24, SECTION 130.1(C).

G. E.C. SHALL REARRANGE (IF REQUIRED) THE EMERGENCY FIXTURES TO PROVIDE INITIAL ILLUMINATION THAT IS NOT LESS THAN AN AVERAGE OF 1 FOOTCANDLE (11 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOTCANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOTCANDLE (6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 FOOTCANDLE (0.6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED.

LIGHTING PLAN KEY NOTE: (#)

1. E.C. SHALL COORDINATE THE EXACT LOCATION OF THE SWITCH BANK IN THE FIELD. ALL THE SWITCHES TAGGED AS ($ @ SB) IN THE PLAN SHALL BE INSTALLED IN THE SWITCH BANK. REFER TO THE LIGHTING PLAN FOR THE NUMBER OF THE SWITCHES REQUIRED. REFER TO THE LIGHTING CONTACTOR CONNECTION DETAIL FOR MORE INFORMATION.
2. THE LIGHTING FIXTURES IN THE DAYLIGHT ZONE SHALL BE CONTROLLED THROUGH THE DAYLIGHT SENSOR. THE DAYLIGHT SENSOR SHALL MATCH THE CONTROL FUNCTION REQUIREMENT OF THE IECC.
3. INSTALL A JUNCTION BOX AND A SWITCH FOR THE SIGNAGE IN AN ACCESSIBLE LOCATION. CONNECT THE SIGNAGE TO THE INDICATED CIRCUIT THROUGH THE LIGHTING CONTACTOR (LC). COORDINATE WITH THE OWNER OR LANDLORD TO DETERMINE THE EXACT LOCATION AND SCHEDULE FOR THE TIME CLOCK.
4. COORDINATE LOCATION OF THE PHOTO CELL IN FIELD.
5. CEILING MOUNTED OCCUPANCY SENSORS, E.C. SHALL COORDINATE WITH THE VENDOR FOR EXACT REQUIREMENT OF THE OCCUPANCY SENSORS IN THE FIELD. PROVIDE NECESSARY WIRING AND OTHER ELECTRICAL CONNECTIONS AS REQUIRED.
6. CONNECT ALL EMERGENCY, EXIT SIGN TO THE NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER FACE.
7. E.C. SHALL PROVIDE TIME CLOCK, CONTRACTORS, MANUAL OVERRIDE SWITCH FOR THE LIGHTING & SIGNAGE CONTROL COORDINATE EXACT LOCATION & MOUNTING WITH ARCHITECT / OWNER. PROVIDE CONNECTION AS REQUIRED FOR PROPER WORKING. REFER TO THE "LIGHTING CONTACTOR DETAIL" FOR MORE INFORMATION.
8. EXISTING LIGHT FIXTURES SHALL REMAIN CONNECTED TO THE EXISTING CIRCUIT. E.C. SHALL REARRANGE THE CIRCUITS ON THE SITE IF REQUIRED. PROVIDE NEW CIRCUIT IF REQUIRED.
9. THE LIGHTING FIXTURES IN THE DAYLIGHT ZONE SHALL BE CONTROLLED THROUGH THE DAYLIGHT SENSOR. THE DAYLIGHT SENSOR SHALL MATCH THE CONTROL FUNCTION REQUIREMENT OF THE IECC.
10. PROVIDE 2" CONDUIT FOR LOW VOLTAGE FROM IT RACK TO EACH MENU TV LOCATION TO ACCOMMODATE HDMI CABLES. PROVIDE (1) DATA OUTLET AND (1) POWER OUTLET FOR EACH MENU TV. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS WITH ARCHITECTURAL DRAWINGS AND AV/IT VENDOR

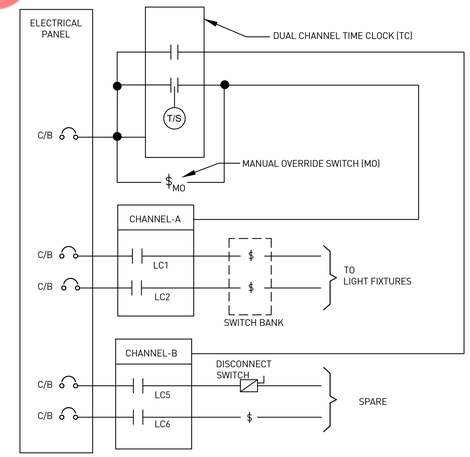


ELECTRICAL LIGHTING FLOOR PLAN 1
1/4" = 1'-0"

LEGEND EXPLANATION: LEGEND EXPLANATION:

LEGEND	EXPLANATION	REMARKS
$	SINGLE POLE SWITCH	H:55.11"
$MO	MANUAL OVERRIDE SWITCH	H:55.11"
$T	TIMER SWITCH	H:55.11"
J	RESERVED POWER SUPPLY (JUNCTION BOX)	
DS	DAYLIGHT SENSOR	CEILING MOUNTED
DS	OCCUPANCY SENSOR	CEILING MOUNTED
GFI CL	20A DUPLEX RECEPTACLE	CEILING MOUNTED
▽	DATA OUTLET	CEILING MOUNTED

THE DIAGRAM BELOW INDICATES THE GENERAL ARRANGEMENT OF THE LIGHTING CONTACTORS. SEE ELECTRICAL LIGHTING PLAN FOR CIRCUIT AND CONTROL DETAILS. CONTRACTOR SHALL SELECT THE QUANTITY OF THE CONTACTORS AS REQUIRED.



LIGHTING CONTACTOR DETAILS (TYPICAL)

NOTE: 1. GC'S ELECTRICIAN TO INSTALL OWNER'S LIGHTING CONTROL SYSTEM AND STARTUP.
2. LIGHTING CONTROLS WILL BE PROVIDED BY LOW VOLTAGE VENDOR.

ELECTRICAL LIGHTING FLOOR PLAN 2
1/4" = 1'-0"

LIGHT FIXTURE SCHEDULE GENERAL NOTES:

A. ALL NEW LIGHTING FIXTURES SHOWN ON THE LIGHTING FIXTURE SCHEDULE ARE SUBJECT TO THE ARCHITECT'S APPROVAL. E.C. SHALL COORDINATE THE MAKE, MODEL, FINISHES, AND OTHER CRITICAL PARAMETERS WITH THE ARCHITECT BEFORE PURCHASING.

B. THE ADDITIONAL ACCESSORIES (HOLDERS, TRACKS, ADAPTERS, DRIVERS, AND CURRENT LIMITERS) REQUIRED FOR THE PROPER WORKING OF THE LIGHTING FIXTURES SHALL BE PURCHASED SEPARATELY IF NOT PROVIDED ALONG WITH THE FIXTURES.

C. ALL LIGHTING FIXTURES SHALL BE LED-TYPE OPERABLE AT 120V UNLESS OTHERWISE NOTED.

D. ALL EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS SHALL HAVE A MINIMUM OF 90 MINUTES OF BATTERY BACKUP OR AS REQUIRED BY AHJ.

E. WATTS PER FACE FOR EXIT SIGNS SHALL NOT EXCEED 5 WATTS.

F. FIXTURES LOCATED IN SPECIFIC AREAS (WET OR DAMP LOCATIONS, VAPOR EXPOSED, COLD STORAGE, AND BUILDING EXTERIOR) SHALL BE RATED FOR THAT AREA.

LIGHTING FIXTURE SCHEDULE

TYPE/ TAG	QTY.	DESCRIPTION	Manufacturer	PART NUMBER	LAMPING							NOTES
					COLOR TEMP	VOLT	WATT	LUMENS	APERTURE SIZE	CRI	CONTROL	
LE01	4	LINEAR LED		SIMILAR TO EXISTING	-	-	-	-	4'	-	0-10V	1
L02	3	RECESSED DOWNLIGHTS	ALPHABET	NU3-RA-SW-15LM-30K-90-35D-NA-CL-WT-WT NC-UNV-DIM10	3000K	UNV 120-277	13	1240	3"	90	0-10V	
L02E	1	RECESSED DOWNLIGHTS	ALPHABET	NU3-RA-SW-15LM-30K-90-35D-NA-CL-WT-WT NC-UNV-DIM10-EM7	3000K	UNV 120-277	13	1240	3"	90	0-10V	
L03	14	RECESSED DOWNLIGHTS	ALPHABET	NU3-RD-SW-15LM-30K-90-40D-CL-WH-WH-NC UNV-DIM10	3000K	UNV 120-277	13	1240	3"	90	0-10V	
L03 EM	3	RECESSED DOWNLIGHTS	ALPHABET	NU3-RD-SW-15LM-30K-90-40D-CL-WH-WH-NC UNV-DIM10-EM7	3000K	UNV 120-277	13	1240	3"	90	0-10V	
L05	1	2X2 RECSSED LAYIN FLAT PANEL TROFFER	RAB	T34FA-2X2	3000K	UNV 120-277	30	3300	2X2	-	0-10V	
L05E	1	2X2 RECSSED LAYIN FLAT PANEL TROFFER	RAB	T34FA-2X2/E	3000K	UNV 120-277	30	3300	2X2	-	0-10V	
L06	100'	LED TAPE LIGHTING	CORE	LSM_40K-100'-24V	4000K	24V	-	-	-	-	-	
L07	6	RECESSED DOWNLIGHTS	ALPHABET	NU3-RD-SW-40LM-30K-90-40D-CL-WH-WH-NC UNV-DIM10	3000K	120V	40	3230LM	3"	90	0-10V	
L07 EM	3	RECESSED DOWNLIGHTS	ALPHABET	NU3-RD-SW-40LM-30K-90-40D-CL-WH-WH-NC UNV-DIM10-EM7	3000K	120V	40	3230LM	3"	90	0-10V	
LR-3	2	SQUARE DOWNLIGHT	XAL	SASSO 100	3000K	-	17.9	1593LM	-	-	-	1

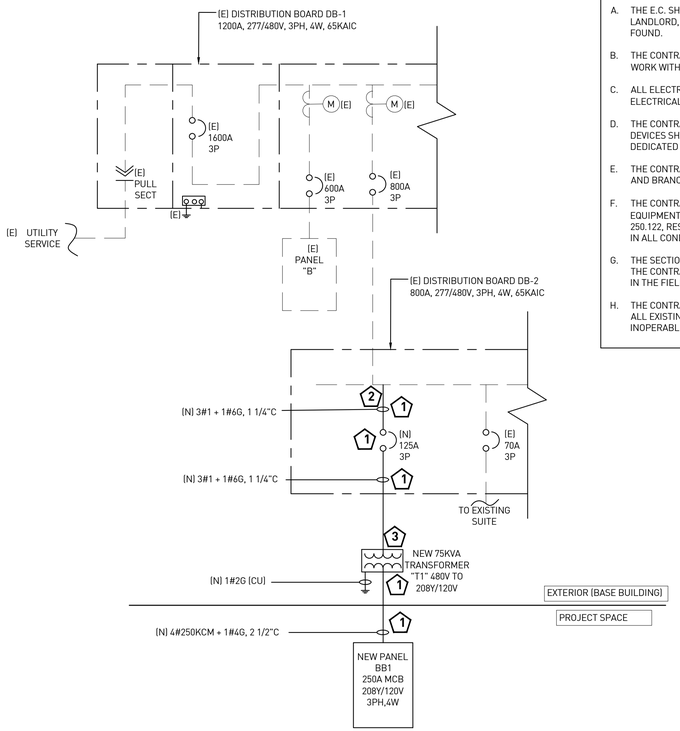
NOTES:
1 - COORDINATE EXACT MAKE/MODEL NUMBER WITH THE OWNER/ARCHITECT.

CHAGEE
SOUTH COAST PLAZA

△	ISSUANCE NAME	DATE
01	CITY COMMENTS	10-27-25
02	CITY COMMENTS	11-26-25

ELECTRICAL LIGHTING FLOOR PLAN

E2.00



RISER DIAGRAM GENERAL NOTES:

A. THE E.C. SHALL VERIFY AND COORDINATE INFORMATION IN THE FIELD WITH THE UTILITY, LANDLORD, OR OWNER AND INFORM THE ENGINEER OF RECORD OF ANY DISCREPANCIES FOUND.

B. THE CONTRACTOR SHALL CONFIRM THE EXACT POWER DISTRIBUTION AND SCOPE OF WORK WITH THE LANDLORD/OWNER BEFORE BIDDING.

C. ALL ELECTRICAL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), LOCAL CODES, AND THE AUTHORITY HAVING JURISDICTION (AHJ).

D. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS OF ALL ELECTRICAL DEVICES SHOWN ON THE RISER AND ENSURE THAT CLEAR WORKING SPACE AND DEDICATED SPACE ARE PROVIDED AS REQUIRED BY NEC 110.26.

E. THE CONTRACTOR SHALL ENSURE THAT THE COMBINED VOLTAGE DROP OF THE FEEDER AND BRANCH CIRCUITS DOES NOT EXCEED 5%, AS PER CODE.

F. THE CONTRACTOR SHALL PROVIDE GROUNDING ELECTRODE CONDUCTOR (GEC) AND EQUIPMENT GROUNDING CONDUCTOR (EGC) IN ACCORDANCE WITH NEC 250.66 AND 250.122, RESPECTIVELY, AND SHALL ENSURE SEPARATE GROUND CONDUCTORS ARE USED IN ALL CONDUITS.

G. THE SECTION OF THE RISER MARKED AS "EXISTING" IS FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT POWER DISTRIBUTION, INCLUDING THE RISER, IN THE FIELD AND INFORM THE ENGINEER OF RECORD OF ANY DISCREPANCIES FOUND.

H. THE CONTRACTOR SHALL VERIFY THE LOCATION, RATING, AND OPERABLE CONDITION OF ALL EXISTING DEVICES INTENDED FOR REUSE AND REPLACE ANY THAT ARE FOUND INOPERABLE WITHIN THE SCOPE OF WORK. THE BID SHALL BE BASED ON THESE FINDINGS.

RISER DIAGRAM KEY NOTE:

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

RISER DIAGRAM KEY NOTES:

1. THE E.C. SHALL VERIFY AND COORDINATE COORDINATE THE EXACT LOCATION OF THE NEW ELECTRICAL EQUIPMENT IN THE FIELD.
2. E.C. TO VERIFY IF A METER IS AVAILABLE FOR THE PROJECT SPACE, OTHERWISE PROVIDE A NEW METER. COORDINATE WITH ARCHITECT/OWNER.
3. E.C. TO VERIFY IF THERE IS ENOUGH SPACE TO INSTALL THE NEW TRANSFORMER. COORDINATE WITH ARCHITECT/OWNER.

PANEL SCHEDULE GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY BREAKER AND BRANCH CIRCUIT REQUIREMENTS FOR THE EQUIPMENT IN THE FIELD.

B. THE ELECTRICAL LOAD IS BALANCED WITHIN 10% FOR ALL 3 PHASES.

C. THE VOLTAGE DROP FOR THE BRANCH CIRCUIT SHALL NOT EXCEED 3% OR 5% IN COMBINATION WITH THE FEEDER CIRCUIT.

D. GFI MARKED ON THE PLAN INDICATES THAT THE CIRCUIT SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE A GFCI BREAKER IN THE PANEL FOR THE INDICATED CIRCUIT IF EITHER THE RECEPTACLE IS NOT AVAILABLE OR NOT READILY ACCESSIBLE.

E. COORDINATE AVAILABLE FAULT CURRENT (AIC RATING) WITH UTILITY/LANDLORD/OWNER. CALCULATE THE EXACT AIC RATING OF EACH PANEL IN THE FIELD. AIC RATING SHALL BE WRITTEN ON EACH PANEL AS PER STANDARD.

F. PROVIDE BREAKER LOCKING DEVICES IN THE PANELS, WHERE EVER REQUIRED BY CODE. INCLUDING BUT NOT LIMITED TO EMERGENCY LIGHTING, FIRE ALARM CIRCUITS, AND HARD-WIRED EQUIPMENT.

G. THE BREAKER FEEDING HVAC UNITS SHALL BE HACR TYPE.

H. THE CONTRACTOR SHALL MODIFY THE BREAKERS OF THE EXISTING PANEL (WHEREVER REQUIRED) TO BE IN LINE WITH THE PANEL SCHEDULE.

I. REPLACE THE EXISTING OR PROVIDE A NEW BREAKER IF THE EXISTING IS INOPERABLE.

J. ALL EXISTING CIRCUITS SHOWN ON THE EXISTING ELECTRICAL PANELS ARE FOR REFERENCE PURPOSE ONLY. E.C. TO FIELD VERIFY AND INFORM ENGINEER OF RECORD BEFORE BID.

K. THE CONTRACTOR IS TO PROVIDE A CIRCUIT DIRECTORY FOR EACH PANEL BOARD.

ELECTRICAL RISER DIAGRAM | 1

1/4" = 1'-0"

PANEL:	BB1	(NEW)	-								MOUNTING:	SURFACE	
208Y/120	VOLTS	PHASE	3		AIC RATING (in kA)	10			DEMAND LOAD	56.38	PANEL LOCATION:	BOH	
250A	MCB	WIRE	4		-	-			DEMAND CURRENT	156.69	FED FROM:	T1	

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	NOTES	PER PHASE (KVA) A	B	C	NOTES	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	35/2P	E-26 RAPID COOK OVEN	E	3.00	RWC	3.20			RWC	0.20	O	MECH. MISC. LOAD, EF-1(N)	20/1P	2
3			E	3.00			3.18		RWC	0.18	R	ROOF TOP RECEPTACLE	20/1P	4
5	20/1P	E-02 POS	R	0.36	RWC			1.56	RWC	1.20	L	BUILDING SIGNAGE	20/1P	6
7	20/1P	E-04 COFFEE GRINDER	E	1.30	RWC	2.02			RWC	0.72	R	E-38 TV RECEPTACLES	20/1P	8
9	20/1P	E-12 LABELLING MACHINE (2)	E	0.38	RWC		3.38		RWC	3.00	E	E-05 TEA EXTRACTION MACHINE	20/2P	10
11	20/1P	E-07 BLENDER	E	1.80	RWC			4.80		3.00	E			12
13	20/1P	E-07 BLENDER	E	1.80	RWC	2.65			RWC	0.85	L	INTERIOR LIGHTS	20/1P	14
15	20/1P	E-09 DRINK MIXER (2)	E	0.75	RWC		1.10		RWC	0.35	E	E-30 REACH-IN REFRIGERATOR	20/1P	16
17	20/1P	E-04 COFFEE GRINDER	E	1.30	RWC			2.02	RWC	0.72	R	GENERAL RECEPTACLES	20/1P	18
19	20/2P	E-16 TEA BREWING MACHINE	E	1.65	RWC	1.85			RWC	0.20	O	EX. WH-1 & RCP-1	20/1P 2	20
21			E	1.65			2.00		RWC	0.35	E	E-19 REFRIGERATED WORK TOP	20/1P	22
23	30/1P	E-14 MILK STEAMER FROTHER	E	2.00	RWC			3.36	RWC	1.36	E	E-22 SUGAR & MILK MACHINE (2)	20/1P	24
25	20/2P	E-16 TEA BREWING MACHINE	E	1.65	RWC	2.01			RWC	0.36	R	E-29 IT RACK	20/1P	26
27			E	1.65			3.30		RWC	1.65	E	E-16 TEA BREWING MACHINE	20/2P	28
29	20/1P	E-15 UNDERCOUNTER REFRIGERATOR	E	0.24	RWC 2			1.89		1.65	E			30
31	20/3P	E-17 ICE MAKER MACHINE	E	1.14	RWC	5.34			RWC	4.20	H	RTU-1(N)	50/3P	32
33			E	1.14			5.34			4.20	H			34
35			E	1.14				5.34		4.20	H			36
37	20/2P	E-16 TEA BREWING MACHINE	E	1.65	RWC	5.85			RWC	4.20	H	RTU-2(N)	50/3P	38
39			E	1.65			5.85			4.20	H			40
41	20/1P	E-20 UNDERCOUNTER REFRIGERATOR	E	0.25	RWC			4.45		4.20	H			42
						22.92	24.14	23.42						

BRANCH CIRCUIT WIRING CHART

15/1P	2#12 + 1#12G, 3/4"C
20/1P	2#12 + 1#12G, 3/4"C
20/2P	2#12 + 1#12G, 3/4"C
25/2P	2#10 + 1#10G, 3/4"C
30/2P	2#10 + 1#10G, 3/4"C
35/2P	2#8 + 1#10G, 3/4"C
40/2P	2#8 + 1#10G, 3/4"C
20/3P	3#12 + 1#12G, 3/4"C
25/3P	3#10 + 1#10G, 3/4"C
30/3P	3#10 + 1#10G, 3/4"C
35/3P	3#8 + 1#10G, 3/4"C
40/3P	3#8 + 1#10G, 3/4"C
45/3P	3#8 + 1#10G, 3/4"C
50/3P	3#8 + 1#10G, 3/4"C
125/3P	3#1 + 1#6G, 1 1/4"C

PANEL SCHEDULE ABBREVIATIONS AND NOTES

L	LIGHTING
R	RECEPTACLE
H	HVAC
E	KITCHEN EQUIPMENT
M	LARGEST MOTOR
O	OTHER
N	NON COINCIDENT
X	LINKED CELL
*	SPLIT BREAKER
RWC	REFER TO THE WIRING CHART FOR WIRE SIZE
GFI	GROUND FAULT CIRCUIT INTERRUPTER
AFI	ARC FAULT CIRCUIT INTERRUPTER
NBEP	NEW BREAKER IN THE EXISTING PANEL
HACR	HEAT AIR CONDITIONING AND REFRIGERATION
PAN	PROVIDE ADDITIONAL WIRE FOR NEUTRAL
LO	LOCKOUT BREAKER
STB	SHUNT TRIP BREAKER
ETR	EXISTING TO REMAIN
SAE	SAME AS EXISTING
LC	WIRE THROUGH LIGHTING CONTACTOR
VIF	VERIFY IN FIELD

CHAGEE
SOUTH COAST PLAZA

△	ISSUANCE NAME	DATE
01	CITY COMMENTS	10-27-25
02	CITY COMMENTS	11-26-25

ELECTRICAL
RISER & PANEL
SCHEDULE

E3.00

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.	
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 1 of 8)
Project Address:	**Date Prepared:** 2025-07-03T13:27:51-04:00

A. GENERAL INFORMATION

01	Project Location (city)		04	Total Conditioned Floor Area (ft²)	1,535
02	Climate Zone	6	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	0

● Retail

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 (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Complete Building Method	1535	N/A	0
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
Total Area of Work (ft²)	1535			

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 2 of 8)
	Date Prepared: 2025-07-03T13:27:51-04:00

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 Adjustments		08		09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 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		**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)				
Conditioned	1,103.05				=	1,103.05	≥ 897.8		=	897.8		COMPLIES
Unconditioned					=		≥		=			
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 uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

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

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 3 of 8)
	Date Prepared: 2025-07-03T13:27:51-04:00

F. INDOOR LIGHTING FIXTURE 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	
									Pass	Fail
LR-3	SQAURE DOWNLIGHT	No	NA	17.9	Mfr. Spec	2	No	35.8	☐	☐
L-03	RECESSED DOWNLIGHT	No	NA	13	Mfr. Spec	19	No	247	☐	☐
L02	RECESSED DOWNLIGHT	No	NA	13	Mfr. Spec	5	No	65	☐	☐
L07	RECESSED DOWNLIGHT	No	NA	40	Mfr. Spec	9	No	360	☐	☐
L05	RECESSED LAYIN FLAT PANEL TROFFER	No	NA	30	Mfr. Spec	2	No	60	☐	☐
LO6	LED TAPE LIGHTING	No	NA	50	Mfr. Spec	1	No	50	☐	☐
LE01	LINEAR LED	No	NA	20	Mfr. Spec	4	No	80	☐	☐
					Total Designed Watts: CONDITIONED SPACES			897.8		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)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 section does not apply to this project.

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 4 of 8)
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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	
		Pass	Fail
NA < 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

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	
								Pass	Fail
BOH	Restaurant	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
BAR	Restaurant	Auth. Personnel	Dimmer	Auto. Time Switch	Included	NA: Not daylit zone	No	☐	☐
OPEN SPACE	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	Included	NA: Not daylit zone	No	☐	☐
OPEN SPACE	Restaurant	Readily Accessible	Dimmer	Auto. Time Switch	Included	NA: Not daylit zone	No	☐	☐

13
Plan Sheet Showing Daylit Zones:
E2.00

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 5 of 8)
	Date Prepared: 2025-07-03T13:27:51-04:00

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods 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/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
BOH	Restaurant	0.65	198	128.7	No	No
BAR	Restaurant	0.65	828	538.2	No	No
OPEN SPACE	Restaurant	0.65	241	156.65	No	No
OPEN SPACE	Restaurant	0.65	430	279.5	No	No
		TOTALS:	1,697	1,103.05	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.

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 6 of 8)
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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.

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

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

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.

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 7 of 8)
Project Address:	**Date Prepared:** 2025-07-03T13:27:51-04:00

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 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
NRCI-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 time switch controls.	BOH; BAR; OPEN SPACE ; OPEN SPACE
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	BAR; OPEN SPACE ; OPEN SPACE

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: CHAGEE-SOUTH COAST PLAZA	**Report Page:** (Page 8 of 8)
Project Address:	**Date Prepared:** 2025-07-03T13:27:51-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date: 2025-07-03
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	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. I 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:	Responsible Designer Signature:
Company:	Date Signed: 2025-07-03
Address:	License:
City/State/Zip:	Phone:

CHAGEE
SOUTH COAST PLAZA

△	ISSUANCE NAME	DATE
01	CITY COMMENTS	10-27-25
02	CITY COMMENTS	11-26-25

TITLE 24

E5.00

PLUMBING SYMBOLS LIST

SAN	SANITARY SEWER (UNDERFLOOR)
SAN	SANITARY SEWER (ABOVE FLOOR)
GSAN	GREASE SANITARY SEWER (UNDERFLOOR)
	STORM WATER
	VENT PIPING
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
G	GAS PIPING
	P-TRAP
	PIPE UP
	PIPE DROP
	PLUGGED OUTLET
	CLEANOUT
	POINT OF CONNECTION

PLUMBING ABBREVIATIONS

CO	CLEANOUT
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
V	VENT
W	WASTE
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
AFF	ABOVE FINISH FLOOR
FD	FLOOR DRAIN
BFP	BACK FLOW PREVENTER
WH	WATER HEATER
EX.	EXSISTING
ET	EXPANSION TANK
VBF	VENT BELOW FLOOR
RD	ROOF DRAIN
OD	OVERFLOW DRAIN

PLUMBING DRAWING LIST

BUILDING DEPARTMENT PLUMBING NOTES

1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER, STORM) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2022 CALIFORNIA PLUMBING CODE.
2. INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 701
3. PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION PC 312.
4. TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION PC 314.
5. RODENT PROOFING AS PER PC 312.12
6. MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 312, PC 604, PC 701, PC 903,PC 1102.
7. EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTERS 4, 5, 6, 7 AND 9.
8. DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER PC 1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 708
9. DRAINAGE PIPE CLEANOUTS AS PER SECTION PC 719.
10. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 313
11. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION PC 601-603, 604, 606, 607, 608, 610
12. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION PC 701, 704, 705, 706, 707, 708, 711.
13. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS PC 901 THROUGH PC 912 THROUGH PC 917
14. INSPECTION AND TESTING OF PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION PC 107.

PLUMBING SPECIFICATIONS

1. BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS

1.01 SCOPE

A. PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING AND NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.

C. OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.

D. THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.

E. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK, THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE SUCH THAT NO ADDITIONAL COMPENSATION SHALL BE FORTHCOMING FOR UNFORESEEN EXISTING CONDITIONS.

F. IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.

G. ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.

H. COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.

I. MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.

J. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.

K. THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

1.02 SUBMITTALS

A. SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.

1. PIPE AND FITTINGS
2. VALVES
3. HANGERS AND SUPPORTS
4. PLUMBING PIPING LAYOUT
5. TESTS
6. PLUMBING FIXTURES
7. WATER HEATERS & ACCESSORIES
8. MIXING VALVES
9. ALL SCHEDULED PLUMBING EQUIPMENT

B. SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.

C. THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.

D. REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL BE LIMITED TO THE INITIAL REVIEW, AND A SECOND REVIEW OF ANY REQUIRED RESUBMITTED DATA. IF THE ENGINEER IS REQUIRED TO REVIEW SHOP DRAWINGS FOR A THIRD (OR MORE) SUBMISSION OF THE SAME ITEM, THE CONTRACTOR SHALL BE LIABLE FOR COMPENSATING THE ENGINEER FOR THESE SUBSEQUENT REVIEWS AS PER THE ENGINEER'S CURRENT HOURLY RATE SCHEDULE.

E. SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.

F. SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVICING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.

G. FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.

H. RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S) INSTALLED.

1.03 SUBSTITUTIONS

A. ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.

B. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS.

1.05 DEFINITIONS

A. FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.

B. INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.

C. PROVIDE: TO FURNISH AND INSTALL.

D. PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

1.06 DRAWINGS

A. THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.

B. PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.

C. REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.

D. REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.

E. VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.

F. LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.07 PRODUCTS

A. SANITARY AND VENT PIPING:

1. ABOVE GRADE PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM 4 BANDS PER COUPLING.
2. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
3. ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

B. DOMESTIC WATER PIPING:

1. ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
2. FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.
3. JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
4. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
5. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
6. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDENT, FACTORY APPLIED JACKET.PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER.INSULATION REQUIREMENT SHOULD COMPLY WITH CALIFORNIA STATE ENERGY CODE 2022, SECTION 150.0.
7. AS PER CALIFORNIA STATE ENERGY CODE 2022, SERVICE WAER 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 413.1 OF THE CALIFORNIA STATE ENERGY CODE 2022.
8. AS PER CALIFORNIA STATE ENERGY CODE 2022, SYSTEMS DESIGNED TO MAINTAIN USAGE TEMPERATURES IN HOT WATER PIPES, SUCH AS RECIRCULATING HOT WATER SYSTEM SHALL BE EQUIPPED WITH AUTOMATIC TIME SWITCHES OR OTHER CONTROLS THAT CAN BE SET TO SWITCH OF THE USAGE TEMPERATURE MAINTENANCE SYSTEM DURING EXTENDED PERIOD WHEN HOT WARE IS NOT REQUIRED .
9. AS PER CALIFORNIA STATE ENERGY CODE 2022, SECTION 613.5, TEMPERATURE CONTROL VALVE SHALL BE PROVIDED TO AUTOMATICALLY REGULATE THE TEMPERATURE OF HOT WATER DELIVERED TO PLUMBING FIXTURE TO A RANGE OF 105°F (41°C) MINIMUM TO 120°F (49°C) MAXIMUM.
10. INSULATION REQUIREMENT SHOULD COMPLY WITH CALIFORNIA STATE ENERGY CODE 2022. REFER BELOW TABLE FOR MINIMUM PIPE INSULATION THICKNESS ACC. TO CALIFORNIA PLUMBING CODE 2022 SECTION 609.12, CALIFORNIA STATE ENERGY CODE 2022 SECTION 120.3

MINIMUM PIPE INSULATION THICKNESS				
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)	
	CONDUCTIVITY BTU- IN./ (H- FT2- °F)	MEAN RATING TEMPERATURE, °F	< 1	1 TO < 1.5
141-200	0.25-0.29	125	1.5	1.5
105-140	0.22-0.28	100	1.0	1.5

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

C. HANGERS AND SUPPORTS:

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

D. VALVES:

1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.
2. ALL FIXTURES WITH THE EXCEPTION O FLUSHOMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
3. ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.
4. ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.
5. ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
6. PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

E. INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.

F. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.

G. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.

H. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.

I. VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.

J. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.

K. PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.

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

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

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

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

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

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

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

2. INSTALLATION

2.01 GENERAL

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

B. EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.

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

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

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

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

G. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.

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

I. NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.

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

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

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

2.02 ABOVE GRADE

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

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

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

3. TESTING

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

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

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

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

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

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

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

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

J. ALL EQUIPMENT WILL BE FACTORY TESTED.

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

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

L. TESTING REQUIREMENTS
   a. TEST ALL DOMESTIC WATER PIPING HYDROSTATICALLY TO 125 PSIG.
   b. HYDROSTATIC TEST PRESSURES SHALL REMAIN CONSTANT WITH NO VARIATION FOR 120 MINUTES.
   c. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.
   d. THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.

M. REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.

N. THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

4. WARRANTY

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

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CHAGEE
SOUTH COAST PLAZA

△ ISSUANCE NAME	DATE
01 CITY COMMENTS	10-27-25
02 CITY COMMENTS	11-26-25

PLUMBING NOTES,SYMBOLS, ABBREVIATIONS & SPECIFICATIONS

P0.01

PLUMBING SANITARY AND VENT DEMOLITION PLAN | 2

1/4" = 1'-0"

LEGEND:

PLUMBING DEMOLITION WORK

GENERAL NOTES:

1. CONTRACTOR TO FILED VERIFY THE EXACT LOCATION & SIZES OF ALL EXIST. PIPING, RISERS, EQUIPMENTS, PLUMBING FIXTURES, RELATED VALVES & ACCESSORIES AND INFORM ENGINEER IN CASE OF ANY DISCREPANCIES.
2. ALL EXIST. PLUMBING SYSTEM WILL REMAIN AS EXIST. UNLESS SPECIFIED TO BE DEMOLISHED.
3. ALL EXISTING PIPE PENETRATIONS THROUGH FLOOR OR CEILING CONSTRUCTION, OR RATED WALLS UNCOVERED DURING DEMOLITION MUST BE PROPERLY SEALED WITH AN APPROVED FIRESTOPPING SEALANT.

KEY NOTES:

1. EXISTING MOP SINK TO BE ROTATED. CONTRACTOR TO V.I.F. EXACT LOCATION OF ROTATED MOP SINK & REUSE EXISTING PLUMBING PIPES IF POSSIBLE.
2. EXISTING HAND SINK TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING HAND SINK & SAME TO BE DEMOLISHED WITH ALL ASSOCIATED PIPING & EQUIPMENTS.
3. EXISTING 3 COMP SINK TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING 3 COMP SINK & SAME TO BE DEMOLISHED WITH ALL ASSOCIATED PIPING & EQUIPMENTS.
4. EXISTING PREP SINK TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING PREP SINK & SAME TO BE DEMOLISHED WITH ALL ASSOCIATED PIPING & EQUIPMENTS.
5. EXISTING FLOOR DRAIN TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING FLOOR DRAIN & SAME TO BE DEMOLISHED WITH ALL ASSOCIATED PIPING.
6. EXISTING GAS RANGE, GAS FRYER, GAS GRIDDLE & GAS BOILER TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING GAS RANGE, GAS FRYER, GAS GRIDDLE & GAS BOILER & SAME TO BE DEMOLISHED WITH ALL ASSOCIATED GAS PIPING & EQUIPMENTS.
7. EXISTING WATER AND GAS PIPING TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING WATER AND GAS PIPING & SAME TO BE DEMOLISHED.
8. EXISTING SANITARY, GREASE WASTE AND VENT PIPING TO BE DEMOLISHED. CONTRACTOR TO V.I.F. EXACT LOCATION OF EXISTING SANITARY, GREASE WASTE AND VENT PIPING & SAME TO BE DEMOLISHED.

PLUMBING WATER AND GAS DEMOLITION PLAN | 1

1/4" = 1'-0"

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CHAGEE
SOUTH COAST PLAZA

△ ISSUANCE NAME	DATE
01 CITY COMMENTS	10-27-25
02 CITY COMMENTS	11-26-25

PLUMBING
DEMOLITION PLANS

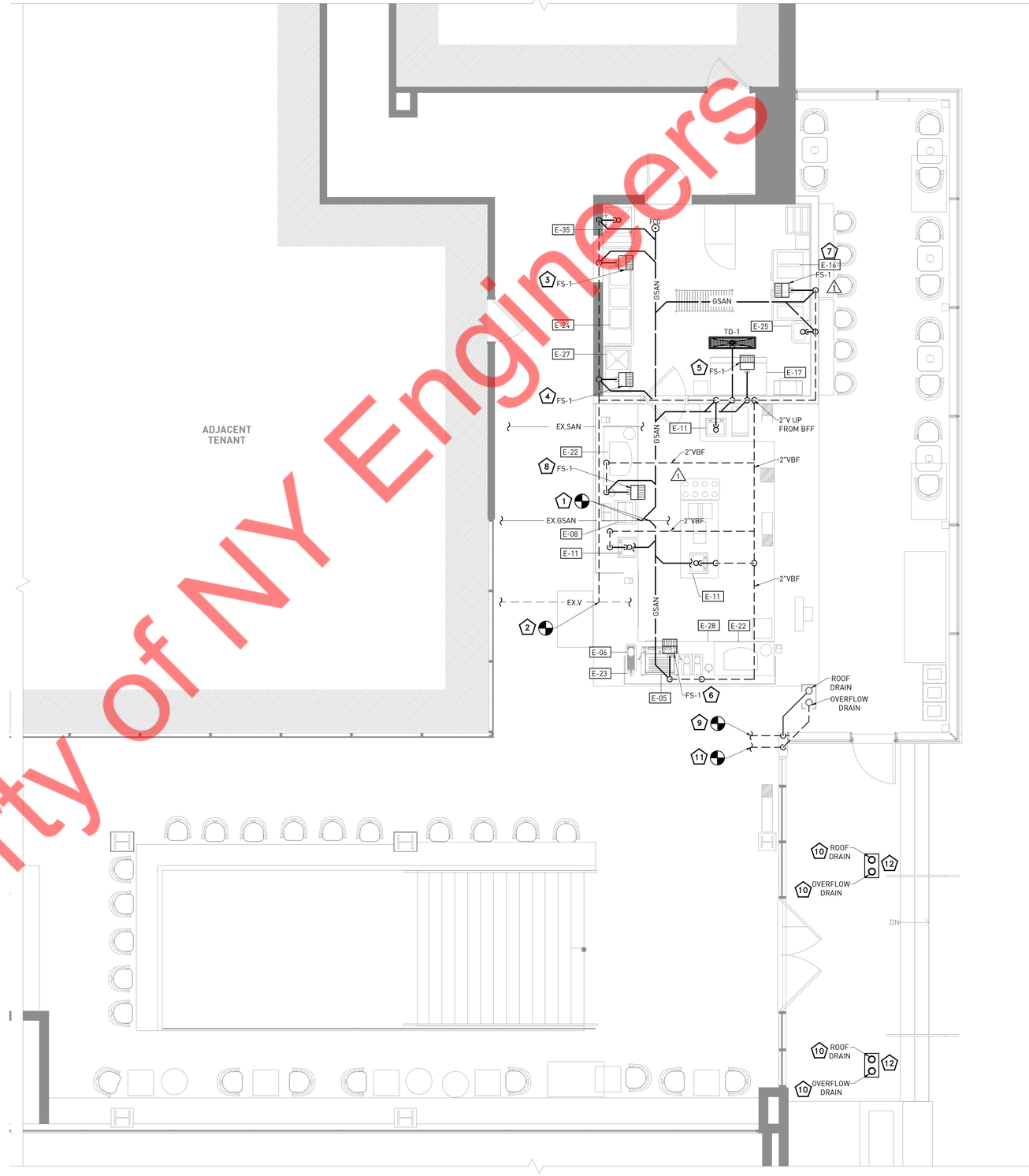
PD1.01

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
2. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
3. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
4. ANY UNUSED EXISTING PLUMBING PIPING MUST BE COMPLETELY REMOVED OR CAPED.DO NOT ABANDON IN SPACE.
5. ANY CHANGES OR UPGRADES TO TENANT'S EXISTING PLUMBING SYSTEM SHALL COMPLY WITH MALL CRITERIA.
6. PLUMBING IS NOT PERMITTED IN ANY DEMISING PARTITIONS. FURR OUT THE WALL AS NECESSARY.
7. ALL FLOOR PENETRATIONS MUST BE CORE BORED, SLEEVED, GROUTED, SEALED AND MADE WATERPROOF. SLEEVES MUST EXTEND A MINIMUM OF 4" AFF.
8. TENANT IS REQUIRED TO INSTALL A WATERPROOF MEMBRANE IN ALL WET AREAS OF THE SPACE. TENANT SHALL USE A 30 MIL POLYETHYLENE CLEAVAGE MEMBRANE (EQUAL TO NOBLESEAL TS) INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND ANSI A108. MEMBRANE MUST BE EXTENDED UP THE WALL A MINIMUM OF 6" OR EQUAL TO THE HEIGHT OF THE FLOOR BASE.

SANITARY KEYED NOTES:

1. EXTEND CONNECT NEW 3" GREASE SANITARY LINE TO EXISTING SANITARY LINE IN SPACE. CONTRACTOR TO FILED VERIFY THE SIZE, LOCATION AND INVERT OF EXISTING SANITARY LINE AND UPGRADE IF REQUIRED.
2. EXTEND AND CONNECT NEW 2" VENT PIPING TO EXISTING VENT PIPING IN SPACE. CONTRACTOR TO FILED VERIFY SIZE AND LOCATION OF EXISTING VENT PIPE. UPGRADE EXISTING VENT LINE IF REQUIRED.
3. INDIRECT DRAIN FROM 3-COMPARTMENT SINK(E-24) TO THE FLOOR SINK WITH APPROVED AIR GAP
4. INDIRECT DRAIN FROM 1-COMPARTMENT SINK(E-27) TO THE FLOOR SINK WITH APPROVED AIR GAP
5. INDIRECT DRAIN FROM ICE MACHINE SINK(E-17) & WATER FILTER TO THE FLOOR SINK WITH APPROVED AIR GAP
6. INDIRECT DRAIN FROM TEA EXTRACTION MACHINE(E-05), GLASS RINSER(E-06), DIPPER WELL(E-28) & SUGAR & MILK MACHINE(E-22) TO THE FLOOR SINK WITH APPROVED AIR GAP
7. INDIRECT DRAIN FROM TEA BREWING MACHINE(E-16) & WATER FILTER TO THE FLOOR SINK WITH APPROVED AIR GAP
8. INDIRECT DRAIN FROM DROP IN ICE BIN WITH SINK(E-08) & SUGAR & MILK MACHINE(E-22) SYSTEM TO THE FLOOR SINK WITH APPROVED AIR GAP
9. EXTEND AND CONNECT NEW 3" DRAIN PIPING TO EXISTING STORM WATER PIPE AVAILABLE IN SPACE. CONTRACTOR TO FIELD VERIFY LOCATION,INVERT, SIZE AND FLOW DIRECTION OF EXISTING STORM WATER PIPE. ROUTE STORM PIPE AS PER SITE CONDITION REQUIREMENT.
10. EXISTING ROOF DRAIN AND OVERFLOW DRAIN TO BE REPLACED WITH NEW ROOF DRAIN AND OVERFLOW ROOF DRAIN WITH EXISTING PIPES TO REMAIN. CONTRACTOR TO FIELD VERIFY EXISTING ROOF DRAIN AND OVERFLOW DRAIN PIPE SIZE, LOCATION AND CONDITION. CONNECT NEW DRAINS TO EXISTING STORM AND OVERFLOW STORM PIPING IF NOT ALREADY CONNECTED.
11. EXTEND AND CONNECT NEW 3" OVERFLOW STORM DRAIN PIPING TO EXISTING OVERFLOW STORM WATER PIPE AVAILABLE IN SPACE. CONTRACTOR TO FIELD VERIFY LOCATION, INVERT, SIZE AND FLOW DIRECTION OF EXISTING OVERFLOW STORM WATER PIPE. ROUTE STORM PIPE AS PER SITE CONDITION REQUIREMENT.
12. CONTRACTOR TO COORDINATE WITH LANDLORD FOR EXACT LOCATIONS OF ROOF DRAIN AND OVERFLOW DRAIN



PLUMBING SANITARY AND VENT PLAN | 1

1/4" = 1'-0"

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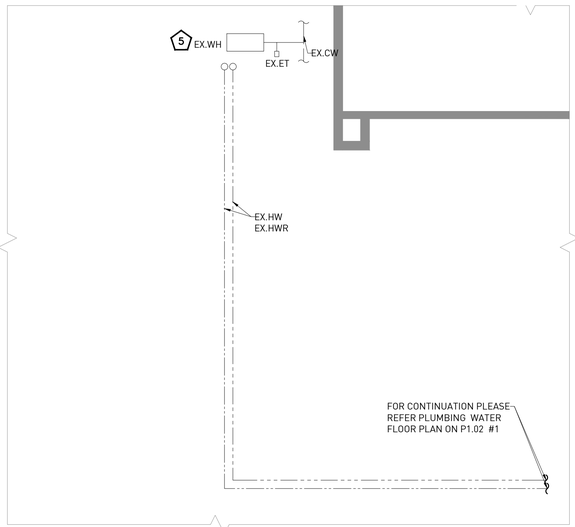
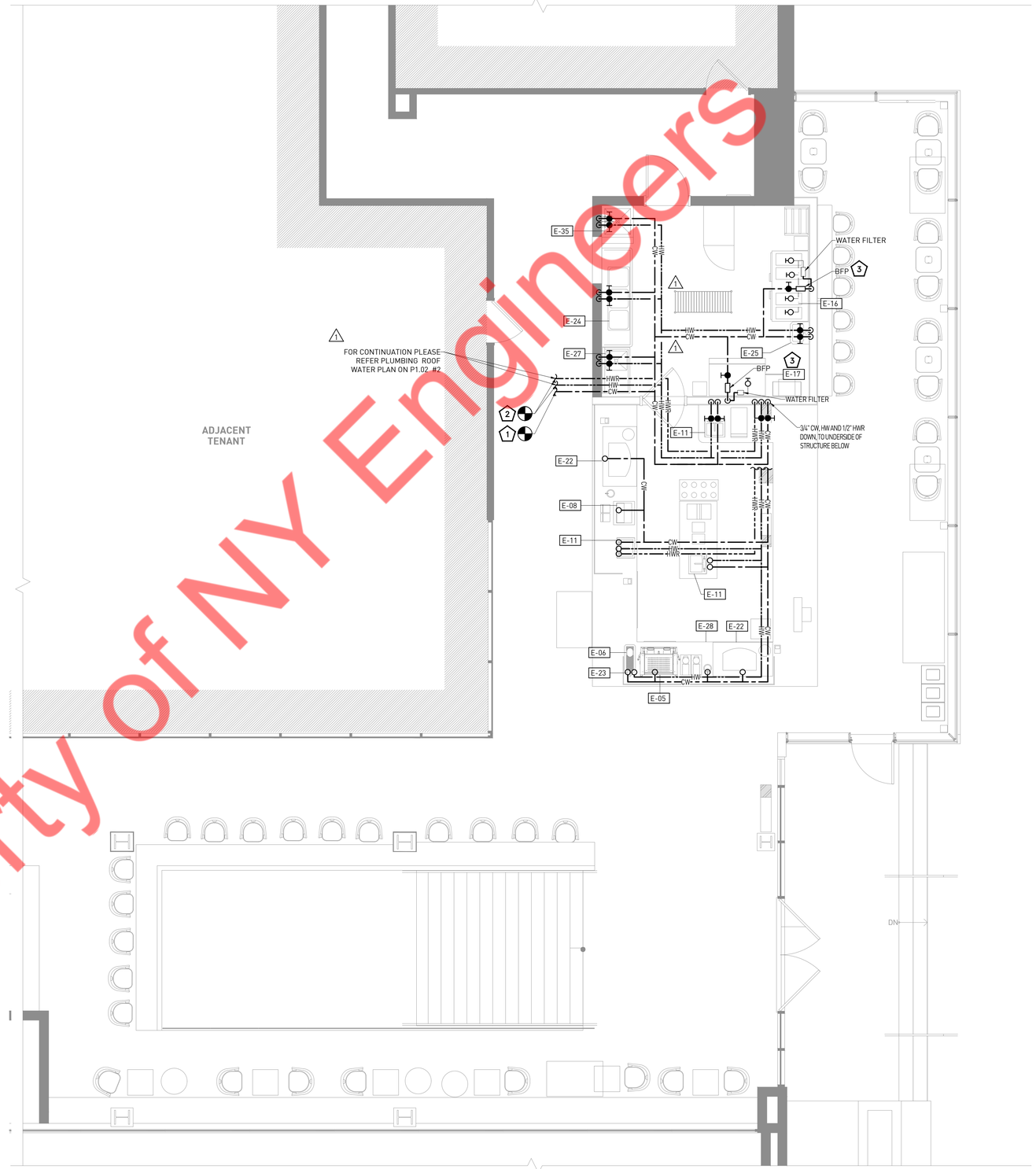
PLUMBING SANITARY
& VENT FLOOR PLAN

P1.01



PLUMBING ROOF WATER FLOOR PLAN | 2
1/4" = 1'-0"



PLUMBING WATER FLOOR PLAN | 1
1/4" = 1'-0"

GENERAL NOTES:

1. CW/HW PIPING TO BE PROVIDED WITH INSULATION AS PER 2022 CALIFORNIA STATE ENERGY CODE [REFER SHEET P0.01]
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
3. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
4. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
5. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
6. PROVIDE TRAP PRIMER/SEAL ON FLOOR DRAIN AS PER LOCAL JURISDICTION.[REFER SHEET P2.1 DETAIL 9]
7. ANY UNUSED EXISTING PLUMBING PIPING MUST BE COMPLETELY REMOVED OR CAPED.DO NOT ABANDON IN SPACE.
8. ANY CHANGES OR UPGRADES TO TENANT'S EXISTING PLUMBING SYSTEM SHALL COMPLY WITH MALL CRITERIA.
6. PLUMBING IS NOT PERMITTED IN ANY DEMISING PARTITIONS. FURR OUT THE WALL AS NECESSARY.
7. ALL FLOOR PENETRATIONS MUST BE CORE BORED, SLEEVED, GROUTED, SEALED AND MADE WATERPROOF. SLEEVES MUST EXTEND A MINIMUM OF 4" AFF.

WATER KEYED NOTES:

1. EXTEND AND CONNECT NEW 1" CW PIPING TO THE EXISTING WATER LINE WITH EXISTING WATER METER. CONTRACTOR TO FIELD VERIFY SIZE AND LOCATION OF EXISTING WATER LINE, EXISTING WATER METER. REPLACE/UPGRADE IF REQUIRED.
2. EXTEND AND CONNECT NEW 1" HW & 3/4" HWR PIPING TO THE EXISTING HW AND HWR LINE FROM THE EXISTING WATER HEATER. CONTRACTOR TO FIELD VERIFY EXISTING HW & HWR LINE SIZE AND LOCATION. UPGRADE/REPLACE IF REQUIRED.
3. PROVIDE ASSE 1022 APPROVED BACKFLOW PREVENTOR TO EQUIPMENTS FOR BACKFLOW PREVENTION. INSTALL BFP AN ACCESSIBLE LOCATION.
4. ROUTE PIPING TIGHT TO UNDERSIDE OF STRUCTURE BELOW. AVOID ANY STRUCTURAL OBSTRUCTIONS.
5. EXISTING WATER HEATER WITH ASSOCIATED PIPING AND EQUIPMENTS TO BE REAMIN. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND ASSOCIATED EQUIPMENT CONDITION. REPLACE IF REQUIRED.

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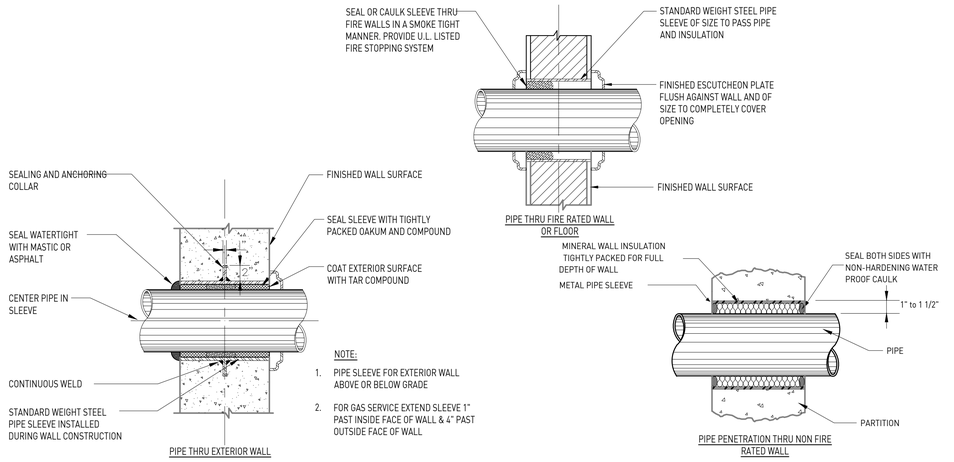
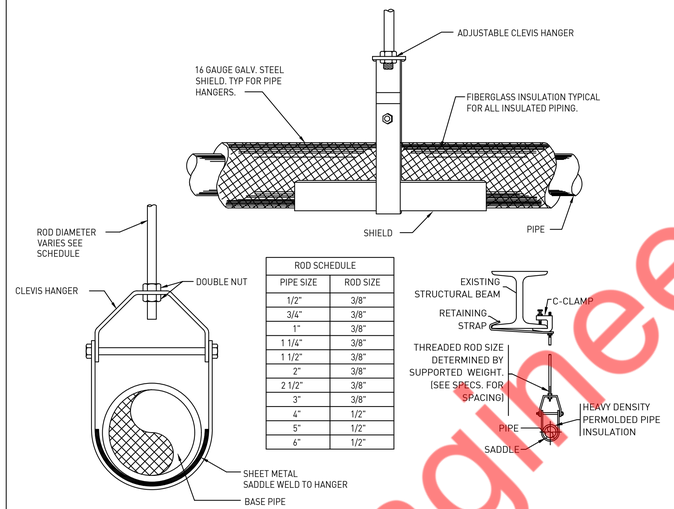
PLUMBING WATER
FLOOR PLAN

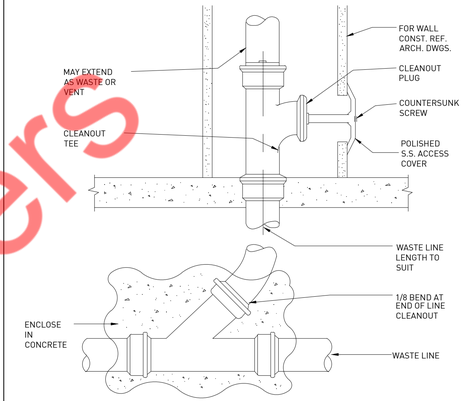
P1.02



1 P2.01 PIPE SLEEVE THRU WALL SECTION
N.T.S



2 P2.01 HANGER DETAIL
N.T.S



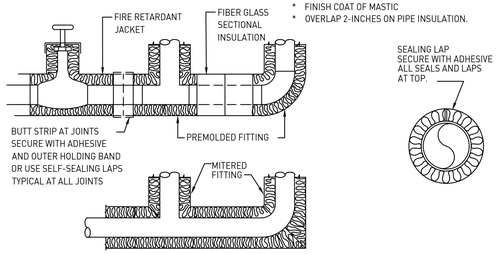
3 P2.01 WALL CLEAN OUT DETAIL
N.T.S

CONCEALED VALVES AND FITTINGS

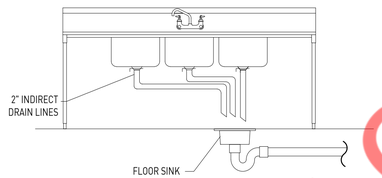
- WRAP WITH 1-INCH THICK, 1-POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
- SECURE WITH WIRE OR TAPE.
- VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.

CONCEALED VALVES AND FITTINGS

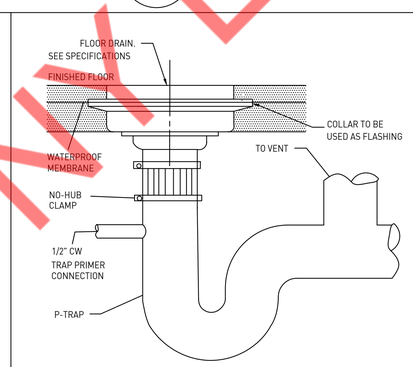
- PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
- SKIM COAT OF INSULATION CEMENT
- COAT OF MASTIC
- WRAP WITH FIBER GLASS REINFORCING CLOTH.
- FINISH COAT OF MASTIC
- OVERLAP 2-INCHES ON PIPE INSULATION.



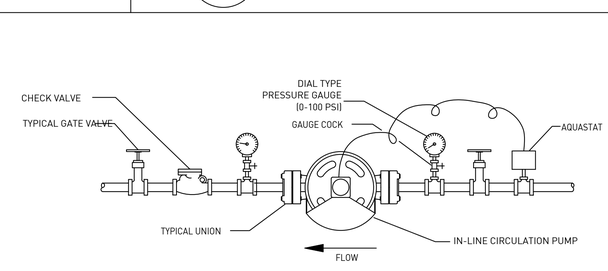
4 P2.01 INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATIONS
N.T.S



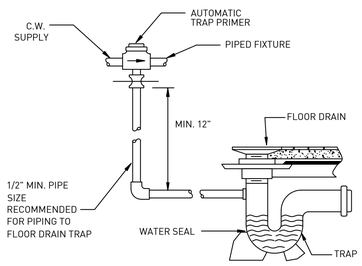
5 P2.01 3 COMPARTMENT SINK DETAIL
N.T.S



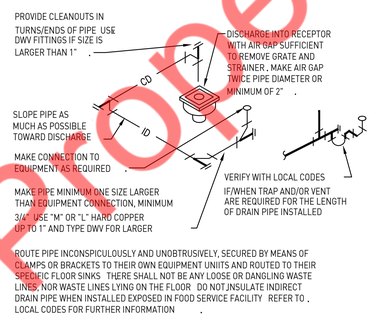
6 P2.01 FLOOR DRAIN DETAIL
N.T.S



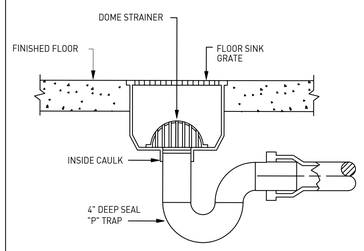
7 P2.01 INLINE RECIRCULATING PUMP DETAIL
N.T.S



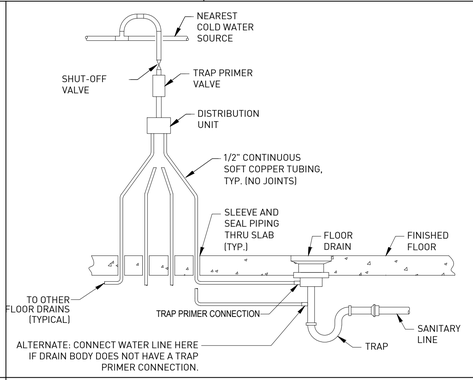
8 P2.01 FLOW CONTROLLED TRAP PRIMER DETAIL
N.T.S



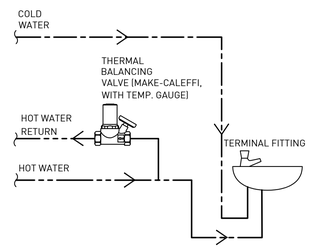
9 P2.01 INDIRECT/CONDENSATE DRAIN
N.T.S



10 P2.01 FLOOR SINK DETAILS
N.T.S



11 P2.01 TRAP PRIMER DETAIL
N.T.S



12 P2.01 HOT WATER HEATER BALANCING VALVE PIPING DETAIL
N.T.S

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PLUMBING DETAILS

P2.01

PLUMBING FIXTURE SCHEDULE

LEGEND	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						
		SOIL/WASTE		VENT	COLD WATER	HOT WATER	FILTER WATER	REMARK
		DIRECT	INDIRECT					
E-05	TEA EXTRACTION MACHINE	-	1"	-	-	-	1/2"	IW TO FS
E-06	GLASS RINSER	-	2"	-	1/2"	-	-	IW TO FS
E-08	DROP-IN ICE BIN WITH SINK	-	1"	-	-	-	-	IW TO FS
E-11	DROP-IN SINK	2"	-	1-1/2"	1/2"	1/2"	-	-
E-16	TEA BREWING MACHINE	-	-	-	-	-	1/2"	IW TO FS
E-17	ICE MACHINE	-	1"	-	1/2"	-	1/2"	IW TO FS
E-22	SUGAR & MILK MACHINE		1"	-	1/2"	-	-	IW TO FS
E-23	WATER DISPENSING TOWER	-	1"	-	-	-	1/2"	IW TO FS
E-23.1	HOT WATER DISPENSER	-	1"	-	1/2"	1/2"	-	IW TO FS
E-24	3-COMP SINK	-	2"	-	3/4"	3/4"	-	IW TO FS
E-25	HAND SINK	2"	-	1-1/2"	3/4"	3/4"	-	
E-27	1-COMP SINK	-	2"	-	3/4"	3/4"	-	IW TO FS
E-28	DIPPER WELL	-	1"	-	1/2"	-	-	IW TO FS
E-35	MOP SINK	2"	-	1-1/2"	3/4"	3/4"	-	-
FD-1	FLOOR DRAIN	3"	-	2"	-	-	-	-
FS-1	FLOOR SINK	3"	-	2"	-	-	-	-
TP	TRAP PRIMER	-	-	-	1/2"	-	-	INSTALL FOR ALL MULTIPLE FLOOR DRAINS OR EQUIVALENT.
TD-1	TRENCH DRAIN	3"	-	2"	-	-	-	-

NOTE:

1. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATION.

FIXTURE UNIT CALCULATION

TAG	EQUIPMENT	QTY	WSFU	TOTAL
E-05	TEA EXTRACTION MACHINE	1	0.5	0.5
E-06	GLASS RINSER	1	0.5	0.5
E-08	DROP-IN ICE BIN	1	1	1
E-11	DROP IN SINK	3	1	3
E-16	TEA BREWING MACHINE	4	0.5	2
E-17	ICE MACHINE	1	0.5	0.5
E-22	SUGAR & MILK MACHINE	2	1	2
E-23	WATER DISPENSING	1	0.5	0.5
E-24	3 COMP. SINK	1	3	3
E-25	HAND SINK	1	1	1
E-27	1 COMP. SINK	1	3	3
E-28	DIPPER WELL	1	2	2
E-35	MOP SINK	1	3	3
		TOTAL WATER SUPPLY FIXTURE UNIT		22

WSFU VALUES AS PER CALIFORNIA PLUMBING CODE 2022 CHART A 105.1(1)

AS PER CALIFORNIA PLUMBING CODE 2022, CHART A 105.1(7) FOR 20 GPM CALCULATED PIPE SIZE IS 1"

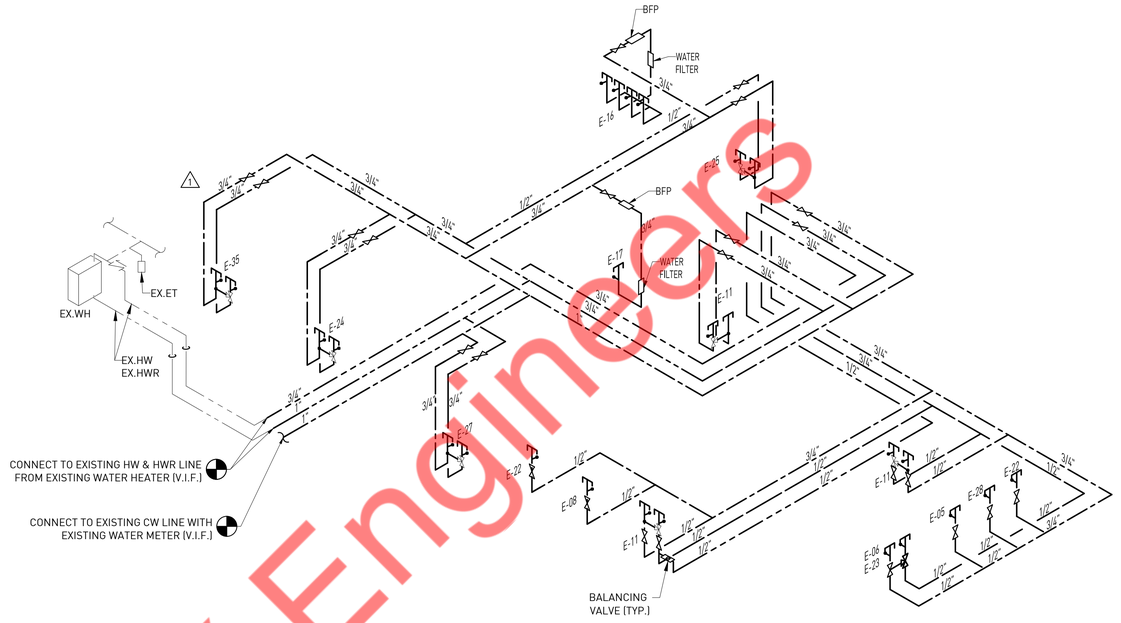
GREASE INTERCEPTOR SIZING

FIXTURE	QUANTITY	DFU PER FIXTURE	TOTAL DFU
FLOOR SINK (FS-1)	6	5	30
MOP SINK (E-35)	1	3	3
DROP IN SINK (E-11)	3	2	6
HAND SINK(E-25)	1	2	2
TOTAL DRAINAGE FIXTURE UNITS(DFU)			41

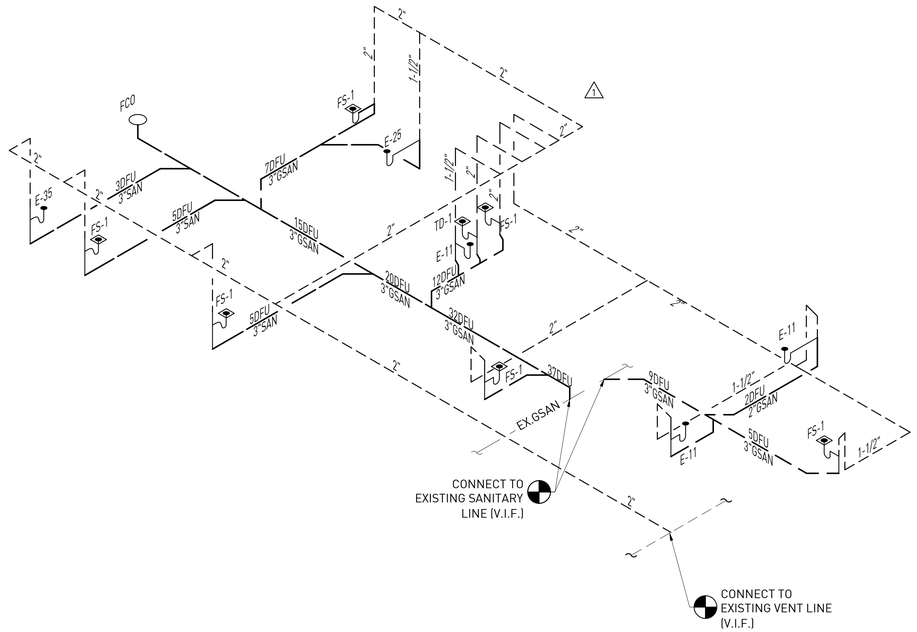
AS PER 2022 CALIFORNIA PLUMBING CODE TABLE 1014.3.6 FOR 41 DFU WE REQUIRED 1250 GALLONS

INSTANTANEOUS WATER HEATER SCHEDULE

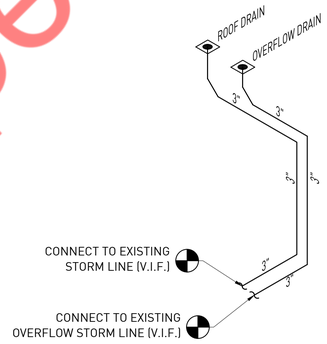
MARK	DESCRIPTION	MAKE/MODEL	ELECTRICAL	DESCRIPTION/REMARKS
EX.WH	GAS TANKLESS WATER HEATER	AO SMITH AT-M50 ASME-N	120V/1/60	GAS TANKLESS WATER HEATER. 15 MBH MINIMUM & 380 MBH MAXIMUM GAS INPUT. 8.7 GPM @ 70° TEMP RISE.



PLUMBING WATER SUPPLY RISER DIAGRAM 2
NTS



PLUMBING SANITARY & VENT RISER DIAGRAM 1
NTS



PLUMBING STORM RISER DIAGRAM 3
NTS

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PLUMBING
SCHEDULE AND RISER

P3.01