CITY OF CYPRESS, 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

- ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- VENTILATION FOR ALL AREA SHALL COMPLY WITH TABLE 120.1 SUBCHAPTER 3 OF BUILDING ENERGY EFFICIENCY CODE-2022.
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- 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.
- SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION 609 OF CALIFORNIA MECHANICAL CODE 2022 TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.
- REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
- 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.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE CALIFORNIA MECHANICAL CODE 2022:
- CODE 2022 402. B. SMOKE CONTROL SYSTEMS - CALIFORNIA MECHANICAL CODE 2022 - 609.

A. VENTILATION SYSTEM BALANCING CALIFORNIA MECHANICAL

- CONTRACTOR SHALL BALANCE THE AIR AS SHOWN IN THE VENTILATION TABLE AS PER THE APPROVED METHOD AND PROVIDE A COPY OF AIR BALANCE REPORT TO THE INSPECTOR OF THE RESPECTIVE DEPARTMENT PRIOR FINAL
- IO. 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 - 407.2.

D. AIR FILTERS - CALIFORNIA MECHANICAL CODE 2022 -

E. MANUAL AND AUTOMATIC FIRE AND SMOKE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - CALIFORNIA MECHANICAL CODE 2022 - 609.

THERMOSTATIC CONTROLS

- A. 120.2 (a) THERMOSTATIC CONTROLS FOR EACH ZONE. THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH SPACE-CONDITIONING ZONE OR DWELLING UNIT SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE AND THAT MEETS THE APPLICABLE REQUIREMENTS OF SECTION 120.2(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
- 4.THE PERIMETER SYSTEM IS CONTROLLED BY AT LEAST ONE THERMOSTAT LOCATED IN ONE OF THE ZONES SERVED BY THE SYSTEM.
- B. 120. 2(d) HEAT PUMP CONTROLS. ALL HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH SECTION 110.2(b).
- C. 120.2 (e) SHUT-OFF AND RESET CONTROLS FOR SPACE-CONDITIONING SYSTEMS. SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH
- CONTROLS THAT COMPLY WITH THE FOLLOWING: 1. THE CONTROL SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE:
- a. AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SECTION 110.9(c), WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE
- b. SYSTEM FOR UP TO 4 HOURS; OR

OF 50FEET OR MORE; AND

- c. AN OCCUPANCY SENSOR; OR
- d. 4-HOUR TIMER THAT CAN BE MANUALLY OPERATED. EXCEPTION TO SECTION 120.2(e)1: MECHANICAL SYSTEMS SERVING RETAIL STORES AND ASSOCIATED MALLS, RESTAURANTS, GROCERY STORES, CHURCHES AND THEATERS EQUIPPED WITH 7-DAY PROGRAMMABLE
- 2. THE CONTROL SHALL AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN:
- a. A SETBACK HEATING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL HEATING ;AND EXCEPTION TO SECTION 120.2(e)2A: THERMOSTAT SETBACK CONTROLS ARE NOT REQUIRED IN NONRESIDENTIAL BUILDINGS IN AREAS WHERE THE WINTER MEDIAN OF EXTREMES OUTDOOR AIR TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(b)3 IS GREATER THAN
- b. A SETUP COOLING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL COOLING. EXCEPTION TO SECTION 120.2(e)2B: THERMOSTAT SETUP CONTROLS ARE NOT REQUIRED IN NON-RESIDENTIAL BUILDINGS IN AREAS WHERE THE SUMMER DESIGN DRY BULB 0.5 PERCENT TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 140.4(b)3 IS LESS THAN
- D. 120.2 (f) DAMPERS FOR AIR SUPPLY AND EXHAUST EQUIPMENT. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN. EXCEPTION 1 TO SECTION 120.2(f): EQUIPMENT THAT SERVES AN AREA THAT MUST OPERATE CONTINUOUSLY. EXCEPTION 2 TO SECTION 120.2(f): GRAVITY AND OTHER NON-ELECTRICAL EQUIPMENT THAT HAS READILY ACCESSIBLE MANUAL DAMPER CONTROLS. EXCEPTION 3 TO SECTION 120.2(f): AT COMBUSTION AIR INTAKES AND SHAFT VENTS. EXCEPTION 4 TO SECTION 120.2(f): WHERE PROHIBITED BY

OTHER PROVISIONS OF LAW.

A. ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE, COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND

LISTED BY UNDERWRITERS LABORATORIES, INC. USING STEINER TUNNEL TE<mark>ST</mark> METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING

MATERIALS, STANDARD UL 723 (ASTM E-84), (ASA A2.5-1963). FLAME SPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE

DEVELOPED: MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.

B. SUPPLY AND RETURN AIR DUCT AND PLENUMS SHALL BE INSULATED WITH NOT LESS THAN R-8 INSULATION WHERE LOCATED IN

UNCONDITIONED SPACES AND WHERE LOCATED OUTSIDE THE BUILDING WITH NOT LESS THAN R-8 INSULATION.

STANDARD HVAC ABBREVIATIONS

	MECHANICAL DRAWING LIST
M001	MECHANICAL GENERAL NOTES, SYMBOLS LIST & ABBREVIATIONS
M002	MECHANICAL SPECIFICATIONS
M101	MECHANICAL FLOOR PLAN
M102	MECHANICAL ROOF PLAN
M501	MECHANICAL DETAILS
M601	MECHANICAL SCHEDULES

TITLE 24 (1 OF 3)

TITLE 24 (2 OF 3)

TITLE 24 (3 OF 3)

INSULATION - GENERAL REQUIREMENTS

- 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
- b. CALIFORNIA MECHANICAL CODE 2022

M701

M702

M703

- c. CALIFORNIA PLUMBING CODE 2022
- CALIFORNIA ENERGY CODE 2022

	MECHANICAL LEGEND								
SYMBOL	DESCRIPTION								
	PLAN-VIEW LINE TYPES								
	WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE								
	WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK								
	PIPING LINE TYPES								
——RL —	REFRIGERANT_LIQUID								
——RS	REFRIGERANT SUCTION								
	CONDENSATE DRAIN								
A V	SUPPLY MAIN OR BRANCH								
-	_ RETURN MAIN OR BRANCH								
	HVAC LEGEND								
1	DRAWING KEY NOTE SYMBOL								
26x16	NEW RECTANGULAR DUCTWORK AND SIZE								
\$ 10"Ø \$	NEW ROUND DUCTWORK AND SIZE								
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	BALANCING/VOLUME DAMPER								
C WW	LEX DUCT								
	HERMOSTAT								
T _s	TEMPARATURE SENSOR								
CDS-1	NEW SUPPLY AIR DIFFUSER AND CFM								
CDR-1	NEW RETURN GRILLE AND CFM								
EG-1 CFM	NEW EXHAUST GRILLE AND CFM								
$\langle s \rangle$	DUCT SMOKE DETECTOR								
	SUPPLY DUCT UP THROUGH ROOF								
	RETURN/EXHAUST DUCT UP THROUGH ROOF								
•	FIRE DAMPER								
GD	BACKDRAFT DAMPER								
L e	DUCT MOUNTED SUPPLY AIR GRILLE (SIDE THROUGH)								
#	DUCT MOUNTED SUPPLY AIR GRILLE (BOTTOM THROUGH)								



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No.	Description	Date
	PERMIT SET	05/17/2024
 <u>1</u>	REVISED PERMIT SET	08/21/2024
 2	REVISED PERMIT SET	09/16/2024

MECHANICAL GENERAL NOTES, SYMBOLS, LIST & **ABBREVIATION**

PERMIT SET

As indicated

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CODE COMPLIANCE

OTHERS APPLICABLE TO THESE PROJECT:

a. CALIFORNIA BUILDING CODE 2022 (VOL. 1 & 2)

CALIFORNIA ELECTRICAL CODE 2022

- 1. GENERAL REQUIREMES
- 1.1 THE GENERAL REQUIREMENTS OF THE ARCHITECTURAL SPECIFICATIONS ARE A PART OF THESE SPECIFICATIONS. WHERE AN INCONSISTENCY EXISTS BETWEEN THE WORDING OR INTENT THIS DIVISION SHALL TAKE PRECEDENCE.
- 1.2. THE STANDARD FORM OF GENERAL CONDITIONS ISSUED BY THE AMERICAN INSTITUTE OF ARCHITECTS DOCUMENT A201, LATEST EDITION, SHALL FORM PART OF THIS CONTRACT.
- 1.3. ALL CONTRACTORS FOR THIS WORK SHALL VERIFY EQUIPMENT LOCATIONS, WEIGHTS AND CLEARANCES IN THE FIELD PRIOR TO SUBMITTING BIDS TO VERIFY CONDITIONS. INTERFERENCES WITH OTHER TRADES, AND DIMENSIONS. NO ALLOWANCES WILL BE MADE AFTER ACCEPTANCE OF BIDS FOR FAILURE TO COMPLY.
- 2. SCOPE OF WORK:
- 2.1. PROVIDE ALL LABOR AND MATERIALS, EQUIPMENT, FACILITIES, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH INSTALL AND COMPLETE THE HEATING, VENTILATING AND AIR CONDITIONING WORK AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. THE WORKMANSHIP SHALL BE COMPLETE IN EVERY RESPECT, BE TESTED AND APPROVED, AND BE SATISFACTORY TO THE ARCHITECT/ENGINEER AND IN ACCORDANCE WITH THE LOCAL, COUNTY AND STATE LAWS GOVERNING THIS INSTALLATION, INCLUDING THE FIRE MARSHAL.
- 2.2. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT AND LOCATION OF THE WORK INCLUDED. WORK INDICATED. BUT HAVING MINOR DETAILS OBVIOUSLY OMITTED. SHALL BE PROVIDED, INCLUDING THESE DETAILS, WITHOUT EXTRA COST.
- 2.3. INTENT: IT IS THE DECLARED AND ACKNOWLEDGED INTENT OF THESE SPECIFICATIONS TO PROVIDE THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS, INCLUSIVE OF ALL REQUIRED PARTS AND ACCESSORIES COMPLETE AND READY FOR USE AS ITEMIZED BUT NOT NECESSARILY LIMITED TO THE FOLLOWING:
- 2.3.1. ROOFTOP HVAC SYSTEMS.
- 2.3.2. GAS PIPING. 2.3.3. HVAC DRAIN PIPING.
- 2.3.4. ALL HEATING, AIR CONDITIONING, RETURN, OUTSIDE AIR, AND EXHAUST DUCTWORK.
- 2.3.5. TOILET EXHAUST FANS WITH ACCESSORIES AND DUCTWORK. 2.3.6. KITCHEN EXHAUST FAN WITH ACCESSORIES AND DUCTWORK.
- 2.3.7. DUCT LINING AND THERMAL INSULATION.
- 2.3.8. BASES, PLATFORMS, SUPPORTS AND HANGERS, VIBRATION ISOLATORS. 2.3.9. EQUIPMENT, PIPING, DUCTWORK AND VALVE IDENTIFICATION.
- 2.3.10. TEST AND BALANCING.
- 2.3.11. TEMPERATURE CONTROL SYSTEMS. 2.3.12. MOTOR STARTERS, MAGNETIC CONTRACTORS AND CONTROLS FOR HVAC EQUIPMENT.
- 3. VISITING THE SITE:
- 3.1. THE CONTRACTOR SHALL, PRIOR TO SUBMITTING HIS BID FOR DOING WORK AS DESCRIBED IN THIS SPECIFICATION AND ON ACCOMPANYING DRAWINGS, VISIT THE SITE AND COMPLETELY FAMILIARIZE HIMSELF WITH THE DIFFICULTIES AND FACILITIES THAT WILL BE INVOLVED FOR THE PROPER EXECUTION OF THE CONTRACT. NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THE CONTRACTOR FAILING TO DO SO OR NOT TO FULLY APPRECIATE DIFFICULTIES AT HAND.
- 4. FEES AND INSPECTIONS:
- 4.1. ALL CONTRACTORS SHALL APPLY, PROCURE AND PAY FEES FOR ALL PERMITS AND INSPECTIONS OR OTHER OBLIGATIONS THAT THE CITY, COUNTY, STATE OR UTILITIES MAY REQUIRE IN ORDER FOR HIM TO DO HIS WORK ACCORDING TO PLANS AND SPECIFICATIONS.
- 5. LAWS AND ORDINANCES:
- 5.1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES AND REGULATIONS BEARING ON THE CONDUCT OF WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH. HE SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING WHEN SUBMITTING HIS BID AND ANY NECESSARY CHANGES SHALL BE ADJUSTED AS PROVIDED IN THE CONTRACT FOR SUCH CHANGES IN WORK. IF THE CONTRACTOR PERFORMS ANY WORK CONTRARY TO SUCH LAWS, ORDINANCES, RULES AND REGULATIONS, HE SHALL BEAR ALL COSTS FOR CORRECTING THIS WORK.
- 6. TRADE JURISDICTION:
- 6.1. WHEN IT BECOMES NECESSARY FOR THE COMPLETE FULFILLMENT OF THIS WORK FOR THIS CONTRACTOR TO FURNISH LABOR OR MATERIALS OTHER THAN THAT WHICH IS GENERALLY ACCEPTED BY HIS TRADE OR BRANCH OF WORK, THE CONTRACTOR SHALL SUBLET SAME TO A CONTRACTOR ENGAGED IN THE TRADE OR BRANCH OF WORK INVOLVED TO THE END THAT THERE SHALL BE NO DELAY TO OR STOPPAGE OF WORK DUE TO THE INFRINGEMENT OR ALLEGED INFRINGEMENT TO TRADE AGREEMENTS AS TO THE JURISDICTION.
- 7. REQUESTS FOR INFORMATION:
- 7.1. ALL REQUESTS FOR INFORMATION (RFIS) SHALL BE SUBMITTED IN WRITING TO THE GENERAL CONTRACTOR OR THE CONSTRUCTION MANAGER. IF THERE IS NO CONSTRUCTION MANAGER OR GENERAL CONTRACTOR, SUBMIT RFIS IN WRITING TO THE ARCHITECT/ENGINEER. THERE WILL BE NO RESPONSE TO RFIS THAT ARE NOT SUBMITTED IN WRITTEN FORM.
- 8. SUBMITTALS:
- 8.1. THIS CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL COMPLETE LISTS INCLUDING CATALOG CUTS, ETC., AND WHERE APPLICABLE DIMENSIONED SHOP DRAWINGS OF ALL MATERIALS, FIXTURES AND EQUIPMENT TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. INCLUDE SHEET METAL DUCT LAYOUTS AND PIPING PLAN LAYOUTS. SUBMIT PDF COPIES OF SHOP DRAWINGS FOR REVIEW. DO NOT ORDER EQUIPMENT, FABRICATE DUCTWORK OR INSTALL EQUIPMENT, DUCTWORK OR PIPING BEFORE RECEIVING SHOP DRAWINGS REVIEWED BY THE ENGINEER. AUTOCAD. FILES OF THE MECHANICAL PLANS CAN BE PURCHASED FROM THE ENGINEER AT A FEE OF \$100 PER DRAWING IN AN EFFORT TO EASE THE PREPARATION OF SHOP DRAWINGS.
- 8.2. REQUIRED ITEMS TO BE SUBMITTED SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
- 8.2.1. GRILLES / REGISTERS / DIFFUSERS
- 8.2.2. EQUIPMENT 8.2.3. FANS
- 8.2.4. LOUVERS 8.2.5. ACCESS PANELS

- 8.2.6. ROOF CURBS 8.2.7. SPECIALTIES
- 9. RECORD DRAWINGS SUBMITTAL:
- 9.1. AT PROJECT CLOSEOUT, THE CONTRACTOR SHALL SUBMIT RECORD DRAWINGS ALSO KNOWN AS "AS-BUILT" DRAWINGS OF INSTALLED DUCTWORK, PIPING AND EQUIPMENT AS IT WAS ACTUALLY INSTALLED SO AS TO MAKE A PERMANENT RECORD. SUBMIT AUTOCAD DRAWINGS AT 1/8" = 1'-0" SCALE. SUBMIT PDF COPY TO ARCHITECT AND PDF COPY TO ENGINEER. AUTOCAD FILES OF MECHANICAL PLANS CAN BE PURCHASED FROM ENGINEER AT A FEE OF \$100 PER DRAWING IN AN EFFORT TO EASE THE PREPARATION OF "AS-BUILT" DRAWINGS.
- 10. WORKMANSHIP AND MATERIALS:
- 10.1. ALL MATERIALS SHALL BE NEW AND OF FIRST QUALITY. ALL LABOR SHALL BE EXECUTED IN A NEAT, WORKMANLIKE MANNER AND SHALL BE PERFORMED BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. THE ENGINEER SHALL DECIDE ALL MATTERS PERTAINING TO THE QUALITY OF WORKMANSHIP AND MATERIALS.
- 11. SPECIFICATIONS AND DRAWINGS:
- 11.1. SPECIFICATIONS AND DRAWINGS ARE INTENDED TO BE COOPERATIVE. WHAT IS CALLED FOR BY EITHER SHALL BE AS BINDING AS IF CALLED FOR BY SCALE. ANY WORK OR MATERIALS NOT SPECIFICALLY MENTIONED THOUGH REQUIRED TO MAKE THE JOB COMPLETE SHALL BE FURNISHED BY THE CONTRACTOR AT HIS EXPENSE.
- 12. OPERATING INSTRUCTIONS:
- 12.1. THIS CONTRACTOR SHALL PREPARE A TYPEWRITTEN LIST IN DUPLICATE OF INSTRUCTIONS OF THE OPERATION OF ALL EQUIPMENT AND SHALL INSTRUCT IN ITS OPERATION. ALL VALVES SHALL BE MARKED WITH A METAL TAG AND A TYPEWRITTEN SCHEDULE OF THE VALVES SHALL BE GIVEN TO THE OWNER.
- 13. EQUIPMENT SCHEDULE:
- 13.1. THIS CONTRACTOR SHALL PREPARE AND FURNISH TO THE OWNER, TWO (2) BOUND BOOKLETS (AND A PDF COPY) EACH CONTAINING A COMPLETE LIST F ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT. EACH PIECE OF EQUIPMENT LISTED SHALL ALSO BE DESCRIBED BY MANUFACTURER'S FIGURE NUMBER, THE COMPONENTS THEREIN WHICH MAKE UP THE PARTS LIST.
- 14. GUARANTEE:
- 14.1. THIS CONTRACTOR SHALL GUARANTEE HIS WORK TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL CERTIFICATE. ANY REPAIRS OR REPLACEMENT DURING THE PERIOD SHALL BE MADE WITHOUT COST TO THE OWNER, UPON HIS OR HER REQUEST.
- 15. COORDINATION OF WORK:
- 15.1. THE CONTRACTOR SHALL CONFER WITH OTHER TRADES WHOSE WORK MAY AFFECT HIS INSTALLATION TO AVOID INTERFERENCE BEFORE STARTING THE INSTALLATION. ALL CHANGES IN THE WORK OF THIS CONTRACTOR CAUSED BY HIS NEGLECT TO COMPARE AND CONFER WITH OTHER TRADES SHALL BE MADE BY HIM AT HIS OWN EXPENSE.
- 16. CUTTING AND PATCHING:
- 16.1. EACH CONTRACTOR SHALL DO HIS OWN CUTTING AND PATCHING. IF STRUCTURALLY REQUIRED, AS DETERMINED BY THE STRUCTURAL ENGINEER, THE CONTRACTOR SHALL PROVIDE AND INSTALL THE NECESSARY STEEL WHEN GOING THROUGH A BEARING WALL. THIS CONTRACTOR SHALL NOT ENDANGER ANY WORK BY CUTTING, DIGGING OR OTHERWISE AND SHALL NO CUT OR ALTER THE WORK OF OTHER TRADES WITHOUT CONSENT OF THE ENGINEER OR ARCHITECT.
- 17. DUCTWORK:
- 17.1. ALL DUCTWORK SHALL BE PRIME GALVANIZED SHEET STEEL, LOCK FORMING QUALITY. FABRICATED IN ACCORDANCE WITH THE CURRENT EDITION OF THE ASHRAE GUIDE, EXCEPT AS NOTED LATER HEREIN.
- 17.2. ROUND SPIRAL DUCTWORK SHALL BE UNITED SHEET METAL TYPE DUCT FITTING OR APPROVED EQUAL, INSTALLED AND SUSPENDED AS PER MANUFACTURER'S RECOMMENDATIONS.
- 17.3. ALL DUCTS ARE TO HAVE GALVANIZED STIFFENERS IN THE FORM OF SEAMS INVOLVING AT LEAST THREE FOLDS OF SHEET METAL (POCKET LOCKS, STANDING SEAMS, STANDING S-SLIPS,
- 17.4. VENTILATION CONSTRUCTION NOT COVERED BY THE ASHRAE GUIDE AND/OR GOVERNING AUTHORITIES SHALL BE ACCORDANCE WITH THE MAXIMUM STANDARDS AND TRADE PRACTICES AS SET FORTH BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION INCLUDING THEIR DUCT MANUALS, CURRENT EDITION.
- 17.5. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE DIMENSION. INCREASE DUCT SIZE WHEN LINING IS USED. ALL DUCTWORK SHALL BE COORDINATED WITH CEILING HEIGHTS AS SET FORTH BY ARCHITECT. FLATTEN DUCTWORK AS NECESSARY, WHILE PRESERVING CLEAR AREA INSIDE DUCTWORK, TO MAINTAIN CEILING HEIGHTS.
- 17.6. COOLING COIL DRAIN PANS TO BE STAINLESS STEEL AND PIPED WITH RUNNING TRAP TO FLOOR DRAIN/OPEN SITE DRAIN
- 17.7. ALL LOW PRESSURE AIR—CONDITIONING SUPPLY DUCTWORK WILL BE SEALED.
- 17.8. MAXIMUM DUCTWORK LEAKAGE FOR ALL SYSTEMS WILL BE 2% OF TOTAL AIR QUANTITY.
- 17.9. SUPPLY, RETURN AND EXHAUST DIFFUSERS, REGISTERS AND GRILLES WILL BE PROVIDED AS SCHEDULED ON DRAWINGS. ALL AIR OUTLETS AND INLETS SHALL BE COMPATIBLE WITH THE BUILDING TENANT STANDARDS AND THE ARCHITECTURAL CEILING AND WALL SYSTEMS. ALL AIR OUTLETS AND INLETS SHALL BE PROVIDED WITH FINISHES AS SELECTED BY ARCHITECT. FOR EXACT LOCATIONS OF ALL AIR OUTLETS AND INLETS, SEE ARCHITECTURAL DRAWINGS. MANUFACTURER SHALL BE PRICE, TITUS, KREUGER, METALAIRE AND/OR CARNES.
- 17.10. A 5'-0" MAXIMUM LENGTH OF INSULATED FLEXIBLE DUCT WILL BE PROVIDED TO EACH AIR SUPPLY OUTLET AND RETURN

- INLET AS REQUIRED; (ONE FOOT LONG FOR SCAC COMPUTER ROOM UNITS). IF DUCTWORK IS SOUND-LINED, EXTEND RECTANGULAR SOUND-LINED DUCTWORK TO A POINT NEAR THE OUTLET OR INLET SO THAT THE FLEXIBLE DUCT (5'-0" MAXIMUM LENGTH) CAN BE ATTACHED TO THE OUTLET OR INLET.
- 17.11. TAPERED SPIN-IN FITTING, WITH LOCK-IN QUADRANT AND VOLUME DAMPER, WILL BE PROVIDED FROM BRANCHES TO DIFFUSERS FOR LOW PRESSURE DUCTWORK.
- 17.12. ALL BRANCH DUCT TAKE-OFFS WILL BE EQUIPPED WITH TAPERED FITTINGS.
- 17.13. FIRE DAMPERS AND FIRE DAMPER RATINGS WILL BE PROVIDED PER CODE REQUIREMENTS AND ARCHITECTURAL DRAWINGS. PROVIDE TYPE "B" FIRE DAMPERS FOR LOW PRESSURE DUCTWORK AND TYPE "C" FIRE DAMPERS FOR MEDIUM PRESSURE DUCTWORK. PROVIDE A DUCT ACCESS DOOR FOR EACH FIRE DAMPER.
- 17.14. VOLUME DAMPERS WILL BE PROVIDED FOR AIR BALANCE PURPOSES. PROVIDE MANUAL VOLUME DAMPERS ON ALL LOW PRESSURE SUPPLY AND RETURN AND EXHAUST DUCTWORK BRANCHES AND TO AIR DIFFUSERS, REGISTERS AND GRILLES UNLESS NOTED OTHERWISE. DAMPERS SHALL BE OPPOSED BLADE TYPE UNLESS NOTED OTHERWISE.
- 17.15. VOLUME DAMPERS ABOVE DRYWALL CEILINGS AND OTHER INACCESSIBLE CEILINGS: PROVIDE LEVER, POSITION INDICATOR AND LOCK NUT ENCLOSED IN A DEEP DIE-CAST BOX WITH ADJUSTABLE 2-5/8" DIAMETER COVER. YOUNG REGULATOR SERIES 315 OR VENTLOCK SERIES 677 AND/OR PROVIDE CEILING ACCESS PANELS SIZED AS REQUIRED, 12" X 12" MINIMUM SIZE.
- 17.16. VOLUME DAMPERS ABOVE ABOVE ACCESSIBLE CEILINGS PROVIDE WITH LOCKING TYPE WITH LEVEL HANDLE, POSITION INDICATOR AND LOCK NUT. YOUNG REGULATOR SERIES 400 OR VENTLOCK SERIES 600.
- 17.17. PROVIDE AIR TURNING DEVICES AT ALL LOW PRESSURE SUPPLY AIR BRANCH TAKE-OFFS FROM MAINS, AT DIFFUSER TAKE-OFF WHERE DIFFUSER IS LOCATED BELOW MAIN AND WHERE INDICATED. DEVICE SHALL BE COMPLETE WITH WORM GEAR MECHANISM FOR OPERATION OR ADJUSTMENTS THRU THE FACE OF THE DIFFUSER. IF TURNING DEVICE IS LOCATED REMOTELY FROM GRILLE OR DIFFUSER, PROVIDE EXTENSION ROD ON ADJUSTING DEVICE. TUTTLE & BAILEY, "VENTROL NLC".
- 17.18. PROVIDE FACTORY-FABRICATING TURNING VANES IN ALL SQUARE ELBOWS, VANES SHALL BE BARBER-COLMAN "AIRTURNS" OR APPROVED EQUAL.
- 17.19. A DUCTED RETURN AIR SYSTEM WILL BE UTILIZED.
- 17.20. ROOFTOP AC UNIT ADAPTER CURB WILL BE REQUIRED. MECHANICAL CONTRACTOR WILL COORDINATE THE PROPER ADAPTER CURB FOR THE NEW RTU TO BE INSTALLED ON THE EXISTING CURB IN THE FIELD. FURNISH AND INSTALL ALI EQUIPMENT AND COORDINATE BETWEEN MANUFACTURERS MAINTAIN ROOF WARRANTY AND MANUFACTURER EQUIPMENT WARRANTIES. ROOFTOP UNIT WILL BE INSTALLED PLUMB AND LEVEL AND PER MANUFACTURER AND ROOFING COMPANY REQUIREMENTS.
- 17.21. LOW PRESSURE DUCTWORK SHALL BE CONSIDERED AS ALI DUCTWORK NOT DEFINED AS MEDIUM PRESSURE DUCTWORK CONSTRUCTION FOR RETURN AIR AND 1" S.P. DUCT CONSTRUCTION FOR SUPPLY AND EXHAUST DUCTWORK UNLESS OTHERWISE NOTED.
- 17.22. ALL DUCT SYSTEMS WILL BE TESTED FOR PRESSURE AND LEAKAGE. SUBMIT TEST DATA SHEET TO ENGINEER.
- 18. INSULATION AND ACOUSTICAL LINING
- 18.1. FURNISH AND INSTALL INSULATION OR LINING WHERE SHOWN ON PLANS OR SPECIFIED.
- 18.2. DUCT SOUND LINING: (COORDINATE WITH OWNER)
- 18.2.1.LOW PRESSURE SUPPLY DUCTWORK: 1" FLEXIBLE GLASS FIBER TYPE, 1-1/2 LBS, PER CU.FT, DENSITY, SURFACES EXPOSED TO AIRSTREAM SHALL BE COATED TO PREVENT EROSION OF GLASS
- 18.2.2. LOW PRESSURE RETURN DUCTWORK (WITHIN 10 FEET OF FAN/MOTOR): 1" FLEXIBLE GLASS FIBER TYPE, 1-1/2 LBS. PER CU.FT. DENSITY, SURFACES EXPOSED TO AIRSTREAM SHALL BE DATED TO PREVENT EROSION OF GLASS FIBERS.
- 18.2.3. ALL DUCT SIZES NOTED ON DRAWINGS ARE AIRWAY SIZES WITHOUT SOUND LINING INCLUDED. ADJUST SHEET METAL SIZES ACCORDINGLY.
- 18.2.4. DUCT LINER SHALL HAVE A MAXIMUM FLAME—SPREAD INDEX OF 25 AND SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED ACCORDING TO ASTM E 84, AND MEET THE REQUIREMENTS OF NFPA BULLETIN 90-A AND SHALL BE LABELED BY UL.
- 18.3. DUCT INSULATION: (COORDINATE WITH OWNER)
- 18.3.1. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK NOT SOUND-LINED: 1-1/2" FLEXIBLE GLASS FIBER WITH ALL SERVICE VAPOR BARRIER JACKET, 1-1/2 LBS. PER CU.FT. DENSITY.
- 18.3.2.ALL COVERINGS OVER ACCESS PANELS SHALL BE REMOVABLE. MARK KITCHEN HOOD EXHAUST DUCT ACCESS PANELS WITH "ACCESS PANEL, DO NOT OBSTRUCT". METAL CORNER BEADS SHALL BE INSTALLED ON ALL EXPOSED DUCTS LESS THAN EIGHT FEET ABOVE FLOOR.
- 18.3.3.INSULATED FLEXIBLE DUCT: UL 181, CLASS 1, 2-PLY VINYL FILM, BLACK POLYMER FILM, MULTIPLE LAYERS OF ALUMINUM LAMINATE, OR ALUMINUM LAMINATE AND POLYESTER FILM WITH LATEX ADHESIVE, SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE; FIBROUS-GLASS INSULATION; POLYETHYLENE OR ALUMINIZED VAPOR BARRIER FILM. ALL SUPPLY AND RETURN AIR DUCTWORK CONNECTIONS TO EACH AIR SUPPLY OUTLET AND RETURN INLET: 5' LENGTH MAXIMUM LENGTH.
- 19. MECHANICAL IDENTIFICATION:
- 19.1. GENERAL: PROVIDE MECHANICAL IDENTIFICATION FOR MECHANICAL EQUIPMENT PIPING AND DUCT SYSTEMS. COMPLY WITH ANSI A13.1 FOR LETTERING SIZE, LENGTH OF COLOR FIELD, COLORS AND VIEWING ANGLES OF IDENTIFICATION DEVICES.
- 19.2. EQUIPMENT: PROVIDE EQUIPMENT SYSTEM NUMBER, CAPACITY,

- FLOW RATE. STATIC PRESSURE. PUMP HEAD. HORSEPOWER. VOLTAGE. PROVIDE "SETON MODEL VENTMARK MARKERS".
- 19.1. DUCT SYSTEMS: PROVIDE SYSTEM DESIGNATION NAME AND DIRECTION OF PROVIDE "SETON MODEL VENTMARK" MARKERS.
- 19.0.1.HVAC DRAIN PIPING: SCHEDULE 40 PVC PLASTIC FOR OUTDOOR DRAINS. INSTALL A TRAP IN THE DRAIN PIPE. PROVIDE A CONCRETE SPLASH BLOCK FOR DRAIN TERMINATIONS FOR ROOFTOP HVAC UNITS UNLESS OTHERWISE NOTED.
- 19.0.1.GAS PIPING: SCHEDULE 40 STEEL PIPE. PROVIDE VENTED ENCLOSURES FOR RISERS AND HORIZONTAL RUNS (IN PLENUM CEILINGS, ETC.). FOR PIPE SIZES 2" AND SMALLER, PROVIDE ALL WELDED PIPING AND/OR SCREWED PIPING AS REQUIRED BY APPLICABLE BUILDING GROUND ALL GAS PIPING. INSTALL DRIP LEGS IN GAS PIPING BEFORE EACH CONNECTION TO EQUIPMENT. INSTALL VENT PIPING FROM PRV VALVES, IF REQUIRED, TO THE OUTDOORS WITH WEATHERPROOF AND INSECT-PROOF OUTDOOR TERMINATION
- 20. NOISE AND VIBRATION CONTROL:
- 20.1. IT IS RECOMMENDED THAT FINAL REQUIREMENTS ARE AS FOLLOWS:
- 20.1.1.LOBBY, TOILETS, CORRIDORS, NC 40
- 20.1.2. SPACE ADJACENT TO FAN ROOMS, NC 45

POWERED MIXING UNITS, EQUIPMENT, ETC.

20.1.3. OFFICES, CONFERENCE ROOMS, ETC., NC 35 20.2. ACOUSTICAL AND VIBRATION TREATMENT WILL BE PROVIDED. AS REQUIRED. TO MAINTAIN SPACE NOISE CRITERIA SPECIFIED.

INCLUDING VVT BOXES, VAV BOXES, FAN POWERED BOXES, FAN

- 20.3. VIBRATION ISOLATION HANGERS WILL BE PROVIDED WITHIN 50 FEET OF ALL PUMPS AND REFRIGERATION MACHINES AND OTHER ROTATING EQUIPMENT.
- 20.4. ACOUSTICAL TREATMENT WILL BE PROVIDED FOR ALL EQUIPMENT AS REQUIRED TO MEET CODE OR THE SYSTEM DESIGN.
- 20.5. VIBRATION ISOLATORS AND FLEXIBLE CONNECTIONS WILL BE PROVIDED AS REQUIRED FOR FANS, REFRIGERATION COMPRESSORS, EMERGENCY GENERATORS, CONDENSERS, PUMPS, AIR-HANDLING UNITS, AIR-COOLED CHILLERS, AIR COMPRESSORS, ETC. PROVIDE AND INSTALL SPRING AND/OR NEOPRENE VIBRATION ISOLATORS TO ATTAIN 97% EFFICIENCY FOR EQUIPMENT LOCATED ON THE LONGEST STRUCTURAL SPAN OF THE BUILDING.
- 20.6. NEOPRENE CONNECTORS SHALL BE 150 LB. FLEXIBLE NEOPRENE AND NYLON TWIN SPHERE CONNECTORS WITH GALVANIZED FLOATING FLANGES FOR PIPES 1-1/2" AND LARGER AND SCREWED GALVANIZED FEMALE UNION CONNECTORS FOR PIPES 2" AND SMALLER. PROVIDE CONTROL RODS AND/OR CABLES AS RECOMMENDED BY MANUFACTURER. PROVIDE CONNECTORS IN WATER PUMP SUCTION AND ISCHARGE PIPING AND WHERE OTHERWISE INDICATED AND/OR REQUIRED.
- 21. CLEAN UP:
- UNLESS NOTED OTHERWISE. PROVIDE 2" S.P. DUCT 21.1. UPON COMPLETION OF THE INSTALLATION OF VENTILATION DUCTS, CLEAN ENTIRE SYSTEM OF RUBBISH, PLASTER, DIRT, ETC., BEFORE INSTALLING GRILLES OR DIFFUSERS.
 - 21.2. AFTER COMPLETION OF ALL REQUIRED WORK, THE CONTRACTOR SHALL OPERATE AND MAKE ANY REQUIRED ADJUSTMENT TO EQUIPMENT, DUCTWORK, ETC., AS MAY BE NECESSARY TO PUT THE SYSTEMS IN PROPER OPERATING CONDITION. AFTER ALL ADJUSTMENTS HAVE BEEN COMPLETED THE CONTRACTOR SHALL BALANCE EACH AIR SUPPLY OUTLET +10% OF THE AIR QUANTITY INDICATED ON THE PLANS. THE FINAL TEST RESULTS SHALL BE TABULATED AND CERTIFIED PDF COPY SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.
 - 22. TEMPERATURE CONTROL:
 - 22.1. TEMPERATURE CONTROL WILL BE ELECTRIC.
 - 22.1.1.MANUFACTURER: CARRIER 7DAY PROGRAMMABLE 2018 IECC COMPLIANT WITH BATTERY BACK-UP AND EPROM MEMORY. INSTALL REMOTE TEMPERATURE SENSORS AND WIRE BACK TO MAIN THERMOSTAT - ONE REMOTE SPACE TEMP SENSOR PER RTU. NEW RTU SHALL BE ORDERED WITH CO2 SENSOR FOR DEMAND CONTROL VENTILATION. OA SHALL MODULATE BASED ON CO2 LEVEL IN THE SPACE. DURING UNOCCUPIED MODE OA DAMPER CAN CLOSE.
 - 22.1. PROVIDE ALL INTERFACE CONNECTIONS AND CONTROL DEVICES REQUIRED BETWEEN FACTORY SUPPLIED CONTROLS OF EQUIPMENT AND THE TEMPERATURE CONTROL CONTRACTOR'S CONTROLS AS REQUIRED IN THE CONTRACT DOCUMENTS SO AS TO FURNISH THE OWNER WITH A COMPLETE AND WORKING TEMPERATURE CONTROL SYSTEM.
 - 22.2. TYPICAL EXHAUST FAN SYSTEM: THE MOTORIZED (N.C.) EXHAUST AIR DAMPER SHALL OPEN AND CLOSE WITH FAN OPERATION. FAN OPERATION WILL BE CONTROLLED BY A SWITCH PROVIDED BY DIVISION 16 WORK.
 - 23. FIRE STOPPING:
 - 23.1. CONTRACTOR SHALL BE RESPONSIBLE FOR FIRE STOPPING, FIRE CAULKING AND INSTALLING ALL SYSTEMS, WIRING, DUCTWORK, HVAC EQUIPMENT ETC. TO MAINTAIN FIRE RATING AS SPECIFIED BY ARCHITECT. MATERIAL SHALL STOP AND PREVENT FIRE AND SMOKE FROM PASSING/PENETRATING FIRE BARRIER.
 - 24. INITIAL PRICING, VALUE ENGINEERING, SUBSTITUTIONS, ALTERNATES AND DEDUCTS:
 - 24.1. CONTRACTOR SHALL BID THE DRAWINGS/PROJECT AS A "PLAN AND SPEC" PACKAGE DELIVERING A COST TO THE OWNER FOR ALL WORK INCLUDING FULL INSTALLATION, STARTUP, PROGRAMMING, WIRING, ETC. TO DELIVER A FULLY FUNCTIONAL AND OPERATIONAL SYSTEM.
 - 24.2. CONTRACTOR WITH OWNER'S PERMISSION MAY EXPLORE AND OFFER VALUE ENGINEERING SOLUTIONS, ALTERNATES AND DEDUCTS TO THE OWNER. ALL REQUESTED VALUE ENGINEERING, SUBSTITUTIONS, ALTERNATES, DEDUCTS SHALL BE SUBMITTED IN WRITING TO OWNER, ARCHITECT AND ENGINEER FOR EVALUATION AFTER THE INITIAL BID FOR THE "PLAN AND SPEC" PACKAGE.
 - 24.3.DESIGN ENGINEER SHALL NOT CHANGE THE DESIGN PLANS.

DRAWINGS, SKETCHES, SCHEDULES, SPECIFICATIONS, FQUIPMENT, EQUIPMENT LAYOUT AND DESIGN, ETC. WITHOUT ADEQUATE COMPENSATION BASED ON CURRENT HOURLY ENGINEERING DESIGN RATES. THE CONTRACTOR TAKES ALL RESPONSIBILITY FOR ANY DESIGN CHANGES AND SHALL BE RESPONSIBLE FOR ALL COORDINATION AMONG AND BETWEEN ALL TRADES WHICH ARE EFFECTED OR NEED TO BE RE-ENGINEERED/CHANGED AND OR COORDINATED DUE TO VALUE ENGINEERING CHANGES, SUBSTITUTIONS, ALTERNATES, EQUIPMENT SUBSTITUTIONS, DEDUCTS ETC. AS PROPOSED BY THE CONTRACTOR.

22.NOISE AND VIBRATION CONTROL:

22.1. IT IS RECOMMENDED THAT FINAL REQUIREMENTS ARE AS FOLLOWS:

- 22.1.1. LOBBY, TOILETS, CORRIDORS, NC 40
- SPACE ADJACENT TO FAN ROOMS, NC 45
- OFFICES, CONFERENCE ROOMS, ETC., NC 35
- AND VIBRATION TREATMENT WILL BE PROVIDED, AS REQUIRED, TO MAINTAIN SPACE NOISE CRITERIA SPECIFIED, INCLUDING VVT BOXES, VAV BOXES, FAN POWERED BOXES, FAN POWERED MIXING UNITS, EQUIPMENT, ETC.
- 22.3. VIBRATION ISOLATION HANGERS WILL BE PROVIDED WITHIN O FEET OF ALL PUMPS AND REFRIGERATION MACHINES AND THER ROTATING EQUIPMENT.
- 22.4. ACOUSTICAL TREATMENT WILL BE PROVIDED FOR ALL EQUIPMENT AS REQUIRED TO MEET CODE OR THE SYSTEM
- 22.5. VIBRATION ISOLATORS AND FLEXIBLE CONNECTIONS WILL BE PROVIDED AS REQUIRED FOR FANS, REFRIGERATION COMPRESSORS, EMERGENCY GENERATORS, CONDENSERS, PUMPS, AIR-HANDLING UNITS ETC. PROVIDE AND INSTALL SPRING AND/OR NEOPRENE VIBRATION ISOLATORS TO ATTAIN 97% EFFICIENCY FOR EQUIPMENT LOCATED ON THE LONGEST STRUCTURAL SPAN OF THE BUILDING.
- 22.6. NEOPRENE CONNECTORS SHALL BE 150 LB. FLEXIBLE NEOPRENE AND NYLON TWIN SPHERE CONNECTORS WITH GALVANIZED FLOATING FLANGES FOR PIPES 1-1/2" AND LARGER AND SCREWED GALVANIZED FEMALE UNION CONNECTORS FOR PIPES 2" AND SMALLER. PROVIDE CONTROL RODS AND/OR CABLES AS RECOMMENDED BY MANUFACTURER. PROVIDE CONNECTORS IN WATER PUMP SUCTION AND DISCHARGE PIPING AND WHERE OTHERWISE INDICATED AND/OR REQUIRE.



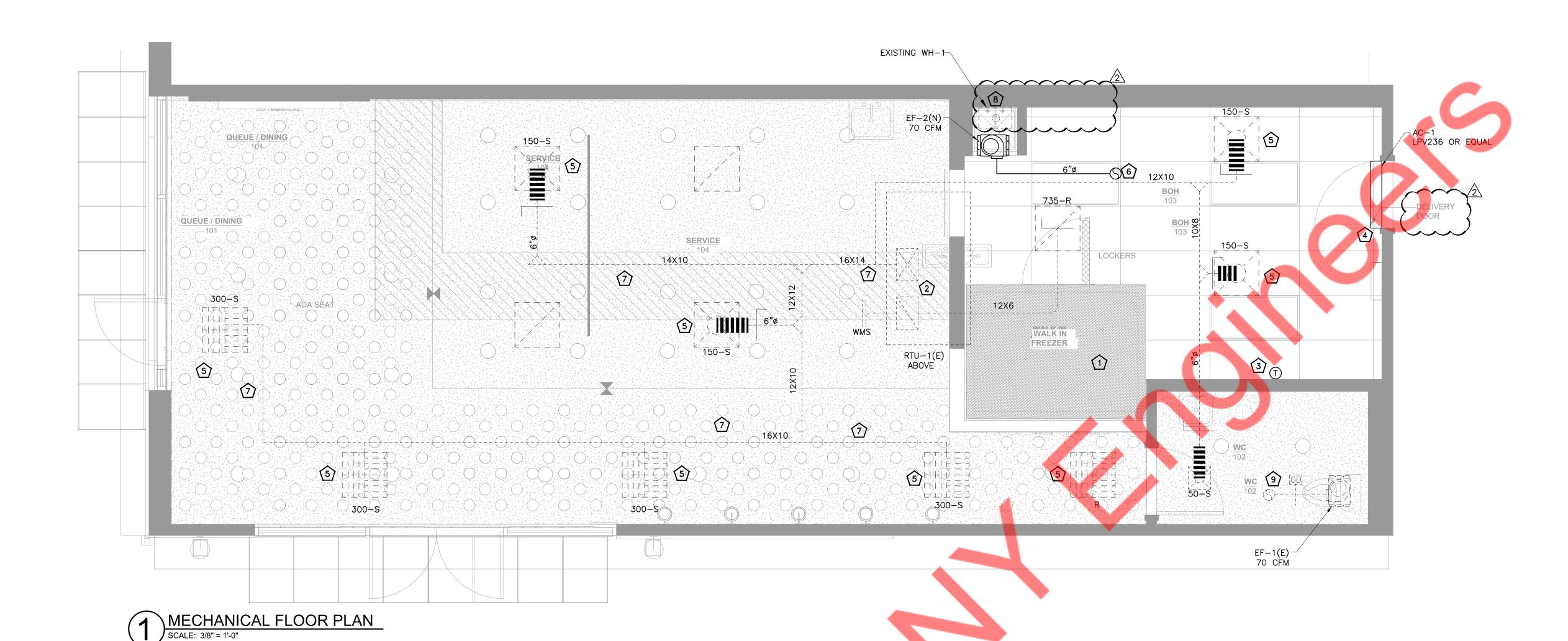
No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/16/2024

MECHANICAL SPECIFICATION

PERMIT SET

As indicated

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LEGENDS: NEW MECHANICAL SYSTEM — — — — — — EXISTING MECHANICAL SYSTEM

MECHANICAL FLOOR PLAN KEY NOTES:

- WALKIN FREEZER/COOLER CONDENSER AND EVAPORATOR UNIT SHALL BE PROVIDED BY OTHERS.
- APPROXIMATE LOCATION OF EXSITING DUCTWORK DROPS FOR RTU. CONTRACTOR TO VERIFY EXACT SIZE AND LOCATION IN FIELD PRIOR TO BID AND START THE WORK.
- EXISTING THERMOSTAT AND TEMPERATURE SENSOR TO BE RE-USED. CONTRACTOR TO VERIFY IN FIELD, REPLACE IN KINDS IF DAMAGED. RELOCATE AS/IF REQUIRED. CONFIRM AND COORDINATE WITH OWNER/ARCHITECT.
- PROVIDE AIR CURTAIN. MOUNT UNIT ON WALL DIRECTLY ABOVE DOOR. COORDINATE THE REQUIREMENT AND THE FINAL LOCATION OF AIR CURTAIN WITH OWNER/ARCHITECT.
- EXISTING AIR TERMINALS TO BE REMAIN AND REUSED. CONTRACTOR SHALL CLEAN AND REFURBISH TO LIKE NEW CONDITION. VERIFY EXACT LOCATION AND SIZE IN FIELD.PROVIDE VOLUME CONTROL DAMPER ON EXISTING AIR TERMINAL IF VOLUME CONTROL DAMPER IS MISSING OR DAMAGED.
- 6 6 MOP SINK EXHAUST DUCT UP THROUGH ROOF. TERMINATE ON ROOF WITH MUSHROOM CAP AIRRELIEF VENT WITH INSECT SCREEN.
- RE-USE THE EXISTING DUCTWORK WHEREVER POSSIBLE. CONTRACTOR SHALL CLEAN AND REFURBISH THE EXISTING DUCT TO "LIKE" NEW CONDITION. VERIFY THE EXACT LOCATION AND SIZE IN FIELD PRIOR TO BID. CONTRACTOR TO ENSURE MAIN DUCT INSULATED AND AIR TIGHT PER CODE. CONTRACTOR SHALL BALANCE CFM'S INDICATED ON THE PLAN TO ACHIEVE FULL PERFORMANCE AND FUNCTION OF THE EXISTING MECHANICAL SYSTEM.
- 8 EXISTING WATER HEATER AND ITS VENT TO REMAIN. VERIFY THE EXACT LOCATION INFIELD AND REPAIR IT IF ANY DAMAGE IS FOUND.
- EXISTING TOILET EXHAUST FAN ALONG WITH ITS ACCESSORIES AND VENT TO REMAIN. THE CONTRACTOR TO VERIFY THE FAN'S WORKING CONDITION AND REPLACE IT IF NECESSARY. NECESSARY.

GENERAL FLOOR PLAN NOTES:

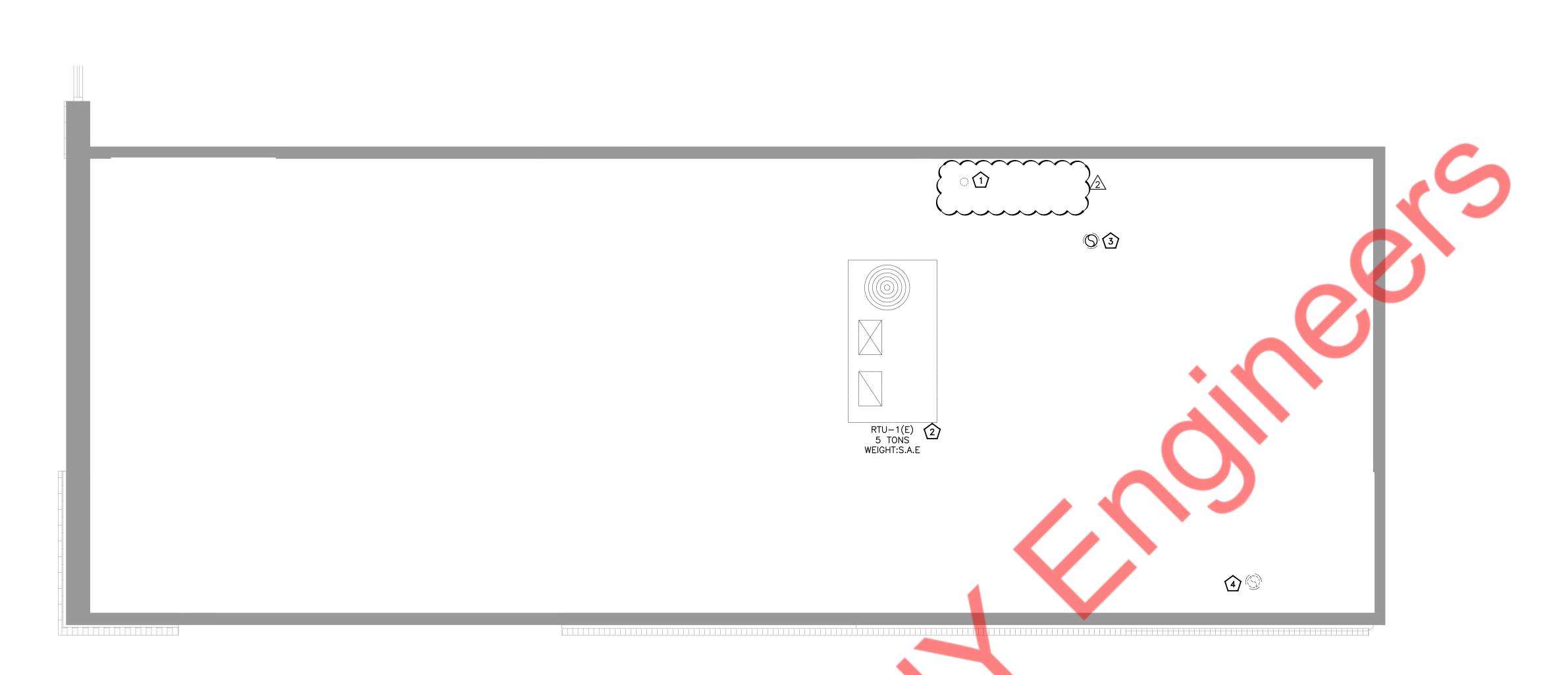
- ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
- 2. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS.
- 3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
- 4. THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
- 5. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THE MECHANICAL DRAWINGS UNLESS OTHERWISE NOTED. ALL EQUIPMENT SHALL BE UL LISTED. VERIFY LOCATION AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND / OR INSTALLATION.
- 6. DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.
- 7. ALL METAL DUCT AND AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH R-8, 75 DENSITY FOIL-BACKED INSULATION WITH FIRE AND SMOKE RATING 25-50.
- 8. ALL DUCTWORK SHALL BE FABRICATED, INSTALLED, SEALED, AND INSULATED PER THE LATEST ISSUE OF SMACNA LOW-VELOCITY DUCT MANUAL.
- 9. THE CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
- 10. ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
- 11. PROVIDE VOLUME DAMPER AT EACH SUPPLY, RETURN AND EXHAUST DUCTWORK BRANCH.
- 12. PROVIDE CORD-OPERATED DAMPERS IN INACCESSIBLE CEILINGS.



No.	Description	Date
	PERMIT SET	05/17/2
\triangle	REVISED PERMIT SET	08/21/2
$\sqrt{2}$	REVISED PERMIT SET	09/18/2

MECHANICAL FLOOR PLAN

PERMIT SET





LEGENDS:	
EXISTING MECHANICAL SYSTEM	

MECHANICAL ROOF PLAN KEY NOTES:

- EXISTING WATER HEATER VENT TO REMAIN. VERIFY EXACT LOCATION IN FIELD AND REPAIR IT IF ANY DAMAGE IS FOUND.
- EXISTING MECHANICAL RTU TO REMAIN. CONTRACTOR MUST VERIFY MAKE & MODEL, TONNAGE, SIZE OF SYSTEM, AGE, CONDITION, AND LOCATION OF EXISTING HVAC SYSTEM. CONTRACTOR SHALL CLEAN AND REFURBISH TO "LIKE-NEW" CONDITION. REPAIR/REPLACE ANY ACCESSORIES AS REQUIRED TO PROVIDE A FULLY FUNCTIONING UNIT. VERIFY IN FIELD PRIOR TO BID. BALANCE UNIT CFM TO THE MAXIMUM PER MANUFACTURER'S RECOMMENDATION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO BID AND START OF WORK.
- MOP SINK EXHAUST DUCT TERMINATE ON ROOF WITH MUSHROOM CAP AIR RELIEF VENT WITH INSECT SCREEN. EXHAUST SHALL TERMINATE 3 FEET FROM THE PROPERTY LINE, 3 FEET FROM THE EXTERIOR WALL AND ROOFS, 3 FEET FROM THE OPERABLE OPENING INTO THE BUILDING AND 10 FEET FROM THE OUTSIDE AIR INTAKE OPENINGS.
- EXISTING TOILET EXHAUST TO REMAIN. VERIFY EXACT LOCATION IN FIELD AND REPAIR IT IF ANY DAMAGE IS FOUND.

MECHANICAL GENERAL NOTES:

- 1. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- 2. CONTRACTOR SHALL COORDINATE EQUIPMENT WEIGHTS AND SUPPORTS BASED ON ACTUAL EQUIPMENT SELECTED.
- 3. ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.

IMPORTANT NOTE:

PROVIDE COPY OF TEST AND BALANCE REPORT TO MECHANICAL INSPECTOR AT TIME OF HAVING FINAL INSPECTION.

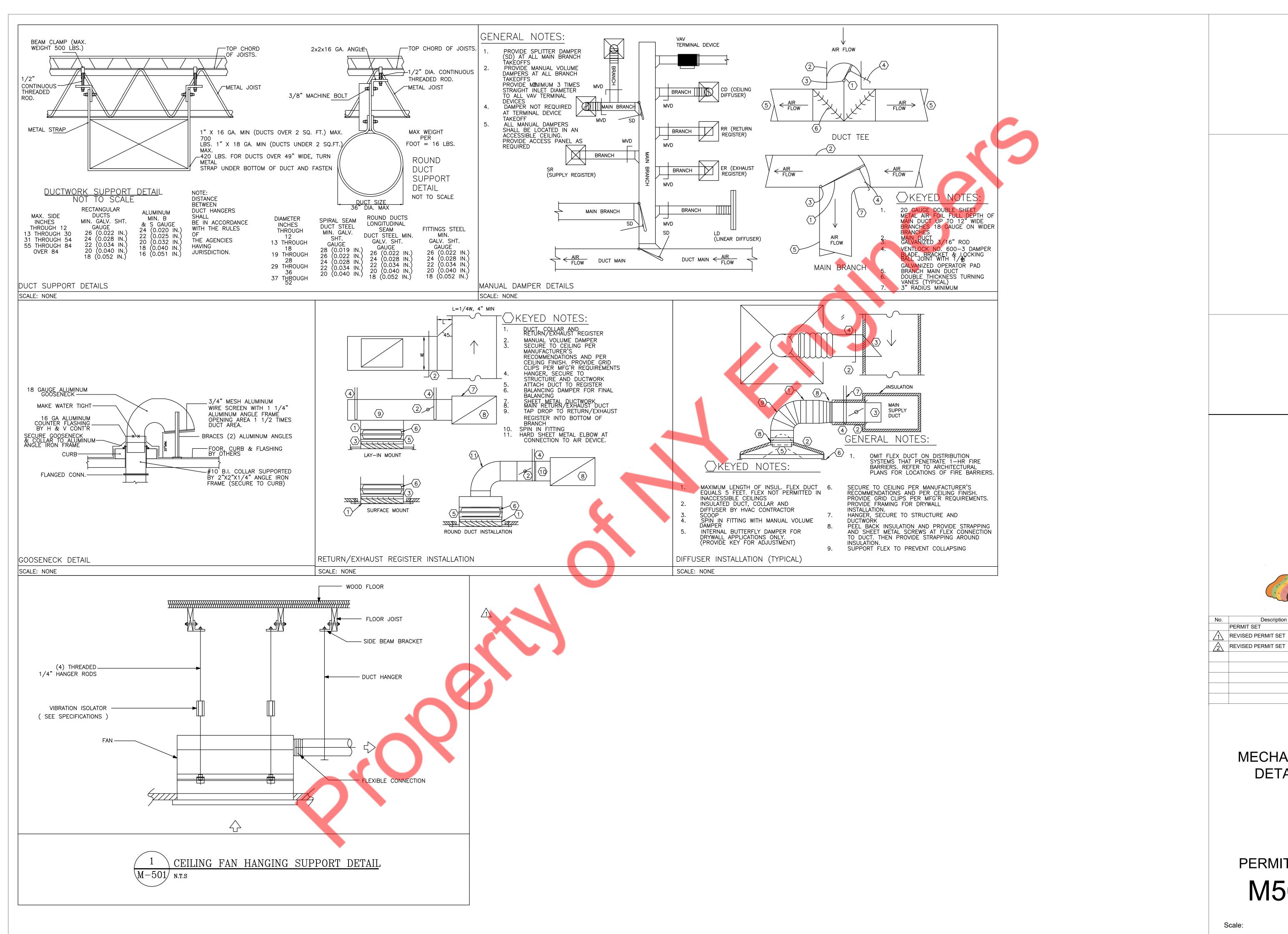


No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/16/2024

MECHANICAL ROOF PLAN

PERMIT SET

Scale:



As indicated

PERMIT SET

M501

Description

MECHANICAL

DETAILS

05/17/2024

08/21/2024

09/16/2024

PERMIT SET

	HEAT PUMP ROOF TOP UNIT SCHEDULE (EXISTING)																			
UNIT ID MANUFACTURER		AREA	NOMINAL	TOTAL	SENSIBLE			HEATING	SUPPLY	OUTDOOR	ESP IN.	ELECTRICAL					OPERATING			
	MANUFACTURER	MODEL	SERVED	1		COOLING MBH	EER	SEER	MBH (OUT)	СОР	AIR (CFM)		W.C.	VOLTS	PHASE	HZ	MCA(A)	MOCP(A)	WEIGHT (LBS)	REMARKS
RTU-1(E)	YORK	XP060C00N2CAA4	SEE PLAN	5	S.A.E.	S.A.E.	S.A.E.	S.A.E.	S.A.E.	S.A.E.	1850 (V.I.F)	355	S.A.E.	208/230 (V.I.F)	3 (V.I.F)	60 (V.I.F)	27 (V.I.F)	35 (V.I.F)	S.A.E.	1-7

NOTES / ACCESSORIES -

1. S.A.E- SAME AS EXISTING, V.I.F (VERIFY IN FIELD)

2. EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.

3. CONTRACTOR TO CONFIRM IF EXISTING RTU IS WORKING AT ITS 100% RATED CAPACITY. REPAIR AS NEEDED.

4. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF RTU ON SITE.

5. CONTRACTOR TO REBALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTU TO MATCH VALUES MENTIONED IN ABOVE TABLE.

6. REPLACE WITH NEW FILTERS. 7. REMOTE SENSORS SHALL BE PROVIDED IN RETURN AIR DUCT AND WIRED BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.

	FAN SCHEDULE													
UNITID	MANUFACTURER	MODEL	СҒМ	ТҮРЕ	DRIVE	FAN RPM	WEIGHT (LBS)	E.S.P. (IN. W.G.)	FLA	VOLTS	PHASE	SERVICE	INTERLOCKED WITH	NOTES / ACCESSORIES
EF-1 (E)	GREENHECK	SAE	SAE	SAE	SAE	SAE	SAE	SAE	SAE	SAE	SAE	SAE	SAE	5
EF-2 (N)	GREENHECK	SP-B110ES	70	ROOF	DIRECT	650	18	0.5	0.27	115	1	MOP SINK	RTU-1(E)	1-4

NOTES / ACCESSORIES:

1. THERMAL OVERLOAD PROTECTION

2. VIBRATION ISOLATORS, CANVAS CONNECTION

3. GRAVITY BACKDRAFT DAMPER

4. AMCA SEAL & UL CERTIFIED

5. SAE - SAME AS EXISTING

	VENTILATION CALCULATION AS PER CALIFORNIA ENERGY CODE 2022 - TABLE 120.1-A & B												
			OUTDOOR AIR FLOW RATE	1									
ROOM NO.	ROOM NAME	AREA (SQ.FT.)	CFM/SQ.FT	OA (CFM)	PROVIDED OA (CFM)	(CFM/SQ.FT. OR CFM/FIXTURE)	REQUIRED EXHAUST AIR (CFM)	PROVIDED EXHAUST AIR (CFM)					
101	QUEUE / DINING	403	0.5	205	220	0	0	0					
104	SERVICE	293	0.25	75	85	0	0	0					
102	RESTROOM-1	56	0	0	0	0	70	70					
103	вон	243	0.15	40	50	0	70	70					
	TOTAL	995		320	355			140					

	AIR CURTAIN SCHEDULE											
TAG	TAG MANUFACTURER	MODEL	QTY	AIR FLOW	LOW ELECTRIC DATA MO				MOTOR	ANADO	FINICII	NOTES
IAG		MODEL		CFM	VOLT	PHASE	HZ	QTY	HP	AMPS	FINISH	NOTES
AC-1	MARS	LPV236-1UD-OB	1	900	208-230	1	60	1	1/6	1.2	OBSIDISN BLACK	1,2,3,4
NOTES:-	NOTES:-											
1. PROVIDE	. PROVIDE DISCONNECT SWITCH.											

2. PROVIDE MICRO-SWITCH.

3. PROVIDE WITH FILTER.

4. PROVIDE MOUNTING HARDWARE REQUIRED BY MANUFACTURER FOR COMPLETE INSTALLATION.

		AIR BA	LANCE		
UNIT	AREA SERVED	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-1(E)	SEE PLAN	1850 CFM	355 CFM	1495 CFM	-
EF-1(E)	SEE PLAN	-	-	ı	70 CFM
EF-2(N)	SEE PLAN	-	-	1	70 CFM
	TOTAL:	1850 CFM	355 CFM	1495 CFM	140 CFM
	BUILDING PRESSURE:			215 CFM	POSITIVE



No.	Description	Date
	PERMIT SET	05/17/2024
1	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/16/2024

MECHANICAL SCHEDULES

PERMIT SET M601

STATE OF CALIFORNIA **Mechanical Systems** CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations. **Project Name:** RAINBOW CONE, CYPRESS Report Page: (Page 1 of 11) **Project Address:** 9575 Valley View Street, Cypress, CA 2024-08-05T04:40:30-04:00 Date Prepared:

A. GENERAL INFORMATION 01 Project Location (city) 04 Total Conditioned Floor Area CYPRESS 1030 05 Total Unconditioned Floor Area 02 Climate Zone 03 Occupancy Types Within Project: 06 # of Stories (Habitable Above Grade) 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	02		03		
	Air System(s)	Wet System Components	Dry System Components			
\square	Heating Air System	Water Economizer	\boxtimes	Air Economizer		
\square	Cooling Air System	Pumps		Electric Resistance Heat		
	Mechanical Controls	System Piping	\boxtimes	Fan Systems		
\boxtimes	Mechanical Controls (existing to remain, altered or new)	Cooling Towers	\boxtimes	Ductwork (existing to remain, altered or new)		
		Chillers	\boxtimes	Ventilation		
		Boilers		Zonal Systems/ Terminal Boxes		

Generated Date/Time: Documentation Software: Energy Code Ace CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 194435-0824-0007

Schema Version: rev 20220101

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: RAINBOW CONE, CYPRESS (Page 3 of 11) Report Page: Date Prepared: 2024-08-05T04:40:30-04:00

F. HVAC SYSTEM	M SUMMARY (DRY & WET	SYSTEMS)								
Dry System Equi	pment Sizing (includes air co	nditioners, condensers, heat pumps, VR	F, furnaces and u	nit heaters	and DOAS s	ystems)				
01	02	03	04	05	06	07	08	09	10	11
			Smallest Size	Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
	Equipment Category per			Hea	ating Outpu	t ^{2,3}	Cooling (Output ^{2,3}	Load Calc	ulations ^{3,4}
Name or Item Tag	Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Available ¹ 140.4(a) and 170.2(c)1	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(E)	Unitary Heat Pumps (no elec. resistance)	Air-cooled, pkg (3 phase)	Yes	47	56.5	0	40.9	5 7.5	56.5	60.1

¹FOOTNOTES: 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(a) and 170.2(c)1. Healthcare facilities are excepted.

²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tab<mark>les</mark>.

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 Equipr	Ory 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					
			Heati	ng Mode	Cooling Mode								
Name or Item Tag	Size Category (Btu/h)	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(E)	<65,000		HSPF	8	8	SEER	14	14					

Generated Date/Time:

G. PUMPS

This section does not apply to this project.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101

Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33

Documentation Software: Energy Code Ace

Report Generated: 2024-08-05 01:40:33

STATE OF CALIFORNIA **Mechanical Systems** CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E **Project Name:** RAINBOW CONE, CYPRESS Report Page: (Page 2 of 11) Date Prepared: 2024-08-05T04:40:30-04:00

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 09 System Fans/ System Summary AND | Economizers | Pumps Controls AND | Cooling Towers 110.1, AND | Ventilation | AND | 120.3, Controls AND 110.2, 120.2, 140.4(k), 140.4(c), 140.4(d 110.2, 120.1, 160.2 110.2(e)2 Compliance Results 170.2(c)4I 140.4(e), 140.4(f), 140.4, 170.2(c) 170.2(c) 170.2(c) (See Table F (See Table G) (See Table H) (See Table I) (See Table J) (See Table K) (See Table M) (See Table L) COMPLIES with Yes AND | 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.

Transfer air is being used in at least one zone to meet minimum ventilation requirements. See Table J for details. Transfer air must be designed per §120.1(g) for air classification and recirculation limitations and be documented within construction documents.

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	02		02 03 04		05	06						
System Name		Quantity		System Serving	System Status	Space Type	Utilizing Recovered Heat					
RTU-1(E)		1		Single zone	Alteration							

Generated Date/Time:

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220101

Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33

Documentation Software: Energy Code Ace

STATE OF CALIFORNIA Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: RAINBOW CONE, CYPRESS	Report Page:	(Page 4 of 11)
	Date Prepared:	2024-08-05T04:40:30-04:00

			_	iance with pres Juirements and			-		40.4(e), 140).4(m), 170.2	?(c)3, and 17	70.2(c)4A for j	fan systems.	Fan systems se	rving only
System Name	RTU-1(E)	Quantit y	1	Fan System Status	Alteration	•	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,850	Site Elevation	35	Economizer	Fixed Temperatui e
01	02	03		04		O)5	06	07	08		09		10	11
Fan								Allow	vance			Design			
Name or Item Tag	Fan Type	Qty		Component			through nent (%)	(w.g)	nt nt	Fan Allowance (watt/cfm)	Design E	gn Electrical Input Power Method		Motor Nameplate Horsepower	Fan Electrical Input Power (kW
Evapora tive Fan	Supply	1	Hydroni	ic/DX cooling c pump coil	oil or heat	10	00		0.13	0.139	Manı	Manufacturer provided			0.5
Allo	Fan Base wance tt/cfm)		Ext	nuast/Return/F Allowar	Relief/Transf nce(watt/cfr		ase			ystem ce (kW) ³			Fan System Electrical Input Power (kW)		0.5

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

⁶ Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)40 02 03 04 05 06 07 08 09 10 11

Generated Date/Time:	Documentation Software: Energy Code Ace

Schema Version: rev 20220101

Generated Date/Time: Report Version: 2022.0.000 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33



No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
$\sqrt{2}$	REVISED PERMIT SET	09/16/2024

TITLE 24 (1 OF 3)

PERMIT SET

H. EXHAUST A	EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)40											
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)40	140.4(q) &	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass		
RTU-1(E)			1,850	355	0.19	NA: CZ 15 exempt from heating						

KIO-I(E)			1,850	555	0.19	heating recovery ratio			
Fan Energy Ind	dex (FEI)								
01					02		03		
Name or Item Tag					FEI Exception			FEI	
RTU-1(E)				Embedded Fan	Regulated under	r 110.2 or 110.1			

. SYSTEM CONTROLS									
This table is used to dem 141.0(b)2E 180.2(b)2 for		•	•	110.2 and 12	0.2 and pres	criptive controls in 140.4	(f) and (n), 1	70.2(c)4D 170.2(c)4L or ı	requirements in
01	02	03	04	05	06	07	08	09	10
System Name	System Zoning	Conditione d Floor Area Being Served (ft²)	I hermostats		וווווווווווווווווווווווווווווווווווווו	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(E)	Single zone	<= 25,000 ft ²	Setback	Occ. Sensor	NA: Single Zone	NA: PTAC, PTHP, Rm AC, HP	NA: Single Zone	NA: Alteration Project	NA: Single Zone

¹FOOTNOTES: 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.

	Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33

A VENTILATION AND INDOOR AIR QUALITY Date Prepared: 2024-084	ENERGY COMMISSIO	CALIFORNIA ENER			stems	Mechanical
Date Prepared: 2024-08-1 Date Prepared: Date Prepared: 2024-08-1 Date Prepared: Date Prepared: 2024-08-1 Date Prepared: Date Prepared: Date Prepared: 2024-08-1 Date Prepared: Date Prepared: 2024-08-1 Date Prepared: Date Prepa	NRCC-MCH				PLIANCE	CERTIFICATE OF C
J. VENTILATION AND INDOOR AIR QUALITY 5 For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code. 5 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ve Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, respond open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c). 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 requires the conditioned space shall his installed with a cover outside the conditioned space shall his project.	(Page 7 of 1			/PRESS	NBOW CONE, (Project Name:
For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code. 5 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ve Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, researed open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c). 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 required weather shall be installed with a cove outside the conditioned space shall his outside the conditioned space shall his project.	4 00 03104.40.30 04.0	2024 00	Date Frepared.			
Examples of spaces which require lighting occupancy sensors include offices 250ft ² or smaller, multipurpose rooms less than 1,000 ft ² , classrooms, conference rooms, research open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c). 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 requires and the conditioned space shall he outside the condition that the conditioned space shall he outside the condition that						
Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, research open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c). 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 requestable is used to show compliance with mandatory pipe insulation requestable in the conditioned space shall his outside the conditioned space shall his project.		ia Building Code.	determined in accordance with the California B	g, the expected number of occupants shall be	th fixed seatir	For lecture halls
This section does not apply to this project. L. DISTRIBUTION (DUCTWORK and PIPING) This table is used to show compliance with mandatory pipe insulation requal location shall be protected from dar weather shall be installed with a cove outside the conditioned space shall his project.	s, restrooms, aisles				arehouses, lib	and open areas i
L. DISTRIBUTION (DUCTWORK and PIPING) This table is used to show compliance with mandatory pipe insulation requipments of the protected from dark weather shall be installed with a coverage outside the conditioned space shall his protected from the protected f						
This table is used to show compliance with mandatory pipe insulation requested from dare weather shall be installed with a cove outside the conditioned space shall have been been been been been been been be				огојест.	τ apply to this	inis section does
This table is used to show compliance with mandatory pipe insulation requipments of the condition of the con				and PIPING)	DUCTWORK	L. DISTRIBUTIO
Insulation shall be protected from dar weather shall be installed with a cove outside the conditioned space shall he Duct Leakage Testing						
Duct Leakage Testing	l to ocated			Insulation shall be protected from dar weather shall be installed with a cove		
The answers to the questions below apply to the following duct systems.				wannly to the following dust systems:		
				wappiy to the following duct systems.	questions bei	The answers to t
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Version: 2022.0.000 Compliance ID: 19	ware: Energy Code Aco			do 2022 Normanida estial Carrelli	finian - C	CA Publisher 5

STATE OF CALIFORNIA Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: RAINBOW CONE, CYPRESS	Report Page:	(Page 6 of 11)
	Date Prepared:	2024-08-05T04:40:30-04:00

. VENTILATIO	ON AND IND	OOR AIR QUALITY								
d:t24refnolink/	/]160.2, 160.3 ed to be docu	3(a)3D, 170.2(a)4N, 170.2	2(a)40 for high	n-rise resident	ial occupan	cies. For al	terations, c	(p) and 140.4(q) for all no only ventilation systems b irflows may be shown on	eing alter <mark>ed</mark> within the s	scope of the permit
01		Check the box if the pro	ject is showin	g ventilation	calculations	on the pla	ns, or attac	ching the calculations inst	ead of completing this t	table.
02	×	Check this box if the pro	oject included	Nonresidenti	al, Hotel/M	otel Spaces	or Multifa	mily Common Use Space	5	
UZ										
03		Check the box if the pro	oject is using n	atural ventila	tion in any r	nonresiden	tial or hote	l/motel spaces to meet re	equired ventilation rate	s per 120.1(c)2.
Nonresidentia	and Hotel/	Motel Multifamily Comn	non Use Venti	lation System	s					
	04		05					06	07	
System Name	m Name RTU-1(E)		System Design OA CFM		stem Design OA CFM Airflow ¹ 355		System Design Transfer Air CFM		Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²	
			Airilow		Hansiel All Clivi		NA: Not system type specified in footnote			
08		09	10	11	12	13	14	15	1	6
Casa Nama		Mechanical Ventilation Required per 120.1(c)3 ³ & 160.2(c)3 Exh. Vent per 120.1(c)4 & 160.2(c)4 DCV or Sensor Controls per				trols per 120.1(d)3,				
Space Name or Item Tag	Oc	Occupancy Type ⁴ Conditioned # of Shower # of Min OA CFM Conditioned # of Shower # of People ⁵ Required Min OA CFM		Provided per Design CFM	120.1(d)5, and 120.1(e)3 ⁶ 160.2(c)5D 160.2(c)5E 160.2(c)5D					
1	Kit	chen (cooking)	626			93.9	438.2	1750	DCV	NA: Not required p §120.1(d)3
									Occ Sensor	NA: Alteration
17	Total System	Required Min OA CFM				93.9	18	Ventilation for this S	System Complies?	Yes

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

⁴ See Standards Tables 120.1-A and 120.1-B.

	Generated Date/Time:	Documentation Software: Energy Code Ace	
A Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33	

STATE OF CALIFORNIA Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: RAINBOW CONE, CYPRESS	Report Page:	(Page 8 of 11)
	Date Prepared:	2024-08-05T04:40:30-04:00

			NTS - DUCTWORK	Dwelling Units: Total duct leakage of duct system shall not exceed 15% or duct system to outside shall not exceed 10% per RA3.1.4 required for systems?				
			DOCT WORK	Duct leakage testing per CMC Section 603.9.2 required for these systems?	No			
11	No	The scope of the project includes only	The scope of the project includes only duct systems serving healthcare facilities					
12	Yes	Duct system provides conditioned air to	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 <u>combined</u> 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	Yes	All ductwork is an extension of an existing duct system						
19	No	Ductwork serving individual dwelling unit						
20	No	< 25 ft of new or replacement space conditioning ducts installed						
21	R-8	Duct Insulation R-value						
22	Yes	Ductwork Existing To Remain						
23	No	Duct System Connected To Altered Space Conditioning System						

This section does not apply to this project.					
M. COOLING TOWERS					
23	No	Duct System Connected To Altered Space Conditioning System			
22	163	Ductwork Existing to Nemain			

	Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33



No.	Description	Date
	PERMIT SET	05/17/20
Λ	REVISED PERMIT SET	08/21/20
/2\	REVISED PERMIT SET	09/16/20
_		

TITLE 24 (2 OF 3)

PERMIT SET M702

Scale:

² Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

STATE OF CALIFORNIA		
Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: RAINBOW CONE, CYPRESS	Report Page:	(Page 9 of 11)
	Date Prepared:	2024-08-05T04:40:30-04:00

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 ir 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	Table E Additional Remarks.
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.	RTU-1(E)
NRCA-MCH-05-A - Air Economizer Controls	RTU-1(E)
NRCA-MCH-19-A Occupancy Sensor Controls	RTU-1(E)

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION	
There are no NRCV forms required for this project.	

	Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000	Compliance ID: 194435-0824-0007
	Schema Version: rev 20220101	Report Generated: 2024-08-05 01:40:33

STATE OF CALIFORNIA		
Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: RAINBOW CONE, CYPRESS	Report Page:	(Page 11 of 11)
Project Address:	Date Prepared:	2024-08-05T04:40:30-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documer	ntation Author Name:	Documentation Author Signature:	
Jocumen			
Company: NY Engineers		Signature Date: 08-05-2024	
Address:	382 NE, 191ST STREET, SUITE 49674,	CEA/ HERS Certification Identification (if applicable):	
City/State	e/Zip: MIAMI / FL / 33179	Phone:	
certify t 1. 2. 3. 4.	The energy features and performance specifications, materials, compo of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on thi plans and specifications submitted to the enforcement agency for appr I will ensure that a completed signed copy of this Certificate of Complians pections. I understand that a completed signed copy of this Certificate	rrect. ept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) nts, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirent of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calcular and with this building permit application. The shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all apply of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.	tions,
Responsi	ble Designer Name	Responsible Designer Signature	
Company	NY Engineers	Date Signed: 08-05-2024	
Address:	382 NE, 191ST STREET, SUITE 49674,	License: M33750	·
	e/Zip: MIAMI / FL / 33179	Phone:	

	Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33

STATE OF CALIFORNIA **Mechanical Systems** CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: RAINBOW CONE, CYPRESS (Page 10 of 11) Report Page: Date Prepared: 2024-08-05T04:40:30-04:00

Q. MANDATORY MEASURES DOCUMENTATION LOCATION		
This table is used to indicate where mandatory measures are documented in the	e plan set or construction documentation.	
01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Plan sheet or construction document location	
03		04
Mandatory Measure		Plan sheet or construction document location
Heating Equipment Efficiency per 110.1		REFER TO MECHANICAL SCHEDULES ON SHEET M601
Cooling Equipment Efficiency per 110.1		REFER TO MECHANICAL SCHEDULES ON SHEET M601
Furnace Standby Loss Control per 110.2(d)		N/A
Duct Insulation per 120.4	REFER TO #B UNDER INSULATION - GENERAL REQUIREMENTS ON SHEET M001	
Heat Pump with Supplemental electric Resistance Heater Controls per 110.2(b)	REFER TO EQUIMENT SCHEDULE ON SHEET M601	
The air duct and plenum system is designed per 120.4(a)-(f)		REFER TO #B UNDER INSULATION - GENERAL REQUIREMENTS ON SHEET M001
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of	ASHRAE 62.2	REFER TO HOOD DATA FROM SHEETS M502-M504

Generated Date/Time: CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220101 Documentation Software: Energy Code Ace Compliance ID: 194435-0824-0007 Report Generated: 2024-08-05 01:40:33



	-	
No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
$\sqrt{2}$	REVISED PERMIT SET	09/16/2024

TITLE 24 (3 OF 3)

PERMIT SET

### ANTION DOTAL THE ST. LEGIS CLEAR ***PARK** FOR CONTROL OF THE		LIGHTING		POWER AND TELECOMMUNICATION		ELECTRICAL A	- 3brevia	TIONS
\$ \$ \$ \$ \$ \$ \$ \$ \$ \$		LICHTING FIXTURE AND OUTLET BOY		JUNCTION BOX	A	AMPERES	EA	EACH
March 1960 19 1960 1		LIGHTING FIXTURE AND OUTLET BOX.	T		A/C, AC	AIR CONDITIONING UNIT	EM	EMERGENCY
## COUNTY OF THE COLORS OF TH		- LLIMINAIRE TYPE : INDICATE RY LIPPERCASE LETTER SEE LIGHTING EXTURE		I STECTIVE WELL IN THE STECTION OF THE STECTIO	AF	AMPERE FRAME/AMP FUSE	EMT	ELECTRICAL METALLIC TUBINO
March 1		SCHEDULE.		DUPLEX GFI RECEPTACLE	AFF	ABOVE FINISHED FLOOR	EQUIP	EQUIPMENT
	+	- CIRCUIT NUMBER : INDICATED BY NUMBER	φ	DUPLEX CONVENIENCE RECEPTACLE, +18" AFF OR AS NOTED.	AS	AMP SWITCH	ER	EXISTING TO BE RELOCATED
Control Con	\dagger	SWITCHING INDICATED BY LOWER CASE LETTERS.		DUPLEX CEILING MOUNTED RECEPTACLE	AIC	AMPS INTERRUPTING CAPACITY	FA	FIRE ALARM
		EMERGENCY WALL PACK LIGHT FIXTURE WITH 90 MINUTES BATTERY BACKUP		DOUBLE DUPLEX RECEPTACLE - 20A-1P, 125V, NEMA 5-20R.	AT	AMP TRIP	E	EXISTING
## SET ILLS AND COLURS Destinate only and provided in the property of the		EMERGENCY WALL PACK LIGHT FIXTURE AND EXIT SIGN WITH 90 MINUTES BATTERY BACKUP		TELEPHONE/DATA OUTLET, 4"SQUARE OUTLET BOX WITH SINGLE GANG COLLAR	ATS	AUTOMATIC TRANSFER SWITCH	FL	FLOOR
CONTINUE OF STANDARD AND THE METHOD STANDARD AND THE S			\blacksquare		AUTO	AUTOMATIC	G	GROUND
MICHAEL AND CORPUS A	_	SWITCHES AND CONTROLS	\neg	DATA OUTLET	AWG	AMERICAN WIRE GAUGE	GFI	GROUND FAULT INTERRUPTER
March Marc		20A SPST TOGGLE SWITCH U.O.N. "a" DENOTES LIGHTING FIXTURE CONTROLLED.		JUNCTION BOX	С	CONDUIT	GP	GENERAL PURPOSE
## CONTROL OF THE PROPERTY OF		WALL OCCUPANCY SWITCH			C/B,CB	CIRCUIT BREAKER	HP	HORSEPOWER
### CAPTION ROOM NOT FROM \$100 MONTH OF COURT 100 M	\uparrow	TIMER SWITCH	—		СКТ	CIRCUIT	HWH	HOW WATER HEATER
## 1000 0000 0000 00000 00000 00000 00000 0000			→ M S _M		CL	CURRENT LIMITER	HZ	HERTZ
SAMPLE S				· ·	CLG	CEILING	IC ,	INTERRUPTING CAPACITY
MINUSE MARKET LIGHT NUMBERS (FROME NAME) PROPERTY	_				СОММ	COMMUNICATION	PP	POWER PANEL
### 2.47 N. B. 247 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. B. 347 C. CU-SS OFFERSON SIDES. ### 2.47 C. CU-SS OFFERSON SIDE		POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF	A	<u> </u>	СТ	CURRENT TRANSFORMER	PWR	POWER
1.000 1.00	\downarrow	2#12 ø, 2#12 N. & 2#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.	D	60A/240V NON FUSED DISCONNECT SWITCH	CU	COPPER	R	REMOVE
COMMINION MADELITO BULDING GROUND. COMMINION MADELITO STATES NO DESCRIPTION OF SECURIZATION O		POWER OR LIGHTING CIRCUITRY HOMERUN WITH PANELBOARD DESIGNATION, NUMBER WHERE USED INDICATES CIRCUIT NUMBER. IT SHALL CONSISTS OF		100A/240V NON FUSED DISCONNECT SWITCH	DIA	DIAMETER	RE	RELOCATED EXISTING
NOW AND WINE OR DISTRIBUTION FAME. PROCEDURATION NOTE AND WINEE OF ELECTRICAL CONTROLTON. DOIS DISTRIBUTION FAME. D	_	3#12 ø, 3#12 N. & 3#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.		200A/240V NON FUSED DISCONNECT SWITCH	DISC	DISCONNECT	REC	RECEPTACLE
TABLES OF THE CONTROL		CONDUIT AND WIRE TO BUILDING GROUND.	4	·	DN	DOWN	RGS	RIGID GALVANIZED STEEL
SOURCE PROCURING SWITCH LEFTING A DRAWING LIST LEFTING SOURCE PROCURING SWITCH LEFTING CONTACTOR LEFTING SPECIAL SYMBOLS LIST, NOTES AND ABBREVATIONS LECTRICAL SYMBOLS LIST, NOTES AND ABBREVATIONS LECTRICAL SPECIPICATIONS SHEET 1 OF 2 LEFTING SPECIPICATIONS SHEET 1 OF 2 LECTRICAL UNITHING FUNN ROOF POWER PLAN ROOF POWER PLAN LECTRICAL UNITHING FUNN VINDER INDUCTION OF DITAL HAMBER INDUCTED ON 1010; DWAN ON NUMBER I				<u> </u>	DP	DISTRIBUTION PANEL	RR	REMOVE & RELOCATE
ELECTRICAL DRAWING LIST ELECTRICAL SPRENDIS UST, NOTES AND ASBREWARTONS ELECTRICAL DISTINO FLAN ELECTRICAL POWER PLAN TOF, DRAWNO NUMBER INDICATED ON BOTTOM MAX MAXIMUM TILLE TELEPHONE ELECTRICAL SPRENDIS UST, SPRENDIS ON MAXIMUM TILLE TELEPHONE ELECTRICAL POWER DIAGRAM & PANEL SCHEDULE DISTRIBUTION PANEL BOARD, 208Y/120V-SURFACE OR FLUSH MOUNTED. MID MOUNTED USIN NUMBER SWITCH VY VOLT/VOLTAGE NO NOT IN CONTRECT WAS PROVIDED. THE CLOCK AND MOUNTED US AND SWITCH THROW SWITCH SWITCH WASTE MAX MAXIMUM TILLE TELEPHONE MID MOUNTED US MAY VOLT AND RETE MID MOUNTED US NUMBER NOTED MID MOUNTED		EXISTING	1.5 kW	ELECTRICAL HEATER, NUMBER DENOTES HEATER RATING	DWG	DRAWING	SECT	SECTION
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ELECTRICAL SPECIFICATIONS SHEET 1 OF 2 ELECTRICAL SPECIFICATIONS SHEET 2 OF 2 ELECTRICAL LIGHTING FLAN ELECTRICAL POWER PLAN ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL POWER PLAN ELECTRICAL POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAIL NUMBER INDICATED ON BOTTOM INC. MOTOR CONTROLLER	_			TIME CLOCK	KCMIL	ONE THOUSAND CIRCULAR MILS	SPEC	SPECIFICATION
ELECTRICAL LIGHTING PLAN 124* NIDICATES MOUNTING HEIGHT, CENTER LINE TO FINISHED FLOOR. ELECTRICAL POWER PLAN ROOF POWER PLAN ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE ***DOWER DISTRIBUTION*** DISTRIBUTION PARELBOARD, 208Y/120Y-SURFACE OR FLUSH MOUNTED. ***DISTRIBUTION PARELBOARD, 208Y/120Y-SURFACE OR FLUSH MOUNTED. ***DISTRIBUTION PANELBOARD, 208Y/120Y-SURFACE OR FLUSH MOUNTED. ***MOUNTED.** ***MOUNTED.		<u> </u>	\dashv	ANNOTATION	KV	KILOVOLT	SW	SWITCH
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ELECTRICAL POWER PLAN ROOF POWER PLAN ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE ***DOWER DISTRIBUTION** **DISTRIBUTION PANELBOARD, 20BY/120V-SURFACE OR FLUSH MOUNTED.** **MICHAEL SWITCH **MICHAEL SWIT	_'	ELECTRICAL LIGHTING PLAN	+24"	INDICATES MOUNTING HEIGHT CENTED LINE TO FINISHED FLOOD	KW	KILOWATTS	SYM	SYMMETRICAL
ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE DISTRIBUTION PANELBOARD, 208Y/120Y-SURFACE OR FLUSH MOUNTED. MICO MAIN LIGS ONLY TYP TYPICAL MITO MOUNTED UON UNLESS OTHERWISE NOTED MITS MANUAL TRANSFER SWITCH V VOLT/VOLTAGE NOT IN CONTRACT V/P WEATHER PROOF NIS NOT TO SCALE NOT NOT TO SCALE PNL PANEL DW DISHWASHER W WAIT	١		\neg		LTG	LIGHTING	SYS	SYSTEMS
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PNL PANEL DW DISHWASHER W WATT		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH	TXF TYP UON V	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE
W WATT		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL	TXF TYP UON V VA	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE
		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF
REF REFRIGERATOR		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE
		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS PNL	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE PANEL	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE
_		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS PNL W	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE PANEL WATT	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE
		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS PNL W	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE PANEL WATT	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE
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		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS PNL W	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE PANEL WATT	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE
		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS PNL W	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE PANEL WATT	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE
		ROOF POWER PLAN ELECTRICAL DETAILS ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE		POWER DISTRIBUTION DISTRIBUTION PANELBOARD, 208V/120V-SURFACE OR FLUSH	MC MCB MLO MTD MTS N NIC NTS PNL W	MAIN CIRCUIT BREAKER MAIN LUGS ONLY MOUNTED MANUAL TRANSFER SWITCH NEUTRAL NOT IN CONTRACT NOT TO SCALE PANEL WATT	TXF TYP UON V VA WP	TOILET EXHAUST FAN TYPICAL UNLESS OTHERWISE NOTED VOLT/VOLTAGE VOLT AMPERE WEATHER PROOF PHASE

- GENERAL NOTES
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA ELECTRICAL CODE 2022 AND CALIFORNIA ENERGY CODE 2022.
 - CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.
 - CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
- SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
- LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
- VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
- . CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
- 8. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
- CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES
 DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE—EXISTING
 CONDITIONS OR BETTER.
- O. MINIMUM SIZE OF CONDUIT SHALL BE ¾", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
- 11. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE
 CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN
 OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
- 12. PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CANCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
- 13. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
- 14. FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.
- 15. ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAINTIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.
- 16. ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
- . ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- . ALL CONDUITS AND EQUIPMENT TO BE CONCEAL ED IN FINISHED SPACES
 UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE
- . ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.
- OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE—RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE—RATED BOXES OR PUTTY PADS ARE UTILIZED.
- 1. COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITH THE ENGINEER AND OWNER BEFORE INSTALLATION.
- 2. COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.
- 23. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
- 24. REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.
- 25. LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.
- 26. NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANELBOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANELBOARD.



ı	INO.	Description	Date
		PERMIT SET	05/17/2024
	REVISED PERMIT SET REVISED PERMIT SET		08/21/2024
			09/18/2024

ELECTRICAL SYMBOLS LIST, NOTES AND ABBREVIATIONS

PERMIT SET

ELECTRICAL SPECIFICATIONS

GENERAL:

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
- B. DRAWING ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED, MAINTAIN HEADROOM AND SPACE CONDITIONS.
- C. BIDDERS, BEFORE SUBMITTING PROPOSALS, SHALL VISIT AND CAREFULLY EXAMINE THE AREA AFFECTED BY THIS WORK TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS, REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOROPERATION, MAINTANANCE AND REPAIR, MINOR DEVIATIONS FROM DRAWING MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.
- CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES. AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
- G. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
- H. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.
- PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT, PROVIDE EQUIPMENT CURBS AS REQUIRED.
- K. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT ND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS
- THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- M. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- N. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- O. INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
- P. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATED OF INSPECTION AND APPROVAL.

GENERAL PROVISIONS FOR ELECTRICAL WORK:

DEFINED ABOVE.

A. DEFINITIONS:

- 1) "PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
- 2) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
- 3) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE. AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
- 4) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
- 5) "WIRING": RACEWAY. FITTINGS, WIRE, BOXES, AND RELATED ITEMS.
- 6) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
- 7) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS
- 8) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
- B. TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.

C. QUALITY ASSURANCE

- 1) QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND LISTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
- 2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.

3) CURRENT CHARACTERISTICS:

- a. SERVICE: 120/208 VOLT, 1 PHASE, 3 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.
- b. DISTRIBUTION: 120/208 VOLT, 1 PHASE, 3 WIRE, 60 HERTZ WITH GROUNDED NEUTRAL.

4) HEIGHTS OF OUTLETS:

- a. FROM FINISHED FLOOR TO CENTERLINE OF OUTLETS FOR:
- RECEPTACLES AND TELEPHONES: 1 FT-6 IN.
- WALL SWITCHES: 4 FT-0 IN.
- WALL FIXTURES: 7 FT-0 IN.
- MOTOR CONTROLLERS: 5 FT-0 IN.
- CLOCKS: 7 FT 6 IN
- b. EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS. ON MOLDING OR BREAK IN WALL SURFACE. IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.
- D. PRODUCT DELIVERY, STORAGE AND HANDLING
- 1) MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE
- 2) ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR, MINOR DEVIATIONS SHALL BE PERMITTED, CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.

MATERIALS

- 1) NAMEPLATES: PROVIDE BLACK LAMICOID SHEET WITH 3/4 IN. WHITE LETTERING, FASTENED WITH EPOXY CEMENT FOR EACH DISCONNECT SWITCH, CIRCUIT BREAKER, PANEL, CABINET, TRANSFORMER, ENCLOSURE, MOTOR CONTROLLER AND THE LIKE. NAMEPLATES SHALL DESCRIBE THE NAME AND NUMBER OF EACH COMPONENT.
- 2) CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.

3) INSERTS AND SUPPORTS:

- a. INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED.
- SINGLE ROD: SIMILAR TO GRINNELL FIG. 281.
- MULTI-ROD: SIMILAR TO FEE AND MASON SERIES 9000
- WITH END CAPS AND CLOSURE STRIPS.
- CLIP FORM NAILS FLUSH WITH INSERTS.
- MAXIMUM LOADING 75 PERCENT OF RATING.
- b. SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPLATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR
- c. GROUPED LINES AND SERVICES: TRAPEZE HANGERS OF BOLTED ANGLES OR CHANNELS.
- d. WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.
- PAINT SHALL BE THE BEST GRADE FOR ITS PURPOSE. DELIVER IN ORIGINAL SEALED CONTAINERS AND APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COLORS SHALL BE AS SELECTED BY ARCHITECT OR ENGINEER. UTILIZE GALVANIZED IRON PRIMER ON PANEL AND PULL BOXES, AFTER FABRICATION. UTILIZE HOT DIPPED GALVANIZED OR DIPPED IN ZINC BASED PRIMER FOR: OUTLET BOXES, JUNCTION BOXES, CONDUIT HANGERS, RODS, INSERTS AND SUPPORTS. ZINC BASED PRIMER WITH FINISH TO MATCH SURROUNDINGS SHALL BE USED FOR MARRED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.
- G. BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINA ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.
- H. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH
- I. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

SCOPE OF WORK:

- SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE 2020 NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
- DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, ODIFIED, SUPPLIED OR SPECIFIED HEREIN.
- C. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE 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 PROVIDED THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR

- D. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS
- CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE 2021 EXISTING INTERNATIONAL BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES.
- AREAS WITH NO ELECTRICAL WORK SHALL REMAIN AS IS. CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS TO ALL AREAS NOT COVERED BY THIS RENOVATION AND SHALL PROVIDE 48 HOUR NOTICE TO LANDLORD OF ANY PLANNED POWER INTERRUPTIONS OR SIGNAL SYSTEM OUTAGES.

SHOP DRAWINGS

- PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.
- B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:
- 1) PROJECT NAME AND LOCATION
- 2) NAME OF ARCHITECT AND ENGINEER
- 3) ITEM IDENTIFICATION
- 4) APPROVAL STAMP OF PRIME CONTRACTOR

SUBMISSIONS:

- 1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES. OTHERWISE, HE SHALL SUBMIT THREE COPIES. THE ARCHITECT WILL FORWARD THE ORIGINAL AND ONE COPY (TWO COPIES WHEN NO ORIGINAL IS RECEIVED) TO THE ENGINEER. ALL CATALOG CUTS SHALL BE COMPLETE.
- 2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS AND ONE PAPER SEPIA TO THE ARCHITECT. THE ARCHITECT WILL FORWARD ONE PRINT AND THE PAPER SEPIA TO THE ENGINEER.
- SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
- 1) SAFETY/DISCONNECT SWITCHES
- 2) FUSES
- 3) CIRCUIT BREAKERS
- 4) PANELBOARDS/LOADCENTER (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS).
- 5) RACEWAYS
- 6) WIRE AND CABLE
- 7) WALL SWITCHES
- 8) INSERTION RECEPTACLES
- 9) MOMENTARY CONTACT SWITCHES 10) TIME SWITCHES
- 11) LIGHTING FIXTURES.
- ASSIST AND PROVIDE ALL NECESSARY INFORMATION, DIAGRAMS, SKETCHES, ETC. TO THE HVAC CONTRACTOR, FOR THE PREPARATION OF COORDINATED SHOP DRAWINGS INDICATING ROUTING OF FEEDERS, CONTROL CONDUITS, RECESSED FIXTURES AND ADJACENT NEARBY PIPING AND DUCTWORK WHERE APPLICABLE, CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN ESTABLISHED. SUBMIT FOUR(4) BOOKBOUND OPERATING AND SERVICE MANUALS WHICH SHALL INCLUDE COPIES OF ALL SHOP DRAWING. PROVIDE SHOP DRAWINGS FOR PANELS, FIXTURES, WIRING DEVICES, CONDUIT, CABLE. DISCONNECT SWITCH, RELAYS, CONTRACTORS, AND OTHER SYSTEMS AS DIRECTED BY THE ENGINEER.
- AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS
- UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
- THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.
- C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
- D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. "AS-BUILT" DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AFTER COMPLETION OF THE INSTALLATION.

LOW-VOLTAGE DISTRIBUTION EQUIPMENT:

- PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
- B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE
- C. DISCONNECT SWITCHES SHALL BE FUSED OR NONFUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY. EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NONFUSED, LOAD BREAK, HAVING MAXIMUM RATINGS OF 20 AMP AT 600 VOLTS AND 30 AMP AT 240 VOLTS. TWO-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGEMAN NO. 6808F. THREE-POLE SWITCHES SHALL BE SIMILAR TO HART AND HEGEMAN NO. 7810F. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE- QUICK-BREAK, UL CLASS F UP TO 600 AMP. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800 AMP. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.

- A. CIRCUITS 0 TO 600 AMPERES SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMAN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE LISTED BY UL WITH AN INTERRUPTING RATING OF 300,000 AMPERES RMS SYMMETRICAL.
- B. MOTOR CIRCUITS ALL INDIVIDUAL MOTOR CIRCUITS WITH FULL LOAD AMPERE RATINGS (FLA) OF 480 AMPERES OR LESS SHALL BE PROTECTED BY FUSES SIMILAR TO CURRENT LIMITING BUSSMANN LOW-PEAK DUAL-ELEMENT TIME-DELAY LPN-RK (AMP)SP (250V) /LPS-RK (AMP)SP (600V) OR LPJ (AMP)SP (600V) (UL CLASS RK1 OR CLASS J), AND BE_ LISTED BY UL WITH AN INTERRUPTING RATING OF 30<mark>0,00</mark>0 AMPERES RMS SYMMETRICAL.
- C. ALL FUSES SHALL BE PROVIDED BY SAME MANUFACTURER
- D. PROVIDE 1 SPACE MATCHING FUSE FOR EACH SET OF
- E. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE-QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE. MULTI-POLE TYPE BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT-TRIPPING, OPEN A ND CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED. FRAMES, IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
 - 1) 120 VOLTS, 100-AMP FRAME: 10,000 AMPS, 1 POLE.
 - 2) 120/240 VOLTS, 225-AMP FRAME: 22,000 AMPS MINIMUM

RACEWAYS

PROVIDE RACEWAYS COMPLETE WITH BOXES, FITTINGS AND ACCESSORIES. CONDUIT OR TUBING SIZES REFERRED TO IN SPECIFICATIONS AND ON DRAWINGS ARE NOMINAL DIAMETERS. MINIMUM DIAMETER SHALL BE 3/4 IN.

MATERIALS

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

2) FITTINGS AND ACCESSORIES:

INSULATED THROAT.

GALVANIZED.

- a. RIGID STEEL: NONSPLIT, THREADED, STEEL OR MALLEABLE
- b. ELECTROMETALLIC TUBING: COMPRESSION TYPE. GALVANIZED
- c. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH

IRON. ZINC DIE CAST NOT PERMITTED

RIGID STEEL ELBOWS, 2 IN. OR LARGER.

3) BOXES:

- a. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL, 4 IN. SQUARE OR OCTAGON FOR FIXTURES BOXES ABOVE CEILING SHALL BE 1-1/2 IN. DEEP. BOXES IN CEILING OR SLAB SHALL BE 3 IN. DEEP. BOXES IN WALL FOR FIXTURES SHALL BE 2-3/4 IN. DEEP. BOXES IN WALL FOR RECEPTACLES AND SWITCHES SHALL BE 1-1/2 IN. DEEP. FURNISH WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WITHOUT FIXTURE OR DEVICE: FURNISH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 IN. SEPARATION.
- b. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW-ON COVERS, EXCEPT AS NOTED. FURNISH WITH INSULATED SUPPORTS FOR CABLES. LOCATIONS SHALL BE AS NOTED OR REQUIRED AND ACCESSIBLE. PROVIDE BARRIERS IN NEW AND RENOVATED BOXES BETWEEN 120/208 VOLT AND 265/460 VOLT WIRING AND BETWEEN EMERGENCY AND NORMAL WIRING. FLOOR BOXES SHALL BE SUITABLE FOR CONDUIT AND DEVICES NOTED. RAISED OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH ABOVE FLOOR FITTING. TELEPHONE: BUSHED HOLE. POWER: DUPLEX RECEPTACLE OR OTHER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY. FLUSH OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH FLUSH FLOOR FITTING FOR TELEPHONE AND FLUSH DUAL FLAP COVER WITH DUPLEX RECEPTACLE FOR POWER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY.



No.	Date	
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/18/2024

ELECTRICAL SPECIFICATIONS SHEET 1 OF 2

PERMIT SET

Scale:

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ELECTRICAL SPECIFICATIONS

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

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

SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS. SPACING OF SUPPORTS SHALL BE A MINIMUM OF 10 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS AND PER NEC 386.56 AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE MASONRY WITH TOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK, MACHINE SCREWS ON METAL, BEAM CLAMPS ON FRAMEWORK, WOOD SCREWS ON WOOD, AND PAN THROUGH STRAPS IN METAL DECK. NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED. WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPLATES.

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

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

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

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

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

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

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

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

D. PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH 2020 NATIONAL ELECTRIC CODE ARTICLE 300.19. CABLE SUPPORTS SHALL UTILIZE A ONE—PIECE PLUG WITH POZI—GRIP WEDGING PLUG AS MANUFACTIURED BY OZ—GEDNEY.

INSTALL CABLE SUPPORTS AT THE TOP OF A VERTICAL RISE AND PROVIDE INTERMEDIATE ADDITIONAL SUPPORTS AS REQUIRED TO LIMIT SUPPORTED CONDUCTOR LENGTHS TO NOT GREATER THAN THOSE SPECIFIED IN 2020 NEC TABLE 300.19(A).

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

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

- FIRE SEALANTS: PROVIDE FOR RACEWAYS AND WIRE PASSING THROUGH FLOOR SLOTS, SLEEVES OR OPENINGS IN FIRE—PARTITIONS ROOMS.
- . PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING 1 CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE 25 OHMS.
- O. WIRE AND CABLE:
- A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.
- 3. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER).

 GENERAL USE CABLING SHALL BE NO. 12 MINIMUM. AT 120 VOLTS AND OVER 100 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. AT 265 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM.
- C. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE

NO. 14 MINIMUM. AT 120 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 12 MINIMUM. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.

- . INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCEA STANDARDS. TYPE THW OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED. TYPE SFF—2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG C. FOR UNGROUNDED ISOLATED BRANCH CIRCUITS PROVIDE CROSS—LINKED POLYETHYLENE INSULATION (TYPE XHHW).
- ARMORED CABLE (BX) SHALL BE UTILIZED FOR BRANCH CIRCUITS IN DRY HOLLOW LOCATIONS, HUNG CEILINGS, AND BLOCK WALLS. WHEN USED IN LIEU OF WIRING IN CONDUIT, STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF HOSPITAL GRADE 'BX'.
- F. COLOR CODING SHALL BE AS FOLLOWS:

120/208 VOLT SYSTEM: BLACK FOR A PHASE RED FOR B PHASE BLUE FOR C PHASE

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

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

- G. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS. FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.
- H. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION—TYPE OF TWIST—ON SPRING—LOADED CONNECTORS AND CLEAR NYLON—INSULATED COVERING.

 COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISEIZE COMPOUND ON TANG.
- I. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF 120/208 AND 265/460 VOLT SYSTEMS, EXCEPT 460 VOLT MOTOR BRANCH CIRCUIT WIRING AND RELATED 120 VOLT CONTROL WIRING. THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED FLOORS.
- J. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL
- K. PERFORM CONTINUITY AND INSULATION TESTS. MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP.

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

11. WIRING DEVICES:

- A. WIRING DEVICES SHALL BE SPECIFICATION GRADE UNLESS OTHERWISE SPECIFIED. ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE NOTED. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.
- B. LOCAL WALL SWITCHES SHALL BE ROCKER TYPE, QUIET OPERATING, RATED 20 AMP, 120/277 VOLT, AC. SIMILAR TO LEVITON DECORA SERIES A5621 (SINGLE POLE), A5623 (3-WAY) AND A5624 (4-WAY).
- C. DEVICE PLATES: SEE ARCHITECT FOR TYPE. FOR RECEPTACLES WITH OTHER THAN 120 VOLT, INSCRIBED VOLTAGE AVAILABLE.
- D. COLORS: COORDINATE COLORS WITH ARCHITECT.
- E. MOUNTING ORIENTATION OF RECEPTACLES (HORIZONTAL OR VERTICAL): COORDINATE WITH ARCHITECT.
- 12. LIGHTING FIXTURES:
 - A. FIXTURES TO BE AS SPECIFIED BY ARCHITECT AND SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED AND EQUIPPED WITH ALL NECESSARY SOCKETS, BALLASTS, SUPPORTING HARDWARE AND ACCESSORIES. REFER TO DRAWINGS FOR INDIVIDUAL FIXTURE DESCRIPTIONS.
 - B. FIXTURE CATALOG NUMBERS USED TO ILLUSTRATE EQUIPMENT TYPE DO NOT NECESSARILY DENOTE REQUIRED MOUNTING EQUIPMENT OR ACCESSORIES. PROVIDE ACCESSORIES TO SUIT.
 - C. LED DRIVERS SHALL BE ELECTRONIC TYPE, LABELED AS COMPLIANT WITH RADIO FREQUENCY INTERFERENCE (RFI) REQUIREMENTS OF FCC TITLE 47, PART 15 AND COMPLY WITH NEMA SSL 1 "ELECTRONIC DRIVERS FOR LED DEVICES, ARRAYS OR SYSTEMS". LED DRIVERS SHALL HAVE A SOUND RATING OF "A", HAVE A MINIMUM EFFICIENCY OF 85% AND BE RATED FOR A THD OF LESS THAN 20% AT ALL INPUT VOLTAGES.
 - DIMMABLE LED DRIVERS SHALL BE CAPABLE OF DIMMING WITHOUT LED STROBING OR FLICKER ACROSS THEIR FULL DIMMING RANGE. PROVIDE TYPE OF LED DRIVER AS PER LIGHTING FIXTURE SCHEDULE, DIMMABLE LED DRIVERS SHALL BE 0-10V WHERE NOT INDICATED.
 - E. CONTINUOUS ROW, TWO LAMP STRIP FIXTURES SHALL BE STAGGERED TYPE.
 - F. EXIT SIGNS SHALL BE PRECISION DIE—CAST ALUMINUM HOUSING WITH LASER—FORMED ACRYLIC LEGEND. EXIT SIGNS SHALL COMPLY WITH UL 924 AND BE MEA APPROVED FOR USE IN CHELSEA CITY. AC POWERED WITH PREMIUM LONG—LIFE NICKEL CADMIUM BATTERY WITH STANDARD UL LISTED 3—HOUR RUN TIME. PROVIDE WITH INTEGRAL AUTOMATIC CHARGER IN A SELF CONTAINED POWER PACK. LED INDICATOR WITH PUSH TO TEST SWITCH.

GROUNDING AND BONDING:

- A. PROVIDE GROUNDING SYSTEM IN ACCORDANCE WITH (NATIONAL ELECTRICAL CODE AND THESE SPECIFICATIONS. THE WIRING SYSTEM SHALL BE INSTALLED AS REQUIRED TO PROVIDE A CONTINUOUSLY GROUNDED SYSTEM. WHERE FLEXIBLE CONDUIT IS USED FOR PART OF A CONDUIT RUN, EXCEPT LIGHTING BRANCH CIRCUITS, AN INSULATED GROUNDING CONDUCTOR SHALL BE PROVIDED IN THE CONDUIT AND CONNECTED TO GROUNDING BUSHINGS AT EACH END OF THE RUN.
- B. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.
- . EXTEND EXISTING SYSTEM GROUND TO INCLUDE ALL THE ELECTRICAL EQUIPMENT IN THE SCOPE OF WORK.
- D. WHERE FLEXIBLE METALLIC CONDUIT IS USED AN INTERNAL BONDING CONDUCTOR SHALL BE INSTALLED.
- E. IN ADDITION, FURNISH A SEPARATE INSULATED GREEN EQUIPMENT GROUND CONDUCTOR WHERE INDICATED ON DRAWINGS AND FOR THE FOLLOWING BRANCH CIRCUITS:

 1) CIRCUITS SERVING ANY WALL BOX DIMMER.
 - 2) CIRCUITS SERVING ANY ISOLATED GROUND RECEPTACLES.
 TERMINATE GROUND DIRECTLY AT AN EQUIPMENT GROUNDING
 CONDUCTOR TERMINAL OF THE SOURCE AT THE SOURCE, OR
 AS OTHER WISE NOTED ON DRAWINGS.
 - 3) CIRCUITS SERVING ANY DUPLEX OR SIMPLEX COMPUTER RECEPTACLES
 - 4) ANY CIRCUIT SERVED VIA AN ISOLATION TRANSFORMER OR COMPUTER POWER DISTRIBUTION UNIT.



No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/18/2024

ELECTRICAL SPECIFICATIONS SHEET 2 OF 2

PERMIT SET E003

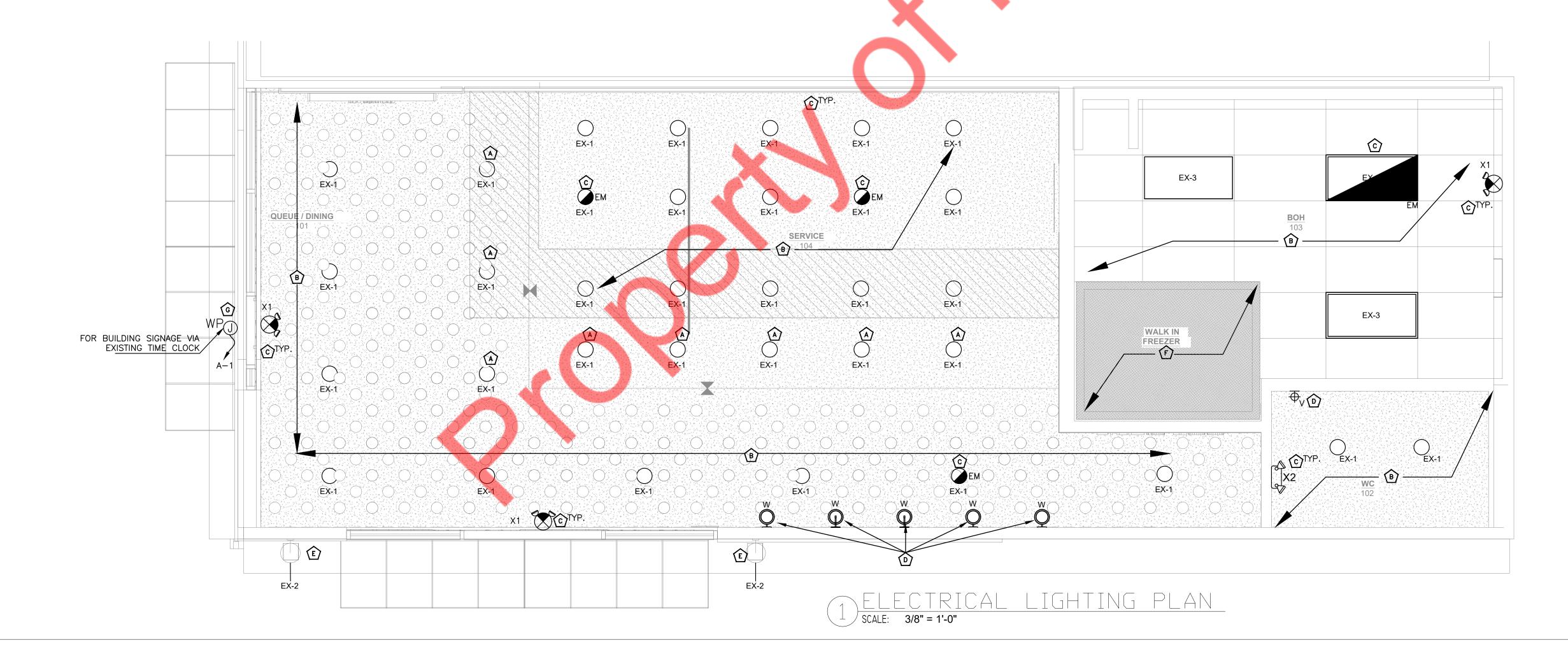
ELECTRICAL LIGHTING PLAN KEYED WORK NOTES

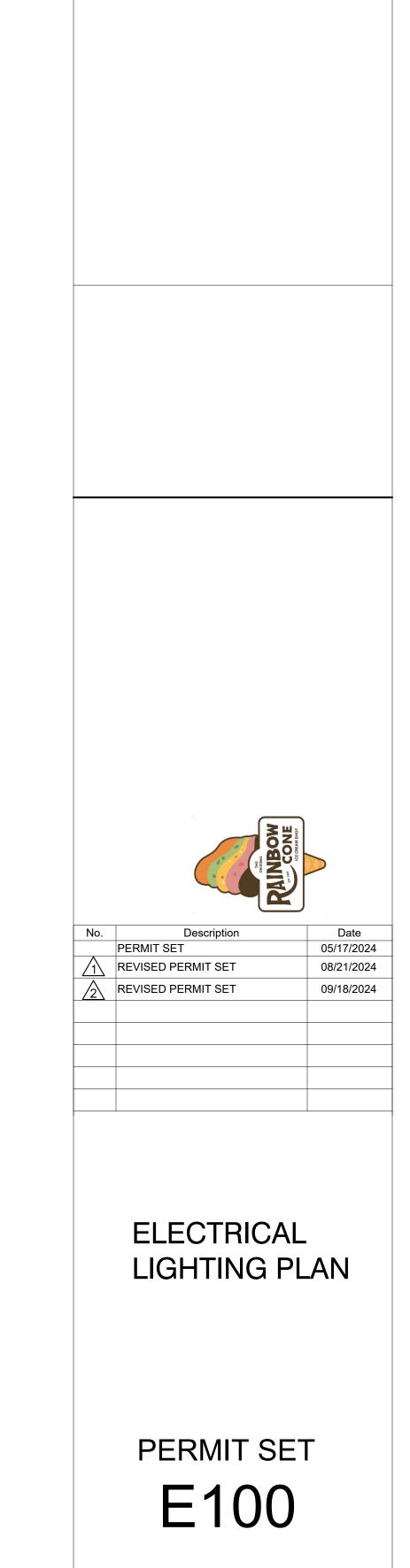
- ELECTRICAL CONTRACTOR SHALL REMOVE THE EXISTING LIGHT FIXTURES IN THE EXISTING SOFFIT AND RE INSTALL THE SAME LIGHT FIXTURES AS REQUIRED. ALL THE EXISTING CIRCUIT CONNECTIONS SHALL BE RE-USED. PROVIDE NEW CIRCUIT CONNECTIONS VIA EXISTING LIGHTING CONTROLS, IF EXISTING IS IN-OPERABLE. BASE BID ACCORDINGLY.
- ALL THE EXISTING LIGHTING AND ITS CIRCUITS SHALL REMAIN CONNECTED VIA EXISTING LIGHTING CONTROLS IN THIS AREA. E.C SHALL VERIFY THE OPERABLE CONDITION, REPLACE WITH NEW IF EXISTING IS IN-OPERABLE. BASE BID ACCORDINGLY.
- C ALL THE EXISTING EXIT AND EM LIGHTING IN THE TENANT SPACE SHALL REMAIN AND REUSE. E.C SHALL VERIFY THE EXISTING CONDITIONS AND PROVIDE NEW EXIT AND EM LIGHT FIXTURES IF EXISTING LIGHT FIXTURES QUANTITY IS NOT SUFFICIENT AS PER THE NEW TENANT REQUIREMENT OR AS REQUIRED BY LOCAL AHJ.
- NEW LIGHT FIXTURES SHALL BE CONNECTED VIA NEARBY EXISTING LIGHTING CIRCUIT AND EXISTING LIGHTING CONTROLS. BASE BID ACCORDINGLY.
- E ALL THE EXISTING EXTERIOR LIGHT FIXTURES SHALL REMAIN CONNECTED TO THE EXISTING EXTERIOR LIGHT CIRCUIT AND EXISTING EXTERIOR LIGHTING CONTROLS. E.C SHALL VERIFY THE OPERABLE CONDITION, REPLACE WITH NEW IF EXISTING IS IN-OPERABLE. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR SHALL PROVIDE POWER CONNECTIONS TO THE WALK-IN BOX LIGHT FIXTURES IN COORDINATION WITH WALKIN BOX MANUFACTURER. BASE BID
- © E.C TO COORDINATE THE BUILDING SIGNAGE CONNECTION REQUIREMENTS WITH SIGN VENDOR. BASE BID ACCORDINGLY.

ELECTRICAL LIGHTING PLAN GENERAL NOTES:

- 1. VERIFY ALL LUMINARIE COLORS, TRIMS, LENGTHS, ETC. WITH THE ARCHITECT PRIOR TO PLACING FINAL PURCHASE ORDERS. SUBMISSION PF SHOP DRAWINGS WILL BE INTERPRETED AS HAVING BEEN COORDINATED WITH THE ARCHITECTURAL DRAWINGS.
- 2. PROVIDE ALL LENGTHS, FEEDS, ACCESSORIES, CONNECTORS, WIRING, POWER SUPPLIES, DRIVERS ETC. FOR A COMPLETE INSTALLATION. THE E.C. SHALL VERIFY THE COMPLETE BILL OF MATERIAL WITH MANUFACTURER'S REPRESENTATIVE AND ENSURE ALL EQUIPMENT ARE INCLUDED IN BID PRICE. COORDINATE INSTALLATION WITH ARCHITECTURAL DETAILS.
- 3. VERIFY FINAL LUMINARIE LOCATIONS WITH OTHER CEILING MOUNTED EQUIPMENTS SUCH AS DIFFUSER WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- 4. VERIFY EXACT MOUNTING HEIGHT AND LOCATIONS OF ALL WALL MOUNTED LUMINAIRE WITH ARCHITECTURAL PLANS AND ELEVATIONS PRIOR TO ROUGH-IN.
- 5. E.C SHALL VERIFY AND RE-USE THE EXISTING LIGHTING CONTROLS. REPLACE NEW WITH SAME TYPE, IF EXISTING IS IN-OPERABLE. BASE BID ACCORDINGLY.

	LIGHTING FIXTURE SCHEDULE									
TYPE	DESCRIPTION	MANUFACTURER	MODEL	WATTS	COMMENTS					
EX-1	EXISTING	EXISTING	EXISTING	EXISTING	VERIFY AND REUSE EXISTING.					
EX-2	EXISTING	EXISTING	EXISTING	EXISTING	VERIFY AND REUSE EXISTING.					
EX-3	EXISTING	EXISTING	EXISTING	EXISTING	VERIFY AND REUSE EXISTING.					
W	WALL SCONCE;GRAND MILLENNIAL, PINK DOME.	GLOBE ELECTRIC	SKU:65000048	60W	HOLLY 1-LIGHT BRASS PLUG-IN/HARDWIRE WALL SCONCE					
V	VANITY LIGHT IN BRASS	DUTTON I BROWN	SKU:60220(BRASS)	120W	SCEPTER SCONCE 10" IN BRASS					
X1	EXISTING	EXISTING	EXISTING	EXISTING	VERIFY AND REUSE EXISTING.					
X2	EXISTING	EXISTING	EXISTING	EXISTING	VERIFY AND REUSE EXISTING.					





ELECTRICAL POWER PLAN KEYED WORK NOTES:

- EXISTING 200A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL REPORT IF ANY DISCREPANCIES OBSERVED.
- NEW 80A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- E.C. SHALL VERIFY THAT THE PANEL AREA IS UNOBSRUCTED AND SHALL HAVE CLEARANCE AS PER 110.26(A)&(B)
- PROVIDE SHOW WINDOW RECEPTACLE AS PER NEC 210.62. VERIFY EXACT LOCATION WITH ARCHITECT/OWNER.
- J-BOX FOR WALK-IN FREEZER HEATER.E.C. SHALL COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENT WITH ELECTRICAL MANUFACTURER.
- E.C. SHALL PROVIDE TWO CAT 6 CABLING FOR DESK. PROVIDE AN ADDITIONAL 6 FEET OF CABLING AT EITHER END OF CONNECTION. E.C. SHALL COORDINATE WITH IT DRAWINGS/SPECIALIST FOR EXACT LOCATION, POWER REQUIREMENTS AND MAKE PROVISIONS ACCORDINGLY. BASE BID ACCORDINGLY.

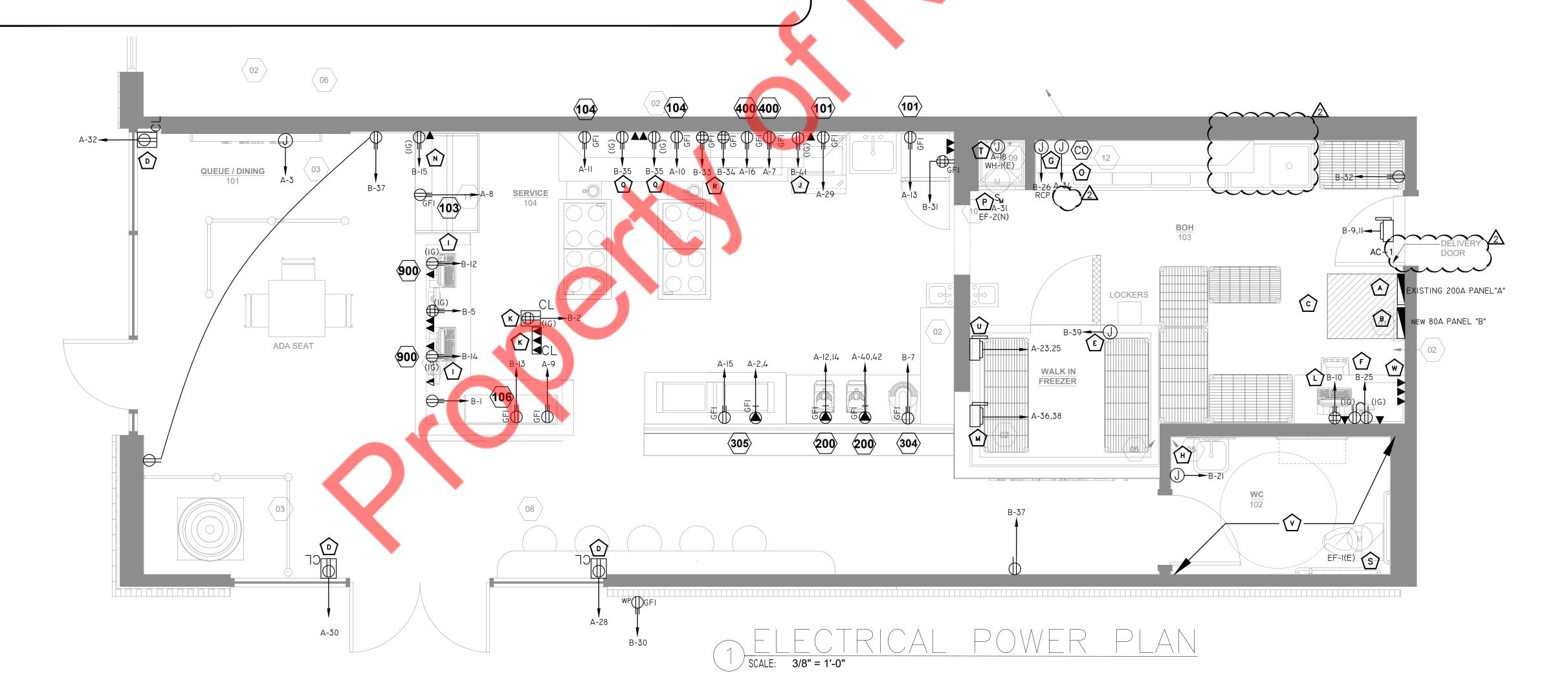
- ELECTRICAL SUPPLY PROVISION FOR RECIRCULATION PUMP(RCP-1). E.C. SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR THE EXACT POWER REQUIREMENTS PRIOR TO ROUGH-IN. BASE BID ACCORDINGLY.
- E.C SHALL COORDINATE EXACT POWER CONNECTION REQUIREMENT FOR PUSH BUTTON & AUTO DOOR OPENER WITH EQUIPMENT MANUFACTURER AND LOCATION WITH ARCHITECT/ OWNER. BASE BID ACCORDINGLY. REFER SHEET 3/E-400 FOR MORE INFORMATION.
- E.C SHALL PROVIDE DATA AND POWER REQUIREMENTS FOR SCREENS, POS AS REQUIRED IN COORDINATION WITH ARCHITECT/EQUIPMENT MANUFACTURER BASE BID ACCORDINGLY.
- KDS FOR SHAKES/SUNDAES. E.C SHALL PROVIDE DUPLEX RECEPTACLE AND DATA AT 65"AFF.
- $\stackrel{\textstyle \frown}{\kappa}$ menu monitor. E.C shall provide the ceiling mounted quad receptacle & data located 3'-0" from back edge of the counter.
- PROVIDE QUAD AND DATA FOR IT RACK AT 18" FROM TOP OF THE CEILING. E.C SHALL COORDINATE WITH OWNER BEFORE FINAL INSTALLATION.
- 20/2P CIRCUIT FOR WALK-IN FREEZER EVAPORATOR. E.C SHALL COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENT WITH ELECTRICAL MANUFACTURER
- MARKETING MONITOR. E.C SHALL PROVIDE THE DUPLEX RECEPTACLE & DATA. VERIFY EXACT LOCATION WITH ARCHITECT/OWNER.
- E.C SHALL COORDINATE WITH EQUIPMENT MANUFACTURER AND PROVIDE RECEPTACLE/JUNCTION BOX FOR DETECTORS.
- EXHAUST FANS FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. E.C. SHALL COORDINATE FOR SWITCHING AND CONTROLS AND PROVIDE ALL NECESSARY WIRING REQUIRED.
- KDS FOR DIPPER WELLS. E.C SHALL PROVIDE DUPLEX RECEPTACLE AND DATA OFF THE WALL AT 18".

PLUMBING CONTRACTOR, IF EXISTING IS IN-OPERABLE. BASE BID ACCORDINGLY.

- E.C SHALL PROVIDE QUAD OUTLETS AT 6" ABOVE THE TABLE FOR CARAMEL AND HOT FUDGE. VERIFY EXACT LOCATION WITH ARCHITECT/OWNER.
- E.C SHALL VERIFY AND RE-USE THE EXISTING ELECTRICAL CONNECTION AND ITS CONTROLS FOR EXISTING EXHAUST FAN. REPLACE WITH NEW CIRCUIT & CONTROLS IN COORDINATION WITH MECHANICAL CONTRACTOR, IF EXISTING IS IN-OPERABLE. BASE BID ACCORDINGLY.
- E.C SHALL VERIFY AND RE-USE THE EXISTING ELECTRICAL CONNECTION FOR EXISTING WATER HEATER(WH-1). REPLACE WITH NEW CIRCUIT IN COORDINATION WITH
- PROVIDE DISCONNECT ABOVE WALK-IN FREEZER BOX. E.C TO COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS OF WALK-IN-BOX CONDENSER UNITS WITH WALK-IN BOX MANUFACTURER. BASE BID ACCORDINGLY.
- ALL THE ENTITIES IN THIS AREA SHALL REMAIN. E.C. SHALL VERIFY THE OPERABLE CONDITION OF EXISTING CIRCUITS, PROVIDE NEW IF IN-OPERABLE,
- PROVIDE CONDUIT, RACEWAYS AND BACK BOXES FOR SPEAKER CONTROLS. E.C. SHALL COORDINATE THE EXACT LOCATION & REQUIREMENTS WITH A.V. VENDOR. BASE BID ACCORDINGLY.

ELECTRICAL POWER PLAN GENERAL NOTES:

- A. E.C. SHALL COORDINATE WITH OTHER TRADE CONTRACTORS FOR EXACT LOCATION AND POWER REQUIREMENT OF THE EQUIPMENT FROM OTHER TRADES. PROVIDE WIRING AND CONTROLS AS REQUIRED (IF NOT PROVIDED BY THEM), PRIOR TO BID. BASE BID
- B. THE CLEAR WORKING SPACE SHALL BE PROVIDED FOR THE METERS, PANEL BOARDS, AND OTHER ELECTRICAL EQUIPMENT AS PER SECTION 110.26 OF NEC.
- C. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE UTILITY/ARCHITECT/OWNER FOR EXACT LOCATION OF THE EXISTING SERVICE METER AND OTHER ELECTRICAL DEVICES. PRIOR TO BID. BASE BID ACCORDINGLY.
- D. ALL THE CIRCUITS SUPPLYING KITCHEN EQUIPMENT AND SHOWN "GFI" ON POWER PLAN SHALL BE PROTECTED EITHER AT A PANEL WITH GFI RATED BREAKER OR RECEPTACLE WITH GFI AS PER NEC 210.8. IF GFI RECEPTACLES ARE USED, CONTRACTOR SHALL LOCATE THE GFI RECEPTACLES SUCH THAT THESE ARE READILY ACCESSIBLE PER CODE.
- E. E.C. SHALL FOLLOW GROUNDING/BONDING AS PER NEC ARTICLE 250.
- F. ALL THE RECEPTACLES SHALL BE RATED PER CIRCUIT. E.C. SHALL VERIFY AND MAKE FINAL CONNECTIONS ACCORDINGLY.
- G. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI PROTECTION FOR ALL THE FLOOR OUTLETS AS PER NEC ARTICLE 406.4(g).
- H. ELECTRICAL CONTRACTOR SHALL PROVIDE TYPED PANEL DIRECTORY FOR ALL THE ELECTRICAL PANELS AS PER NEC 408.4(A).





No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/18/2024

ELECTRICAL POWER PLAN

PERMIT SET
E200

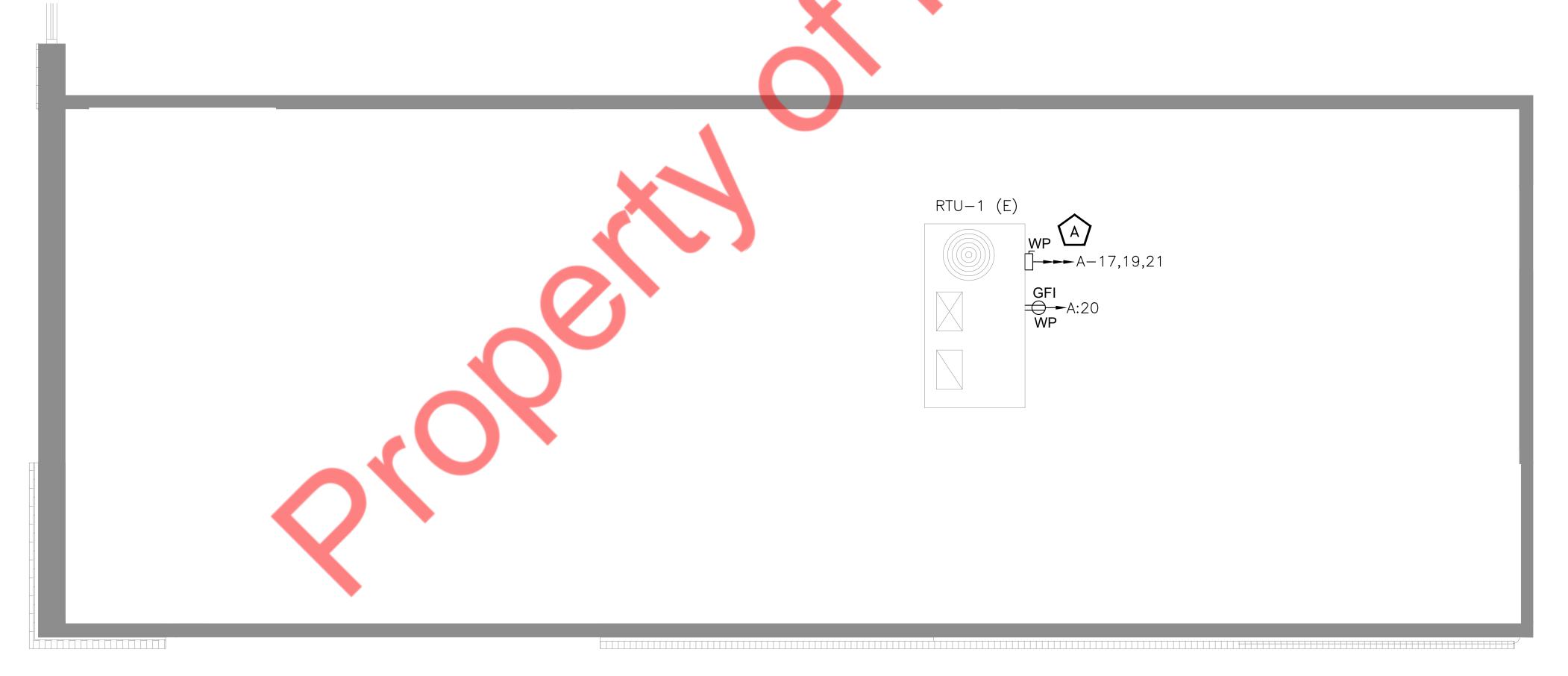
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ELECTRICAL ROOF POWER KEY NOTES:

ELECTRICAL CONTRACTOR SHALL VERIFY AND RE-USE THE EXISTING ELECTRICAL SWITCH GEAR AND POWER CONNECTIONS FOR THE EXISTING RTUS. REPLACE WITH NEW, IF FOUND IN OPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL ROOF POWER PLAN:

- 1. COORDINATE EXACT LOCATION OF HVAC EQUIPMENTS WITH MECHANICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH—IN AND PROVIDE AS REQUIRED. COORDINATE LOCATION OF DISCONNECT WITH MANUFACTURER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH—IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.



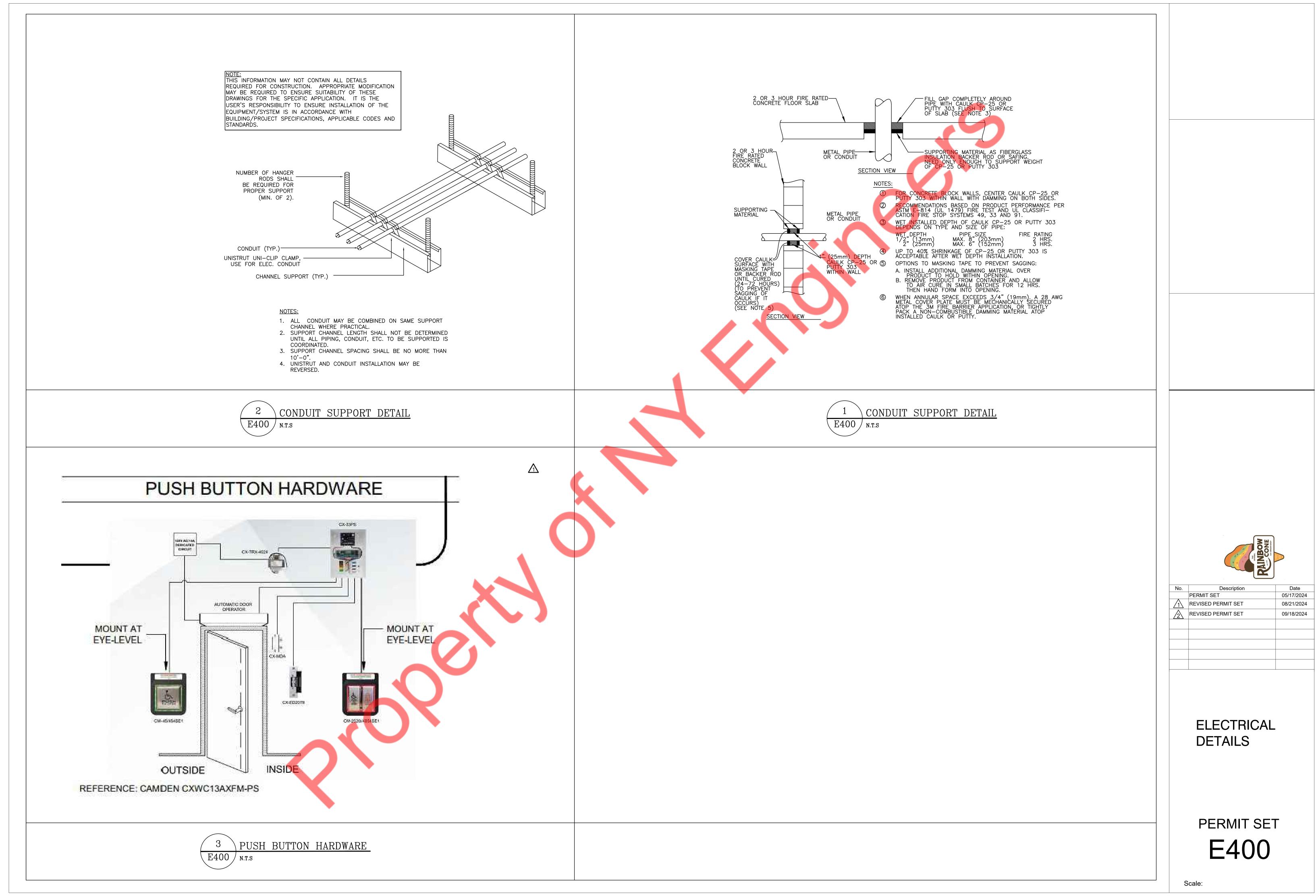
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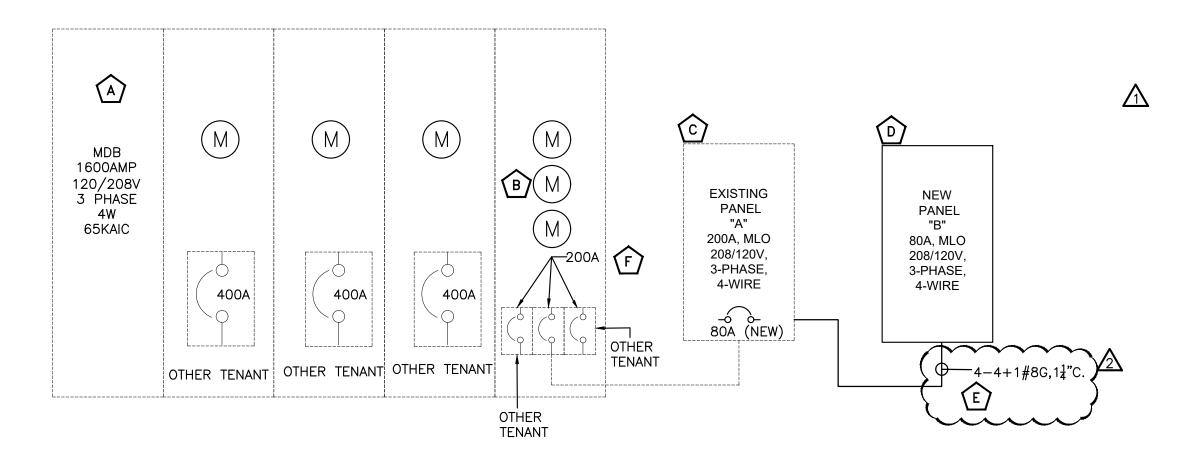


No.	Description	Date
	PERMIT SET	05/17/20
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ELECTRICAL ROOF POWER PLAN

PERMIT SET
E201





1 ELECTRICAL RISER DIAGRAM SCALE: NTS

ELECTRICAL RISER KEYED NOTES:

- EXISTING 1600A MSB WITH ALL PANELS INSIDE THE SWITCH BOARD SHALL REMAIN AND REUSE. E.C SHALL VERIFY THE EXACT LOCATION IN COORDINATION WITH ARCHITECT/OWNER IN FIELD.
- EXISTING 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER SHALL REMAIN FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH LANDLORD/OWNER/UTILITY COMPANY FOR EXACT LOCATION IN FIELD. E.C. TO VERIFY THE OPERABLE CONDITION OF THE EXISTING METER IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES.
- EXISTING 120/208V, 3-PHASE, 4-WIRE 200A, MLO SHALL REMAIN . E.C. SHALL COORDINATE WITH LANDLORD/OWNER FOR EXACT LOCATION. E.C. TO VERIFY THE OPERABLE CONDITION OF THE EXISTING PANEL AND REPLACE OR RECTIFY BREAKERS AS SHOWN PER PANEL
- SCHEDULE. BASE BID ACCORDINGLY.

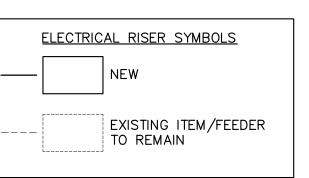
 NEW 120/208V, 3-PHASE, 4-WIRE 80A MLO PANEL . E.C. SHALL COORDINATE WITH LANDLORD/OWNER FOR EXACT LOCATION.
- PROVIDE NEW FEEDER AS SHOWN FROM THE EXISTING PANEL A TO NEW PANEL B . BASE BID ACCORDINGLY.
- EXISTING METERS AND BREAKERS TO REMAIN. E.C SHALL VERIFY THE EXACT LOCATION IN COORDINATION WITH ARCHITECT/OWNER IN THE FIELD

ELECTRICAL RISER GENERAL NOTES:

- 1. ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (ISC) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK. BASE BID ACCORDINGLY.
- 2. ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSE ONLY. E.C TO VERIFY EXACT POWER DISTRIBUTION & OPERABLE

CONDITION OF EXISTING DEVICES IN FIELD AND INFORM ENGINEER FOR ANY DISCREPANCY

- 3. ELECTRICAL CONTRACTOR SHALL PROVIDE TYPED PANEL DIRECTORY FOR ALL THE ELECTRICAL PANELS AS PER NEC
- 4. ALL THE CIRCUITS SUPPLYING KITCHEN EQUIPMENT AND SHOWN "GFI" ON POWER PLAN SHALL BE PROTECTED EITHER AT A PANEL WITH A GFI RATED BREAKER OR RECEPTACLE WITH GFI AS PER NEC 210.8. IF GFI RECEPTACLES ARE USED, CONTRACTOR SHALL LOCATE THE GFI RECEPTACLES SUCH THAT THESE ARE READILY ACCESSIBLE.



PANEL:	A (EXIS	TING)												MOUNTING:	SURFACE	
208Y/120	VOLTS,		3	PHASE,			4	WIRE					,	PANEL LOCATION:	вон	
MAIN CB:			MLO:	200A		BUS:	EXISTING	MIN,						FED FROM:	200A DISCONNECT	
NOTE:NOTE:	L : LIGHTII	NG, H : HVAC LOAD,	м : мот	OR LOAD, R : REC	EPTACLES, O : OTH	ER/MISC. (TYPICAL)	•								
CKT NO.	TRIP	DES	CRIPTION	OF LOAD	LOAD	LOAD	MINIMUM BRANCH	PI	R PHASE (KV	Ά)	MINIMUM BRANCH	LOAD	LOAD	DESCRIPTION O	F LOAD TRIP	CKT NO.
	AMPS				ТҮРЕ	(KVA)	CIRCUIT	A	В	С	CIRCUIT	(KVA)	TYPE	,	AMPS	
1	20	EXTERIOR SIGNAC	iΕ		L	0.50	2#12, #12G, 3/4"C	3.80			2#10, #1 <mark>0G, 3/4</mark> "C	3.30	E	#305_DONUT MACHINE	30/2P	2
3	20	SIGN			L	0.50	2#12, #12G, 3/4"C		1.00			3.30	E	_		4
5	20	SPARE								0.50	2#12, #12G, 3/4"C	0.50	E	FREEZER LIGHT	20	6
7	20	#400_BLENDER			E	1.38	2#12, #12G, 3/4"C	2.46			2#12, #12G, 3/4"C	1.08	E	#103_DISPLAY FREEZER	20	8
9	20	COUNTERTOP EQ	UIPMENTS	5	R	0.20	2#12, #12G, 3/4"C		0.43		2#12, #12G, 3/4"C	0.23	E	#104-FLAT LID DISPLAY FREEZE	ER 20	10
11	20	#104-FLAT LID DIS		EZER	E	0.23	2#12, #12G, 3/4"C			0.83	2#12, #12G, <mark>3/4</mark> "C	0.60	E	#200_CONE BREAKER	20/2P	12
13	20	#101_REACH IN F			E	0.72	2#12, #12G, 3/4"C	1.32			7.27,	0.60	E		,	14
15	20	#305_DONUT MA	CHINE		E	0.29	2#12, #12G, 3/4"C		1.67		2#12, #12G, 3/4"C	1.38	E	#400_BLENDER	20	16
17					Н	3.24				3.44	EXISTING	0.20	0	WATER HEATER REC	20	18
19	60/3P	RTU-1(E)			Н	3.24	EXISTING	3.42			EXISTING	0.18	R	ROOF RECEPTACLE	20	20
21					Н	3.24			3.44		EXISTING	0.20	L	SERVICE LIGHT (E)	20	22
23	30/2P*	WALK IN FREEZER	CONDEN	SOR.	E	1.27	2#10, #10G, 3/4"C			1.39	EXISTING	0.12	L	REST ROOM LIGHT + FAN (EF-1	L) (E) 20	24
25	30/21	VVALKINTIKLEZEI	CONDEIN		E	1.27	2#10, #100, 5/4 C	1.57			EXISTING	0.30	L	CUSTOMER AREA LIGHT (E)	20	26
27	20	KITCHEN AREA LIC	SHT		L	0.30	EXISTING		1.30		2#12, #12G, 3/4"C	1.00	R	SHOW WINDOW	20	28
29	20	#102_PREP REFRI	GERATOR		E	0.26				1.36	2#12, #12G, 3/4"C	1.10	R	SHOW WINDOW	20	30
31	20*	EF-2			М	0.03	2#12, #12G, 3/4"C	1.83			2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW	20	32
33	20*	#200_CONE BREA	KER		E	1.78	2#12, #12G, 3/4"C		1.96		2#12, #12G, 3/4"C	0.18	R	CO SENSOR	20	34
35	20*	#200_CONE BREA	KER		E	1.78	2#12, #12G, 3/4"C			3.86	2#12, #12G, 3/4"C	2.08	Н	FREEZER REFRIGERATION SYST	-EM 20/2P	36
37					0	4.37		6.45			2#12, #120, 3/4 C	2.08	Н	I NELZEN NEFNIGENATION 3131	20/24	38
39	80/3P*	PANEL - B			О	4.37	4#4, #8G, 1"C		4.97		2#12, #12G, 3/4"C	0.60	Е	#200_CONE BREAKER	20/2P	40
41					0	4.37				4.97	2π12, π120, 3/4 C	0.60	Е	#200_CONE BILLANEIX	20/2F	42
						TOTAL	CONNECTED LOAD (KVA	20.86	14.77	16.35		"*-NEW N	ICB AS RAT	TED TO BE REPLACED AS SHOWN	IN PANEL SCHEDULE"	

PANEL:	B(NEW											MOUNTING: SURFACED		
08Y/120	VOLTS,	3 PHASE,			4	WIRE						PANEL LOCATION: BOH		
-						I.								
MAIN CB:		MLO: 80A		BUS:	100A	MIN,						FED FROM: PANEL A (EXISTING)		
OTE:NOTE:	L : LIGHTIN	NG, H: HVAC LOAD, M: MOTOR LOAD, R: RECEPTACI	LES, O : OTH	ER/MISC. (TYPICAL)									
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	A PE	R PHASE (KV B	A) C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
~	20	GENERAL RECEPTACLE	R	0.18	2#12, #12G, 3/4"C	0.54			2#12, #12G, 3/4"C	0.36	E	MENU MONITOR	20	2
3	20	SPARE 2					0.00					SPARE	20	4
\ <u>\</u>	20	UNDERCOUNTER QUAD RECEPTACLES	E	0.36	2#12, #12G, 3/4"C			0.36				SPARE	20	6
7	20	#304_20 QT MIXER	E	1.27	2#12, #12G, 3/4"C	1.27						SPARE	20	8
9	20/2P	AIR CURTAIN-1	М	0.12	2#12, #12G, 3/4"C		0.48		2#12, #12G, 3/4"C	0.36	R	IT RACK	20	10
11	20/21	AIR CORTAIN-1	IVI	0.12	2#12, #12G, 3/4 C			1.92	2#12, #12G, 3/4"C	1.80	R	#900_POS SYSTEM	20	12
13	20	#106_UNDERCOUNTER BEVERAGE COOLER	E	0.26	2#12, #12G, 3/4"C	2.06			2#12, #12G, 3/4"C	1.80	R	#900_POS SYSTEM	20	14
15	20	MARKETING MONITOR	E	0.18	2#12, #12G, 3/4"C		0.18					SPARE	20	16
17	20	SPARE						0.00				SRARE-	№ 0	18
19	20	SPARE				0.00						SPARE	/2	20
21	20	PUSH BUTTON (RESTROOM)	М	0.50	2#12, #12G, 3/4"C		0.50					SPARE	20	22
23	20	SPARE						0.00				SPARE	20	24
25	20	OFFICE REC	R	1.44	2#12, #12G, 3/4"C	1.62			2#12, #12G, 3/4"C	0.18	E	RECIRCULTIAON PUMP	20	26
27	20	SPARE					0.00					SPARE	20	28
29	20	SPARE						0.18	2#12, #12G, 3/4"C	0.18	R	GENERAL RECEPTACLE	20	30
31	20	GENRAL RECEPTACLES	R	0.36	2#12, #12G, 3/4"C	0.50			2#12, #12G, 3/4"C	0.36	R	GENERAL RECEPTACLE	20	32
33	20	HOT FUDGE	E	0.36	2#12, #12G, 3/4"C		0.72		2#12, #12G, 3/4"C	0.36	Е	CARAMEL	20	34
35	20	KITCHEN DISPLAY SYSTEM FOR DIPPER WELLS	R	0.36	2#12, #12G, 3/4"C			0.36				SPARE	20	36
37	20	DINNING GENERAL RECEPTACLE	R	0.72	2#12, #12G, 3/4"C	0.72						SPARE	20	38
39	30	FREEZER COMPARTMENT	Н	2.40	2#10, #10G, 3/4"C		2.40					SPARE	20	40
41	20	KITCHEN DISPLAY SYSTEM FOR SHAKES/SUNDAES	R	0.36	2#12, #12G, 3/4"C			0.36				SPARE	20	42
			,	TOTAL	CONNECTED LOAD (KVA)	6.71	4.28	3.18						

ELECTRICAL PANEL SCHEDULES
SCALE: NTS

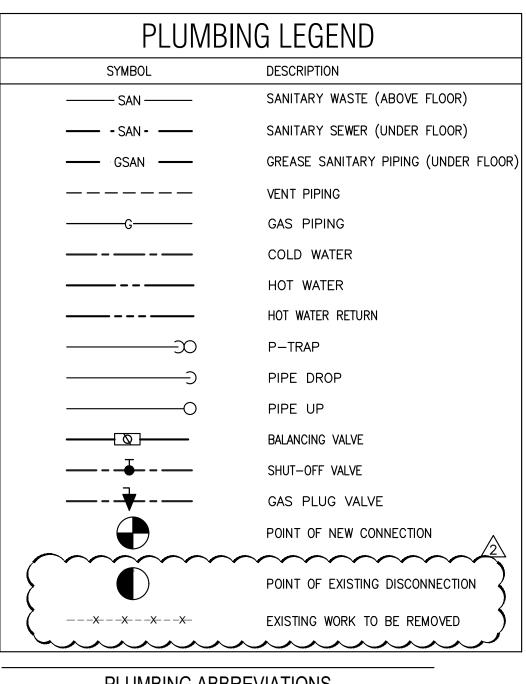


No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
$\sqrt{2}$	REVISED PERMIT SET	09/18/2024

ELECTRICAL
RISER DIAGRAM
AND PANEL
SCHEDULE

PERMIT SET

E500



PLUMBING ABBREVIATIONS

	СО	CLEANOUT	
	CO	DP CLEAN OUT DECK PLATE	
	CW	COLD WATER	
	HW	HOT WATER	
	HW	R HOT WATER RETURN	
	SAI	N SANITARY	
	S	SOIL	
	W	WASTE	
	LAV	/ LAVATORY	
	WC	WATER CLOSET	
	TYF	P. TYPICAL	
	DN	DOWN	
	EX.	EXISTING	
	AFF	ABOVE FINISH FLOOR	
	FD	FLOOR DRAIN	
	BFI		
	WH		
	SV	SHUTOFF VALVE	
	RCF ET	P RECIRCULATION PUMP EXPANSION TANK	
	НВ	HOSE BIBB	
	FS	FLOOR SINK	
	MS	MOP SINK	,
	IW	INDIRECT WASTE	
			_
		PLUMBING DRAWING LIST)
			$\parallel \downarrow \downarrow$
	P001	PLUMBING SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATION (1 OF 2)	{ }
	P002	PLUMBING SPECIFICATION (2 OF 2)	$\parallel \downarrow$
	P100	PLUMBING DEMOLITION PLAN	$- \langle$
٠	P101	PLUMBING SANITARY PIPING PLAN	- 3
	P102	PLUMBING WATER SUPPLY AND GAS PIPING PLAN	5
	P501	PLUMBING DETAILS (1 OF 2)	
.	P502	PLUMBING DETAILS (2 OF 2)	$-\mid \downarrow$
	P601	· ,	- {
	P602	PLUMBING RISERS	
-			1

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. CALIFORNIA BUILDING CODE 2022 (VOL. 1 & 2)
- b. CALIFORNIA MECHANICAL CODE 2022
- c. CALIFORNIA PLUMBING CODE 2022 d. CALIFORNIA ENERGY CODE 2022
- e. CALIFORNIA ELECTRICAL CODE 2022

BUILDING DEPARTMENT PLUMBING NOTES

- 1. ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER AND GAS) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE LOCAL AMENDMENTS TO REQUIREMENTS OF 2022 CALIFORNIA PLUMBING CODE, & 2022 CALIFORNIA ENERGY CODE.
- 2. INSTALLATION OF DRAINAGE PIPING UNDERGROUND AND ABOVEGROUND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION CP
- 3. PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION PC 312.
- 4. MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION IN PC 301, PC 401, PC 604, PC 701, PC 803.1 & 814.3, PC 903 & PC 1001.1
- 5. EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 4, 5, 6, 7, 8, 9,
- 6. DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER CHAPTER 10 AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENT OF SECTION PC 707.
- 7. GREASE INTERCEPTOR SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 1014.
- 8. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 313.
- 9. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION PC 601-603, 604, 606, 607, 608, 609, 610.
- 10. THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION PC 701 THROUGH PC 712.
- 11. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTION PC 901 THROUGH PC 909.
- 12. INSPECTION AND TESTING OF PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF SECTION PC 318, PC 503, PC 609.4, PC 712, PC 723, PC 1107.
- 13. GAS PIPING INSTALLATION SHALL BE IN ACCORDANCE WITH 2022 CALIFORNIA PLUMBING CODE CHAPTER 12.

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. N 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.
- PIPE AND FITTINGS
- HANGERS AND SUPPORTS
- PLUMBING PIPING LAYOUT
- PLUMBING FIXTURES
- WATER HEATERS & ACCESSORIES
- FLOOR DRAINS MIXING VALVES

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

1.04 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.
- E. REFER TO THE 2022 CALIFORNIA PLUMBING CODE FOR ADDITIONAL DEFINITIONS.

1.04 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 ACCESS<mark>OR</mark>IES 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.

1.05 PRODUCTS

A. SANITARY AND VENT PIPING:

- 1. ABOVE GRADE/ UNDERGROUND PIPING SHALL BE CAST IRON PIPE WHICH SHOULD COMPLY WITH ASTM A 74 STANDARD/CISPI 301.
- 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 "AND SMALLER (I.D.).
- PVC OR OTHER COMBUSTIBLE PLASTIC PIPING SHALL NOT BE INSTALLED IN CEILING PLENUM SPACES.
- 4. 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:

- ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
- 2. FITTINGS IN DOMESTIC WATER PIPING SHALL BE COPPER OR COPPER ALLOY.
- 3. JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
- 4. THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC. AS PER LOCAL CODE REQUIREMENT.
- 5. COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
- 6. SERVICE WATER HEATING SYSTEM AND EQUIPMENT INSIDE THE SPACE SHOULD BE AS PER THE CALIFORNIA ENERGY CODE 2022, SECTION 110.3.
- 7. AS PER CALIFORNIA 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 OFF THE USAGE TEMPERATURE MAINTENANCE SYSTEM DURING EXTENDED PERIOD WHEN HOT WATER IS NOT REQUIRED.
- 8. AS PER CALIFORNIA ENERGY CODE 2022, 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
- 9. INSULATION REQUIRED SHOULD COMPLY WITH CALIFORNIA ENERGY CODE 2022. REFER BELOW TABLE FOR MINIMUM PIPE INSULATION THICKNESS ACC. TO CALIFORNIA PLUMBING CODE 2022 SECTION 609.12, CALIFORNIA ENERGY CODE 2022 SECTION 120.3.

MINIMUM PIPE INSULATION THICKNESS

FLUID OPERATING		CONDUCTIVITY		NOMII	NAL PIPE	DIAMETI	ER(INCH	IES)
TEMPERATURE RANGE (°F)	CONDUCTIVITY BTU·IN./ (H·FT2·*F)	MEAN RATING TEMPERATURE, *F		<1	1 to < 1½	1½ to < 4	4 to < 8	>8
141 200	0.25 0.20	105	INCH.	1.5	1.5	2	2	2
141-200	0.25-0.29	125	R- VALUE	R-11.5	R-11	R-14	R-11	R-10
105-140	0.22-0.28	100	INCH.	1.0	1.5	1.5	1.5	1.5
			R- VALUE	R-7.7	R-11	R-9	R-7.7	R-8

10.NON-RECIRCULATED FIXTURE BRANCH PIPING SHALL NOT EXCEED 25 FEET (7.62 METERS) IN LENGTH. DEAD-END PIPING (RISERS WITH NO FLOW, BRANCHES WITH NO FIXTURE) SHALL NOT BE INSTALLED. IN RENOVATION PROJECTS, DEAD-END PIPING SHALL BE REMOVED IN THE AREA OF RENOVATION. EMPTY RISERS, MAINS, AND BRANCHES INSTALLED FOR FUTURE USE SHALL BE PERMITTED.

11.SEAL ALL JOINT BETWEEN SEGMENT OF INSULATION.

12.PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

WATER HEATER (GAS FIRED) 1. EXISTING TANKLESS GAS FIRED WATER HEATERS WITH FLOW OF 5.0

- GPM CAPACITY AND NO. OF UNITS WILL BE 1NO. 2. BURNER SHALL BE ALUMINIZED STEEL OR CAST IRON, ADJUSTABLE, OR SELF-ADJUSTING AIR-GAS MIXTURE CONTROL.
- 3. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH CALIFORNIA ENERGY CODE 2022 SECTION 110.3 (C), AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.
- 4. THE OUTER JACKET SHALL BE STEEL WITH BAKED ENAMEL/ACRYLIC FINISH AND SHALL BE PROVIDED WITH ACCESS DOOR FOR SERVICING CONTROLS AND BURNER.
- 5. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

GAS PIPING

- PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS FIRED EQUIPMENT AND EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON DRAWINGS AS PER 2022 CALIFORNIA PLUMBING CODE, LOCAL UTILITY GAS REQUIREMENTS AND NFPA 54 ANSI Z223.1.
- NATURAL GAS PIPING SHALL BE AS FOLLOWS:
- ASTM A-53 SCHEDULE 40 STEEL PIPE PAINTED WITH YELLOW ANTI-CORROSIVE PAINT, SCREWED OR WELDED IN ACCORDANCE WITH CODE REQUIREMENT (FITTINGS FOR LINES LARGER THAN 2" SHALL BE WELDED STEEL FITTINGS FOR LINES 2" AND SMALLER. EXCEPT WHEN LOCATED IN AIR PLENUMS, SHALL BE SCREWED STANDARD WEIGHT BLACK MALLEABLE).
- PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY NFPA-54 AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE
- 4 PROVIDE ALL TESTS, METERS, INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.
- 5 PAINT ALL GAS PIPING EXPOSED TO WEATHER WITH ONE COAT OF PRIMER, AND TWO COATS OF RUST-PROOF PAINT. COLOR OF PIPE ON ROOF SHALL BE YELLOW. COORDINATE COLOR OF PIPE ON EXTERIOR OF BUILDING WITH GC TO MATCH BUILDING COLORS.
- 6 GAS COCKS 1-1/2" AND SMALLER SHALL BE ALL BRONZE. SCREWED, FLAT HEAD, BRASS PLUG AND WASHER 200 LB NOG PROVIDE LINE SIZE 6" LONG DIRT LEG DOWN STREAM OF GAS COCK AT ALL EQUIPMENT CONNECTIONS.
- 7 NO VALVES ARE TO BE LOCATED IN AIR PLENUMS.
- PROVIDE GAS PIPE SUPPORTS IN ACCORDANCE WITH CALIFORNIA PLUMBING CODE 2022 SECTION 1210.3.5 REQUIREMENTS.

E. MIXING VALVES

- 1. VALVE BODY SHALL BE MADE OF CAST BRASS. THE INTERNAL COMPONENTS SHALL BE MADE OF BRASS OR STAINLESS STEEL.
- 2. TYPES A, C & D VALVES: VALVE SHUTS OFF IN FULL COLD POSITION AND MUST PASS THROUGH COLD RANGE BEFORE DELIVERING WARM, AND/OR HOT WATER. TEMPERATURE LIMIT SET AT 105°F MAXIMUM DELIVERY TEMPERATURE. IF ONE SUPPLY SHOULD FAIL, THE OTHER WILL AUTOMATICALLY AND INSTANTLY SHUT DOWN. DELIVERY CAPACITY IS 5GPM @ 45 PSIG DIFFERENTIAL.
- 3. TYPES OF VALVES: TYPE A- THERMOSTATICALLY OPERATED BY MEANS OF BI-METALLIC STRIP, OR EXPANSION BELLOWS: TYPE B-SINGLE HANDLE MECHANICAL MIXER, OR INDIVIDUAL HOT AND COLD CONTROL VALVES; TYPE C- PRESSURE BALANCING SHOWER VALVE/PISTON OPERATED MIXING VALVE; TYPE D- BALANCED PRESSURE OPERATION, WITH INTEGRAL DIAL THERMOMETER INDICATING DELIVERED WATER TEMPERATURE.
- 4. EACH ELEMENT SHALL BE CONTROLLED BY AN INDIVIDUALLY MOUNTED THERMOSTAT AND HIGH TEMPERATURE CUT-OFF SWITCH. ALL INTERNAL CIRCUITS SHALL BE FUSED. THE OUTER JACKET SHALL BE OF BAKED ENAMEL FINISH AND SHALL BE PROVIDED WITH FULL SIZE CONTROL COMPARTMENT FOR PERFORMANCE OF SERVICE AND MAINTENANCE THROUGH HINGED FRONT PANEL AND SHALL ENCLOSE THE TANK WITH FOAM INSULATION. ELECTRICAL JUNCTION BOX WITH HEAVY DUTY TERMINAL BLOCK SHALL BE PROVIDED. THE DRAIN VALVE SHALL BE LOCATED IN THE FRONT FOR EASE OF SERVICING.

F. 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. SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.
- 5. ALL THE SUSPENDED SHALL BE SUPPORTED AT INTERVAL AS PER SECTION 313.3 TABLE 313.3
- 1. PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR UT-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 DUT
- 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 XPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
- 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.

H. SLEEVES AND ESCUTCHEONS:

G. VALVES:

- 1. SLEEVES THROUGH STRUCTURAL CONCRETE MEMBERS AND SLEEVES FOR WALLS BELOW GRADE AND FLOORS ON GRADE SHALL BE STANDARD WEIGHT GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH OTHER THAN STRUCTURAL COMPONENTS OF THE BUILDING SHALL BE 20 GAUGE GALVANIZED SHEET METAL WITH LOCK SEAM JOINTS. USG THERMAFIBER SAFING INSULATION SHALL BE INSTALLED BETWEEN PIPE AND SLEEVE.
- 2. PIPE ESCUTCHEON PLATES SHALL BE INSTALLED WHERE EXPOSED PIPING PASSES THROUGH WALLS, CEILINGS, AND FLOORS AND SHALL BE MINIMUM 20 GAUGE STEEL. PROVIDE CHROME PLATED ESCUTCHEON PLATES IN FINISHED AREAS.

I. DRAINAGE ACCESSORIES

GENERAL:

- a. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, UNLESS OTHERWISE SPECIFIED.
- b. SECURE EXTERNAL COMPONENTS IN PLACE WITH VANDAL RESISTANT FASTENERS OR DEVICES WHICH CANNOT BE REMOVED WITHOUT SPECIAL TOOLS.

2. DEVICES:

- a. CLEANOUT & CLEANOUT PLUG
- THREADED PIPE FITTING OR CAST IRON FERRULE WITH GAS TIGHT CLEANOUT PLUG
- PLUG SHOULD BE CAST BRASS OR BRONZE, WITH THREADED END. AND RAISED OR COUNTERSUNK HEAD.
- LUBRICATE THREADS OF CLEANOUT PLUG WITH ANTI-SEIZE LUBRICANT BEFORE FINAL INSTALLATION.
 - b. CLEANOUT WALL PLATE
- IT SHOULD BE ROUND, STAINLESS STEEL OR POLISHED CHROME PLATED BRONZE COVER PLATE WITH STAINLESS STEEL VANDAL RESISTANT FASTENER TO SECURE TO CLEANOUT PLUG.

c. CLEANOUT DECK PLATE

- IT SHOULD BE STANDARD DUTY FLOOR CLEANOUT FITTING WITH COATED CAST IRON BODY: ROUND, POLISHED NICKEL BRONZE SCORIATED TOP SECURED TO CLEANOUT PLUG WITH STAINLESS STEEL VANDAL RESISTANT FASTENER: THREADED HEIGHT ADJUSTMENT, CAST IRON HEAD, GAS TIGHT CLEANOUT PLUG, AND CONNECTION TO MATCH PIPING OPTION SELECTED.
- J. IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO
- 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. 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.

- P. IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED
- Q. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. REMOVE PROTECTIVE COATINGS PRIOR TO INSTALLATION.
- R. REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.



05/17/2024

08/21/2024

09/18/2024

Description

PERMIT SET

REVISED PERMIT SET

REVISED PERMIT SET

PLUMBING SYMBOLS, **ABBREVIATIONS NOTES AND SPECIFICATION**

PERMIT SET

Scale:

As Indicated

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- S. 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.
- T. 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.
- U. AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.
- V. ALL PIPING INSTALLED ON THE ROOF SHALL BE SUPPORTED BY "PILLOW BLOCK" PIPE STANDS AS MANUFACTURED BY MIRO INDUSTRIES, OR APPROVED EQUAL. WOOD PIPE SUPPORTS SHALL NOT BE ACCEPTABLE. PROVIDE TRAFFIC/WALK PADS BELOW ALL PIPE STANDS.
- W. 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.
- X. PROVIDE WATER HAMMER ARRESTERS ON SUPPLY PIPING TO ALL FLUSHOMETER VALVES AND QUICK—CLOSING VALVES.
- Y. UNLESS OTHERWISE INDICATED, TRAPS SEALS AT ALL FLOOR DRAINS SHALL BE MAINTAINED BY AN APPROVED TRAP PRIMING DEVICE.
- Z. MAINTAIN ALL REQUIRED AND RECOMMENDED CLEARANCES FOR ALL PLUMBING SYSTEM COMPONENTS AND EQUIPMENT.
- AA. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN ALL PLUMBING V.T.R.S AND ALL OUTDOOR AIR INTAKES. OFFSET VENT STACKS AND STACK VENTS IF AND AS REQUIRED BELOW ROOF TO MAINTAIN SUCH CLEARANCE WHETHER OR NOT SUCH OFFSET IS INDICATED ON THE DRAWINGS. PROVIDE ALL REQUIRED SEISMIC SUPPORTS.

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
- 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.

2.03 INSULATION

COVER ALL HOT WATER AND HOT WATER RECIRCULATION PIPE WITH MINIMUM INSULATION THICKNESS OF NOT LESS THEN DIAMETER OF PIPE OR 1" THICK FOR PIPE SIZE UP TO 2" AND 2" THICK FOR PIPE SIZE OF 2" OR GREATER THAN 2". INSTALL ALL INSULATION AS PER MANUFACTURERS RECOMMENDATIONS. ALL PIPE INSULATION SHALL COMPLY WITH CALIFORNIA ENERGY CODE 2022 AND CALIFORNIA PLUMBING CODE 2022.

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. 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.
- I. ALL EQUIPMENT WILL BE FACTORY TESTED.
- J. 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. ALL TESTS SHALL BE PERFORMED AS PER CPC 2022.
 - b. TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.c. 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.



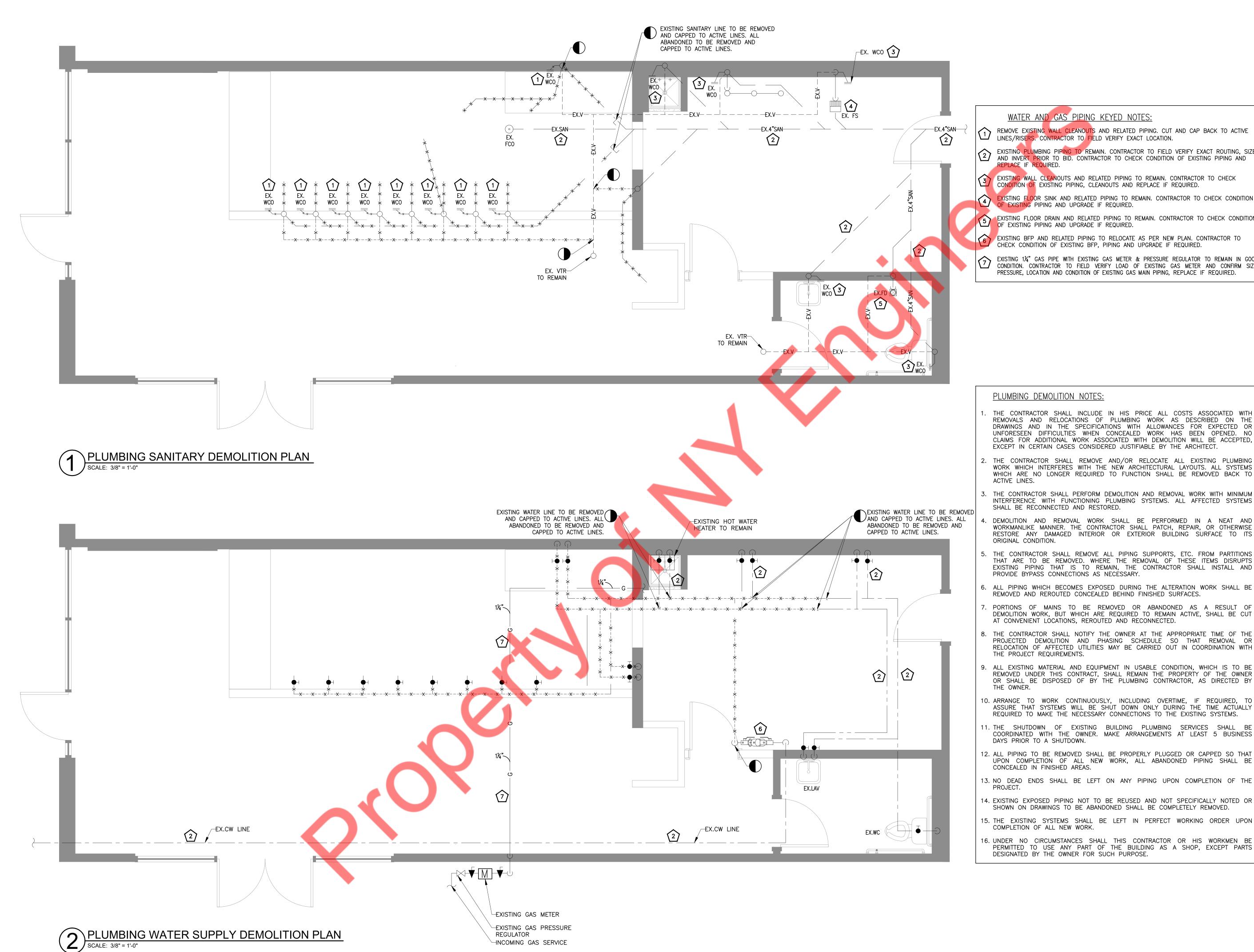
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/2\	REVISED PERMIT SET	09/18/2024
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PLUMBING SPECIFICATION (2 OF 2)

PERMIT SET P002

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Scale:



WATER AND GAS PIPING KEYED NOTES:

- REMOVE EXISTING WALL CLEANOUTS AND RELATED PIPING. CUT AND CAP BACK TO ACTIVE LINES/RISERS. CONTRACTOR TO FIELD VERIFY EXACT LOCATION.
- EXISTING PLUMBING PIPING TO REMAIN. CONTRACTOR TO FIELD VERIFY EXACT ROUTING, SIZE AND INVERT PRIOR TO BID. CONTRACTOR TO CHECK CONDITION OF EXISTING PIPING AND
- EXISTING WALL CLEANOUTS AND RELATED PIPING TO REMAIN. CONTRACTOR TO CHECK CONDITION OF EXISTING PIPING, CLEANOUTS AND REPLACE IF REQUIRED.
- EXISTING FLOOR SINK AND RELATED PIPING TO REMAIN. CONTRACTOR TO CHECK CONDITION OF EXISTING PIPING AND UPGRADE IF REQUIRED.
- EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN. CONTRACTOR TO CHECK CONDITION of EXISTING PIPING AND UPGRADE IF REQUIRED.
- EXISTING BFP AND RELATED PIPING TO RELOCATE AS PER NEW PLAN. CONTRACTOR TO CHECK CONDITION OF EXISTING BFP, PIPING AND UPGRADE IF REQUIRED.
- EXISTING 11/4" GAS PIPE WITH EXISTING GAS METER & PRESSURE REGULATOR TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY LOAD OF EXISTING GAS METER AND CONFIRM SIZE, PRESSURE, LOCATION AND CONDITION OF EXISTING GAS MAIN PIPING, REPLACE IF REQUIRED.

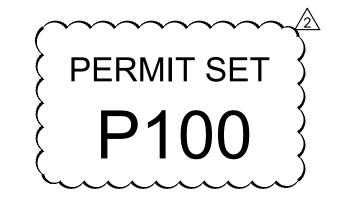
PLUMBING DEMOLITION NOTES:

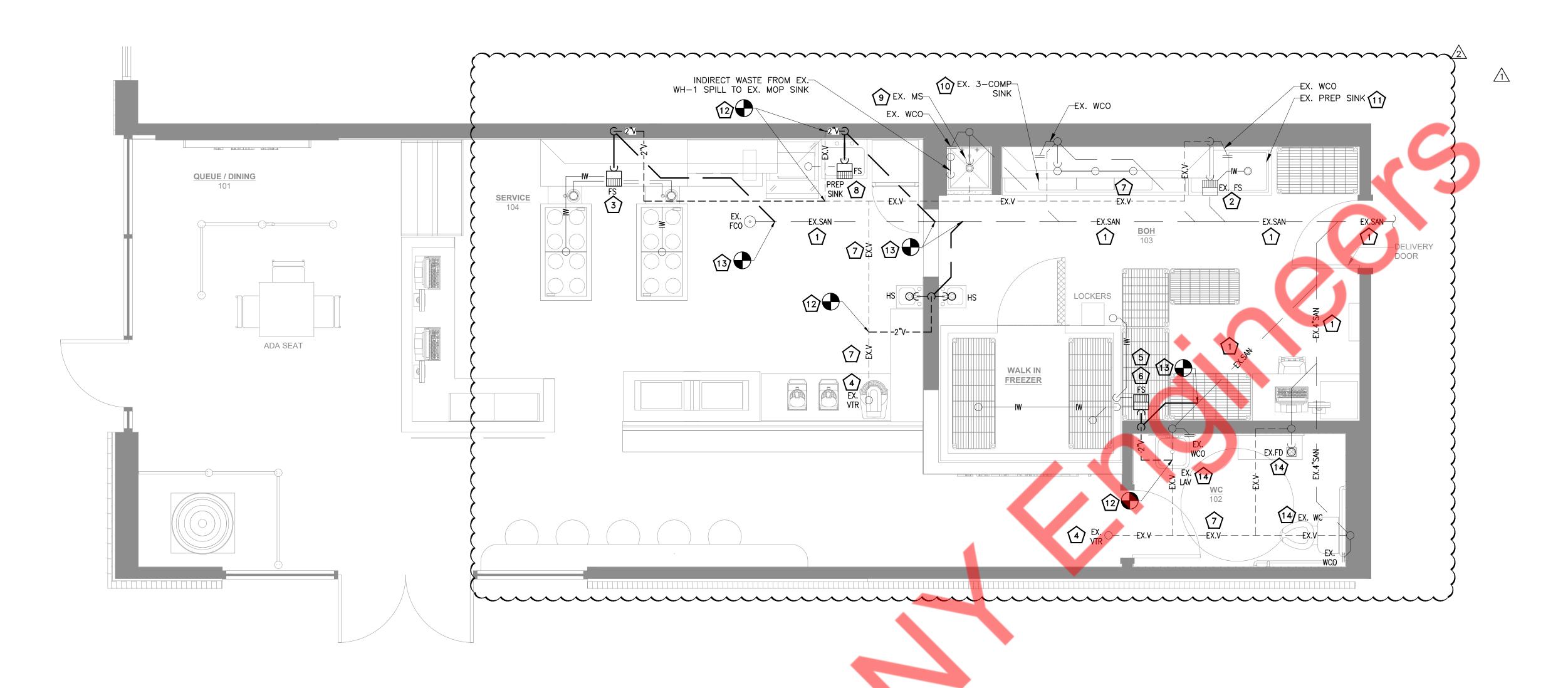
- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF PLUMBING WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE ARCHITECT.
- 2. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING PLUMBING WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL LAYOUTS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE REMOVED BACK TO
- 3. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING PLUMBING SYSTEMS. ALL AFFECTED SYSTEMS
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR, OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS
- THE CONTRACTOR SHALL REMOVE ALL PIPING SUPPORTS, ETC. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS AS NECESSARY.
- ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- PORTIONS OF MAINS TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
- 8. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE PLUMBING CONTRACTOR, AS DIRECTED BY
- 10. ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY
- 11. THE SHUTDOWN OF EXISTING BUILDING PLUMBING SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS
- DAYS PRIOR TO A SHUTDOWN. 12. ALL PIPING TO BE REMOVED SHALL BE PROPERLY PLUGGED OR CAPPED SO THAT
- 13. NO DEAD ENDS SHALL BE LEFT ON ANY PIPING UPON COMPLETION OF THE
- 14. EXISTING EXPOSED PIPING NOT TO BE REUSED AND NOT SPECIFICALLY NOTED OR SHOWN ON DRAWINGS TO BE ABANDONED SHALL BE COMPLETELY REMOVED.
- 15. THE EXISTING SYSTEMS SHALL BE LEFT IN PERFECT WORKING ORDER UPON
- 16. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR OR HIS WORKMEN BE PERMITTED TO USE ANY PART OF THE BUILDING AS A SHOP, EXCEPT PARTS DESIGNATED BY THE OWNER FOR SUCH PURPOSE.



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No.	Description	Date
	PERMIT SET	05/17/2024
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2	REVISED PERMIT SET	09/18/2024

PLUMBING **DEMOLITION** PLAN





PLUMBING SANITARY PIPING PLAN

SCALE: 3/8" = 1'-0"

SANITARY KEYED NOTES:

EXISTING 4" SANITARY LINE TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.

- EXISTING FLOOR SINK TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING FLOOR SINK AND UPGRADE IF REQUIRED.
- ROUTE INDIRECT WASTE FROM DIPPER WELL, BUBBLER AND FLAT LID FREEZER TO FLOOR SINK WITH APPROVED AIR GAP
- CONNECT EXISTING 3" VENT TO EXISTING VTR IN SPACE. CONTRACTOR TO FIELD VERIFY LOCATION, SIZE OF EXISTING VTR. VTR SHALL NOT BE LESS THAN 3", UPGRADE IF OTHERWISE.
- CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF MECHANICAL EQUIPMENT AND ROUTE INDIRECT WASTE FROM WALK—IN FREEZER TO FLOOR SINK WITH APPROVED AIR
- CONTRACTOR TO FIELD VERIFY THE EXISTING SECONDARY BFP IS AVAILABLE ON SITE AND IN OPERATIONAL CONDITION, IF NOT PROVIDE NEW BFP. ROUTE INDIRECT DRAIN FROM SECONDARY EXISTING BFP TO NEAREST FLOOR SINK WITH APPROVED AIR GAP.
- EXISTING VENT LINE TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
- ROUTE INDIRECT WASTE FROM REFRIGERATOR AND PREPARATION SINK TO NEAREST FLOOR SINK WITH APPROVED AIR GAP.
- PIPING AND REPLACE IF REQUIRED.

 EXISTING 3-COMP SINK AND PLUMBING CONNECTIONS TO REMAIN IN GOOD CONDITION.
 CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.

EXISTING MOP SINK AND PLUMBING CONNECTION TO REMAINS IN GOOD CONDITION.

CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING

- EXISTING PREP SINK AND PLUMBING CONNECTIONS TO REMAIN IN GOOD CONDITION.

 CONTRACTOR TO FIELD VERIFY THE LOCATION. SIZE AND CONDITION OF EXISTING
- CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.

 CONNECT NEW 2" VENT LINE TO EXISTING VENT LINE. CONTRACTOR TO FIELD VERIFY EXISTING VENT LINE LOCATION AND SIZE BE BOLLTE AND LIBERTY TO THE LOCATION AND SIZE BE BOLLTE AND LIBERTY.
- CONNECT NEW 3" SANITARY LINE TO EXISTING SANITARY WASTE LINE. CONTRACTOR TO FIELD VERIFY EXISTING SANITARY SIZE, ROUTING AND INVERT PRIOR TO BID. RE—ROUTE

SANITARY AS PER SITE CONDITION IF REQUIRED. BASE BID ACCORDINGLY.

EXISTING LAV, WC & FLOOR DRAIN IN RESTROOM AND PLUMBING CONNECTION TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.

SANITARY GENERAL NOTES:

- 1. UNLESS OTHERWISE NOTED, SLOPE OF DRAINAGE SYSTEM TO BE 1/8" PER FOOT OF RUN FOR PIPE 3" OR LARGER AND 1/4" PER FOOT FOR PIPE SMALLER THAN 3".
- 2. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
- 2. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
- 3. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.
- 4. ALL CLEANOUTS TO BE ACCESSIBLE.
- LANDLORD'S ROOFERS AT LANDLORD OPTION, A BONDED ROOFER APPROVED IN ADVANCE BY LANDLORD.

5. ANY ROOF PENETRATION SHALL BE PERFORMED BY

- 6. PROVIDE TRAP PRIMER/ SEAL IN FLOOR DRAIN AS PER LOCAL JURISDICTION.
- 7. CONTRACTOR TO CO-ORDINATE WITH MECHANICAL CONTRACTOR FOR CONDENSATE DRAIN. EXTEND AND SPILL THE CONDENSATE DRAIN TO NEAREST FLOOR SINK WITH AIR GAP FITTING. REFER DETAILS ON SHEET P502 DETAIL #6 FOR PIPE SIZE & LOCATION.

HEALTH DEPARTMENT NOTES:

- 1. THE FLOOR SINK MUST BE EASILY ACCESSIBLE FROM THE WALKWAY WITHOUT HAVING TO CRAWL INTO TIGHT SPACES, UNDER EQUIPMENT, OR MOVE ANY EQUIPMENT TO REACH IT. THE FLOOR SINK CANNOT BE IN WALKWAYS OR IN ANY OTHER LOCATION THAT RENDERS IT A TRIPPING HAZARD.
- 2. THE TOTAL RUN OF THE DRAIN LINE FROM THE EQUIPMENT TO THE FLOOR SINK CANNOT EXCEED (15)—FEET WITH THE EXCEPTION OF WALK—IN UNITS, WHERE THE DRAIN LINE MAY EXCEED THE REQUIRED (15)—FEET WHEN ADEQUATE DRAIN SLOPE IS PROVIDED. ALL DRAIN LINES MUST HAVE A MINIMUM (1/4)—INCH PER FOOT SLOPE FOR ADEQUATE DRAINAGE, AND BE INSTALLED (1/2)—INCH AWAY FROM WALLS, AND NOT CROSS ANY AISLES, TRAFFIC AREAS, OR DOOR OPENINGS. ADDITIONALLY, ALL DRAIN LINES SHALL BE INSTALLED (6)—INCHES ABOVE THE FINISHED FLOOR. MOUNTING HARDWARE USED TO ELEVATE DRAIN LINES MUST BE EASILY CLEANABLE. UNI—STRUTS, FOR EXAMPLE, ARE NOT CONSIDERED EASILY CLEANABLE AND NOT ACCEPTED.
- 3. THE FLOOR SINK UNDER EQUIPMENT INSTALLED ON (6)—INCH LEGS OR CASTER WHEELS MUST BE IN—LINE WITH THE FRONT FACE OF THE EQUIPMENT. A FLOOR SINK INSTALLED AT THE ACCESSIBLE SIDE EDGE OF THE EQUIPMENT MAY ALSO BE ACCEPTED IF THE FLOOR SINK CONTINUES TO BE VISIBLE AND ACCESSIBLE FROM THE WALKWAY.
- 4. THE FLOOR SINK UNDER EQUIPMENT INSTALLED ON (4)—INCH CONCRETE CURB (E.G., STORAGE CABINET AND DISPLAY REFRIGERATORS) MUST BE HALF—EXPOSED. A PROPERLY COVED PROTECTIVE ENCLOSURE WILL BE REQUIRED AROUND THE BACKSIDE OF THE HALF—EXPOSED FLOOR SINK.
- 5. FLOOR SINKS MUST BE INSTALLED FLUSH WITH THE FLOOR.
- 6. ALL EQUIPMENT WITH ANY TYPE OF OUTLET DRAINS (CONDENSATE, CLEANING, DEFROSTING, ETC.) SHALL BE INDIRECTLY PLUMBED TO A FLOOR SINK USING RIGID PIPES. FLEXIBLE PIPES MAY BE USED BUT MUST BE CONNECTED TO A RIGID PIPE THAT TERMINATES AT THE FLOOR SINK. ANY EQUIPMENT THAT GENERATES WASTE WILL NOT BE ACCEPTED TO BE ROLLED INTO A FLOOR SINK FOR DRAINAGE. FLOOR DRAINS OR FUNNEL DRAINS CANNOT BE ACCEPTED IN— LIEU OF FLOOR SINKS.



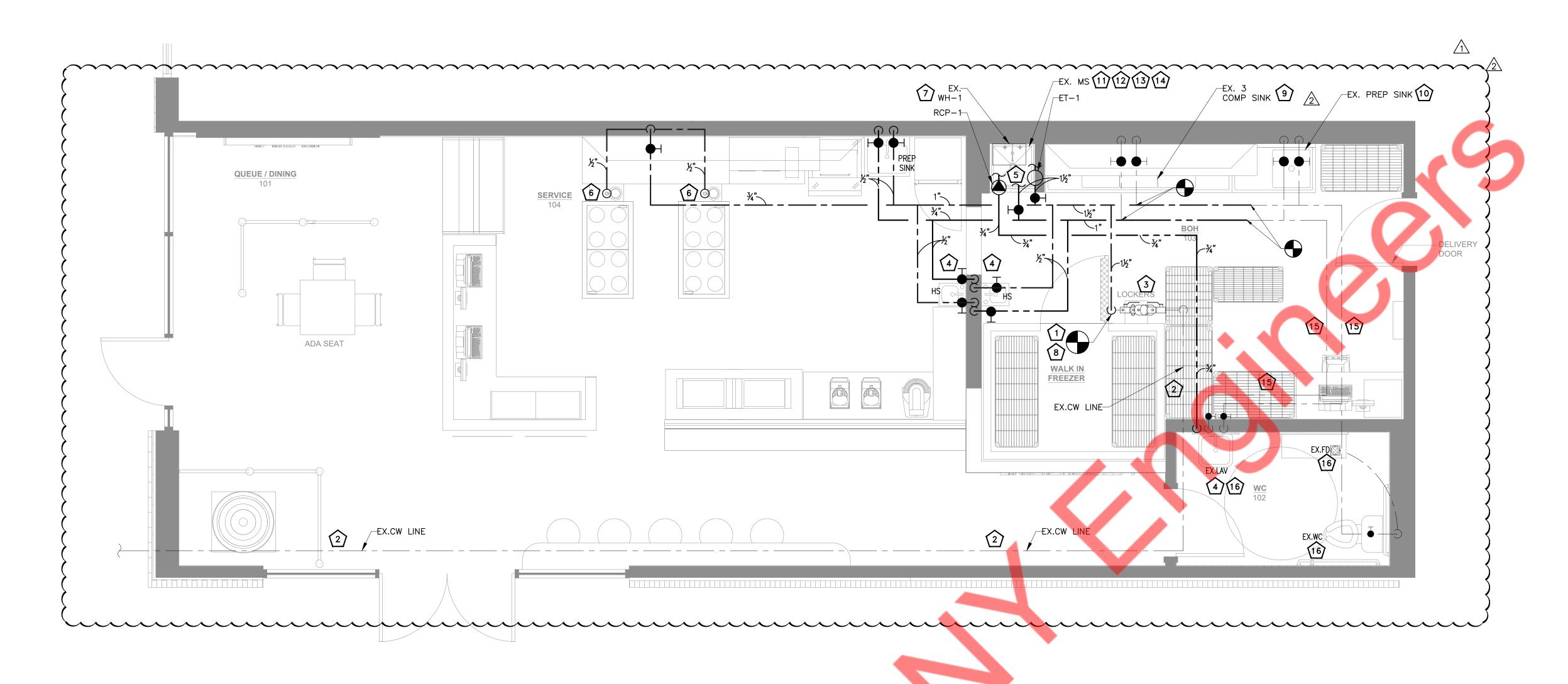
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PLUMBING SANITARY PIPING PLAN

PERMIT SET

P101

Scale:



PLUMBING WATER SUPPLY AND GAS PIPING PLAN

SCALE: 3/8" = 1'-0"

GAS PIPING GENERAL NOTES:

PROVIDE SHUT-OFF VALVE AN ACCESSIBLE LOCATION. PROVIDE GAS PRESSURE REGULATOR FOR GAS EQUIPMENT IF REQUIRED.
 CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITION DIFFER THAN SHOWN ON THIS PLAN.

GAS PIPE SIZ 2022, SECTIO) CO
SF	ESSURE— LE PECIFIC GRAV ESSURE DROF	/ITY- 0.6	2 PSI	•
	ENT LENGTH ITTINGS (+40			

GAS PIPE	SIZING
TOTAL CFH	199 CFH
DEVELOPED LENGTH	80 FEET
SIZE	CFH
3⁄4"	117
1"	220
1¼"	452

WATER AND GAS PIPING KEYED NOTES:

CONNECT NEW 1½" CW PIPING WITH EXISTING BFP AND TIE-INTO THE EXISTING WATER MAIN LINE. CONTRACTOR TO FIELD VERIFY ROUTING, LOCATION, CONDITION AND SIZE OF EXISTING CW LINE. UPGRADE IF REQUIRED.

- EXISTING INCOMING WATER LINE TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED. NO TAP-OFF TO BE TAKEN BEFORE EXISTING SECONDARY BFP.
- CONTRACTOR TO FIELD VERIFY AVAILABILITY AND OPERATIONAL CONDITION OF EXISTING SECONDARY BFP. PROVIDE NEW IF EXISTING CANNOT BE REUSED. ROUTE INDIRECT DRAIN FROM SECONDARY BFP TO NEAREST FLOOR SINK WITH APPROVED AIR GAP.

PROVIDE ASSE 1070 OR SIMILAR THERMOSTATIC MIXING VALVE AT ALL HAND SINK AND

- LAVATORIES IF NOT ALREADY PROVIDED WITH THEM. SET AT 110°F MAXIMUM.

 PROVIDE NEW RE-CIRCULATION PUMP (RCP-1), NEW THERMAL EXPANSION TANK (ET-1), HOT WATER RETURN PIPING, ASSOCIATED ACCESSORIES AND FITTINGS IF NOT ALREADY
- AVAILABLE. BID BASE ACCORDINGLY.

 PROVIDE ASSE 1022 APPROVED BACKFLOW PREVENTER TO EQUIPMENT WATER PIPE FOR BACKFLOW PREVENTION. INSTALL BFP AT ACCESSIBLE LOCATION.
- EXISTING WATER HEATER (EX. WH—1) WITH EXISTING ASSOCIATED ACCESSORIES AND FITTINGS TO REMAIN. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING WATER HEATER AND REPLACE IF REQUIRED. SPILL INDIRECT WASTE TO EXISTING MOP SINK WITH APPROVED AIR GAP.
- CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE WATER PRESSURE AT INCOMING WATER MAIN LINE. WATER PRESSURE SHOULD NOT BE LESS THAN 45 PSI AT THE REQUIRED FLOW. NOTIFY ENGINEER IF CONDITION DIFFERS.
- EXISTING 3 COMP. SINK AND PLUMBING CONNECTION TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND CONNECT TO THE NEW WATER SUPPLY PIPE LINE HEADER. REPLACE EXISTING PIPING IF REQUIRED.
- EXISTING PREP SINK AND PLUMBING CONNECTION TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND CONNECT TO THE NEW WATER SUPPLY PIPE LINE HEADER. REPLACE EXISTING PIPING IF REQUIRED.
- EXISTING MOP SINK AND PLUMBING CONNECTION TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY THE CONDITION OF EXISTING PIPING AND CONNECT TO THE NEW WATER SUPPLY PIPE LINE HEADER. REPLACE EXISTING PIPING IF REQUIRED.
- PROVIDE ASSE 1070 OR SIMILAR THERMOSTATIC MIXING VALVE AT MOP SINK IF NOT ALREADY PROVIDED WITH THEM. SET AT 120°F MAXIMUM.
- CONTRACTOR TO FIELD VERIFY AND PROVIDE ASSE 1055 APPROVED ATMOSPHERIC VACUUM BREAKER ON WATER LINE OF MOP SINK FAUCET IF NOT ALREADY PROVIDED. INSTALL BFP AS PER LOCAL CODE.
- CONTRACTOR TO FIELD VERIFY AND PROVIDE ASSE 1055 APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTOR ON WATER LINE TO CHEMICAL DISPENSER IF NOT ALREADY PROVIDED. INSTALL BFP AS PER LOCAL CODE AND PROVIDE ACCESS FOR MAINTENANCE.
- EXISTING CW AND HW LINE TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING, REPLACE IF REQUIRED.
- EXISTING LAV, WC & FLOOR DRAIN IN RESTROOM AND PLUMBING CONNECTION TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.

WATER PIPING GENERAL NOTES:

- CW/HW PIPING TO BE PROVIDED WITH INSULATION AS PER CALIFORNIA ENERGY CODE 2022 (REFER SHEET P001)
- 2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
- 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. ANY ROOF PENETRATION SHALL BE PERFORMED BY LANDLORD'S ROOFERS AT LANDLORD OPTION, A BONDED ROOFER APPROVED IN ADVANCE BY LANDLORD.
- 7. PROVIDE TRAP PRIMER/ SEAL IN FLOOR DRAIN AS PER LOCAL JURISDICTION.
- 8. ALL MATERIAL INDICATED AND IMPLIED ON THESE DRAWINGS SHALL BE NEW UNLESS OTHERWISE NOTED.



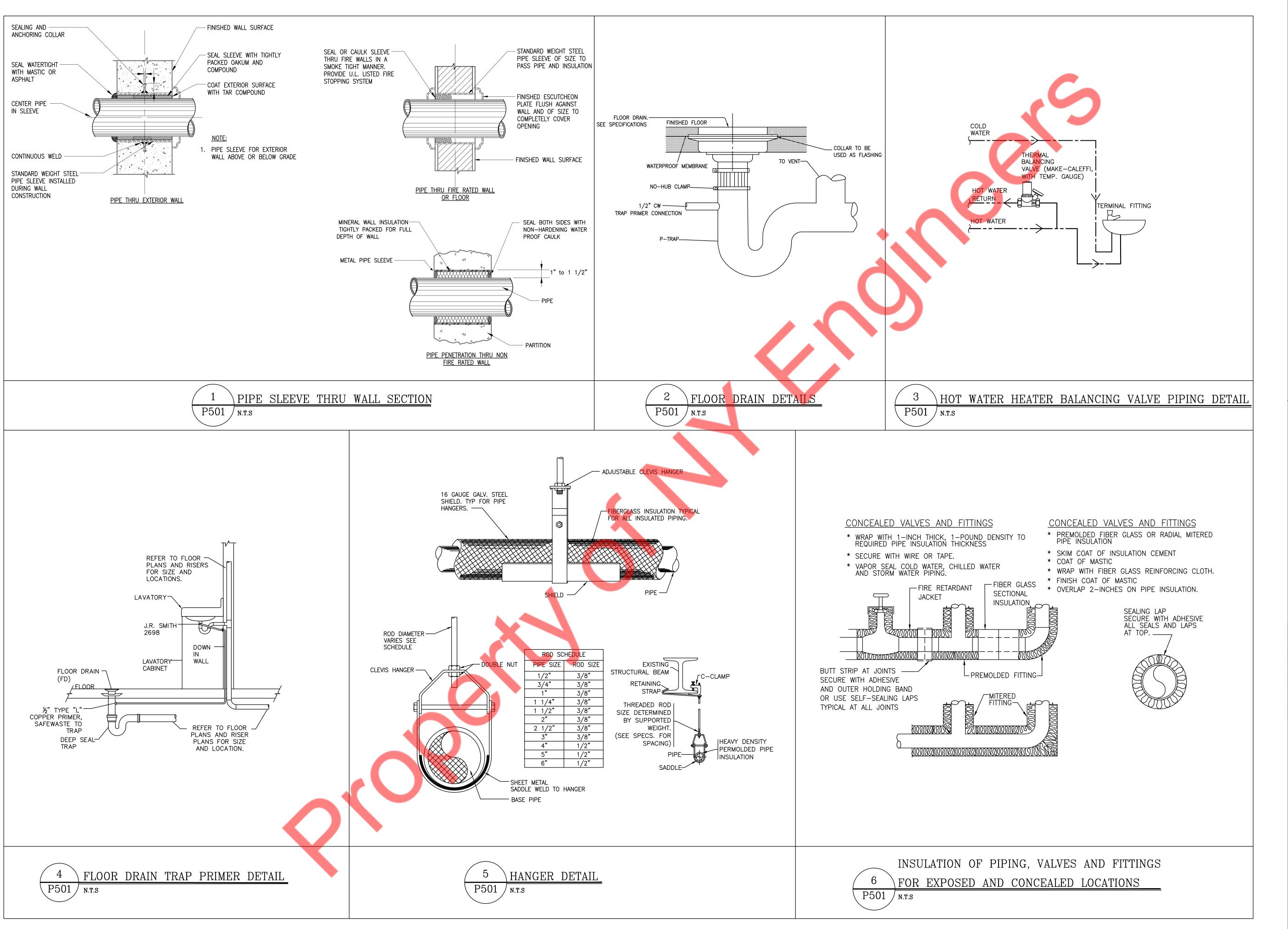
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No.	Description	Date
	PERMIT SET	05/17/2024
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2	REVISED PERMIT SET	09/18/2024
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PLUMBING WATER SUPPLY AND GAS PIPING PLAN

PERMIT SET

P102

Scale:



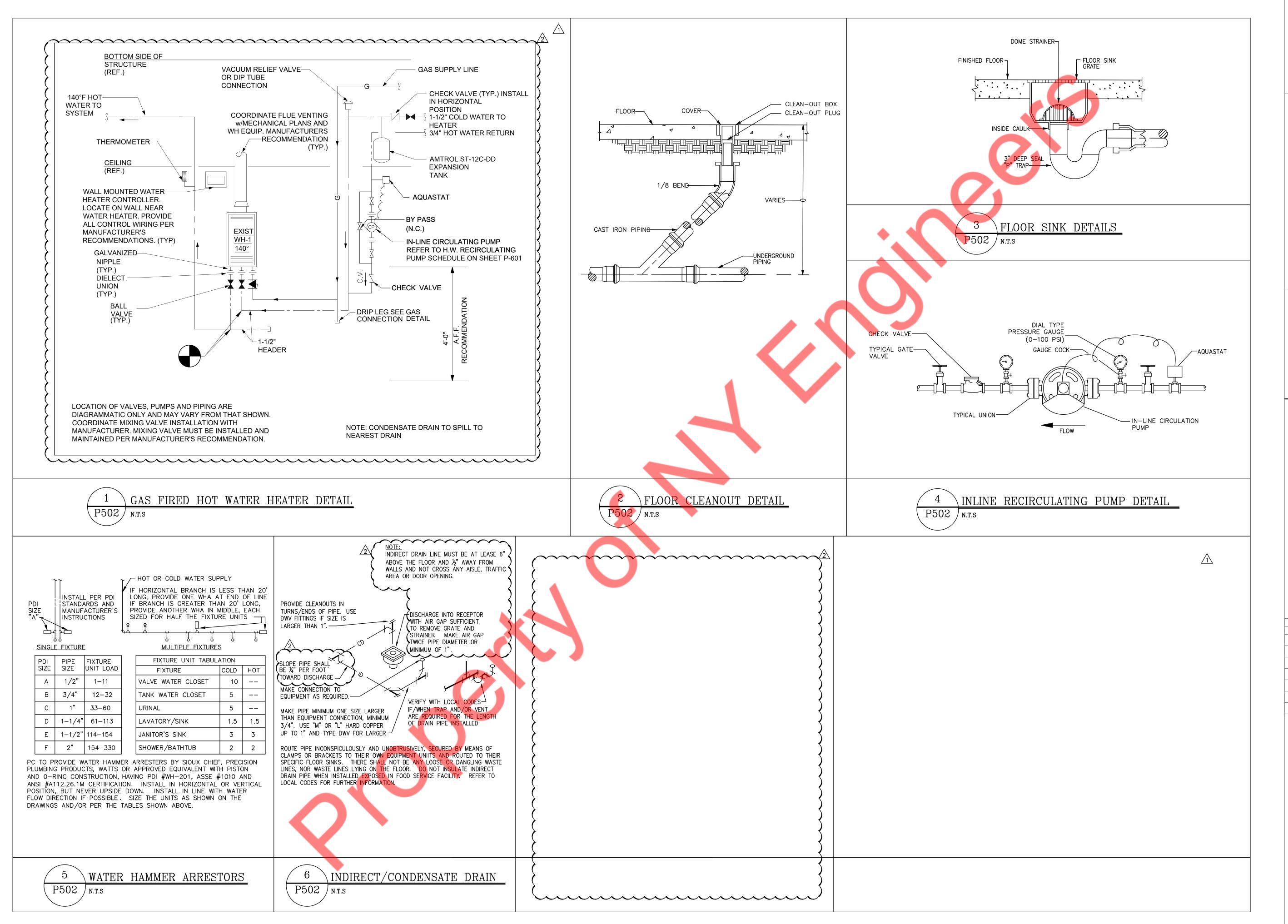


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	PERMIT SET	05/17/2024
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$\sqrt{2}$	REVISED PERMIT SET	09/18/2024

PLUMBING DETAILS (1 OF 2)

PERMIT SET
P501

Scale:





No.	Description	Date
	PERMIT SET	05/17/2024
\triangle	REVISED PERMIT SET	08/21/2024
$\sqrt{2}$	REVISED PERMIT SET	09/18/2024

PLUMBING DETAILS (2 OF 2)

PERMIT SET P502

Scale:

	FOOD	SERVICE	E PLUMI	BING E	QUIPMEI	NT SCH	EDULE		
TAG NO.	DESCRIPTION	WAS	TE	VENT	CW	Н	W	FW	NOTES
		DIRECT	INDIRECT	VENT	CW	110 °F	140 °F	F VV	110123
102	PREP REFRIGERATOR	_	3/4"	_	_	_	_	_	1 UNIT
301	PREP SINK	$\overline{}$	1½"	<u></u>	13"	1/2"	$\bar{\sim}$	$\bar{\sim}$	1 UNIT
600	EX. 3 COMPARTMENT SINK	_	_	_	_	_	_	_	1 UNIT, EXISTING UTILITY CONNECTION TO REMAIN $\frac{\sqrt{2}}{2}$
\	EX. PREP SINK		_						1 UNIT, EXISTING UTILITY CONNECTION TO REMAIN
800	HAND SINK	1½"	_	1½"	1/2"	1/2"	_	_	2 UNIT, PROVIDE THERMOSTATIC MIXING VALVE
801	PRE-RINSE FAUCET	_	_	_	3⁄4"	_	3⁄4"	_	1 UNIT
802	DIPPER WELL		3/4"	_	1/2"		_	_	2 UNIT
901	EX. MOP SINK			_	-	• • • • • • • • • • • • • • • • • • •			1 UNIT, EXISTING UTILITY CONNECTION TO REMAIN $\sqrt{2}$
EX. WH-1	EX. WATER HEATER	_	_	_	1½"	_	1½"	_	1 UNIT, REFER WATER HEATER SCHEDULE

PLUMBING EQUIPMENT NOTES:

1. IT SHALL BE THE PLUMBING CONTRACTORS RESPONSIBLITY TO MAKE ALL FINAL CONNECTIONS FROM

KITCHEN/BAR EQUIPMENT TO THE PLUMBING MAINS SHOWN ON THIS PLAN.

2. THE PLUMBING CONNECTION SCHEDULE ON THIS PLAN RELATES REQUIRED CONNECTIONS TO INDIVIDUAL EQUIPMENT ONLY.

3. PLUMBING CONTRACTOR SHALL REFER TO "KITCHEN EQUIPMENT COMPANY" CUT SHEETS FOR ALL ROUTING OF FINAL CONNECTION TO EQUIPMENT AND EXACT ROUGH-IN LOCATION.

4. PLUMBING CONTRACTOR SHALL MOUNT ALL FLOOR SINKS FLUSH WITH FINISHED FLOOR ELEVATION

AND A MINIMUM OF 16" OFF THE FINISH FACE OF THE WALL.

5. INSTALL SECONDARY BFP ASSE 1055 IF CHEMICAL DISPENSER USED WITH MOP SINK. 6. TMV- THERMOSTATIC MIXING VALVE AT ALL EQUIPMENTS AS PER CODE REQUIREMENT.

				PUMP S	CHEDU	LE					
TAG	DESCRIPTION	TYPE	CAI	PACITY		ELECTRI	CAL DA	ATA	SELECTION B	ASED ON	REMARKS/OPTIONS
TAG	DESCRIP HON	TIFE	GPM	HEAD (ft.)	HP	V	PH	HZ	MANUFACTURER	MODEL NUMBER	
RCP-1	HOT WATER RECIRC. PUMP	IN-LINE	2.0	9	1/12	120	1	60	BELL & GOSSETT	PL-30-B	NOTE 1,2
OPTIONS (ALI	RCP UNIIS)										

 AQUA-STAT & NIGHT TIMER BALANCING VALVE & CHECK VALVE MAINTENANCE BALL VALVES ON BOTH SIDES OF PUMP

1. SET AQUA-STAT WITH SET POINT 10 DEGREES BELOW SYSTEM SUPPLY TEMP. 2. INSTALL RECIRCULATION PUMP PER MANUFACTURERS REQUIREMENTS.

				EXPANSIO	ON TANKS					
UNIT	NUMBER	MANUFACTURER & MODEL NUMBER	SERVICE	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)		DIMENSI DIAMETER (INCH)		SHIPPING WEIGHT (LBS)	NOTES
ET-1	1	AMTROL	ST-12C-DD	6.4	3.2	150	12	18	17	1,2

- GENERAL NOTES:

 1. SET THE TANK PRESSURE TO EQUAL THE SYSTEM OPERATING PRESSURE. TANK MUST BE DRAINED BEFORE ADJUSTING SET PRESSURE.
- 2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS ON INCOMING COLD WATER LINE.

							GAS FIF	RED WATER	R HEATER SCHEDULE			
ID	DESCRIPTION	QUANTITY	MANUFACTURER	MODEL NO.	VOLT	PH	HEATING CAPACITY	FLOW RATE	DESCRIPTION	TRIM AND REMARKS	SUPPLIED BY	INSTALLED BY
EXIST. WH-1	EXISTING WATER HEATER	1	TAKAGI	T-H3-DV-N			199900 Btu/h	5.0 GPM @75°F	CONDENSING TANKLESS GAS WATER HEATER, 17.75" (W)x23.5"(H)x11.4"D, CLEARANCES: 3" SIDES, 9" TOP_12" BOTTOM		PC	PC
NOTES:			GPM @ 75°F RISE.									

	PLU	MBING	FIXTURE	SCHE	DULE		
SYMBOL	DESCRIPTION	C.W.	H.W.		AN INDIRECT	VENT	SPECIFICATIONS
EX.WC	EX. WATER CLOSET	½"	_	4"	_	2"	EXISTING UTILITY CONNECTION TO REMAIN.
EX.LAV	EX. LAVATORY	1/2"	1/2"	1½"	_	1½"	EXISTING UTILITY CONNECTION TO REMAIN.
FS	FLOOR SINK	_	_	1	3"	2"	SIOUX 861-4PN2 4 SCH40 HUB SQ MAX PVC SQ FLOOR SINK W/NB RING & HALF GRATE. INCLUDE SIOUX 863-U SQ MAX ALUMINUM REPL BOTTOM DOME STR.
EX.FD	EX. FLOOR DRAIN	_	_	_	3"	2"	EXISTING UTILITY CONNECTION TO REMAIN.
							G FIXTURES AND EQUIPMENT CONNECTIONS.

- 2. MAXIMUM FLOW FROM A SINK OR LAV. FAUCET SHALL NOT EXCEED 2.2 GAL. OF WATER/MIN 3. INSTALL TRAP PRIMER THAT SERVE THE RESTROOM & WATER HEATER.
- 4. PROVIDE ELECTRONIC TRAP PRIMER FOR MECHANICAL/TRASH ROOM FLOOR DRAINS & FUNNEL DRAIN.
- PROVIDE FLOW CONTROL TRAP PRIMER FOR ALL OTHER ROOM FLOOR DRAINS.
- 5. THE TOP OF ALL FLOOR DRAINS SHALL BE FLUSH WITH THE ADJACENT FINISHED FLOOR. 6. ALL FLOOR DRAINS IN FINISHED AREAS AND ALL ROOF DRAINS SHALL BE LOCATED AS PER
- ARCHITECTURAL DRAWINGS.

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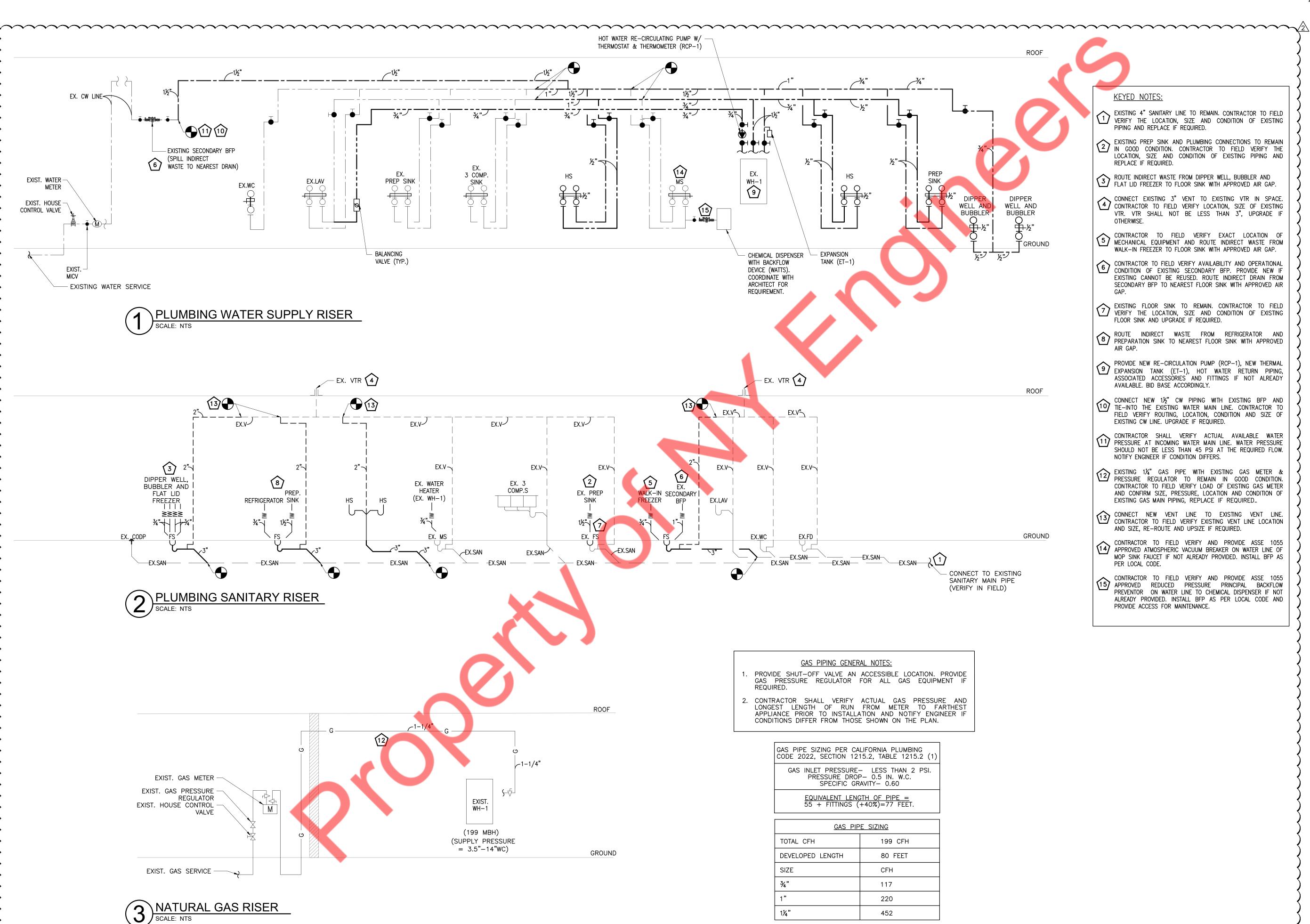


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	PERMIT SET	05/17/202
\triangle	REVISED PERMIT SET	08/21/202
/2\	REVISED PERMIT SET	09/18/202

PLUMBING SCHEDULES

PERMIT SET

P601





- EXISTING 4" SANITARY LINE TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
- EXISTING PREP SINK AND PLUMBING CONNECTIONS TO REMAIN $\frac{1}{2}$ IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING PIPING AND REPLACE IF REQUIRED.
- ROUTE INDIRECT WASTE FROM DIPPER WELL, BUBBLER AND $\frac{3}{}$ FLAT LID FREEZER TO FLOOR SINK WITH APPROVED AIR GAP.
- CONNECT EXISTING 3" VENT TO EXISTING VTR IN SPACE. CONTRACTOR TO FIELD VERIFY LOCATION, SIZE OF EXISTING VTR. VTR SHALL NOT BE LESS THAN 3", UPGRADE IF OTHERWISE.
- CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF (5) MECHANICAL EQUIPMENT AND ROUTE INDIRECT WASTE FROM WALK-IN FREEZER TO FLOOR SINK WITH APPROVED AIR GAP.
- CONTRACTOR TO FIELD VERIFY AVAILABILITY AND OPERATIONAL CONDITION OF EXISTING SECONDARY BFP. PROVIDE NEW IF EXISTING CANNOT BE REUSED. ROUTE INDIRECT DRAIN FROM SECONDARY BFP TO NEAREST FLOOR SINK WITH APPROVED AIR
- EXISTING FLOOR SINK TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND CONDITION OF EXISTING FLOOR SINK AND UPGRADE IF REQUIRED.
- ROUTE INDIRECT WASTE FROM REFRIGERATOR AND PREPARATION SINK TO NEAREST FLOOR SINK WITH APPROVED
- PROVIDE NEW RE-CIRCULATION PUMP (RCP-1), NEW THERMAL $\binom{9}{}$ EXPANSION TANK (ET-1), HOT WATER RETURN PIPING, ASSOCIATED ACCESSORIES AND FITTINGS IF NOT ALREADY AVAILABLE. BID BASE ACCORDINGLY.
- CONNECT NEW 1½" CW PIPING WITH EXISTING BFP AND TIE-INTO THE EXISTING WATER MAIN LINE. CONTRACTOR TO FIELD VERIFY ROUTING, LOCATION, CONDITION AND SIZE OF EXISTING CW LINE. UPGRADE IF REQUIRED.
- CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE WATER ¹ ¹/ PRESSURE AT INCOMING WATER MAIN LINE. WATER PRESSURE SHOULD NOT BE LESS THAN 45 PSI AT THE REQUIRED FLOW. NOTIFY ENGINEER IF CONDITION DIFFERS.
- EXISTING 11/4" GAS PIPE WITH EXISTING GAS METER & PRESSURE REGULATOR TO REMAIN IN GOOD CONDITION. CONTRACTOR TO FIELD VERIFY LOAD OF EXISTING GAS METER AND CONFIRM SIZE, PRESSURE, LOCATION AND CONDITION OF EXISTING GAS MAIN PIPING, REPLACE IF REQUIRED..
- CONNECT NEW VENT LINE TO EXISTING VENT LINE. CONTRACTOR TO FIELD VERIFY EXISTING VENT LINE LOCATION AND SIZE, RE-ROUTE AND UPSIZE IF REQUIRED.
- CONTRACTOR TO FIELD VERIFY AND PROVIDE ASSE 1055 APPROVED ATMOSPHERIC VACUUM BREAKER ON WATER LINE OF MOP SINK FAUCET IF NOT ALREADY PROVIDED. INSTALL BFP AS PER LOCAL CODE.
- CONTRACTOR TO FIELD VERIFY AND PROVIDE ASSE 1055 15 APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTOR ON WATER LINE TO CHEMICAL DISPENSER IF NOT ALREADY PROVIDED. INSTALL BFP AS PER LOCAL CODE AND PROVIDE ACCESS FOR MAINTENANCE.



No.	Description	Date
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\triangle	REVISED PERMIT SET	08/21/2024
2	REVISED PERMIT SET	09/18/2024
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PLUMBING RISERS

PERMIT SET

P602

Scale: As Indicated