MECHANICAL SPECIFICATIONS

PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM. DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE. READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL. COMPLETE AND READY FOR INTENDED USE. WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. PROVIDE OPERATION MANUALS, MAINTENANCE MANUALS AND SCHEMATICS FOR ALL MECHANICAL EQUIPMENT INSTALLED. COORDINATION: COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOF WARRANTY. DUCT DIMENSIONS: UNLESS OTHERWISE NOTED. DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS. SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. FOR 1" W.G. PRESSURE CLASS SEAL CLASS "A". SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90 ELBOWS. TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" X 2" X 1" X 18 GAUGE CHANNELS WITH MINIMUM 1" X 18 GAUGE STRAPS TO STRUCTURAL SUPPORT. ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1. FIBER GLASS DUCT BOARD IS AN ACCEPTABLE ALTERNATIVE IF APPROVED BY OWNER AND THE LOCAL BUILDING CODE OFFICIAL. PRODUCT AND INSTALLATION MUST MEET NAIMA STANDARDS AND OTHER APPLICABLE CODES AND REGULATIONS. EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL. THEN WIPED DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT. DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND. AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS. DUCT INSULATION: MATERIAL FOR SUPPLY AND RETURN AIR DUCT ABOVE CEILING INSIDE THE BUILDING SHALL HAVE THE EQUIVALENT THERMAL RESISTANCE OF MINIMUM R-6. THE REQUIRED R VALUES ARE FOR INSTALLED INSULATION WITH 25% COMPRESSION AT THE CORNERS. PROVIDE PINS AND WASHERS IN ACCORDANCE WITH SMACNA REQUIREMENTS AND AS REQUIRED TO PREVENT INSULATION FROM SAGGING. PROVIDE ADEQUATE INSULATION AT THE SUPPLY AIR DIFFUSERS TO PREVENT CONDENSATION. FLEXIBLE DUCT: UL #181 LISTED, CLASS 1, AND CONTAIN A 0.1 PERM RATED POLYETHYLENE INNER LINER, WITH R-8 FIBERGLASS INSULATION. FLEXIBLE DUCTS SHALL BE SECURED TO RIGID SHEET METAL COLLARS AND AIR DIFFUSERS WITH NYLON TIES OR STAINLESS STEEL WORM GEAR STRAPS. SEAL ALL CONNECTIONS AND JOINTS AIRTIGHT. SUPPORT FLEXIBLE DUCTS FROM THE BUILDINGS STRUCTURE WITH MINIMUM 1" WIDE, 18 GAUGE, GALVANIZED STEEL STRAP AT MAXIMUM 4'-0" CENTERS. PROVIDE 4" WIDE SHEET METAL SADDLES AT EACH SUPPORT EACH STRAP. SAG OF FLEXIBLE DUCT BETWEEN HANGERS SHALL NOT EXCEED 1/2" PER FOOT OF SUPPORT SPACING. RADIUS FOR TURNS OF FLEXIBLE DUCTS SHALL BE A MINIMUM OF ONE DUCT DIAMETER. FLEXIBLE DUCT RUNS SHALL NOT EXCEED 10'-0" IN LENGTH AND SHALL BE THE SAME SIZE AS THE DIFFUSER NECK CONNECTION. ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED. RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM "HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE. FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS. DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UN-INSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE. WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER. AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS. HVAC CONTROL SYSTEM: PROVIDE ALL THE NECESSARY CONTROLS AND CONTROL WIRING IN CONDUIT COMPATIBLE TO SYSTEMS SHOWN ON EQUIPMENT SCHEDULE M2.0. PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM SHALL ENABLE THE SUPPLY FAN AND CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN SPACE SET-POINT. SUPPLY FAN RUNS CONTINUOUSLY DURING THE OCCUPIED MODE. EACH THERMOSTAT SHALL HAVE A DEAD BAND OF AT LEAST 5 DEGREES (ADJ) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF, EACH THERMOSTAT SHALL HAVE SETBACK AND SET-UP CAPABILITY DURING THE UNOCCUPIED MODE. FOR SETBACK, THE HEATING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE DOWN TO 55 DEGREES. FOR SET-UP, THE COOLING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE UP TO 85 DEGREES OR TO PREVENT HIGH SPACE HUMIDITY LEVELS. EACH SYSTEM SHALL BE PROVIDED WITH A MOTORIZED OUTSIDE AIR DAMPER THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY CLOSING DURING PREOCCUPANCY BUILDING WARM-UP, COOL DOWN, AND SETBACK, EXCEPT WHEN VENTILATION REDUCES ENERGY COSTS (e.g., NIGHT PURGE) OR WHEN VENTILATION MUST BE SUPPLIED TO MEET CODE REQUIREMENTS. COMMISSIONING/VERIFICATION: HVAC CONTROL SYSTEM SHALL BE TESTED TO ENSURE THAT CONTROL ELEMENTS ARE CALIBRATED, ADJUSTED, AND IN PROPER WORKING CONDITION, AND THAT THE SYSTEM MEETS THE DESIGN REQUIREMENTS. TEST AND BALANCE: CONTRACT DIRECTLY A THIRD PARTY TO PROVIDE TEST AND BALANCE OF THE HVAC SYSTEM. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING. TEST AND ADJUST ALL MECHANICAL SYSTEM AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB PROCEDURAL STANDARDS-1999 OR AABC 2002, AND ASHRAE STANDARD 111. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE INDEPENDENT AND CERTIFIED WITH NEBB OR AABC, BALANCE ALL SYSTEMS WITHIN 5% OF AIR FLOW INDICATED ON DRAWINGS, AND REPORT ALL DISCREPANCIES TO THE HVAC CONTRACTOR FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER. COMPLETION REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS AND AN OPERATING AND MAINTENANCE MANUAL TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE OWNER. THE RECORD DRAWING SHALL BE OF THE ACTUAL INSTALLATION AND INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIÈCE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES. THE OPERATING AND MAINTENANCE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM. THE FOLLOWING; (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY; (D) HVAC CONTROLS SYSTEMS MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SYSTEM SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-PIONTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR. FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS: (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SET-POINTS.

HVAC GENERAL NOTES

- 1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- 3. DRAWINGS FOR HVAC WORK ARE DIAGRAMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. PROVIDE ALL DUCTWORK, MATERIALS, CONNECTIONS, ACCESSORIES, FITTINGS, OFFSETS, TRANSITIONS, DAMPERS AS REQUIRED FOR A COMPLETE WORKABLE SYSTEM.
- 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED LISTING. ALL EQUIPMENT, PIPING AND SUPPORTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "GUIDLINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL EQUIPMENT SHALL BE ANCHORED TO RESIST THE LATERAL FORCE REQUIREMENTS OF CHAPTER 16 OF THE 2012 INTERNATIONAL BUILDING CODE.
- 5. COORDINATE THE INSTALLATION OF THE HVAC SYSTEM WITH ALL OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. COORDINATE THE LOCATIONS OF PENETRATIONS AND FINAL LOCATION OF ALL EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE EQUIPMENT WEIGHTS, EQUIPMENT DIMENSIONS, PLATFORM SIZES & LOCATIONS, CURB SIZES & LOCATIONS, CONCRETE PAD SIZES AND LOCATIONS AST REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINTAE LOCATIONS OF POWER, DISCONNECTS, AND CONTROL CONDUIT WITH THE ELECTICAL CONTRACTOR. COORDINATE LOCATIONS OF ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL PLANS, ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL ELEVATIONS.
- 6. DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.
- ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.
 OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR
- EXHAUST DISCHARGE.
 9. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE CONSTRUCTED, ERECTED, INSULATED AND TESTED IN ACCORDANCE CHAPTER 6 OF THE 2012 INTERNATIONAL MECHANICAL CODE.
- ALL EXHAUST FANS SHALL BE EQUIPED WITH A BACK DRAFT DAMPER.
 DUCT AND AIR TRANSFER PENETRATIONS THRU BUILDING ASSEMBLIES REQUIRING PROTECTION SHALL BE PROTECTED WITH FIRE DAMPERS, SMOKE DAMPERS, COMBINATION SMOKE/FIRE DAMPERS AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH SECTION 607 OF THE INTERNATIONAL MECHANICIAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE
- 2019 PHILADELPHIA BUILDING CODE.
 12. INSTALL SMOKED DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE 2019 PHILADELPHIA MECHANICAL CODE.
- 13. UNLESS NOTED OTHERWISE, ALL LINE VOLTAGE WIRING, CONDUIT, FINAL CONNECTIONS, DISCONNECTS, STARTERS, AND OVER CURRENT PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THESE MECHANICAL DRAWINGS AND/OR ELECTRICAL DRAWINGS AND/OR ELECTRICAL SECTION OF THE SPECIFICATIONS.
- 14. INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECTICAL CONTRACTOR UNLESS NOTEDED OTHERWISE.
- 15. PROVIDE OWNER WITH THREE COPIES OF A CERTIFIED AIR BALANCE REPORT PREPARED IN BY A THIRD PARTY CERTIFIED BY THE AABC OR NEBB. TEST, ADJUST AND BALANCE THE HVAC SYSTEM IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. PROVIDE START-UP/TEST REPORTS FOR ALL AIR HANDLING EQUIPMENT, FANS, AND REFRIGERATION EQUIPMENT. TEST AND VERIFY PROPER OPERATION OF ALL MAKE-UP AIR/EXHAUST AIR INTERLOCK SYSTEMS AND THIER SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.
- 16. PROVIDE OWNER WITH THREE SETS OF AS-BUILT PLANS AND OPERATIONS AND MAINTENANCE MANUALS. CLEARLY IDENTIFY ALL EQUIPMENT WITH PERMANENT PLASTIC OR METAL LABELS/TAGS (PEN MARKING NOT ACCEPTABLE).
- 17. PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.
 18. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK. 19.0
- a) DUCTS FOR DEMAND CONTROLLED VENTILATION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE FAN MANUFACTURER'S INSTALLATION INSTRUCTIONS, THE PROVISIONS ASHRAE 62.2, TABLE 5.3, OR THE AIRFLOW SHALL BE MEASURED AS REQUIRED BY AND IN COMPLIANCE WITH ASHRAE 62.2, 5.4.
- DUCTS FOR KITCHEN COOKTOPS OR RANGES SHALL BE SHOWN OF METAL WITH A SMOOTH INTERIOR.
- a) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE INSTALLED IN ACCORDANCE WITH IMC 504.0.
- b) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE RIGID METALLIC DUCTS WITH A MINIMUM MILL THICKNESS OF 16 (0.016-INCH), SHALL HAVE A MINIMUM 4-INCH DIAMETER AND A SMOOTH INTERIOR. THE COMBINED HORIZONTAL AND VERTICAL LENGTH OF THE DUCTS OF THE DUCTS SHALL BE 14-FEET, WHICH SHALL BE REDUCED BY 2-FEET FOR EVERY 90-DEGREE ELBOW IN EXCESS OF TWO ELBOWS.
- c) LISTED CLOTHES DRYER TRANSITION DUCTS NOT MORE THAN 6-FEET IN LENGTH SHALL BE PERMITTED TO CONNECT THE DRYER TO THE EXHAUST DUCTS AS LONG AS THEY ARE NOT CONCEALED WITHIN CONSTRUCTION, AND THEY ARE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

LEGEND					
AxB		DUCT WORK (WIDTHxDEPTH)			
AxB		LINED DUCT WORK (WIDTHXDEPTH DIMENSIONS ARE FOR I.D.)			
		SUPPLY DUCT, SECTION			
		RETURN DUCT, SECTION			
		EXHAUST DUCT, SECTION			
RORD -		RISE OR DROP IN DIRECTION OF AIR FLOW			
+ 11 +	FLEX. CONN.	FLEXIBLE CONNECTION			
+		DUCT TRANSITION, ROUND AND RECTANGULAR			
+		SPLITTER DAMPER			
+ +		EXTRACTOR AT BRANCH DUCT			
		TURNING VANES			
__		FLEXIBLE DUCT			
>		SINGLE LINE DUCT WORK			
	AVD	AUTOMATIC VOLUME DAMPER			
	MVD	MANUAL VOLUME DAMPER			
+ +	BDD	BACKDRAFT DAMPER			
+	MD	MODULATING DAMPER			
+ + + + + + + + + + + + + + + + + + + +	AFD	AUTOMATIC FIRE DAMPER			
P B T	AD	ACCESS DOOR			
	SD	SUPPLY DIFFUSER			
	RR	RETURN REGISTER			
	ER	EXHAUST REGISTER			
	SWR	SIDE WALL SUPPLY REGISTER			
	SWE	SIDE WALL RETURN OR EXHAUST			
·····	LD	LINEAR DIFFUSER			
— D.L. —►	DL	DOOR LOUVER			
— U.C. —►	UC	UNDER CUT DOOR			
	VAV	VARIABLE AIR VOLUME			
T		THERMOSTAT			
(\$)		DUCT SMOKE DECTECTOR			
	T/B	TO BELOW			
	F/B	FROM BELOW			
	T/A	TO ABOVE			
	F/A	FROM ABOVE			

SPECIAL NOTICE TO CONTRACTORS

- 1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS)
 BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY
 THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID.
 CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION
 DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE
 CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE
 JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER
 REPRESNENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO
 THE JOB SITE.
- 2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- 3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 4. NO WORK SHALL BE DONE ON ANY PART OF THE BUILDING BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE WRITTEN APPROVAL OF THE CODE OFFICIAL. NO CONSTRUCTION SHALL BE CONCEALED WITHOUT BEING INSPECTED AND APPROVED.

CLIENT:
ADDRESS:
CONFIDENTIALITY STATEMENT:
ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE

NOTES

UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL

ORIGINAL AND UNPUBLISHED WORK OF THE

DUPLICATED, USED OR DISCLOSED WITHOUT

DESIGNER AND THE SAME MAY NOT BE

CONSENT OF THE DESIGNER.

WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

		1	
REV. NO.	DESCRIPTION	DATE	BY

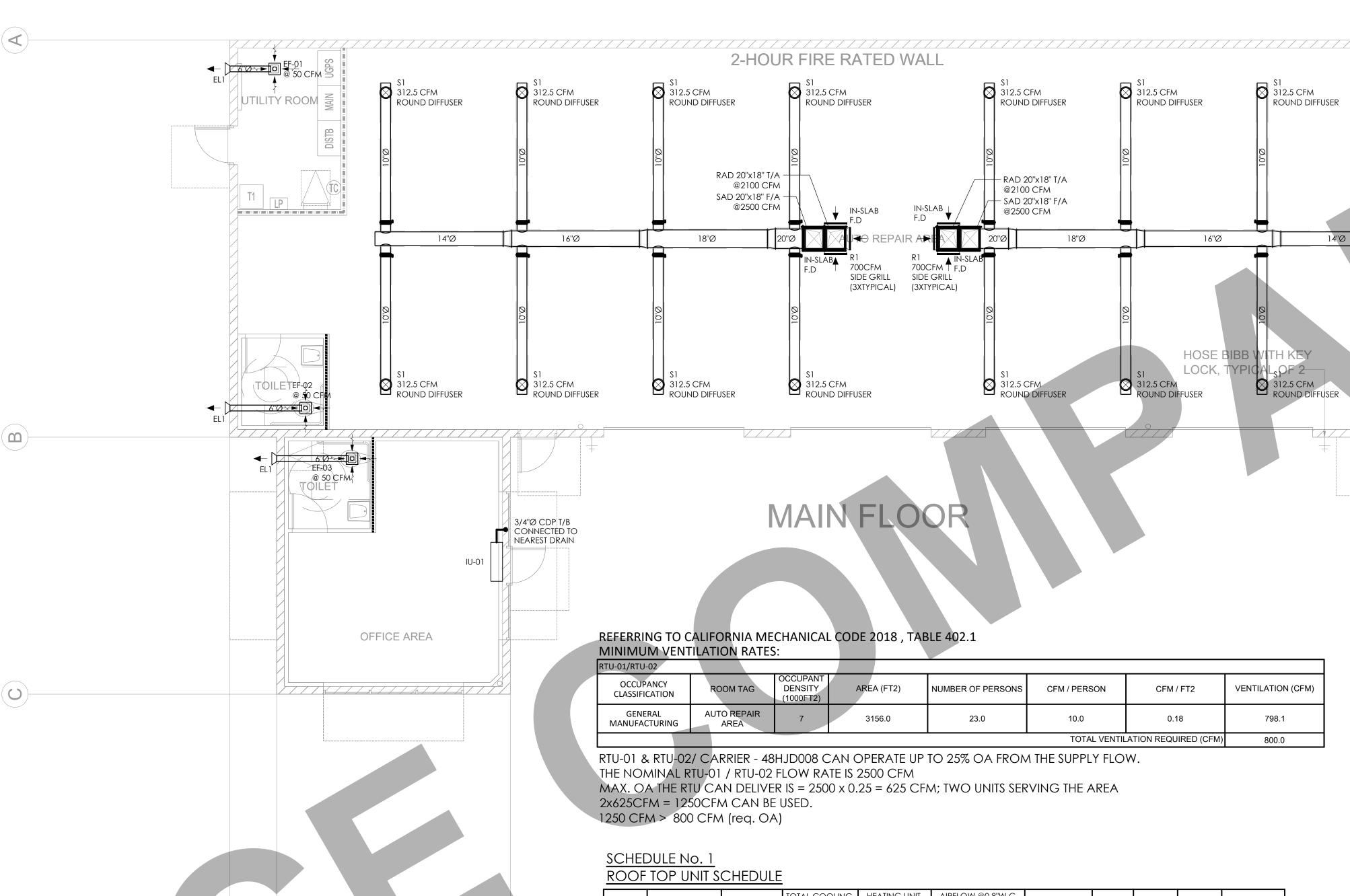
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MECH LIST OF SYMBOLS
AND GENERAL NOTES

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

DRAWING NO. REV.

M 1.0



GENERAL NOTES

- 1. MECHANICAL CONTRACTOR TO COORDINATE ROUTING AND LOCATION OF MECHANICAL COMPONENTS AND EQUIPMENT WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS PRIOR TO PERFORMING WORK.
- 2. CONTRACTOR TO CUT AND PATCH AS REQUIRED TO PERFORM THE WORK.
- 3. ACCESS DOORS ARE REQUIRED FOR ANY COMPONENT REQUIRING ACCESS ABOVE HARD LID CEILINGS. COORDINATE SIZE, LOCATION AND FINISH WITH ARCHITECT PRIOR TO PERFORMING WORK.
- 4. REFER TO THE DIAGRAMS THAT APPLY TO THIS SHEET WHICH PROVIDE GENERAL GUIDANCE FOR INSTALLATION THOUGH NOT ALL COMPONENTS AND ACCESSORIES MAY BE SHOWN.
- 5. PRIOR TO INSTALLATION, CONFIRM SPECIFIC LOCATION FOR ALL THERMOSTATS / SENSORS WITH ARCHITECT. MOUNT AT 48" A.F.F. OR IN ACCORDANCE WITH ADA REQUIREMENTS. PROVIDE LOCKING
- 6. COORDINATE AND CONFIRM BORDER, FRAME, FINISH, AND LOCATION WITH ARCHITECT PRIOR TO
- 7. ANY PENETRATIONS THROUGH WALL STUDS, FLOOR JOISTS, OR ROOF TO BE IN ACCORDANCE WITH THE LATEST ADOPTED BUILDING CODE.
- 8. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- 9. CONTRACTOR TO CONFIRM ADEQUATE RETURN AIR PATH BACK TO MAIN AIR HANDLING UNIT.

			_							
TAG	MANUFACTURER	MODEL	TOTAL COOLING (TONS)	HEATING UNIT INP./OUTP.(MBH)	AIRFLOW @0.8"W.G. (CFM)	FAN POWER (BHP)	EER	MCA (A)	MOCP (A)	VOLT/PH/HZ
RTU-01	CARRIER	48HJD008	7.5	105.0 / 84.0	2500	1.86	12.0	38.2	45.0	208-230/3/60
RTU-02	CARRIER	48HJD008	7.5	105.0 / 84.0	2500	1.86	12.0	38.2	45.0	208-230/3/60

^{*} RTU SHALL HAVE A FIELD INSTALLED OPERATION TO INCLUDE 25% OA FROM THE SUPPLY AIR FLOW.

SCHEDULE No. 2

TAG	EF-01,02/EF-03
LOCATION	BATHROOMS/UTILITY ROOM
SELECTED FLOW (CFM)	50
SELECTED PRESSURE DROP (IN. H2O)	0.25"
ELECTRICAL (V / PH / HZ)	120 / 1 / 60
POWER / Amps	25 W
MOTOR SPEED (RPS)	MULTI SPEED
FAN TYPE	CEILING FANS
MANUFACTURER	PANASONIC
MODEL	WHISPER FV-0511VKS2

- PROVIDE UL LISTING.
- 2. PROVIDE ENERGY STAR COMPLIANCE.
- 3. INTERLOCK WITH WALL SWITCH. 4. PROVIDE MOTOR WITH THERMAL OVERLOADS.

SCHEDULE No. 3

TAG	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING
S1	SUPPLY ROUND DIFFUSER	TITUS	Ø 12in.	Duct Mounted
R1	RETURN SIDE GRILLE	TITUS	16in. x 16in.	Duct Mounted
NOTES:				

- 1. COORDINATE FINISH, COLOR, BORDER AND EXACT LOCATION WITH OWNER PRIOR TO
- 2. PROVIDE OPPOSED BLADE DAMPER ACCESSIBLE THROUGH DIFFUSER FACE FOR GYP BD.
- CEILING INSTALLATIONS. 3. PROVIDE DUCT TRANSITIONS AS REQUIRED.
- 4. RETURNS R1 ARE PROVIDED WITH PROPER FILTERS.

SCHEDULE No. 4

LOUVERS

TAG	TYPE	CFM	PR. DROP W.G.	MANUFACTURER MODEL
EL-1	EXHAUST AIR	50	0.03	RUSKIN ELF6375DX

hello@innodez.com

CLIENT:

ADDRESS:

LA...., ..., ..., ...

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE. 2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS. 3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING

4. THE CONTRACTOR IS RESPONSIBLE FOR

PROVIDING ALL NECESSARY TEMPORARY

SUPPORT TO THE BUILDING AND ANY

ADJACENT STRUCTURES.

SCHEDULE No. 5 HEAT PUMP - INDOOR & OUTDOOR UNIT

IU-2 & OU-01
OFFICE AREA
CARRIER
40MPHAQ12XA3
208-230/1/60
FROM OUTDOOR
FROM OUTDOOR
300
0.50
12,000
12,000
27.64"x33.27"x14.29"
38MPRAQ12AA3
208/230 / 1 / 60
15.0
20.0
25.0

312.5 CFM ROUND DIFFUSER

312.5 CFM ROUND DIFFUSER

- 1. PROVIDE CONDENSATE PUMP, IF REQUIRED. PROVIDE DISCONNECT SWITCH.
- PROVIDE 2" MERV 8 THROWAWAY FILTER.
 PROVIDE VIBRATION ISOLATION.
- 5. PROVIDE FREEZE THERMOSTAT.

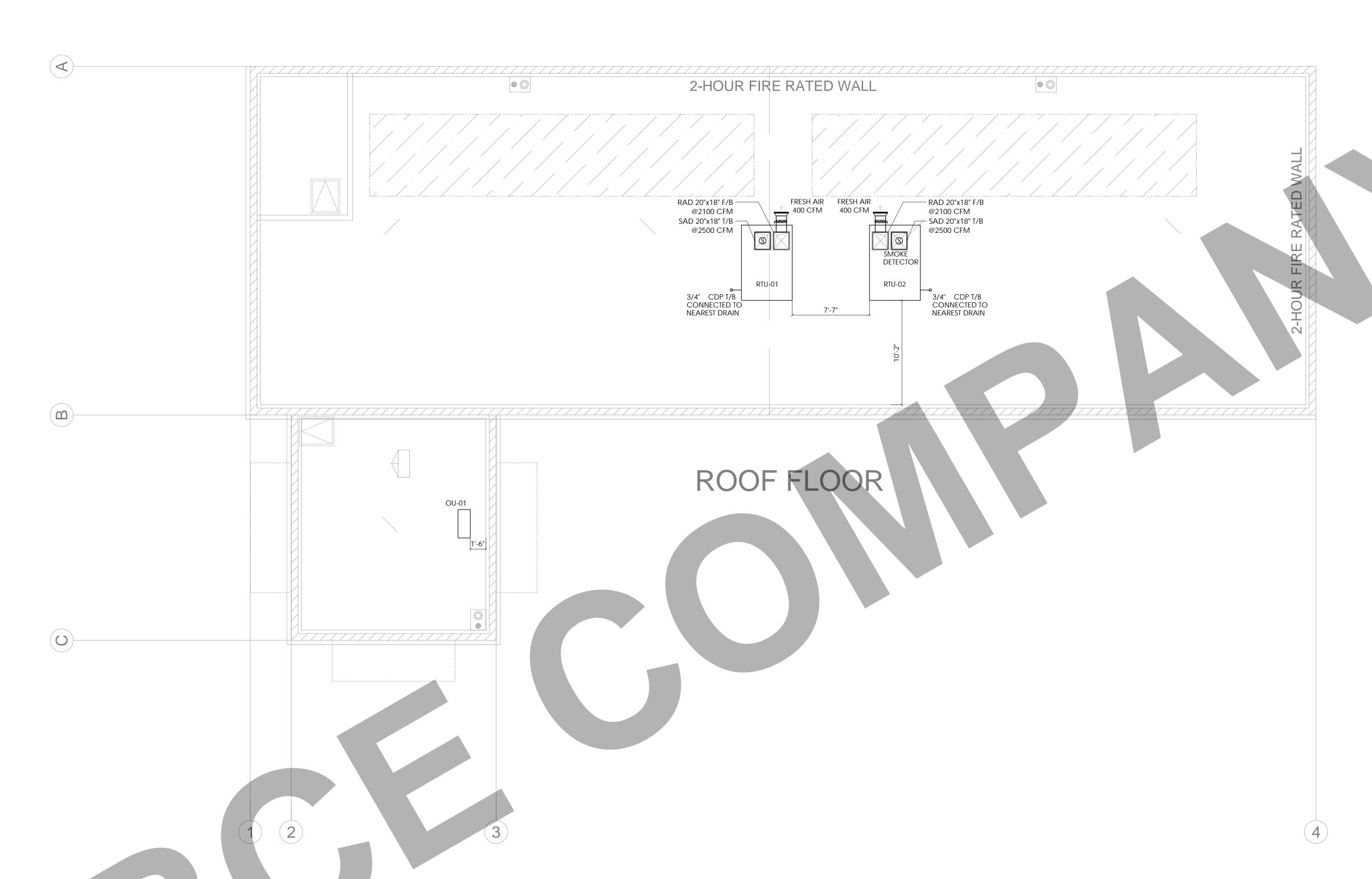
DATE BY DESCRIPTION

RAZO PROPOSED

MAIN FLOOR MECH.LAYOUTS AND **EQUIPMENT SCHEDULE**

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: 3/16°=1'-0° DRAWING NO.

M 2.0



GENERAL NOTES

- 1. MECHANICAL CONTRACTOR TO COORDINATE ROUTING AND LOCATION OF MECHANICAL COMPONENTS AND EQUIPMENT WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS PRIOR TO PERFORMING WORK.
- 2. CONTRACTOR TO CUT AND PATCH AS REQUIRED TO PERFORM THE WORK.
- 3. ACCESS DOORS ARE REQUIRED FOR ANY COMPONENT REQUIRING ACCESS ABOVE HARD LID CEILINGS. COORDINATE SIZE, LOCATION AND FINISH WITH ARCHITECT PRIOR TO PERFORMING WORK.
- 4. REFER TO THE DIAGRAMS THAT APPLY TO THIS SHEET WHICH PROVIDE GENERAL GUIDANCE FOR INSTALLATION THOUGH NOT ALL COMPONENTS AND ACCESSORIES MAY BE SHOWN.
- 5. PRIOR TO INSTALLATION, CONFIRM SPECIFIC LOCATION FOR ALL THERMOSTATS / SENSORS WITH ARCHITECT. MOUNT AT 48" A.F.F. OR IN ACCORDANCE WITH ADA REQUIREMENTS. PROVIDE LOCKING
- 6. COORDINATE AND CONFIRM BORDER, FRAME, FINISH, AND LOCATION WITH ARCHITECT PRIOR TO
- 7. ANY PENETRATIONS THROUGH WALL STUDS, FLOOR JOISTS, OR ROOF TO BE IN ACCORDANCE WITH THE LATEST ADOPTED BUILDING CODE.
- 8. DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- 9. CONTRACTOR TO CONFIRM ADEQUATE RETURN AIR PATH BACK TO MAIN AIR HANDLING UNIT.

CLIENT:	
ADDRESS:	

CONFIDENTIALITY STATEMENT:

APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT

ALL DRAWINGS AND WRITTEN MATERIALS

CONSENT OF THE DESIGNER.

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1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.

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4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

DESCRIPTION DATE BY (REV. NO.

PROJECT:

ROOF FLOOR MECHANICAL LAYOUT PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

3/16"=1'-0" DRAWING NO.

M 2.1



Product Data

WeatherMaster®

Gas Heat/Electric Cooling

Packaged Rooftop Units

Options and accessories (cont)

Carrier

Turn to the experts

Condenser coil hail guard — Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a special setup capabilities and diagnostics. The kit contains actory-installed option or as a field-installed accessory. Differential enthalpy sensor — The differential enthalpy sensor is comprised of an outdoor and return air enthalpy sensors to provide differential

Wall or duct mounted CO₂ sensor — The IAQ sensor shall be available in duct or wall mount. The sensor provides demand ventilation indoor air quality (IAQ) control. Propane conversion kit — Convert your gas heat rooftop from standard natural gas operation to Propane using this field-installed kit.

manual. High altitudes have less oxygen, which means ation down to -20°F (-18°C) ambient conditions. heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high

NOTE. Typical natural gas heating value ranges from 975 Horizontal roof curb adapter (vertical to horizontal to 1050 Btu/ft³ at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up Filter status indicator accessory — Monitors static to 2000 ft (610 m) elevation without any operational pressure across supply and exhaust filters and provides in-

Flue discharge deflector — The flue discharge deflector Motorized exhaust damper accessory — Replaces the By venting the flue discharge upwards, the deflector minimizes the chance for a neighboring unit to intake the flue

a display module, mounting bracket, and communication cable. The display kit can be permanently installed in the unit or used on any SAV system VFD controller as needed. Winter start kit — The winter start kit by Carrier extends the low ambient limit of your rooftop to 25°F (-4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient pre-

Motormaster® head pressure controller — The Motormaster motor controller is a low ambient, head pressure controller kit that is designed to maintain the unit's con-High altitude conversion kit — High altitudes have less denser head pressure during periods of low ambient cooloxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) reduring different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application. ion, use either the selection software, or the unit's service pending on the model. This controller allows cooling oper-Roof curb (14-in./356 mm or 24-in./610 mm) —

cautions may still be prudent.

Full perimeter roof curb with exhaust capability provides mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

dication when filters become clogged.

FV-0511VK2

Performance Curve 4" or 6" duct

Features/Benefits

Easy to install, maintain, and Installation ease

Single-stage units deliver SEERs up to 15.6, EERs up to 13.0, and IEERs up to 13.0. Two-stage units deliver EERs

Single-stage units deliver SEERs up to 15.6, EERs up to 15.6,

The Carrier rooftop unit (RTU) was de-

behumidification system for improved our load humidity performance integration

Streamlined control and integration

Staged Air Volume (SAV™)
Two-Speed Indoor Fan Control part load humidity performance Puron® refrigerant (R-410A)

LonWorks², Modbus³ and Johnson
Controls N2

Table of contents optional fully insulated cabinet, with optional foil faced insulation

• high energy efficiency ratings may be eligible for local utility rebates (in

most territories)

TXV refrigerant metering system scroll compressors with internal line-break overload protection BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers).
 LonWorks is a registered trademark of Echelan Constitution. . Modbus is a registered trademark of Schneider

PremierLink™ communicating con-Description of the first of the composition of the controller of

to 13.0. Two-stage units deliver EERs up to 12.2, units with single speed indoor motors deliver IEERs up to 14.0, and units with 2-speed indoor fan motor deliver IEERs up to 16.0. All models are capable of either vertical or horizontal to meet nearly every light commercial application need.

The Carrier roofton unit (PTI) was done to 12.2, units with single speed indoor motors deliver IEERs up to 14.0, and easy access handles by Carrier provide quick and easy access to all normally serviced components. Our "no-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal.

The Carrier roofton unit (PTI) was done to 12.2, units with single speed indoor fan motors deliver IEERs up to 14.0, and easy access to all normally serviced components. Our "no-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal.

The Carrier rooftop unit (RTU) was designed by customers for customers. With "no-strip" screw collars, handled access panels, and more the unit is easy to install, easy to maintain, and easy to use. Your new 3 to 12.5 ton WeatherMaster Carrier rooftop unit (RTU) provides optimum comfort and control from a packaged rooftop.

Value-added features include:

Easy to use

The optimized, central terminal board by Carrier puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to adjust to unexpected jobsite complications. Being able to convert a unit from vertical airflow to horizontal also makes it easy to overtops have high and low pressure switches, a filter drier, and 2-in. filters was the proposed form the proposed form of the proposed form of the potential proposed form of the potential proposed form of the potential proposed form of the potential proposed form of the prop Value-added features include:

• optional EnergyX® system with energy recovery ventilator (ERV)

• optional Humidi-MiZer® adaptive

swincies, a niner crier, and 2-in. Inters standard. Our optional digital controllers allow for seamless and simple integration to the most complex building network.

swincies, a niner crier, and 2-in. Inters converted field convert from factory vertical to horizontal.

EnergyX models are limited to vertical return but supply can be field converted.

 Puron® refrigerant (R-410A)
 single point gas and electrical connection Weather Master rooftops into existing
 Weather Master rooftops into existing

System with variable frequency drive (VFD) optional fully integrated and easy to use ComfortLink controls
 RTU Open controller for BACnet¹,

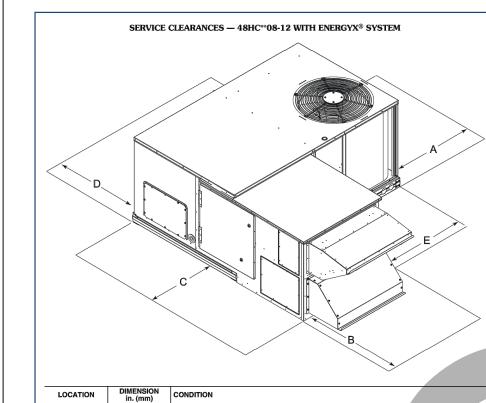
Notional integrated and easy to use ComfortLink controls

 RTU Open controller for BACnet¹,
 Optional SAV system utilizes a variable frequency drive (VFD) to automatically adjust the indoor fan motor

— Not Available

	Features/Benefits
	Model Number Nomenclature
	Capacity Ratings
	Physical Data
i	Options and Accessories
	Base Unit Dimensions.
	Accessory Dimensions
4	Selection Procedures.
	Performance Data
	Fan Data
•	[ypical Wiring Diagrams
	Electrical Data
	Controls
	Application Data
	Guide Specifications

Base unit dimensions (cont)



- 1	C	36 (914)	Recommended service clearance.		
	D	48 (1219) 42 (1067) 36 (914) Special	No flue discharge accessory installed, surface is combustible material. Surface behind servicer is grounded (e.g., metal, masony, wall, anothe Surface behind servicer is electrically non-conductive (e.g., wood, fiber Check for adjacent units or building fresh air intakes within 10-ft (3 m) c	alass).	ıtlet.
	E	36 (914)	Recommended service clearance.		
	NOTE: Unit is not do obstruction or for ve		rhead obstruction. Contact Application Engineering for guidance on any	application plannir	g overhead

FV-0511VK2 Specification Submittal Data / Panasonic Ventilation Fan

4" or 6" duct

by the Underwriters Laboratories and conforms to both UL and cUL standards. Motor/Blower: • Enclosed brushless ECM smart motor technology rated for continuous operation Adjustable ventilation rates at 50 – 80 – 110 CFM

Power rating of 120 volts and 60 Hz

UL and cUL listed for tub/shower enclosure when GFCI protected. Motor equipped with thermal cutoff fuse · Removable permanently lubricated plug-in motor

ENERGY STAR® rated and certified by the Home Ventilating Institute (HVI). Evaluated

WhisperGreenSelect"

Housing: Environmentally friendly 26 gauge Zinc-Aluminum-Magnesium (ZAM) housi Integrated dual 4" or 6" diameter duct adapter

Built-in damper reduces back draft and helps with blower door testing

Built-in metal flange provides blocking for penetrations through drywall as an Air
Barrier, and assists with the decrease in leakage in the Building Envelope during
blower door testing

Suitable for installation in ceilings insulated up to R60

Atticulating and expandeble installation proceed up to P60

 Articulating and expandable installation bracket up to 24 Attractive design using Poly Pro material
 Attaches directly to housing with torsion springs

 Includes a motion sensor cap for use as a cover when motion sensor Plug 'n Play™ module has not been selected Warranty: ALL Parts: 3 Years from original purchase date

Architectural Specifications: Customizable ceiling mount ventilation fan, ENERGY STAR® rated with built-in speed selector. Select from 50/80/110 CFM with <0.3 sone as certified by the Home Ventilating Institute (HVI) at 0.1 w.g. with 51/80/110 CFM and no more than 0.4/0.5/0.8 sones at 0.25 w.g. and 51/79/108 CFM at 0.375 w.g. Power Consumption shall be no greater than 9.9/7.9/6.5 watts at 0.1 w.g. and 15.4/13.1/11.2 watts at 0.25 w.g. and 9.6/13.4/20.0 watts at 0.375 w.g. ENERGY STAR® rated with efficiency of no less than 16.2/15.7/11.1 CFM/watt at 0.1 w.g. and 8.3/8.3/7.1 CFM/watt at 0.25 w.g. and 5.3/5.3/6.4 CFM/watt at 0.375 w.g. The motor shall be enclosed with br pressure to maintain selected CFM. Power rating shall be 120v/60Hz. Duct diameter shall be no less than 4", inclusive of an integrated dual 4" or 6" duct adapter. Plug "N Play"

insulated up to R60. Fan can be used to comply with ASHRAE 62.2, LEED, ENERGY STAR® IAP, EarthCraft, California Title-24 and WA Ventilation Code. ECM Motor Technology:
When fan senses static pressurensure that the desired CFM is When fan senses static pressure, its speed is automatically increased to ensure that the desired CFM is not compromised, which allows the fan to

	Location:	
	Location;	
	Architect:	
	Engineer:	
	Contractor:	
	Submitted by:	
	Date:	

VF18972SS-FV-0511VK2

A 48 (1219) 48 (1219) 18 (457) 18 (457) 12 (305) B 36 (914) Hecommended service clearance Minimum clearance. Unit disconnect is mounted on panel. No disconnect, convenience outlet option. Recommended service clearance. Minimum clearance.

WhisperGreenSelect

Plug 'N Play[™] Modules

FV-VS15VK1: Multi-Speed with Time Delay Allows you to select the proper CFM settings to satisfy ASHRAE 62.2 continuous ventilation requirements. The fan runs

continuously at a pre-set lower level (0, 80-100 CFM, in 10 CFM increments), then elevates to a maximum level of operation (50-80-110 CFM) when the wall switch is turned on, or when the motion sensor or Condensation Sensor module is activated. FV-MSVK1: Motion Sensor Once the settings have been applied, the fan becomes truly automatic.

his module also activates a 20 minute delay off timer for the fan. FV-CSVK1: Condensation Sensor Helps control bathroom condensation to prevent mold and mildew. Sensor technology detects relative humidity and temperature

to anticipate dew point, automatically turning the fan on to control humidity. Built-in Relative Humidity (RH) sensitivity adjustment

enables fine tuning for moist conditions and for satisfying CalGreen requirements. When the condensation sensor is used in conjunction with multi-speed functionality, the fan will kick up to high speed when the condensation sensor detects moisture in the room. This module also activates a 20 minute delay off timer for the fan.

11.1 7.1 5.4 12.7 7.7 5.7 13.9 8.0 5.6 15.7 8.3 5.9 16.7 8.5 5.9 16.8 8.7 5.7 16.2 8.3 5.3 14.8 7.4 5.1 920 1182 1356 889 1164 1356 839 1135 1351 795 1113 1315 760 1112 1309 751 1061 1287 722 1054 1266 707 1057 1257 0.16 0.20 0.09 0.14 0.18 0.07 0.12 0.16 0.06 0.10 0.14 0.05 0.09 0.13 0.05 0.08 0.11 0.04 0.07 0.10 0.04 0.07 0.09 0.04 0.07 0.09 0.04 0.06 0.06

Eco Products Division Two Riverfront Plaza Newark, NJ 07102 us.panasonic.com/ventfans



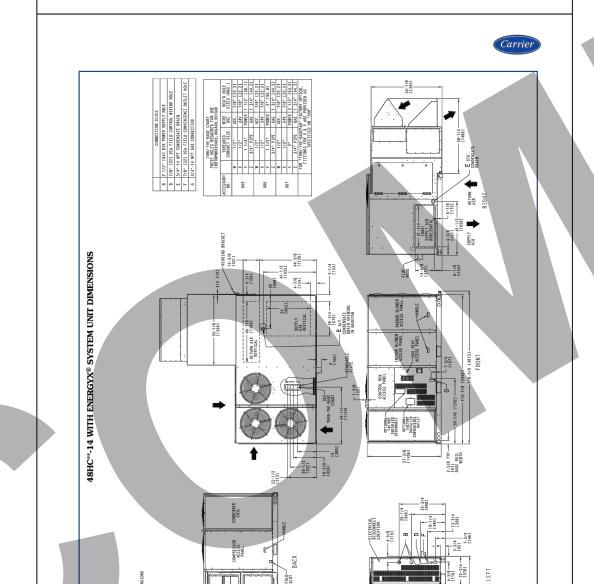
22 INFINITY® SERIES

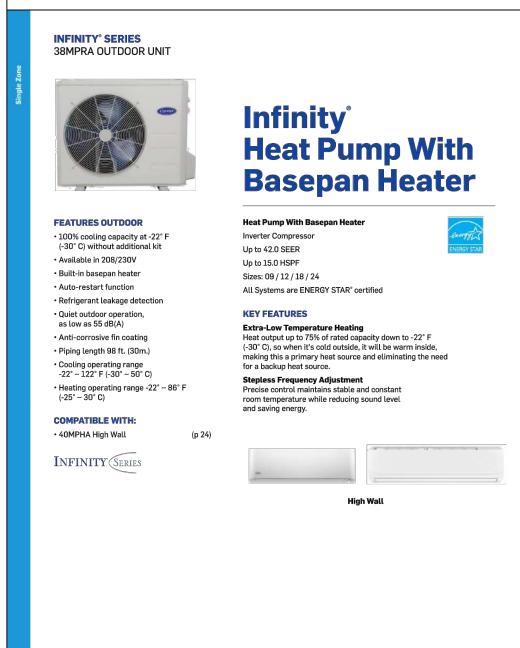
FV-0511VK2

MINIMUM - MAXIMUM AIRFLOW RATINGS (CFM) — NATURAL GAS AND PROPANE VOLTAGE UNIT HEAT LEVEL Minimum Single Speed Fan Motor (at high Motor (at low speed)) LOW Minimum 2-Speed Fan Motor (at high Motor (at low speed)) 1200 1500 2500 900 1500 1200 1500 2500 1800 1800 2250 2535 1673 3750 2550 4250 3000 3380 2231 5000 3000 3380 2231 5000 2789 6250

Heating rating values are identical for aluminum heat exchangers

and stainless steel heat exchangers.

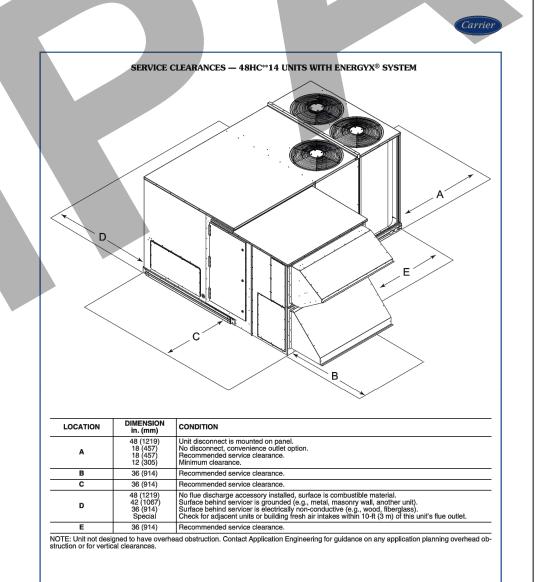


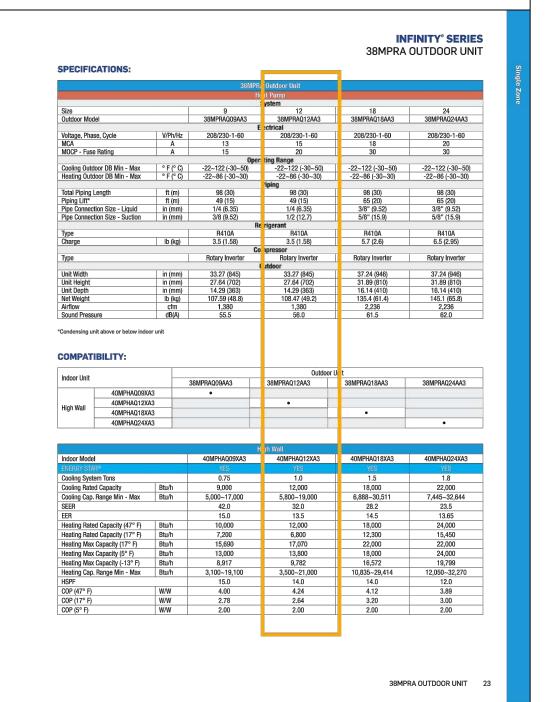


Carrier Capacity ratings (cont) HEAT RATING TABLE — NATURAL GAS AND PROPANE 65/53 90/73.5 45 - 85 82/66 55 - 85 08 MED HIGH LOW 90/73 105/84 90/73 180/148 224/184 125/103 35 - 65 HIGH 224/184 250/205 150/120 180/146 240/195 30 - 65 35 - 70 15 - 60 The input rating for altitudes above 2000 ft (610m) must be derated by 4% for each 1000 ft (305 m) above sea level.

			AL/SS HEAT	EXCHANGER	TEMPERATURE	THERMAL	
48HC	UNIT	GAS HEAT	INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)	RISE (F)	EFFICIENCY (%)	AFUE (%)
		LOW	_	60/49	20-50	81	81.0
	04	MED	_	90/73.5	30-60	81	81.2
		HIGH	_	_	_	_	_
Single Phase		LOW	_	60/49	20-50	81	81.0
	05	MED	_	90/73.5	30-60	81	81.2
		HIGH	_	120/98	40-70	81	81.0
		LOW	_	60/49	15-50	81	81.0
	06	MED	_	90/73.5	25-60	80	81.2
		HIGH	_	120/98	35-70	80	81.0
		LOW	_	60/49	20-50	81	+
	04	MED	_	90/73.5	30-60	81	
		HIGH	_	_	-	_	-
		LOW	_	60/49	20-50	81	
Three Phase	05	MED	_	90/73.5	30-60	81	
		HIGH	_	120/98	40-70	81	_
		LOW	_	60/49	15-50	81	_
	06	MED	_	90/73.5	25-60	80	_
		HIGH	_	120/98	35-70	80	_

(SCAQMD) Low-NO_x emissions requirement of 40 nanograms per joule or less.





Options and accessories (cont)

system — Carrier's Humidi-MiZer adaptive dehumidificacan be ordered with any WeatherMaster® 48HC04-14 ooftop unit, with the exception of single phase voltage (208-230/1/60) units. This system expands the envelope of operation

of Carrier's WeatherMaster rooftop products to pro-They are available, installed by the factory, for supply air, vide unprecedented flexibility to meet year round comfort The Humidi-MiZer adaptive dehumidification system has a unique dual operational mode setting. The Humidi-MiZer system provides greater dehumidification of the occupied space by two modes of dehumidification operations in addition to its normal design cooling mode.

Single enthalpy sensor — Prevents the wheel from rotating if the outside air conditions are acceptable for free cooling. Both exhaust and supply blowers will remain on.

Unit mounted CO₂ sensor — Improves productivity in addition to its normal design cooling mode.

Sub-cooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish a higher proportion of latent load control. Flor oas retried mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control. Hot Gas Reheat mode will provide neutral air steel for applications where the mixed air to the heat exchanger of a minimum 20 gauge type 409 stainless steel for applications where the mixed air to the heat exchanger. for maximum dehumidification operation. Thru-the-base connections — Th

Pre-coated outdoor coils — A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. Coating is applied to the alumi-

Selection procedure

Base Unit Selection Procedure (With 48HC*A07 Example)

sales representative for assistance.

TC_{LOAD} (Total Capacity Load)

Mixed air dry bulb

Mixed air wet bulb

Ambient dry bulb

Vertical air supply

External static pressure

Electrical characteristics

Refrigerant tons =

48HC*A07 supplies:

 $SHC = 53.3 MBH^*$

LC = TC - SHC

Heating load

NOTE: Selection software by Carrier saves time by per-

forming many of the steps below. Contact your Carrier

SHC_{LOAD} (Sensible Heat Capacity Load) 54.0 MBH

II Make an Initial Guess at Cooling Tons:

Total Capacity Load / 12 MBH per ton

IV Calculate the Building Latent Heat Load

LC LOAD = TC LOAD - SHC LOAD

V Calculate RTU Latent Heat Capacity

VI Compare RTU Capacities to Loads†

ing's sensible and latent heat loads.

ΓC greater than 65.0 MBH VIII Calculate the Total Static Pressure External static pressure

Total Static Pressure

VII Select Factory-Installed Options (FIOP)

EXAMPLE: 72.0 MBH - 54 MBH = 18 MBH

LC = 73.6 MBH - 53.3 MBH = 20.3 MBH

Compare the rooftop's SHC and LC to the build-

Local code requires an economizer for any unit with

Sum of FIOP / Accessory static +0.13 in. wg

IX Look Up the Indoor Fan RPM (Revolutions

Fan motor heat = 2.546* BHP/Motor Eff.**

mance, at 2100 CFM and ESP= 0.8,

RPM = 712 and BHP = 1.17

Fan motor heat = 3.7 MBH

X Convert BHP Into Fan Motor Heat

Per Minute) and BHP (Breaker Horsepower)

Page 88 shows size 07 3 phase vertical fan perfor-

EXAMPLE: Refrigerant tons = 72 / 12 = 6 tons

Page 59 shows that, at the application's supply air

CFM, mixed air and ambient temperatures, the

III Look up the RTU (Rooftop Unit) TC and

80°F (27°C)

67°F (19°C)

95°F (35°C)

72.0 MBH

2100 CFM

85.0 MBH

230-3-60

0.67 in. wg

0.80 in. wg

I Determine Heating and Cooling Loads

Optional Humidi-MiZer® adaptive dehumidification Condenser coil hail guard — Sleek, louvered panels tion system is an all-inclusive factory-installed option that objects, and incidental contact.

eliminate roof penetration and should be considered for changer during cooling operation. gas lines, main power lines, as well as control power.

Convenience outlet (powered or un-powered) — Re-Hinged access panels — Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box, indoor fan motor and ERV access.

Cu/Cu (indoor) coils — Copper fins and copper tubes are mechanically bonded to copper tubes and copper tubes are mechanically bonded to copper tubes and copper tubes are mechanically bonded to copper tubes and copper tubes are mechanically bonded to copper tubes and copper tubes are mechanically bonded to copper tubes and copper tubes.

E-coated (outdoor and indoor) coils — A flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating pro-cess shall ensure complete coil encapsulation of tubes, fins

num fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

protect the condenser coil from hail damage, foreign Smoke detector (supply and/or return air) -Trust the experts. Smoke detectors make your application safer and vour job easier. Carrier smoke detectors immedi-

The Weather Master $^{\circ}$ 48HCO4-14 rooftop coupled with the Humidi-MiZer system is capable of operating in normal design cooling mode, sub-cooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit and saves money by working with the economizer to intake will operate under its normal sequence of operation by cy-

tions, available as a factory option, are necessary to ensure proper connection and seal when routing wire and pipping through the rooftop's basepan and curb. These couplings eliminate roof nenotration and should be considered for

Cu/Cu (indoor) coils — Copper tins and copper tudes are mechanically bonded to copper tudes and copper tudes sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize potential for a contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the sheet metal coil pan to minimize potential for the contacting the c factory-installed option or a 20 amp field-installed accessory Non-fused disconnect — This OSHA-compliant, factory-installed, safety switch allows a service technician to lo-

> HACR circuit breaker — These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units with access cov-On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power

> > XI Calculate RTU Heating Capacity

XIII Determine Electrical Requirements

and LRA (Lock Rotor Amp) = 148.

The heat ratings table on page 8 shows the heating capacities of the 48HCEA07. The 48HCEA07 = 103.0 MBH. Select the 48HCEA07.

MCA (Minimum Circuit Amps)/MOCP (Maximum

Overcurrent Protection) tables show the MCA and

Breaker Size of a 48HC*A07 (without convenience

Min. disconnect size: FLA (Full Load Amps) = 31.0

MCA = 32.0 amps and MOCP = 50.0 amps

EnergyX® Unit Selection Procedure — When select-

ing the WeatherMaster Series Unit and EnergyX® system

to use on a given application, it is strongly recommended

that the Carrier Packaged RTU Builder (PRB) Selection Software be used. This is because there are a number of

variables which become complex when manual calcula-

computer operation. Most specifically, the AHRI certified

ratings use Standard CFM values, but due to real world op-eration, variances in altitude and air density are very im-

portant. The Carrier PRB software uses altitude corrected

If the outside air requirement is greater than 10% of a

. Determine the zone cooling and heating requirements

2. Select Energy Recovery unit based on desired outdoor

Unit ratings are gross capacities and do not include the effect of evaporator fan motor heat. See Step XI for determining

amount of evaporator fan motor heat to subtract from total and

sensible capacities to obtain net cooling and net sensible

is often better than oversizing. Slightly lower SHC's will help

control indoor humidity, and prevent temperature swings. Indoor fan motor efficiency available in Electrical Information

Tables. Use the decimal form in the equation, eg. 80% = .8.

Selecting a unit with a SHC slightly lower than the SHC LOAD

85.0 MBH

81.3 MBH

Building heating load

XII Select a Gas Heater

EnergyX system.

at the design conditions.

Required heating capacity

ALL DRAWINGS AND WRITTEN MATERIALS

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DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

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rooftop unit's supply air rating the EnergyX system should be considered to enhance the comfort of the occupants 3. THE CONTRACTOR MUST CHECK ALL and reduce the tonnage of the rooftop unit. Carrier's Pack aged RTU Builder selection software program offers a DIMENSION AT SITE BEFORE COMMENCING quick, simple look at the advantages and payback of the Typical Energy Recovery unit selection involves the fol-

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

> DESCRIPTION DATE BY REV. NO

PROJECT:

MECHANICAL **EQUIPMENT CATALOGS**

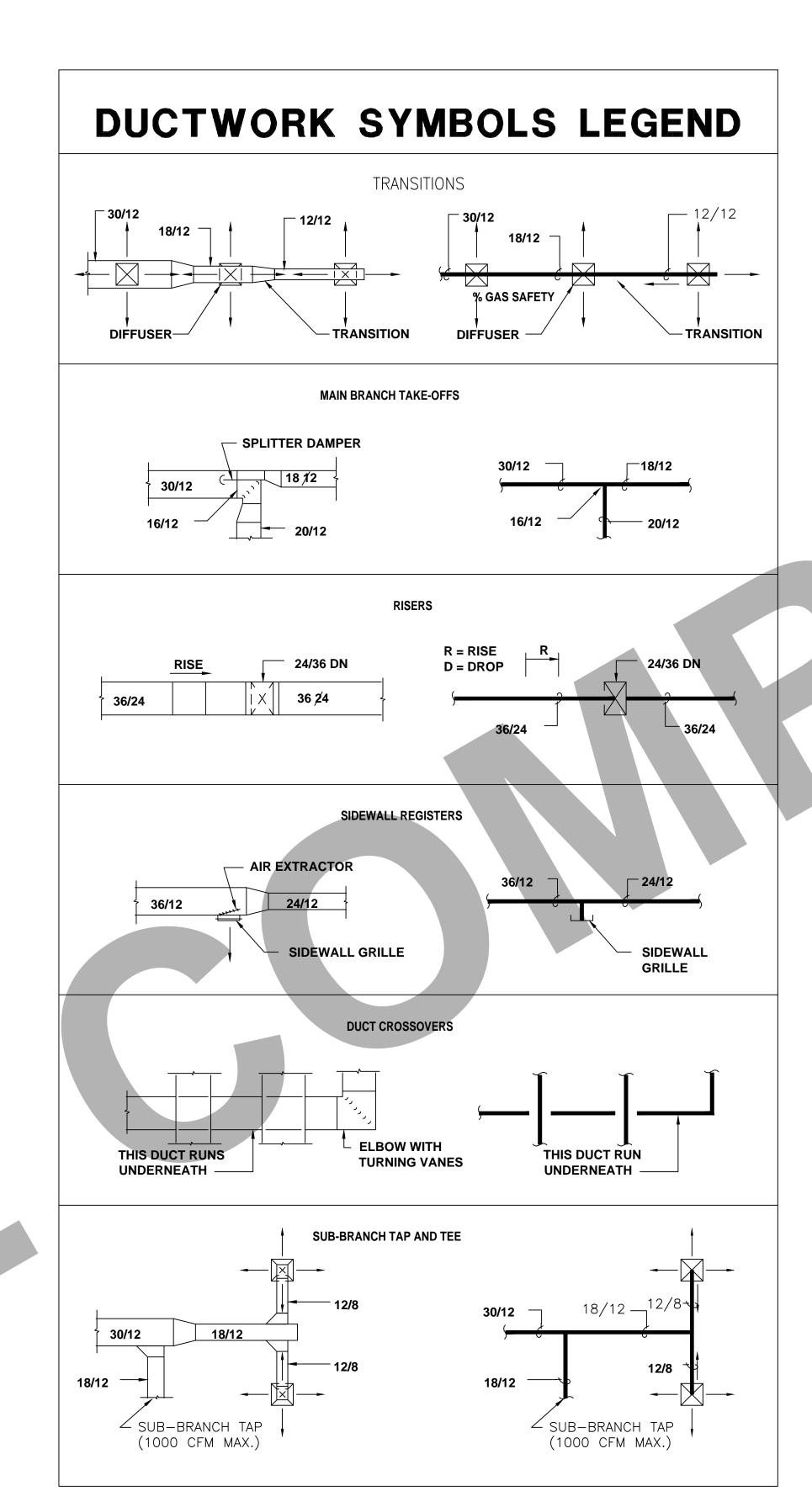
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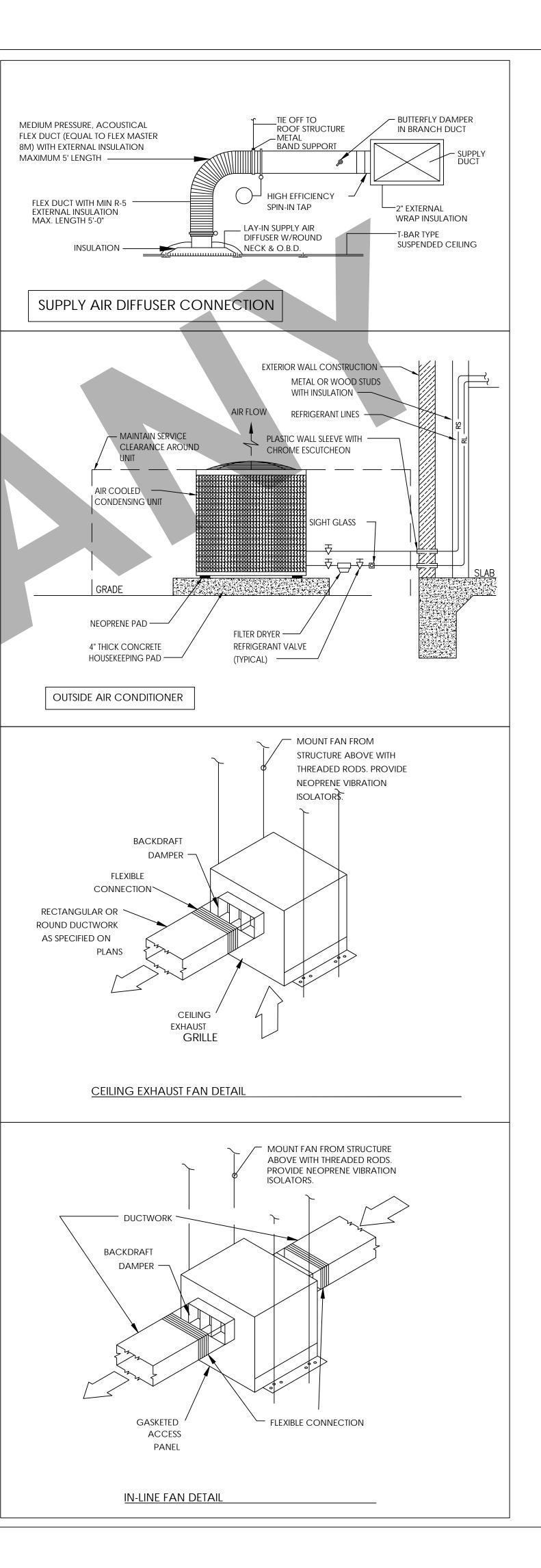
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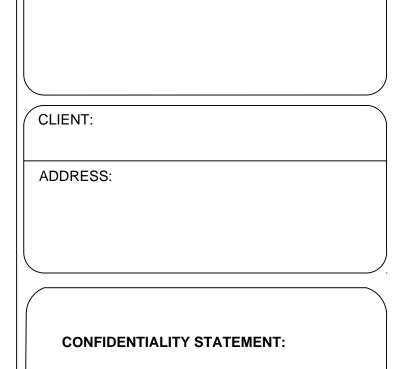


GENERAL NOTES

- 1. MECHANICAL CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL FEATURES OF BUILDING CONSTRUCTION WHICH MAY AFFECT HIS WORK AND SHALL B GOVERNED BY THESE AND OTHER SPECIFICATIONS, INCLUDIN THE GENERAL CONDITIONS AND PARTICULAR INSTRUCTIONS T ALL BIDDER AND SUPPLIERS
- 2. ALL WORK SHALL BE EXECUTED AND INSPECTED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND/OR STATE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THIS PARTICULAR CLASS OF WORK, AND EACH CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, TAXES, AND OTHER SIMILAR COSTS IN CONNECTION THEREWITH.
- 3. PRIOR TO FABRICATION OF DUCTWORK, THE MECHANICAL CONTRACTOR SHALL EXAMINE AND VERIFY ALL CONDITIONS ABOVE AND BELOW THE CEILING WHICH MAY INTERFERE WITH THE DUCT SYSTEM AND NOTIFY THE ARCHITECT OF ANY CONFLICT ENCOUNTERED. CONTRACTOR SHALL PROVIDE ALL OFFSETS, ETC WHICH MAY BE REQUIRED, WITHOUT ADDITIONAL COST TO THE OWNER
- 4. ALL SHEET METAL DUCT CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH "SMACNA" LOW PRESSURE DUCT CONSTRUCTION STANDARD
- 5. TURNING VANES SHALL BE INSTALLED IN ALL BENDS IN **RECTANGULAR DUCT EXCEEDING 30"**
- 6. ALL DUCTS SHALL BE SUPPORTED WITH 1"WIDE, 16 GAUGE, GALVANIZED STEEL BANDS
- 7. ALL RECTANGULAR DUCT SHALL BE INSULATED WITH A MIN OF 1"INTERNAL LINER. 2 LBS DENSITY R-60 ALL ROUND DUCTS AND DIFFUSER TOPS SHALL HAVE A MIN 2" THICK OF FOIL BACKED BLANKET TYPE INSULATION R=4-4 2, WITH ALL JOINTS BUTTED AND TAPED
- 8. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL
- 9. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF SUPPLY AND RETURN AIR REGISTERS, DUCTS, GRILLES AND DIFFUSERS WITH LIGHTING AND CEILING PATTERNS
- 10. PROVIDE LATERAL BRACING OF ALL DUCTS AND PIPES AS REQUIRED BY CODE
- 11. INSULATE AND SEAL ALL DUCTWORK PER CHAPTER 10 OF THE STATE MECHANICAL CODE (T-24, PART 4)
- 12. MOUNT ALL THERMOSTATS AT 48" ABOVE FINISHED **FLOOR**
- 13. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES
- 14. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES. THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE MECHANICAL ENGINEER
- 15. DUCT SMOKE DETECTOR SHALL BE INSTALLED BELOW THE ROOF
- 16. ALL MECHANICAL EQUIPMENT AND SYSTEMS INSTALLED AS PART OF PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2018 PHILADELPHIA MECHANICAL CODE AND THE 2018 PHILADELPHIA BUILDING CODE AND THE 2018 PHILADELPHIA BUILDING ENERGY EFFICIENCY STANDARDS.
- 17. OUTSIDE AIR FOR A HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM CLOSER THAN 10 FEET FROM AN APPLIANCE VENT OUTLET, VENT OPENING OF A PLUMBING SYSTEM, OR THE DISCHARGE OUTLET OF EXHAUST FAN, UNLESS THE OUTLET IS 3 FT. ABOVE THE OUTSIDE AIR INLET (IMC 314 3)
- 18. PROVIDE 120 VOLT ELECTRICAL OUTLETS WITHIN 25 FT OF ALL MECH EQUIPT (IMC 309)
- 19. HEATING, VENTILATING, ANDAIR CONDITIONING SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS IN ACCORDANCE WITH IMC 317 1 REQUIREMENTS
 - A. AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE
 - B. ACCA MANUAL B
 - C. ASHRAE 111
 - D. NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING ADJUSTING BALANCING OF ENVIRONMENTAL SYSTEMS
 - E. SMACNA HVAC TESTING, ADJUSTING, AND BALANCING
- 20. MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL BE NON COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE DEVELOPED INDEX NOT TO EXCEED 50 WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723







ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE

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NOTES:

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3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

EV. NO.	BY

MECHANICAL GENERAL

PROJ. NO. | PROJ. ENGR. SCALE @ 24X36: NTS DRAWING NO.

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DETAILS.

PROJECT:

PLUMBING SPECIFICATIONS

THE WORK INCLUDES MODIFICATION TO THE EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/OR ORDINANCES AND IS SUBJECT TO INSPECTION. HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION. WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS. COORDINATE WITH THE WORK OF OTHER SECTIONS. EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PIPING SYSTEMS - GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING, PROVIDE AN ISOLATING DIALECTIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION. PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETC. AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETC. INCLUDED ARE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS. SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS. VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING. CONDENSATE AND INDIRECT DRAIN PIPING:PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV(SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS. CLEANOUTS: PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN. AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE, CONFORMING TO CODE REQUIREMENTS. PROVIDE SUITABLE WALL OR FLOOR CLEANOUTS WITH ACCESSORIES TO OBSCURE FROM VIEW. WATER DISTRIBUTION PIPING: LAYOUT WATER PIPING SO THAT THE ENTIRE SYSTEM CAN BE DRAINED. HOT AND COLD WATER PIPING SHALL BE 1/2" MIN. CPVC PIPE WITH SOLVENT FITTING. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. INSTALL CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS). PIPE INSULATION: INSULATE (AS ALLOWED BY CODE) ALL LISTED SERVICE PIPING AS FOLLOWS. DOMESTIC COLD/HOT WATER, HOT WATER RETURN, STORM WATER PIPING. PROVIDE 1" PREFORMED FIBERGLASS, ASJ/SS-11, FLAME SPREAD 25, SMOKE DEVELOPED 50, ASTM C-547. FOR CONDENSATE PIPING PROVIDE 1/2" THICK INSULATION OF SAME CHARACTERISTICS AS LISTED FOR 1" ABOVE. WHERE PERMITTED BY LOCAL CODES, PROVIDE 1/2" SELF-ADHESIVE UNICELLULAR FOAM PIPE INSULATION WITH PRE-FORMED PVC FITTING COVERS - EQUAL TO SELF-ADHESIVE ARMSTRONG 2000 WITH K FACTOR OF 0.27 AT 75 DEGREES MEAN TEMPERATURE. INSULATE ANY EXPOSED CONDENSATE PIPING WITH WASTE TEMPERATURE BELOW 60 DEGREES F. SHUTOFF VALVES. WITH UNIONS SHALL BE PROVIDED FOR SERVICE TO EACH PLUMBING FIXTURE, FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM, TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. VALVES SHALL BE EQUAL TO JENKINS #902-T BALL VALVE, CHROME-FINISHED BRONZE, TEFLON SEATS AND PACKING, 400 LB. W.O.G., SOLDER END. ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED. PIPING SYSTEM- PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PEMITTED BY CODE/LOCAL AUTHORITIES. INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. PROCEED AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL, FOR SANITARY JOINT, AND OMIT ESCUTCHEONS. REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS. TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE, FOR FOUR (4) HOURS MINIMUM. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED. ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOFING WARRANTY.

GENERAL NOTES

- 1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- 2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2006 UNIFORM PLUMBING CODE, 2006 INTERNATIONAL BUILDING CODE, 2006 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- 3. COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS.

 REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- 4. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS. PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.
- THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.
- 7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.
- 8. ALL HOT WATER PIPING AND RECIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE
- 9. CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.
- 10. PIPING:A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC
- SCHEDULE 40) PIPE
- B. WATER PIPE SHALL BE CPVC PIPEC. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE
- D. INSIDE GAS PIPING SHALL BE BLACK IRON SCHEDULE 40 WITH
 MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON
 SCHEDULE 40 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED
 GRAY IN COLOR A 24 HOUR METERED GAS TEST SHALL BE REQUIRED
- GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.

 E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.
- F. PIPING: PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES
- 11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.
- 12. CLEANOUTS SHALL BE INSTALLED PER THE UNIFORM PLUMBING CODE.13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH EXTERIOR WALLS, ROOFS, OR FLOORS.
- 14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE STRUCTURE.
- 15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.
- 16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.
- 17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.
- 18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.
- 19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.
- 20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.
- 21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.
- 25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
- 26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS
- 27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF COMTAMINATION.
- 28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN-DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR

PLUME	BING LE	GEND
SYMBOL	ABBRV.	DESCRIPTION
	SS or W	NEW SEWER OR WASTE
	V	NEW VENT
	CW	NEW COLD WATER
	HW	NEW HOT WATER
	G	NEW GAS
	CD	NEW CONDENSATE DRAIN
CA	CA	COMPRESSED AIR
φ	FCO	FLOOR CLEANOUT
Ю	WCO	WALL CLEANOUT
O	FD	FLOOR DRAIN
	FS	FLOOR SINK
<u></u>	TP	TRAP PRIMER & TRAP PRIMER PIPING
\square	SOV	SHUT-OFF VALVE
<u> </u>	CV	CHECK VALVE
	PRV	BACKFLOW PREVENTER W SOV'S
	T&P	
 0	DN	PIPE DOWN
o	UP	PIPE UP
<u>•</u>	POC	POINT OF CONNECTION
7	-	PLUMBING NOTE CALL-OUT
	ABV	ABOVE
	AFF	ABOVE FINISH FLOOR
	AP	ACCESS PANEL
	BEL	BELOW
	BLDG	BUILDING
	CLG	CEILING
	CONT	CONTINUATION
	EL	ELEVATION
	FIN	FINISH
	FL	FLOOR
	GR NTS	GRADE
	OC	NOT TO SCALE
		ON CENTER
	<u>S= %</u> SHT	SLOPE AT A PERCENTAGE
	TYP	SHEET TYPICAL
	VTR	VENT THRU ROOF
	VIII	VENT THRU ROOF

DI LIMBING I ECEND

PLUMBING / GENERAL NOTES

BATHTUBS AND WHIRLPOOL BATHTUBS. THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES.

BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER.

SHOWERS AND TUB-SHOWERS COMBINATIONS IN ALL BUILDINGS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION OF BOTH THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION. VALVES SHALL BE ADJUSTED TO DELIVER A MAXIMUM MIXED WATER

SETTING OF 120 DEGREES FAHRENHEIT. THE WATER HEATER
THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR
MEETING THIS PROVISION.

VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED

1-INSTALL TEMPERATURE AND PRESSURE RELIEF VALVE WITH MINIMUM 34" DRAIN PIPE AND TERMINATE TO THE EXTERIOR OF THE BUILDING OVER WINDOW, DOOR OR VISIBLE LOCATION. DISCHARGE FROM A RELIEF VALVE INTO A WATER HEATER PAN SHALL BE PROHIBITED

2-PROVIDE (ON THE PLANS) A GAS PIPING DIAGRAM OF THE GAS PIPING SYSTEM THAT INCLUDES ALL PIPE SIZES, PIPE LENGTHS AND BTU RATINGS.

3-SUBMIT GAS LOAD CALCULATIONS IN ACCORDANCE WITH IPC TABLE 12-8 TO VERIFY THE PIPE SIZES ARE ADEQUATE FOR THE MAXIMUM DELIVERY CAPACITY OF CUBIC FEET OF GAS PER HOUR.

4- A WHOLE HOUSE HAS TEST IS REQUIRED UPON COMPLETION OF THE INSTALLATION, ALTERATION, OR REPAIR OF ANY GAS PIPING.

THE CITY SHALL BE NOTIFIED WHEN GAS PIPING IS READY FOR INSPECTION.

5- 2 GPM SHOWER FIXTURE, MAX.1.5 GPM BATHROOM FAUCET, MAX. 2 GPM KITCHEN FAUCET, AND MAX 1.28 WATER CLOSET TO CONFORM TO CITY GREEN REQUIREMENTS.

BATHROOMS: PROVIDE AN EXHAUST FAN (AT LEAST 50 CFM) DUCTED TO THE OUTSIDE (MINIMUM 4" DIAMETER FLEX DUCT WITH A MAXIMUM LENGTH OF 70")WITH A MINIMUM VENTILATION RATE OF 100 CFM, IDENTIFY THE REQUIREMENT FOR A BACKDRAFT DAMPER ON THE DUCT, AN ENERGY STAR COMPLIANT EXHAUST FAN THAT IS CONTROLLED BY A HUMIDITY SENSOR THAT IS CAPABLE OF BEING ADJUSTED BETWEEN ≤ 50-PERCENT TO 80-PERCENT HUMIDITY; AND A SEPARATE SWITCH FROM THE LIGHT UNLESS THE FAN IS ALLOWED TO OPERATE WITH THE LIGHT SWITCHED OFF.

6-NOTE THAT ALL PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6"
ABOVE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE. VENTS
SHALL TERMINATE NOT LESS THAN 10" FROM OR 3' ABOVE ANY WINDOW,
DOOR OPENING AIR INTAKE, OR VENT SHAFT NOR 3' FROM LOT LINE.
IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED PRESSURE REGULATOR SHALL BE INSTALLED.

NON-REMOVABLE BACK FLOW PRE-VENTER OR BIBB-TYPE VACUUM BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED, THE ENTIRE LENGTH OF HOT WATER PIPES SHALL BE INSULATED.

NOTES:

1-Projects which disturb less than one acre of soil shall manage storm water drainage during construction by one of the following: A. Retention basins. B. Where storm water is conveyed to a public drainage system, water shall be filtered by use of a barrier system, wattle or other approved method.

2-Site grading or drainage system will manage all surface water flows to keep water from entering buildings (swales, water collection, French drains, etc.). CGC Section 4.106.3. Exception: Additions not altering the drainage path.

3-When a shower is provided with multiple shower heads, the sum of flow to all the heads shall not

exceed 1.8 gpm @ 80 psi, or the shower shall be designed so that only one head is on at a time. CGC Section 4.303.1.3.2.

4-Landscape irrigation water use shall have weather or soil based controllers. CGC Section 4.304.1.

5-The plans that a minimum of 65% of construction waste is to be recycled. CGC Section 4.408.1.

6-The contractor shall submit a Construction Waste Management Plan, per CGC Section 4.408.2.

7-The builder is to provide an operation manual (containing information for maintaining appliances, etc.) for the owner at the time of final inspection. CGC Section 4.410.1.

8-The gas fireplace(s) shall be a direct-vent sealed- combustion type. Woodstove or pellet stoves must be US EPA Phase II rated appliances. CGC Section 4.503.1.

WATER SAVING STANDARDS

THE WATER SAVING PERFORMANCE STANDARDS FOR A PLUMBING FIXTURE ARE THOSE ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), CURRENT REVISION, OR THE FOLLOWING STANDARDS, WHICHEVER ARE THE MORE RESTRICTIVE 1-THE MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET OR A FAUCET AERATOR SHALL NOT EXCEED 0 5 GALLONS OF WATER PER MINUTE AT A PRESSURE OF 60 POUNDS PER SQUARE INCH WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES. 2-THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A TOILET SHALL NOT EXCEED AN AVERAGE OF 1 28 GALLONS WHEN TESTED IN ACCORDANCE WITH ANSI TESTING

3- THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A URINAL AND THE ASSOCIATED FLUSH VALVE, IF ANY, SHALL NOT EXCEED AN AVERAGE OF ONE GALLON WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

SPECIAL NOTICE TO CONTRACTORS

ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.

- 2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING)
 PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- 3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CLIENT:

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 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.

3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY

PROJECT:

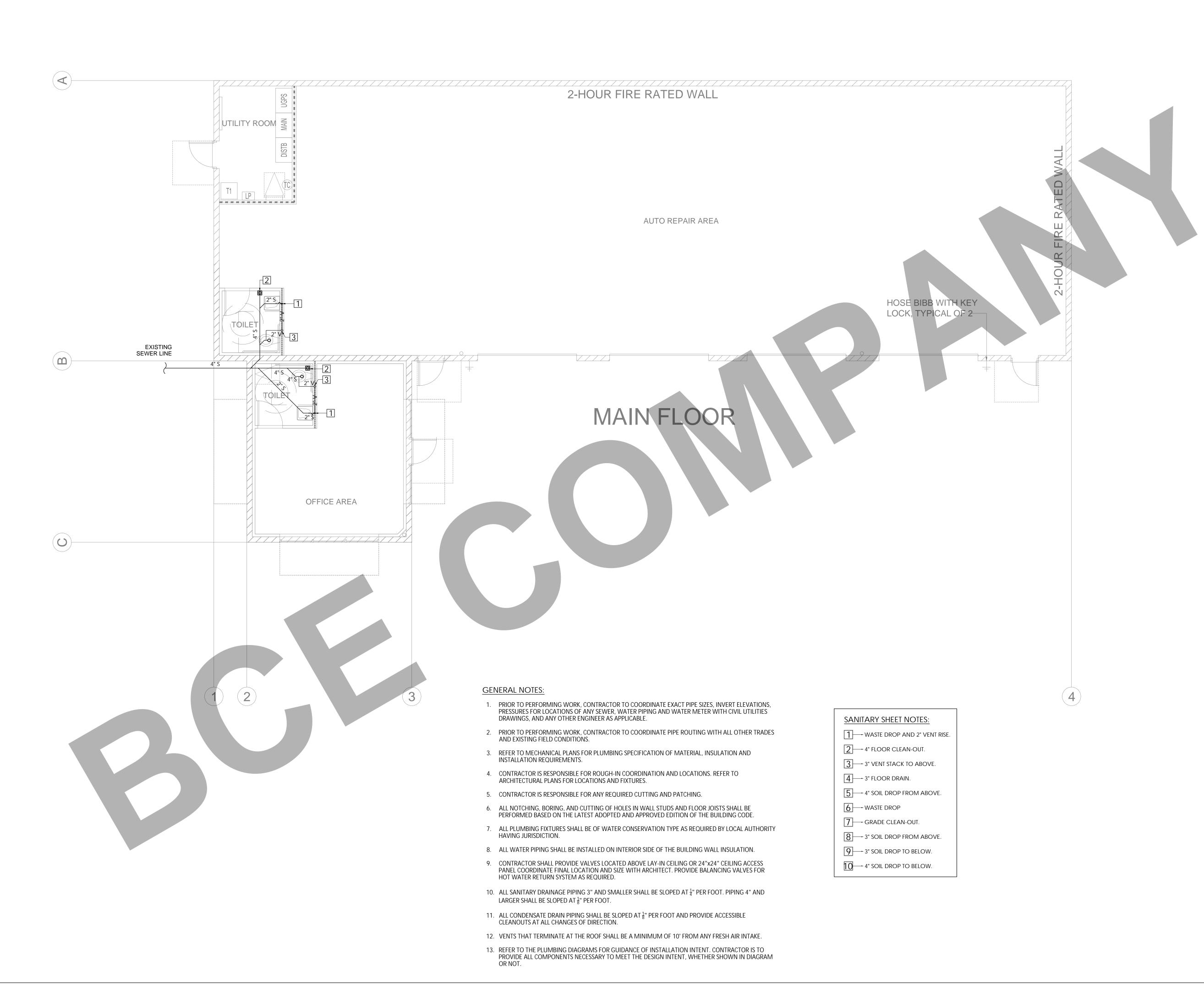
PLUMBING LIST OF SYMBOLS AND GENERAL NOTES

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

DRAWING NO. REV.

P 1.0



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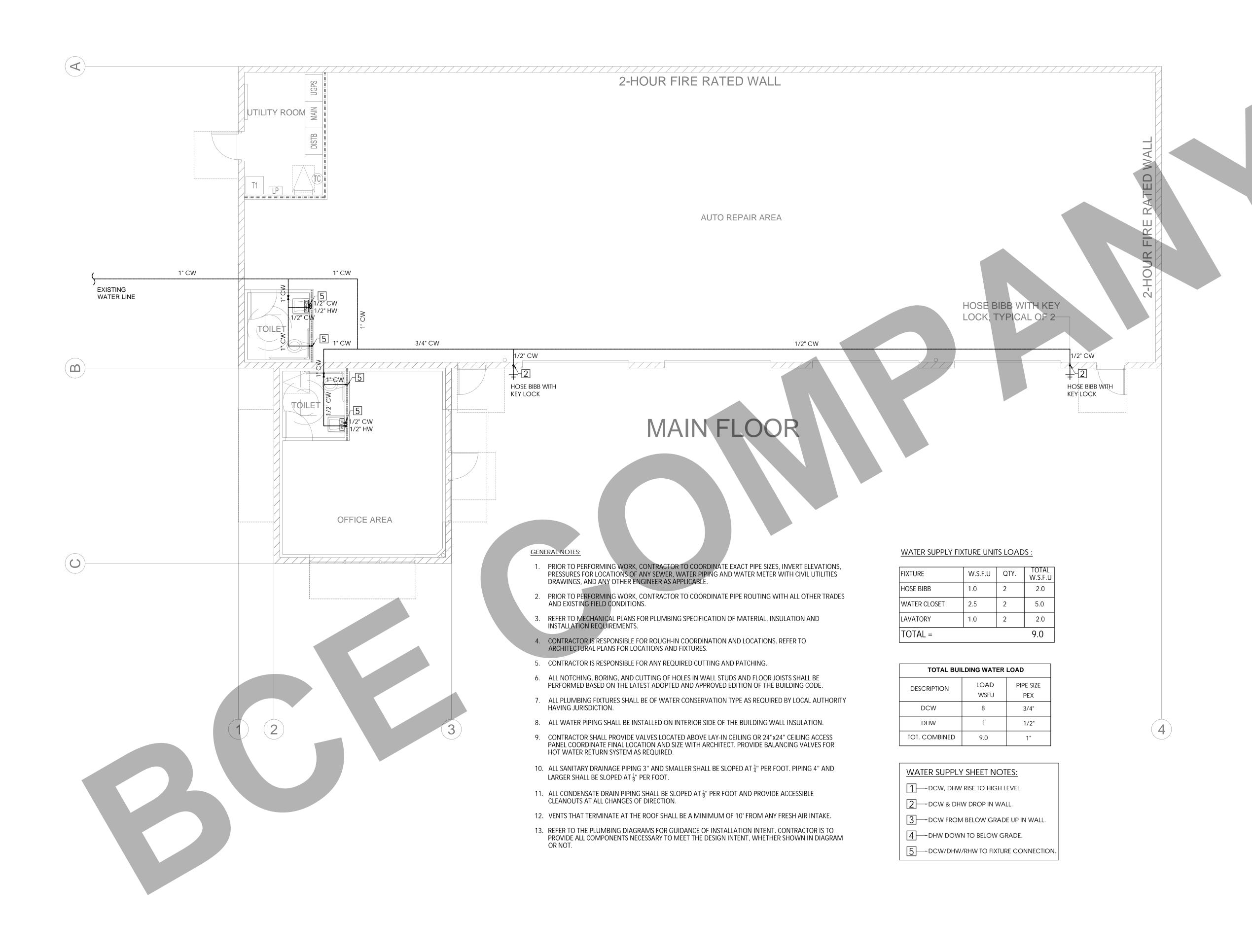
REV. NO.	DESCRIPTION	DATE	BY

PROJECT:

SANITARY LAYOUTS

PROJ. NO.	PROJ. ENGR.	ALE @ 24X36: 3/16"=1'-0"
DRAWING N	IO.	REV.

P 2.0



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REV. NO.	DESCRIPTION	DATE	BY

PROJECT:

WATER LAYOUTS

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: 3/16"=1'-0"

DRAWING NO.

P3.0



POINT-OF-USE WATER HEATERS

HEATING WATER FOR OVER 50 YEARS



A. CHRONOMITE® - INSTANT-FLOW® C-MICRO SLAB EDGE WITH DYSON® AIRBLADE WASH+DRY

INSTANT-FLOW® SR HOW IT WORKS MODEL SR SERIES POINT-OF-USE ELECTRIC TANKLESS WATER HEATER



LOW FLOW						10	°F TEM	PERATURE	RISE @	
MODEL	ACTIVATION GPM	VOLTS	KW	AMPS	90°C WIRE	0.35 GPM	0.5 GPM	1.0 GPM	1.5 GPM	2.0 GPM
SR-15L/120	0.35	120	1.80	15	14 AWG	35	25	12	8	6
SR-20L/120	0.35	120	2.40	20	12 AWG	47	31	16	11	8
SR-30L/120	0.35	120	3.60	30	10 AWG	70	49	25	16	12
SR-20L/208	0.35	208	4.16	20	12 AWG	81	57	28	19	14
SR-20L/240	0.35	240	4.80	20	12 AWG	90+	66	33	22	16
SR-15L/277	0.35	277	4.15	15	14 AWG	81	57	28	19	14
SR-20L/277	0.35	277	5.54	20	12 AWG	90+	76	38	25	19

STANDARD	FLOW	°F TEMPERATURE RISE @							
MODEL	ACTIVATION GPM	VOLTS	KW	AMPS	90°C WIRE	0.65 GPM	1.0 GPM	1.5 GPM	2.0 GPM
SR-30/208	0.65	208	6.24	30	10 AWG	66	41	28	21
SR-40/208	0.65	208	8.32	40	8 AWG	87	57	38	28
SR-30/240	0.65	240	7.20	30	10 AWG	76	49	33	25
SR-40/240	0.65	240	9.60	40	8 AWG	90+	66	44	33
SR-30/277	0.65	277	8.31	30	10 AWG	87	57	38	28

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SCHEDULE No. 1

ELECTRIC TANKLESS WATER HEATER SCHEDULE

LLLCTRIC TAINKLESS	WAILN HLAILN SCHLDUL
TAG	WH-01;WH-02
LOCATION	AS SHOWN
MANUFACTURER	CHRONOMITE
MODEL	SR-15L/120
TYPE	ELECTRIC
VOLTS	120
POWER KW	1.80
AMPS	15
WIDTH x DEPTH (in)	9-5/8" x 2-3/4"
HEIGHT (in)	5-3/4"

Design calculation sheet Date: 7/10/2022 Sheet no.: 1 of 1 Computed by: Innodez

Subject: Razo Proposed Cor	mmercial Center			Checke	d by:	Innode	ez	
Hot Water Calcula	tion			Approv	ed by:	Innode	ez	
Application Type Water Temperature	Industrial Plant Tin = 50 Tout = 140 $\triangle T$ = 90	°F = °F =	10 60 50	°C °C °C		1		
Fixture			GPH		QTY.			
Basin, Private lavatory			2	Х	1	=	2	gph
Other			GPH		QTY.			
		Maximum Demand				= _	2 0.3	gph gph
		Maximur	n Prob	able Der	nand	=	0.6	gph
		Maximur	n Prob	able Der	nand	=	0.01 0.00	gpm L/s
		Heater Re	ecover	y Capaci	ty	=	0.00	gpm
		Storage F	actor	(Custo	m)	=	0.8	
		Storage T	ank C	apacity		=	0.48 1.9	gal liter
		-	Acti	ial Salac	tion		2	Lito

= 0.2 kW

Actual Selection = 1 kW

IDEAL APPLICATIONS

Manual handwashing faucets, kitchen sinks, bar sinks, utility sinks, and hand set showers.

Chronomite Instant-Flow® SR Low-Flow Electric Tankless Water Heaters are designed to provide reliable are the space-saving solution for point-of-use, instant hot water when installed at the point of use. This instant electric tankless water heater is perfect for lavatories and sinks. It is ideal for two-handle and single-handle faucets and is the perfect under-the-sink to be lightweight, compact and are constructed water heater. The SR series is designed to provide a predetermined temperature rise to the incoming cold water and to increase the water outlet temperature by manually increasing/decreasing water flow.

Instant-Flow® SR Electric Water Heaters meet the ADA barrier-free requirements and are 99% energy efficient.

Chronomite Electric Tankless Water Heaters under-the-counter sink and basin applications where instant hot water is needed. Chronomite Electric Tankless Water Heaters are designed with a durable metal housing for optimal vandal resistance. No pressure and temperature relief valves are needed (unless required by code), saving time and money on installation.

> Aluminum ABS Housing

Satin Finish Stainless housing

Polished Stainless Housing 1/2" Male NPT Connection

3/4" Male NPT Connection - ABS only

Disconnect Switch

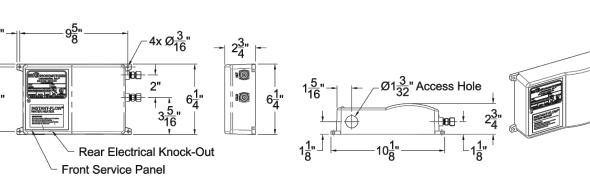
FOR OPTIMAL PERFORMANCE, CHRONOMITE ELECTRIC TANKLESS WATER HEATERS SHOULD ALWAYS BE INSTALLED WITHIN 18 INCHES OF THE POINT OF USE.

SUFFIX OPTION

Standard housing

CHRONOMITE INSTANT-FLOW® SR ELECTRIC TANKLESS **WATER HEATER FEATURES** 99% Energy Efficient Unlimited Hot Water

 Meets ADA Requirements Compact Size Optional Stainless Easy to Install Steel Housing Low Installation Cost



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REV. NO.	DESCRIPTION	DATE	BY
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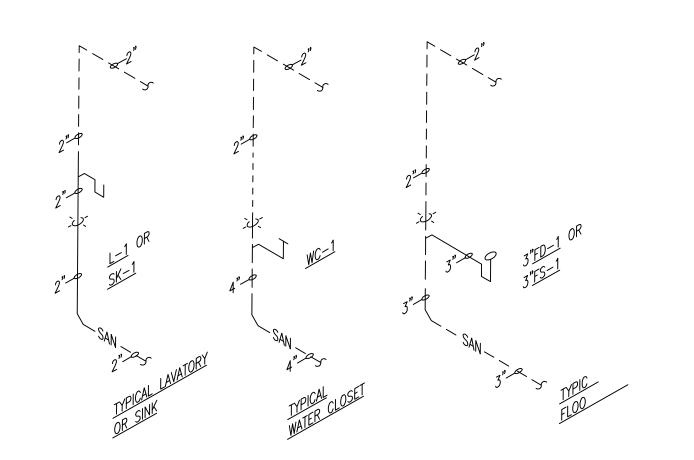
PROJECT:

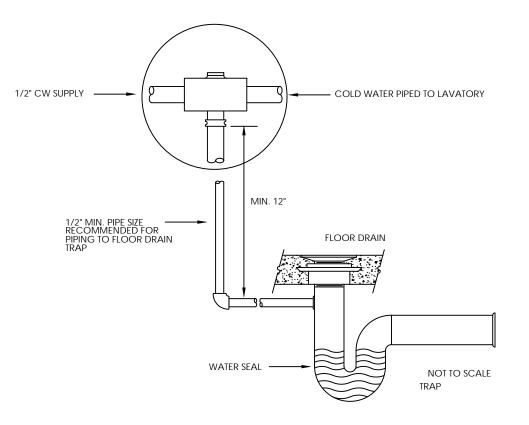
HOT WATER CALCS. AND CATALOG. AND SCHEDULES SCALE @ 24X36: PROJ. NO. PROJ. ENGR.

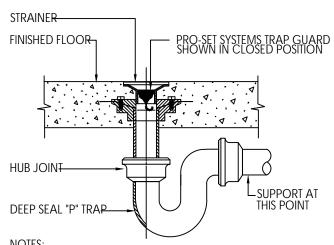
NTS

DRAWING NO.

P4.0







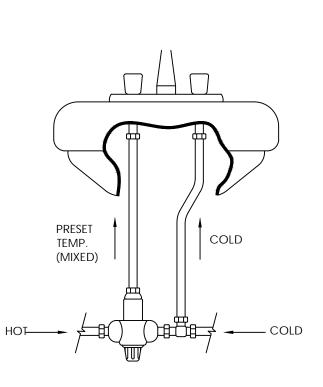
- NOTES:

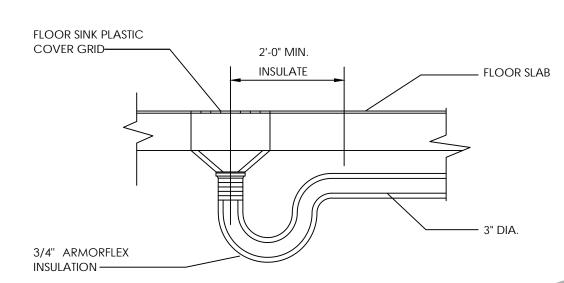
 1. TRAP GUARD SHALL BE FACTORY FITTED TO MATCH EACH FLOOR DRAIN (AND FLOOR SINK) BY SIZE, MODEL, AND MANUFACTURER.
- 2. FLOOR SINK/HUB DRAIN TRAP GUARD INSTALLATION IS SIMILAR.
- 3. INSTALLATION OF TRAP GUARD TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 4. Insert trap guard only after final rodding of drains. Install trap guard with clear silicone caulk for gas tite seal. For drain rodding after installation, insert sewer tape through lightly greased 1-1/2" PVC PIPE to Protect trap guard.

FLOOR DRAIN WITH TRAP SEAL PROTECTION



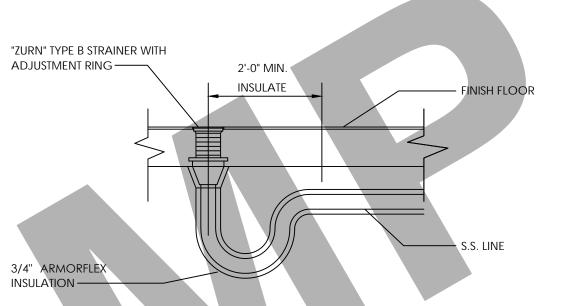






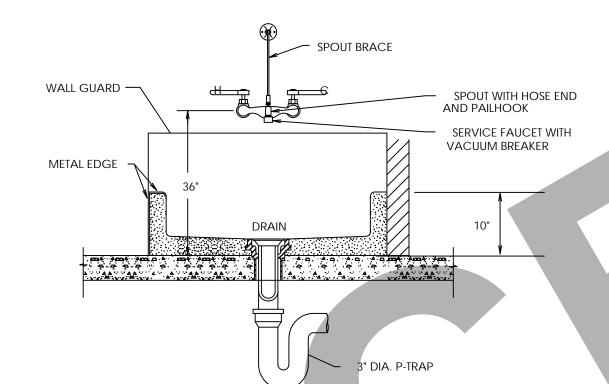
CONTRACTOR TO REFER TO PLUMBING G.C. TO INSULATE ANY DRAIN DRAWINGS FOR SIZE AND LOCATION OR P-TRAP UNDER SLAB OF SANITARY SEWER LINE.

THAT NORMALLY HOLDS WATER



CONTRACTOR TO REFER TO PLUMBING DRAWINGS FOR SIZE AND LOCATION OF SANITARY SEWER LINE.

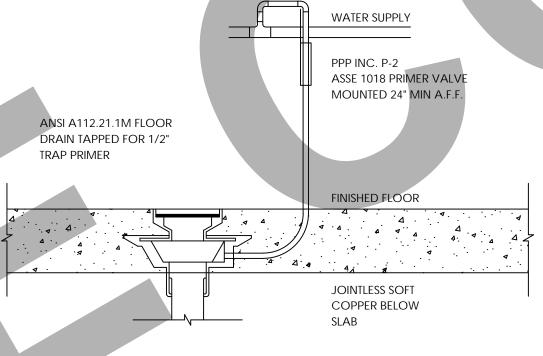
G.C. TO INSULATE ANY DRAIN OR P-TRAP UNDER SLAB THAT NORMALLY HOLDS WATER



ANTI-SCALD MIXING VALVE

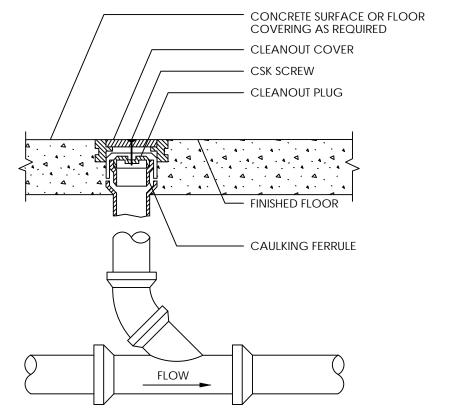
NO SCALE



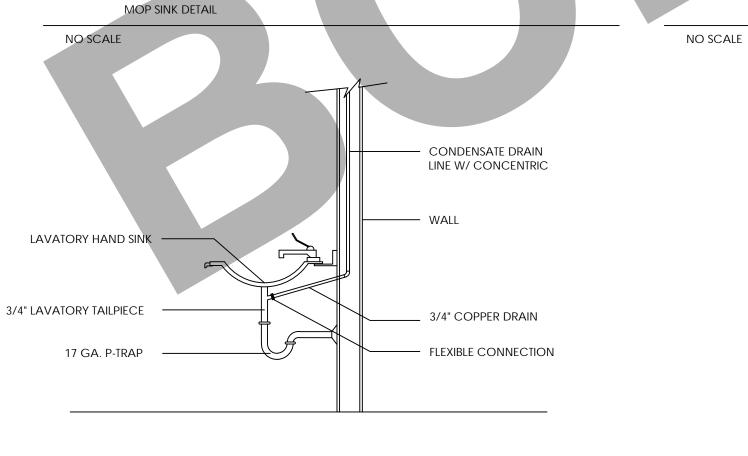




NO SCALE



TRAP PRIMER DETAIL

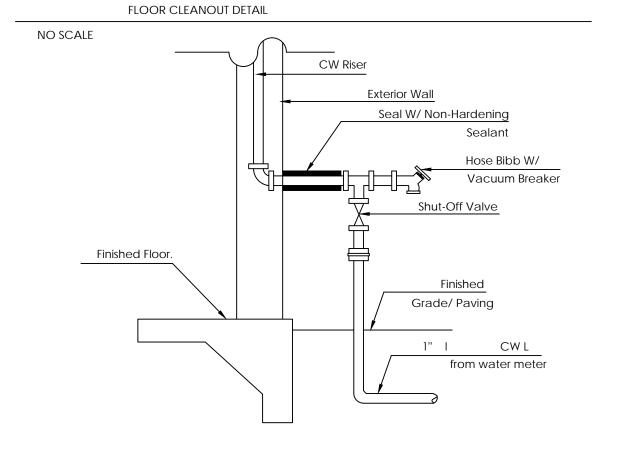


CONDENSATE DETAIL

NO SCALE

UNIFORM MATERIAL WEIGHT COUNTER FLASHING BY PLUMBING CONTRACTOR — SOLDER LAP SEAM ROOF CONSTRUCTION RE: STRUCTURAL & STRUCT. - FINISH ROOF VENT PIPE SIZES PER PLANS 6"MIN

NO SCALE



2" VENT TO VTR. ——— — 3" FLOOR SINK

3/4" COND. LINE ROUTED ABOVE

FLOOR. DISCHARGE TO 3" ABOVE FLOOR

COND. ON FLOOR SINK DETAIL

NO SCALE

VENT THRU ROOF DETAIL

WATER ENTRY DETAIL

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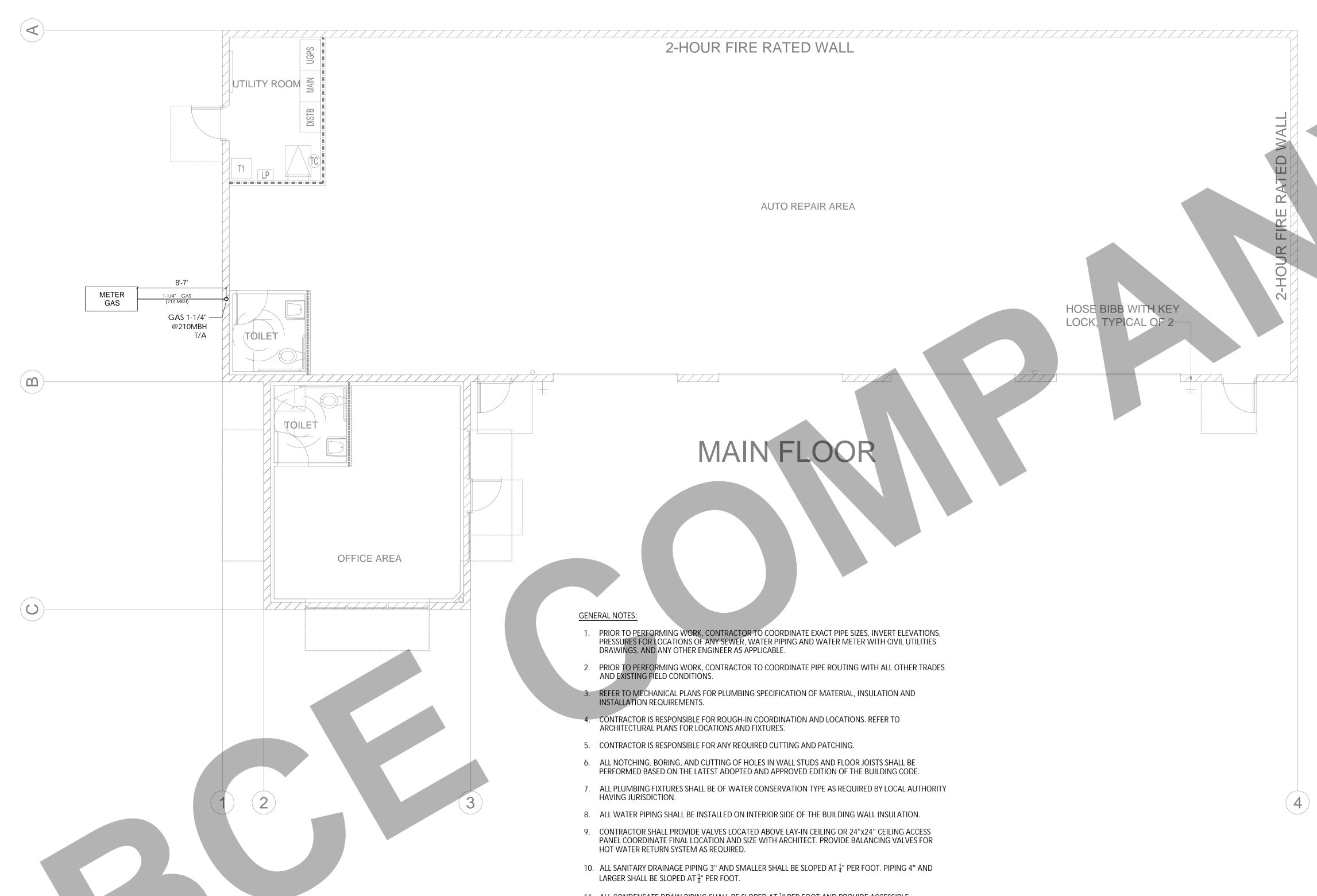
	REV. NO.	DESCRIPTION	DATE	BY
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PROJECT:

PLUMBING GENERAL DETAILS.

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: NTS DRAWING NO.

P 5.0



ALL GAS PIPES ARE METALLIC SCHEDULE 40

THE TOTAL GAS PIPE LENGTH FROM GAS METER TO THE FARTHEST EQUIPMENT IS APPRX. 125 FEET.

GAS UNITS AND MBH:

ITEM	MBH
RTU-01	105
RTU-02	105
TOTAL =	960

- 11. ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT AND PROVIDE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
- 12. VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
- 13. REFER TO THE PLUMBING DIAGRAMS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM
- 14. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING AND SHALL TERMINATE VERTICALLY NOT LESS THAN 6 INCHES (152 MM) ABOVE THE ROOF NOR LESS THAN 1 FOOT (305 MM) FROM A VERTICAL SURFACE.
- 15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FEET (3048 MM) FROM, OR NOT LESS THAN 3 FEET (914 MM) ABOVE, AN OPENABLE WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT, OR NOT LESS THAN 3 FEET (914 MM) IN EVERY DIRECTION FROM A LOT LINE, ALLEY AND STREET EXCEPTED.

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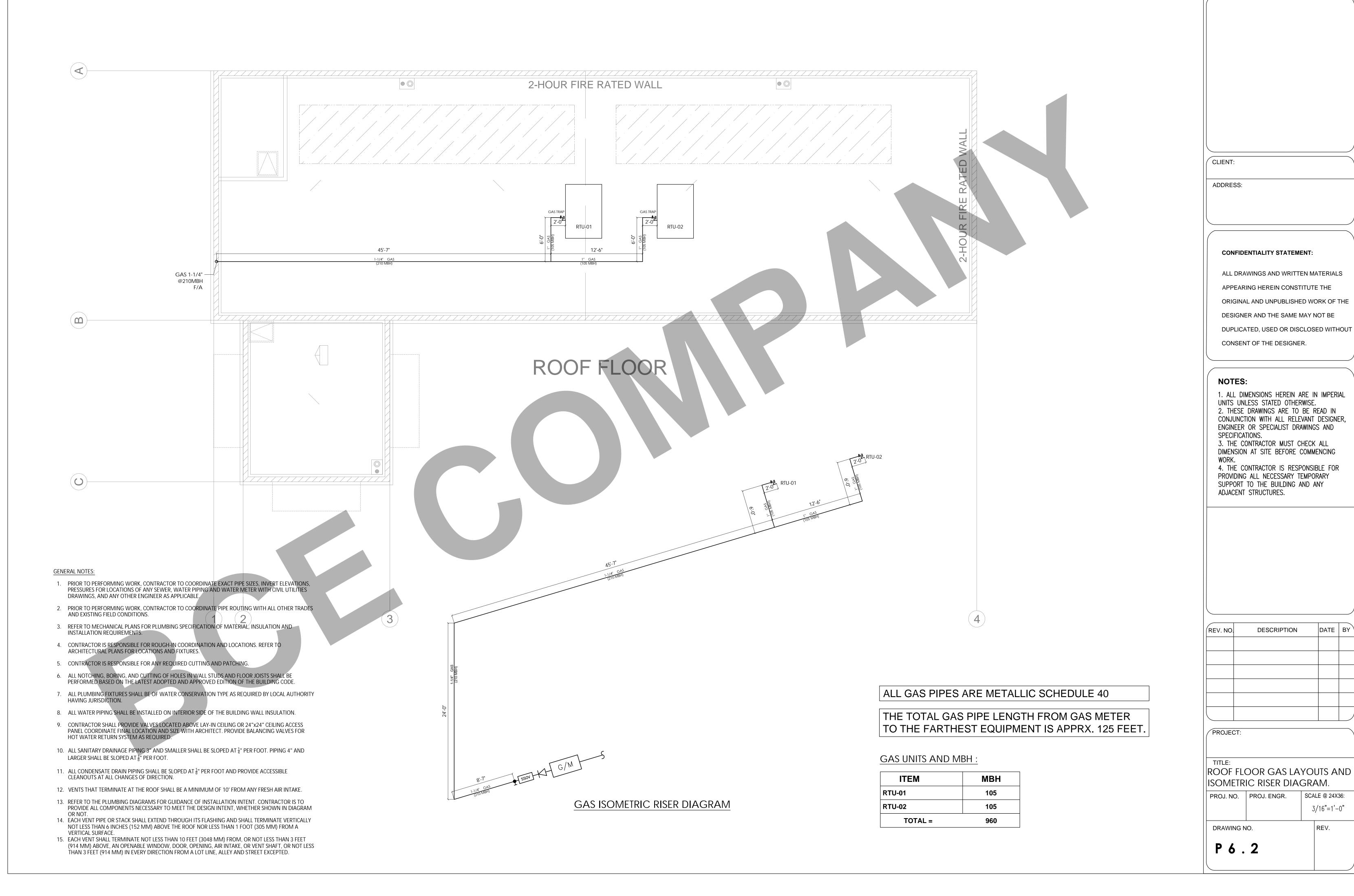
PROJECT:

MAIN FLOOR
GAS LAYOUTS

PROJ. NO. PROJ. ENGR. SCALE @ 24X36: 3/16"=1'-0"

DRAWING NO.

P 6.1



DATE BY

SCALE @ 24X36:

3/16"=1'-0"

GENERAL ELECTRICAL NOTES

| DESCRIPTION

- GENERAL CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2019 NEC, AS
 AMENDED BY 2019 ELECTRICAL CODE, 2019 ENERGY CODE AND ANY
 ADDITIONAL STATE OR LOCAL CODES WHICH MAY APPLY.
 GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS,
- CERTIFICATES, ETC. REQUIRED.

 GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR BOTH ROUGH
- GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR BOTH ROUGH AND FINAL UNDER-WRITERS OR OTHER APPROVED INSPECTION AGENCY CERTIFICATES "ELECTRICAL INSPECTION". THESE CERTIFICATES SHALL BE PRESENTED WITH REQUEST FOR FINAL PAYMENT.
- IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE OPERATING ELECTRICAL SYSTEM. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL WIRING, EQUIPMENT, MATERIAL. ETC. REQUIRED, EXCEPT WHERE SPECIFICALLY NOTED AS BEING FURNISHED BY OTHERS. SHOULD THERE BE ANY QUESTIONS CONCERNING RESPONSIBILITY, THEY SHALL BE ADDRESSED TO ARCHITECT PRIOR TO BID. NO EXTRA CHARGES WILL BE
- ALLOWED.

 6 ELECTRICAL SERVICE SHALL BE COORDINATED WITH THE EXISTING FIELD CONDITIONS.
- CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL CONTROLS,
 OWNER—SUPPLIED EQUIPMENT, MECHANICAL AND PLUMBING EQUIPMENT AS REQUIRED.
- REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION DETAILS. ALL FIXTURE AND DEVICE LOCATIONS SHOWN ON ARCHITECTURAL DRAWINGS SUPERSEDE THOSE SHOWN ON ELECTRICAL PLANS.

 CIRCUIT NUMBER ON THE DRAWINGS ARE FOR IDENTIFICATION ONLY AND
- CIRCUITS WITH THE LIGHTEST LOADS AND THE RECEPTACLE CIRCUITS

 NEAR THE TOP OF THE PANEL, AND THE MORE HEAVILY LOADED

 CIRCUITS NEAR THE BOTTOM. BALANCE ALL CIRCUITS EVENLY BETWEEN

 PHASE SO THAT FEEDER WIRES CARRY APPROXIMATELY EQUAL CURRENT.

 ALL PHASES MUST BE BALANCED WITHIN 10% OR LESS. G.C. SHALL

DO NOT INDICATE THE POSITION ON THE PANEL BOARD, CONNECT THE

- REBALANCE IF NECESSARY.

 BRANCH CIRCUIT CONDUCTOR INSULATION SHALL BE COLOR CODED AND SHALL BE 600 VOLT. TYPE THHN/THWN.
- CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE INSULATION TYPE SUITABLE FOR THE TEMPERATURE. CABLES USED IN SPACES FOR ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE N.E.C
- REQUIREMENTS.

 ALL WIRING USED IN RETURN OR DISCHARGE AIR PLENUMS SHALL BE
 PLENUM RATED OR INSTALLED PER METHODS APPROVED BY THE LATEST EDITION OF THE N.E.C. FOR SUCH APPLICATION.
- ALL WIRE AND CABLE CONDUCTORS SHALL BE COPPER WITH INSULATION RATED 600V. CONDUCTORS SIZED #10 AWG AND SMALLER SHALL BE SOLID OD STRANDED, AND CONDUCTORS SIZED LARGER THAN #10 AWG
- SHALL BE STRANDED WIRE.

 BRANCH CIRCUITS FOR POWER AND LIGHTING SHALL NOT BE LESS THAN
 #12 AWG. OR AS NOTED. WIRES ARE TO BE SIZED FOR THE
 APPROPRIATE VOLTAGE DROPS. SEE WIRE SIZE SCHEDULE ON THIS
- ALL DATA CABLES SHALL BE CAT6, PLENUM RATED. TO BE PROVIDED BY OWNER SELECTED VENDOR. ELECTRICAL WORK SHALL BE TO PROVIDE OUTLET BOXES AND "RING AND STRING" FOR PULLING OF CABLES IN CONCEALED SPACES.
- 16 CONTROL WIRING SHALL NOT BE LESS THAN #14 AWG UNLESS OTHERWISE NOTED.
- HOMERUNS SHOWN ARE SCHEMATIC. CONTRACTOR MAY ORIGINATE
 17 HOMERUNS FROM DIFFERENT LOCATIONS. ALL WIRE INCLUDING HOMERUNS
- SHALL BE DELINEATED ON AS—BUILT DRAWINGS.

 ALL WIRING INSTALLED UNDER THIS CONTRACT SHALL BE TESTED FOR PROPER CONNECTIONS AND SHORT CIRCUITS PRIOR TO THE TURNING
- PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH N.E.C. REQUIREMENTS EVEN IF IT IS NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUCTORS IN ALL RACEWAYS EVEN THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRALS CONDUCTORS. THE PLUMBING AND PIPING SYSTEM SHALL NOT BE USED AS A GROUND. ALL TRANSFORMER NEUTRALS SHALL BE GROUNDED TO
- 20 ALL CONDUITS PASSING THROUGH PARTITIONS ARE TO BE APPROPRIATELY SLEEVED AND SEALED.

OVER OF WORK AS A COMPLETE UNIT.

FURNISH AND INSTALL ALL CONDUIT WITH PULL WIRES AS REQUIRED. ALL OUTLET BOXES SHALL BE STEEL, EXTRA DEEP WITH GROUNDING PIGTAILS

BUILDING STEEL IN ACCORDANCE WITH NEC 250-70.

- GROUNDING PUSH-CLIPS ARE NOT ACCEPTABLE.

 22 ALL PENETRATIONS SHALL BE INSTALLED AND SEALED PER NATIONAL
- 22 STATE AND LOCAL CODES
- DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
- GUARANTEE ALL WORK, MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL AND FINAL ACCEPTANCE.
- THIS DESIGN IS BASED ON INITIAL DESIGN DATA. GENERAL CONTRACTOR
 TO SUPPLY AND INSTALL FEEDERS, FUSES AND CIRCUIT BREAKERS TO
- MATCH THE NAMEPLATE RATING OF ALL EQUIPMENT.
 THIS SHALL BE INCLUDED IN THE INITIAL BID PROPOSAL AND NO EXTRAS
- SHALL BE ENTERTAINED.

 LABEL ALL JUNCTION BOXES, OUTLETS, LIGHT SWITCH, ETC. WITH CIRCUIT

 NUMBER ON INTERIOR ON COVER PLATE. USE SELF—ADHESIVE "DYMO"
- LABEL 1/8" HIGH LETTERS.

 GENERAL CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINTS AND SHALL FLOOR WALL AND SEILING MOUNTED FLOOR FOR ALL FLOOR WALL AND SEILING MOUNTED FLOOR FOR ALL FLOOR WALL AND SEILING MOUNTED FLOOR FOR ALL FLOOR WALL AND SEILING MOUNTED FLOOR FLOO
- GENERAL CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINTS AND SUPPORTS FOR ALL FLOOR, WALL, AND CEILING MOUNTED ELECTRICAL EQUIPMENT TO RESIST EARTHQUAKE EFFECTS DETERMINED IN ACCORDANCE WITH THE BUILDING CODE.
- THE G.C. SHALL PROVIDE ALL EQUIPMENT. MATERIALS AND LABOR TO COMPLETE ALL ELECTRICAL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE INCLUDING THE INSTALLATION OF ALL THE EQUIPMENT MATERIALS AND SYSTEMS AND THE FINAL CONNECTIONS TO THE OWNER'S EQUIPMENT AND FIXTURES AS REQUIRED BY THE OWNER. THE G.C. SHALL ALSO FURNISH TEMPORARY
- REQUIRED BY THE OWNER. THE G.C. SHALL ALSO FURNISH TEMPORARY WIRING AND LIGHTING TO PROVIDE A MINIMUM OF 25 FC IN WORK AREAS FOR USE OF ALL THE TRADES DURING CONSTRUCTION AND THE INSTALLATION OF THE OWNERS FIXTURES. THE G.C. IS RESPONSIBLE TO REMOVE ALL TEMPORARY WIRING UPON COMPLETION OF CONSTRUCTION OF ALL TRADES.
- THIS CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL SUPPLEMENTARY SUPPORT, INCLUDING SUPPORT STEEL AS REQUIRED TO HANG ALL EQUIPMENT AND LIGHTING FROM THE EXISTING STRUCTURE IN ACCORDANCE WITH THE ARCHITECTURAL/STRUCTURAL SUPPORT AND LOADING CRITERIA.

GENERAL ELECTRICAL NOTES

DESCRIPTION

- IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE FULLY DIMENSIONED COORDINATION DRAWINGS FOR ALL OF HIS RESPECTIVE WORK. THESE DRAWINGS MUST BE FULLY COORDINATED WITH ALL EXISTING CONDITIONS. ALL HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS PROTECTION.
- ELECTRICAL, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS PRIOR TO PREPARING COMPOSITE MULTI DISCIPLINE COORDINATION DRAWINGS.

 ALL DISCONNECTING MEANS AND EQUIPMENT INDICATED ON THE DRAWING SHALL BE IDENTIFIED BY NAMEPLATE IN COMPLIANCE WITH THE NATIONAL
- ELECTRICAL CODE 110–22.

 ALL WIRING FOR THE EMERGENCY LIGHTING AND EMERGENCY SYSTEMS

 32 SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE
- ALL WIRING FOR THE EMERGENCY LIGHTING AND EMERGENCY SYSTEMS

 SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE ARTICLE 700.

 THE WIRING METHODS AND MATERIALS INDICATED IN THE SPECIFICATIONS
- AND ON THE DRAWINGS SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE ARTICLE 300.
- THE WIRING METHODS AND MATERIALS INDICATED IN THE SPECIFICATIONS AND ON THE DRAWINGS SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE ARTICLE 300.
- THE ELECTRICAL SERVICE AND DISTRIBUTION SYSTEM AS INDICATED ON THE RISER DIAGRAM AND MATERIALS INDICATED IN THE SPECIFICATIONS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE ARTICLE 230, SERVICES.
- ALL OVER CURRENT PROTECTION SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE SECTION 240, OVERCURRENT PROTECTION.

 ALL GROUNDING REQUIREMENTS OF THE COMPLETE ELECTRICAL DISTRIBUTION SYSTEM AND AS INDICATED IN THE SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ARTICLE 250,
- GROUNDING AND BONDING.

 PRIOR TO ANY REQUIRED CUTTING AND PATCHING OF CONCRETE FLOOR

 37 AND/OR CUTTING OF ROOF,

 CONTRACTOR SHALL COORDINATE WITH BUILDING ENGINEER.
- FOR ALL LIGHTING FIXTURES MOUNTED IN HUNG CEILING THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL INDIVIDUAL SUPPORT AT EACH CORNER OF RECESSED LIGHTING TROFFER CONNECTED TO BUILDING STEEL ABOVE ALL CONDUIT AND MC CABLE MOUNTED ABOVE HUNG CEILING SHALL BE INDIVIDUALLY SUPPORTED IN THE SAME FASHION AS PER NEC REQUIREMENTS.
- 39 DO NOT SCALE FROM THESE DRAWINGS.
- PLANS ARE PREPARED WITH REQUIRED BRANCH CIRCUITS INDICATED BY CIRCUITS NUMBERS. PROVIDE AND INSTALL ALL CONDUITS. CONDUCTORS, BOXES, MISCELLANEOUS FITTINGS, ETC. FOR A COMPLETE AND OPERABLE SYSTEM (HOME RUN SHOWN). BRANCH CIRCUIT INSTALLATION SHALL COMPLY WITH SPECIFICATIONS AND N.E.C.

ELECTRICAL RECEPTACLE, SWITCH AND CONTROL HEIGHTS (CBC-1136A.1:).

(CBC-1136A.1:). RECEPTACLE HEIGHTS:

BENEATH A CONTROL.

ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES (1219MM) MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES (381MM) MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF FINISHED FLOOD OR WORKING FLATFORM. IF THE REACH IS OVEN AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN DEPTH, THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCED TO 44 INCHES (1118MM) FOR FORWARD APPROACH, OR 46 INCHES (1168MM) FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES (610MM) IN DEPTH. OBSTRUCTION SHALL NOT EXCEED MORE THAN 25 INCHES (635MM) FROM THE WALL BENEATH THE RECEPTACLE.

SWITCH AND CONTROL HEIGHTS: (CBC 1136A.2:)

CONTROL OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, ALARMS OR COOLING, HEATING AND VENTILATING EQUIPMEN SHALL BE LOCATED NO MORE THAN 48 INCHES (1219MM) MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES (381MM MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN

PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES (508 AND 635MM) IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44 INCHES (1118MM) FOR FORWARD APPROACH, OR 46 INCHES (1168MM) FOR SIDE APPROACH, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES (610MM) IN DEPTH. PHYSICAL BARRIERS OR OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES (635MM) FROM THE WALL

ELECTRICAL LEGEND

High bay Lighting similar to Corvus UFO High Bay Light
100 Watt from RuggedGrade



Lighting 4-ft x 2-ft Cool White LED Panel Light similar to GT 8GENERAL PURPOSE T 8TROFFER '2X' 4
4LP T #8A 19LENS 1/4ELEC

Lighting 4-ft x 2-ft Cool White LED Panel Light SURFACE

HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR

SURF. MTD. LED FIXT.

EXIT SIGN WITH EMERGENCY LIGHT

SHALL BE ON ALL TIME WITH 90 BACK UP MINUTES

BATTERY BUILT IN

ONE WAY LIGHTING SWITCH

MOUNTED

SMITCH WITH OCCUPANCY SENSOR

SWITCH WITH TIMER

SELF CONTAINED SMOKE/CARBON MONOXIDE (120 W/BATTERY BACKUP) - CEILING MOUNTED

TWO WAYS LIGHTING SWITCH

DUPLEX RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED GFCI DENOTES: GROUD FAULT PROTECTION



NON-FUSED DISCONNECT SWITCH - SIZE AS INDICATED

120W LED Wall Pack Light similar to wall pack light (WPG

Series) from superbrightleds (WPG-50K120W-S-Photocell)



EMERGENCY ILLUMINATION FIXTURE. SHALL BE ON ALL

TIME WITH 90 BACK UP MINUTES BATTERY BUILT IN

HEAVY DUTY JUNCTION BOX, WALL MOUNTED FOR SIGNAGE

			. AND	NOIES	
LOAD PER PH (KVA)	WIR (,		10N VOLTA	CIRCUIT PER GE (240, 3PH, MAX V.D. 3%)	NOTES AND REMARKS
			. 85 FT	98 FT	5
< 1.92	#10	94 FT	141 FT	163 FT	5
1.92	#8	144 FT	217 FT	250 FT	5
	#6	230 FT	345 FT	398 FT	5
	#12	75 FT	113 FT	130 FT	5
< 1.44	#10	•	188 FT	217 FT	5
1.44	#8		289 FT	334 FT	5
	#6	306 FT	460 FT	531 FT	5
	#12	86 FT	129 FT	149 FT	
< 1.26	#10	143 FT	215 FT	248 FT	
	#8	220 FT	330 FT	381 FT	
	#12	100 FT	150 FT	173 FT	
< 1.08	#10	167 FT	250 FT	289 FT	
	#8	256 FT	385 FT	445 FT	
< 0.0	#12	120 FT	180 FT	240 FT	
< 0.9	#10	200 FT	300 FT	347 FT	
40.70	#12	150 FT	225 FT	260 FT	
<0.72	#10	250 FT	376 FT	434 FT	
#			NOTES		
1	1 CONTRACTOR SHALL REFER TO THIS TABLE PRIOR TO START CONTRACTOR SHALL REFER TO THE SHALL PRIOR				OF
CONTRACTOR SHALL USE THE A CONJUNCTION WITH THE LENGTH ROUTING OF BRANCH CIRCUIT W LATERAL RUN, ROUTED PARALLE STRUCTURE).			ENGTH OF THE PF UIT WIRING (INCLU	ROPOSED FIELD V JDING VERTICAL &	%
3	SEE PANEL SCHEDULE FOR THE CORRESPONDING KVA LOAD PER				PER

. VND NUTEC

ABBREVIATIONS AND TAGS					
ABB.	DESCRIPTION	ABB.	DESCRIPTION		
EWH	ELECTRIC WATER HEATER	SD	SMOKE DETECTOR		
(E)	EXISTING TO REMAIN	TEL	TELEPHONE		
EC	ELECTRICAL CONTRACTOR	TX	TRANSFORMER		
FA	FIRE ALARM	TV	TELEVISION		
FMT	FLEXIBLE METALLIC TUBING	UAC	UNDER ANOTHER CONTRACT		
GC	GENERAL CONTRACTOR	UAS	UNDER ANOTHER SECTION		
GFC I	GROUND FAULT INTERUPTER	UON	UNLESS OTHERWISE NOTED		
IG	ISOLATED GROUND	V.D.	VOLTAGE DROP		
LL		W	WIRE		
LV	LOW VOLTAGE	WP	WEATHERPROOF		
AC 1	MECHANICAL UNIT TAG. SEE MECHANICAL DRAWINGS FOR ADDITIONAL DESCRIPTION.	<u>E-4</u>	DETAIL TAG. REFER TO DETAI 4 ON SHEET NUMBER E-4.		

RESISTANCE VALUES USED ARE FOR UNCOATED COPPER WIRES IN

THE VALUES IN "120V, 1PH" COLUMN IS TO BE USED FOR GENERAL

PHASE OF A PARTICULAR BRANCH CIRCUIT.

PURPOSE RECEPTACLE LOADS.

STEEL CONDUIT. 75 DEGREE C., OPERATING AT 60HZ.

InnoDez

dress: Foxbrough pl Pleasanton, CA. 94566

one: (424) 414-0997

/eb site: www.innodez.com

CLIENT:

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3. THE CONTRACTOR MUST CHECK ALL

3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY

PROJECT:

PROPOSED COMMERCIAL CENTER BUILDING-1

ELECTRICAL GENERAL NOTES

AND SPECIFICATIONS

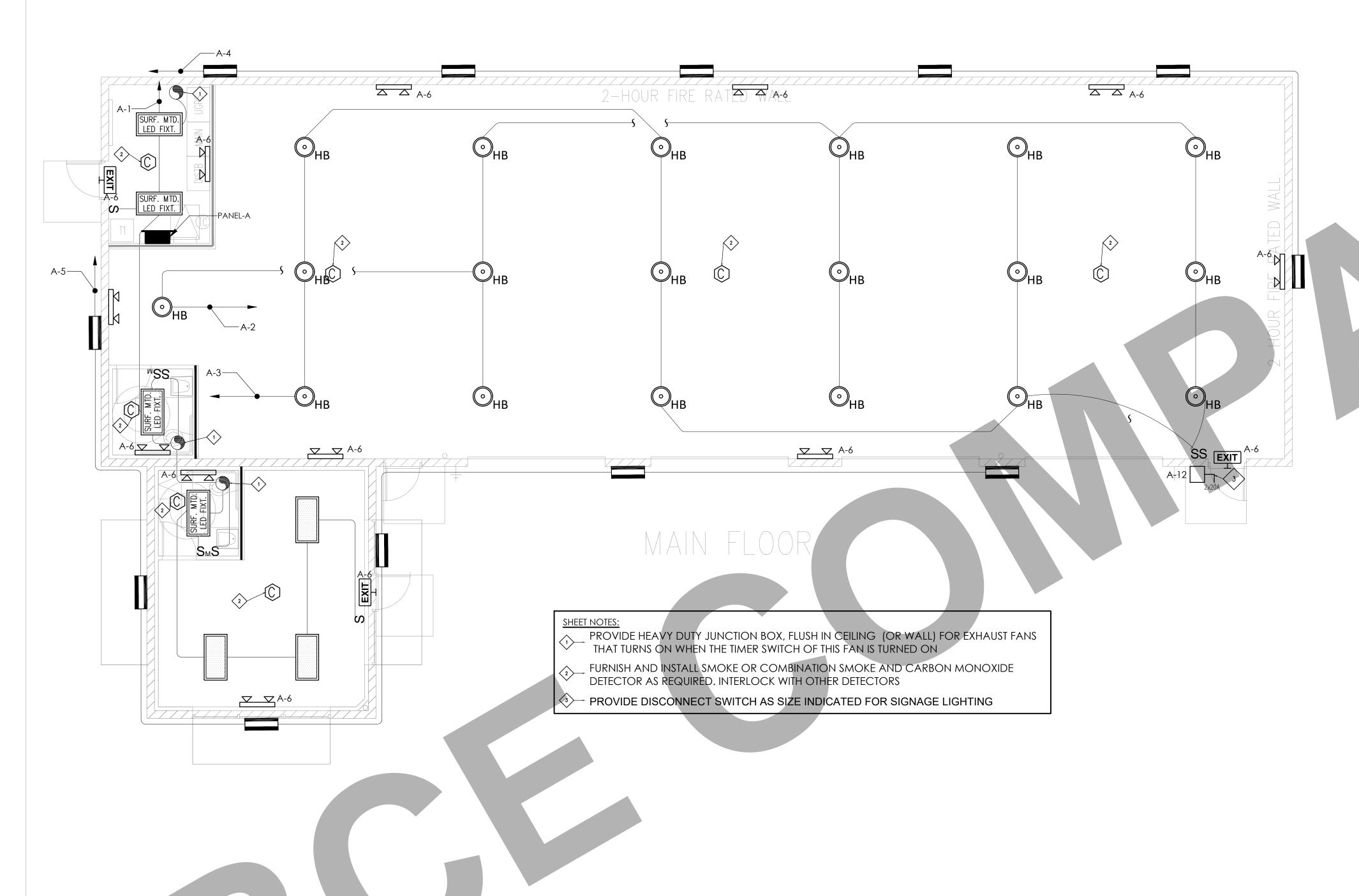
PROLING PROLIFICATIONS

SCALE @ 24x36

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

REV.



LIGHTING GENERAL NOTES

- I. ALL JUNCTION BOXES, CONDUITS, AND AIRES SHALL BE SIZED PER NEC.
- 2. CONNECT ALL EXIT LIGHTS AHEAD OF ANY LOCAL OR AUTOMATIC SWITCHING DEVICE.
- 3. PROVIDE A CONSTANT HOT FROM PANEL BOARD DIRECTLY TO ALL EMERGENCY BATTERY PACKS/BALLASTS IN EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS. EMERGENCY LIGHTING FIXTURES SHALL TURN ON TO FULL BRIGHTNESS IN CASE OF POWER LOSS.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION & MOONING HEIGHTS OF ALL LIGHTING FIXTURES SHOWN ON THIS DRAWING.
- 5. REFER TO DETAIL SHEET FOR SYMBOLS, SPECIFICATIONS, ABBREVIATIONS, AND LIGHTING FIXTURE SCHEDULE.
- 6. ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
- 7. CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- 8. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
- 9. ALL EXTERIOR LUMINARIES AND ELECTRICAL DEVICES SHALL BE USED AS WEATHERPROOF TYPE.
- 10. ALL NEW CEILING OCCUPANCY SENSORS SHALL BE DUAL-TECHNOLOGY WITH 1000 SQFT COVERAGE AT 360 DEGREES U.O.N. ON THE DRAWING. COORDINATE EXACT LOCATION AND REQUIREMENTS OF ALL OCCUPANCY SENSORS SHOWN ON THIS DRAWING WITH MANUFACTURER REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO PROVIDE POWER PACKS AS REQUIRED.
- 11. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL LIGHTING CONTROL DEVICES/SWITCHES/DIMMERS WITH LIGHTING FIXTURES AND BALLASTS/DRIVERS PRIOR TO SUBMITTAL.
- 12. FIXTURE MARKED WITH SUBSCRIPT "(E)" IS EXISTING TO REMAIN, CONTRACTOR TO MAINTAIN CONTINUITY OF BRANCH CIRCUITS.
 13. ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS

AND PAINTED AS DIRECTED BY OWNER.

LIGHTING KEY NOTES

- 1. PROVIDE WEATHERPROOF JUNCTION BOX WITH 20A 120V BRANCH CIRCUIT TO POWER EXTERIOR SIGNAGE.CONTRACTOR TO PROVIDE 1P-20A RATED TOGGLE SWITCH WITHIN SIGHT IN AN ACCESSIBLE AREA AS A DISCONNECT MEAN AND TO COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER/SIGN VENDOR PRIOR TO ROUGH-IN. EXTERIOR SIGNAGE SHALL BE CONTROLLED VIA WIRELESS SWITCH PACK OR AS DIRECTED BY OWNER.
- 2. LIGHTING FIXTURES SERVING RESTROOMS SHALL BE 120V RATED. CONNECTED TO THE SAME BRANCH CIRCUIT SERVING EXHAUST FAN, AND CONTROLLED AS SHOWN ON DETAIL SHEET.
- 3. INTERIOR AND EXTERIOR LIGHTING BRANCH CIRCUITS SERVING THE SPACE SHALL BE CONTROLLED VIA WIRELESS RELAY SWITCH PACKS, COORDINATE WITH OWNER/LIGHTING SYSTEM VENDOR FOR EXACT LOCATIONS/NUMBER OF HUBS/DEVICES, SCHEDULE, WIRELESS DIMMER SWITCHES FOR TRACK LIGHT LOCATIONS AND ALL OTHER SYSTEM REQUIREMENTS PRIOR TO BID AND COMMENCEMENT OF WORK. EXTERIOR LIGHTING FIXTURES SWITCH PACKS AND CONTROL SWITCHES SHALL BE MOUNTED NEXT TO THE PANEL WHERE BRANCH CIRCUIT IS ORIGINATED OR AS DIRECTED BY OWNER/ARCHITECT.
- 4. NEW EMERGENCY AND EXIT LIGHTING SHALL BE CONNECTED AHEAD OF LOCAL SWITCHING.
- 5. PROVIDE IN-LINE CURRENT LIMITER AS SHOWN FOR TRACK LIGHTING.

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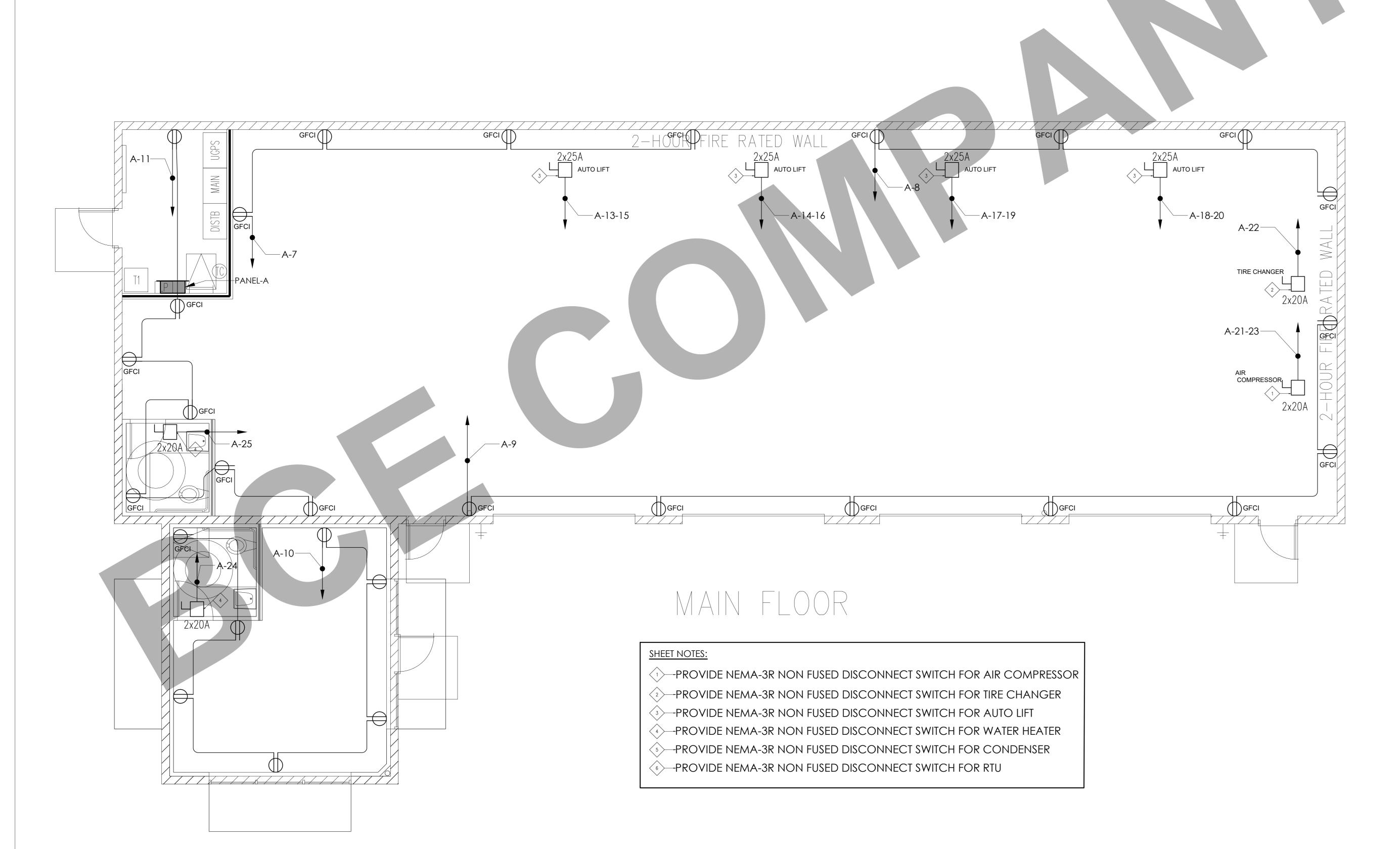
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING

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	PROJECT:			:D
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	REV. NO.	DESCRIPTION	DATE	BY

LIGHTING LAYOUT

PROJ. NO.	PROJ. ENGR.	3'/16"=1'-
DRAWING NO		REV.
E 1 .	0 0	



POWER GENERAL NOTES

1. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.

- 2. ALL JUNCTION BOXES, CONDUITS, AND WIRES SHALL BE SIZED PER NEC.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES SHOWN ON THE DRAWING. COORDINATE WITH OWNER FOR EXACT LOCATION AND OTHER REQUIREMENTS PRIOR TO ROUGH-IN.
- ALL HOME RUNS SHALL BE 2#12+1#12 GND IN 3 4" CONDUIT U.O.N.
 CIRCUIT NUMBERS INDICATED ARE FOR DESIGN PURPOSES ONLY.
 CONTRACTOR SHALL COORDINATE ACTUAL CIRCUIT NUMBERS AT THE TIME OF INSTALLATION AND TO PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- 6. ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
- 7. CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- 8. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
- 9. CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS. BRANCH CIRCUITRY, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
- 10. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES WITH MECHANICAL/PLUMBING CONTRACTORS PRIOR TO INSTALLATION.
- 11. ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS AND PAINTED AS DIRECTED BY OWNER.

InnoDez

Foxbrough pl
Pleasanton CA 945

ne: (424) 414-0997

CLIENT:

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DESCRIPTION	DATE	BY
	DESCRIPTION	DESCRIPTION DATE

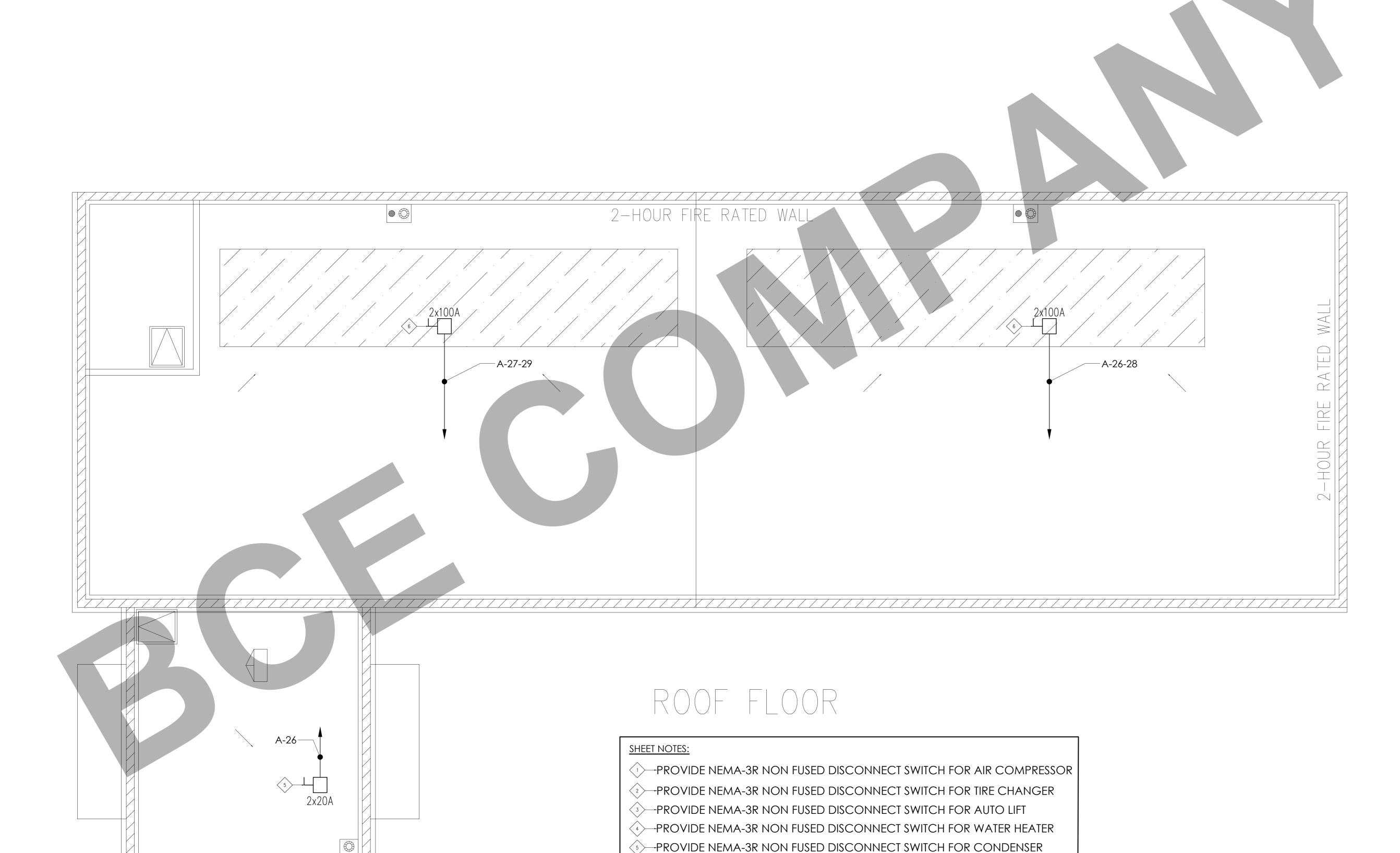
PROJEC

PROPOSED COMMERCIAL CENTER BUILDING-1

TITLE:

POWER LAYOUT

PROJ. NO.	PROJ. ENGR.	3'/16"=1'-0"
DRAWING NO.		REV.
F 2	0.0	



6-PROVIDE NEMA-3R NON FUSED DISCONNECT SWITCH FOR RTU

POWER GENERAL NOTES

- 1. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
- 2. ALL JUNCTION BOXES, CONDUITS, AND WIRES SHALL BE SIZED PER NEC.
- 3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES SHOWN ON THE DRAWING. COORDINATE WITH OWNER FOR EXACT LOCATION AND OTHER REQUIREMENTS PRIOR TO ROUGH-IN.
- 4. ALL HOME RUNS SHALL BE 2#12+1#12 GND IN 3 4" CONDUIT U.O.N.
 5. CIRCUIT NUMBERS INDICATED ARE FOR DESIGN PURPOSES ONLY.
 CONTRACTOR SHALL COORDINATE ACTUAL CIRCUIT NUMBERS AT
- THE TIME OF INSTALLATION AND TO PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.

 6. ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
- 7. CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- 8. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
- 9. CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS. BRANCH CIRCUITRY, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
- 10. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES WITH MECHANICAL/PLUMBING CONTRACTORS PRIOR TO INSTALLATION.
- 11. ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS AND PAINTED AS DIRECTED BY OWNER.

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REV. NO.	DESCRIPTION	DATE	BY

PROJEC

PROPOSED COMMERCIAL CENTER BUILDING-1

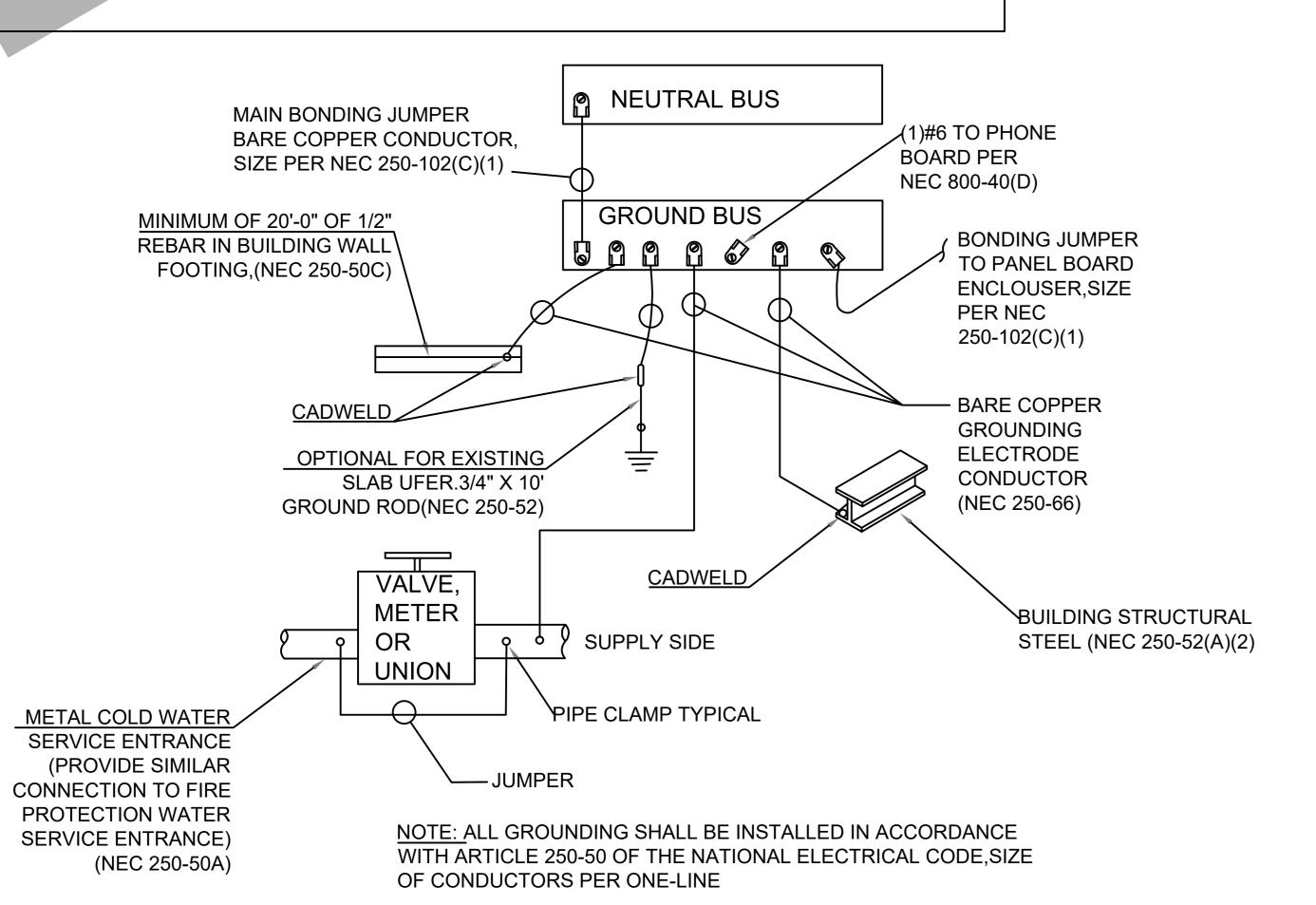
TITLE:

POWER ROOF LAYOUT

PROJ. NO.	PROJ. ENGR.	3'/16"=1'-0"
DRAWING NO.		REV.
E 2.	1	

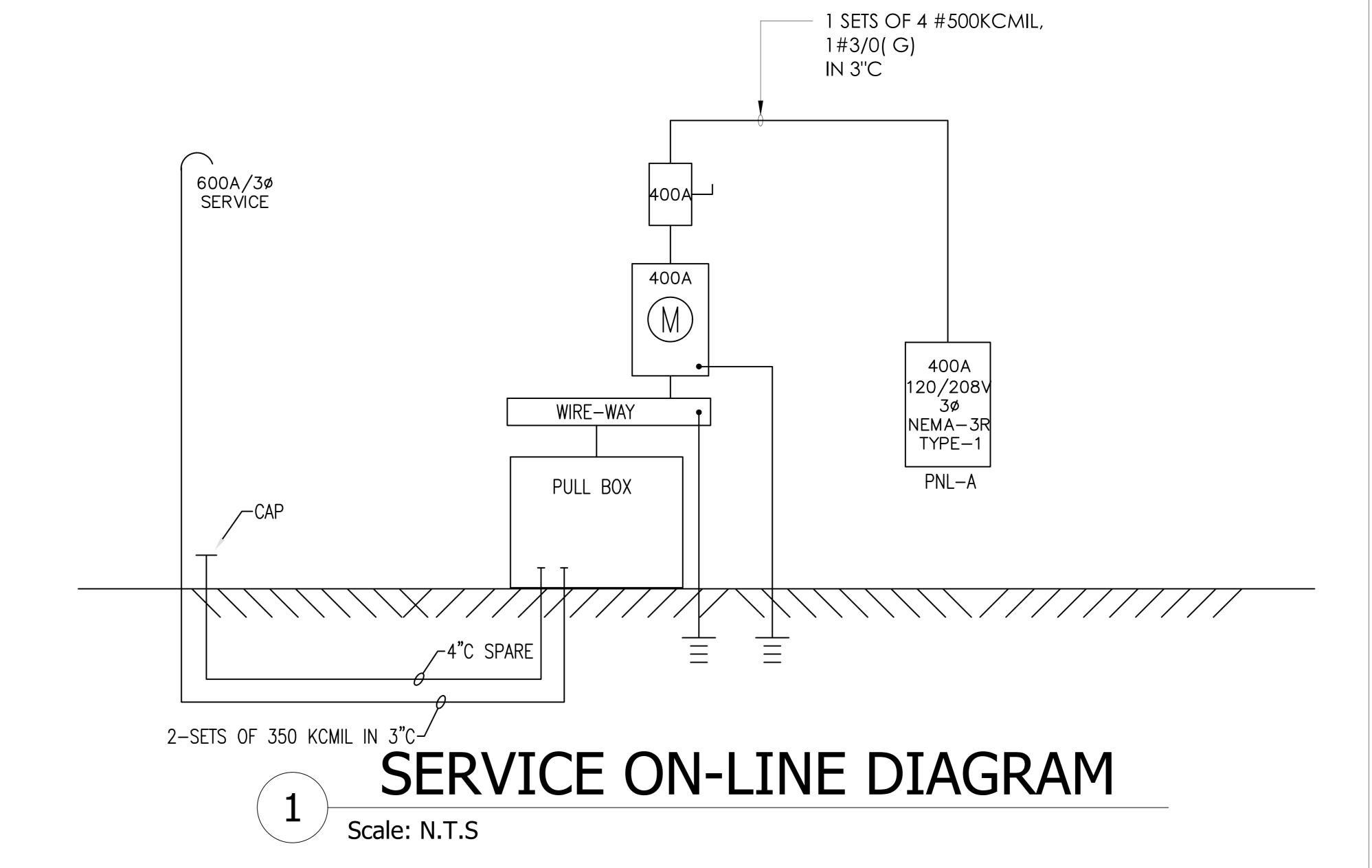
GENERAL NOTES

- A. ALL EXISTING COMPONENTS OF THIS ELECTRICAL DIAGRAM ARE TO REMAIN AS INSTALLED AND ARE SHOWN FOR REFERENCE ONLY.
- B. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION
- C. ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE. ALL ITEMS ARE ON AN OR EQUAL BASIS.
- D. ALL SINGLE PHASE BRANCH CIRCUITS (RECEPTACLES, LIGHTING, ETC.; ARE 1/2" CONDUIT OR EMT WITH THIN, 90C WIRING, UNLESS NOTED OTHERWISE. ALL OTHER CONDUIT AND WIRING SHALL BE AS INDICATED ON THE PLANS. ACTUAL ROUTING AND HOME RUN GROUPINGS ARE TO BE DETERMINED IN THE FIELD.
- E. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT FOR DETAILS AND ELEVATIONS. DO NOT SCALE FROM DIAGRAMMATIC DRAWINGS. EXACT LOCATIONS OF DEVICES AND PANELS ARE TO BE DETERMINED AND ROUGHED-IN DURING CONSTRUCTION TO AVOID INTERFERENCE, TO MEET USER REQUIREMENTS, TO PROVIDE ADEQUATE MOUNTING, AND TO MEET NEC LINEAR ACCESS AND CLEARANCE REQUIREMENTS.
- F. BACK TO BACK MOUNTING OF RECEPTACLES IS NOT PERMITTED.
- G. IN ADDITION TO THE NEC REQUIREMENTS FOR GFCI PROTECTION FOR RECEPTACLES, THE FOLLOWING RECEPTACLES SHALL ALSO HAVE GFCI PROTECTION: (1)-ALL RECEPTACLES LOCATED WITHIN 8 FEET OF A SINK, (2)-ALL RECEPTACLES WHICH ARE PROVIDED FOR CONVENIENCE IN SERVICING HVAC EQUIPMENT REGARDLESS OF LOCATION.AS REQUIRED TO ACCOMMODATE CONDUCTOR PULLING EASE, FIELD LIFE SAFETY.
- H. PROVIDE A LAMICOID NAMEPLATE (WHITE LETTERS ON BLACK BACKGROUND; ON EACH PANELBOARD, MOTOR STARTER, CONTACTOR, TRANSFORMER, ETC. LETTERS SHALL BE 0.75 INCH MAINIMUM.
- I. CONTRACTOR SHALL OUT AS REQUIRED TO INSTALL ELECTRICAL EQUIPMENT REPAIR OF FLOOR OR WALLS SHALL BE COORDINATED WITH GENERAL CONTRACTOR CONTRACTOR SHALL ALSO REPAIR ALL OPENINGS LEFT DUE TO EQUIPMENT REMOVAL.
- J. CONDUCTORS ARE COPPER UNLESS OTHERWISE SHOWN. ALL CONDUCTORS LARGER THAN #10 SHALL BE STRANDED.
- K. PANELBOARDS SHALL CONTAIN A TYPEWRITTEN DIRECTORY WITH A PLASTIC COVER AFFIXED TO THE INSIDE DOOR.



GROUNDING DETAIL

- L. ALL FIXTURES, DEVICES, CONDUIT, AND EQUIPMENT SHALL BE SECURED WITH APPROVED HANGERS AND ANCHORS AND IN ACCORDANCE WITH APPROVED STANDARDS OF INSTALLATION.
- M. ALL BREAKERS SHOWN IN THE PANELBOARD SCHEDULE SHALL BE RATED AS SHOWN FOR BOTH CIRCUIT CAPACITY AND FAULT CURRENT INTERRUPTING CAPACITY.
- N. ALL PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS, AND CONTACTORS SHALL BE NEMA 1, UNLESS OTHERWISE NOTED.
- O. ELECTRICAL CONTRACTOR MUST BE AVAILABLE AT TIME OF DBS INSPECTION. COORDINATE WITH GENERAL CONTRACTON.
- P. FIELD VERIFY THE AVAILABLE FAULT CURRENT AT THE LANDLORD'S EXISTING PANEL AND PROVIDE A NEW, FULLY RATED, PANEL TO MATCH EXISTING.
- Q. CONTRACTOR TO MAKE FINAL CONNECTIONS IN EMS PANEL FOR LANDLORD PROVIDED LIGHTING CIRCUITS. 50% OF THE GENERAL LIGHTING CIRCUITS SHOULD BE ROUTED THROUGH THE CUSTOMER CONTROL ZONE.



InnoDez

ress: Foxbrough pl Pleasanton, CA. 94566

hone: (424) 414-0997

Web site: www.innodez.com

CLIENT:

DRESS:

APN: 3141-006-009, 010 & 011 DIVISION STREET n/o AVE. J-5 LANCASTER, CA 93535

CONFIDENTIALITY STATEMENT:

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- APPEARING HEREIN CONSTITUTE THE
- ORIGINAL AND UNPUBLISHED WORK OF THE
- DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

- CONSENT OF THE DESIGNER.

NOTES:

ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
 THE CONTRACTOR MUST CHECK ALL

DIMENSION AT SITE BEFORE COMMENCING WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY

PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

_
BY

PROJECT:

PROPOSED COMMERCIAL CENTER BUILDING-1

ONE LINE DIAGRAM

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

DRAWING NO. REV.

E 3.00

Loca	tion: ELEC RC	OOM	COI	NNECTED I	LOAD	DEMAND
* LOAD SUMMARY	CL	DF	Α	В	С	TOTAL
L Lighting	4.46	1.25	1.70	1.62	1.14	5.58
R Convenience Recept	5.22	0.40	1.44	2.52	1.26	2.09
H Heating (Space)	3.60	1.25	1.80		1.80	3.60
C Cooling		1.00				
A HVAC	30.00	1.00	7.50	15.00	7.50	30.00
P Process		1.00				
O Other Continuous	0.50	1.25			0.50	0.63
K Kitchen		0.65				
N Noncontinuous	22.69	1.00	8.80	7.77	6.12	22.69
M Motor		1.00				
Total	66.47		21.24	26.91	18.32	64.58

SYSTEM VOLTAGE	208/120V, 3Φ, 4W
BUS SIZE	400
SYSTEM TYPE	NORMAL
FEEDER PROT	400A-3P C/B Bus Plug
CONDUCTOR SIZE	500-kcmil - #3/0G CU
CONDUCTOR/PHASE	1
MAINS	400A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP (%)	0.430
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 3R

PANEL A

PANELBOARD DESIGNATION

DESCRIPTION	*	WIRE GRD	СВ	KVA	Α	В	C	KVA	СВ	WIRE GRD	DESCRIPTION	*	
Lighting Closed Areas	L	2X 12 AWG - #12G	15A-1P	0.40	1.70			1.30	15A-1P	2X 12 AWG - #12G	Lighting Open Area	L	2
Lighting Open Area	Ĺ	2X 12 AWG -#12G	15A-1P	0.90		1.62		0.72	15A-1P	2X 12 AWG - #12G	Lighting External	L	4
Lighting External	L	2X 12 AWG -#12G	15A-1P	0.72			1.14	0.42	15A-1P	2X 12 AWG - #12G	Lighting Emergency & Exits	L	6
Receptacles Open Area	R	2X 10 AWG - #10G	20A-1P	0.72	1.44			0.72	20A-1P	2X 10 AWG - #10G	Receptacles Open Area	R	8
Receptacles Open Area	R	2X 10 AWG - #10G	20A-1P	1.26		2.52		1.26	20A-1P	2X 10 AWG - #10G	Receptacles Office & Toilet	R	10
Receptacles Open Area-Elec. Room & Toilet	R	2X 10 AWG - #10G	20A-1P	1.26			1.76	0.50	20A-1P	2X 10 AWG - #10G	Signage	0	12
Auto Lift 1	N	2Y 10 AWG #10G	25A 2D	2.20	4.40			2.20	25A 2D	2Y 10 AWG #10G	Auto Lift 2	N	14
Auto Liit-1	N	ZΛ 10 ΛVVO - #100	25/1-21	2.20		4.40		2.20	20A-21	2X 10 XVVO -#100	Auto Liit Z	N	16
Auto Lift 2	N	2V 10 AVA/C #10C	25A 2D	2.20			4.40	2.20	25A 2D	2V 10 AVAC #10C	Auto Lift 4	N	18
Auto Liit-3	N	2A 10 AVVG -#10G	20A-2F	2.20	4.40			2.20	ZJM-2F	2A 10 AVVG -#10G	Auto Liit 4	N	20
Air Comprosor	N	2V 40 AVA/C #10C	204.20	1.72		3.37		1.65	20A-1P	2X 10 AWG - #10G	Tire Changer	N	22
All Complessor	N	2A 10 AVVG -#10G	20A-2P	1.72			3.52	1.80	20A-1P	2X 10 AWG - #10G	Water Heater-01	Н	24
Water Heater-01	Н	2X 10 AWG - #10G	20A-1P	1.80	9.30			7.50	20A 4D	2V 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DTI L 0.0	A	26
DTILO	Α	OV 4 A IA IO 400	1004.00	7.50		15.00		7.50	ZUA-17	Z∧ 1AVVG -#0G	K1U-UZ	A	28
	A	ZA 1 AVVG - #0G	100A-2P	7.50			7.50		20A-1P	2X 10 AWG - #10G	SPARE		30
SPARE		2X 10 AWG - #10G	20A-1P						20A-1P	2X 10 AWG - #10G	SPARE		32
	Lighting Closed Areas Lighting Open Area Lighting External Receptacles Open Area Receptacles Open Area Receptacles Open Area-Elec. Room & Toilet Auto Lift-1 Auto Lift-3 Air Compressor Water Heater-01	Lighting Closed Areas Lighting Open Area Lighting External Lighting External Receptacles Open Area Receptacles Open Area Receptacles Open Area-Elec. Room & Roilet N Auto Lift-1 N Auto Lift-3 N Water Heater-01 H RTU-01 A	Lighting Closed Areas L 2X 12 AWG -#12G Lighting Open Area L 2X 12 AWG -#12G Lighting External L 2X 12 AWG -#12G Receptacles Open Area R 2X 10 AWG -#10G Receptacles Open Area R 2X 10 AWG -#10G Receptacles Open Area-Elec. Room & Toilet R 2X 10 AWG -#10G Auto Lift-1 N 2X 10 AWG -#10G Auto Lift-3 N 2X 10 AWG -#10G Air Compressor N 2X 10 AWG -#10G Water Heater-01 H 2X 10 AWG -#10G RTU-01 A 2X 10 AWG -#10G A 2X 10 AWG -#10G	Lighting Closed Areas L 2X 12 AWG - #12G 15A-1P Lighting Open Area L 2X 12 AWG - #12G 15A-1P Lighting External L 2X 12 AWG - #12G 15A-1P Receptacles Open Area R 2X 10 AWG - #10G 20A-1P Receptacles Open Area-Elec. Room & Toilet R 2X 10 AWG - #10G 20A-1P Auto Lift-1 N/N 2X 10 AWG - #10G 25A-2P Auto Lift-3 N/N 2X 10 AWG - #10G 25A-2P Air Compressor N/N 2X 10 AWG - #10G 25A-2P Water Heater-01 H 2X 10 AWG - #10G 20A-1P RTU-01 A/N 2X 10 AWG - #10G 20A-1P	Lighting Closed Areas L 2X 12 AWG -#12G 15A-1P 0.40 Lighting Open Area L 2X 12 AWG -#12G 15A-1P 0.90 Lighting External L 2X 12 AWG -#12G 15A-1P 0.72 Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 0.72 Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 1.26 Receptacles Open Area-Elec. Room & Toilet R 2X 10 AWG -#10G 20A-1P 1.26 Auto Lift-1 N 2X 10 AWG -#10G 25A-2P 2.20 Auto Lift-3 N 2X 10 AWG -#10G 25A-2P 2.20 Air Compressor N 2X 10 AWG -#10G 20A-2P 1.72 Water Heater-01 H 2X 10 AWG -#10G 20A-1P 1.80 RTU-01 A 2X 1 AWG -#6G 100A-2P 7.50	Lighting Closed Areas L 2X 12 AWG -#12G 15A-1P 0.40 1.70	Lighting Closed Areas	Lighting Closed Areas L 2X 12 AWG - #12G 15A-1P 0.40 1.70 Lighting Open Area L 2X 12 AWG - #12G 15A-1P 0.90 1.62 Lighting External L 2X 12 AWG - #12G 15A-1P 0.72 1.14 Receptacles Open Area R 2X 10 AWG - #10G 20A-1P 0.72 1.44 Receptacles Open Area R 2X 10 AWG - #10G 20A-1P 1.26 2.52 Receptacles Open Area-Elec. Room & Toilet R 2X 10 AWG - #10G 20A-1P 1.26 1.76 Auto Lift-1 N 2X 10 AWG - #10G 25A-2P 220 4.40 Auto Lift-3 N 2X 10 AWG - #10G 25A-2P 2.20 4.40 Air Compressor N 2X 10 AWG - #10G 20A-2P 1.72 3.37 Water Heater-01 H 2X 10 AWG - #10G 20A-1P 1.80 9.30 RTU-01 A 2X 1 AWG - #6G 100A-2P 7.50 15.00	Lighting Closed Areas L 2X 12 AWG -#12G 15A-1P 0.40 1.70 1.30 Lighting Open Area L 2X 12 AWG -#12G 15A-1P 0.90 1.62 0.72 Lighting External L 2X 12 AWG -#12G 15A-1P 0.72 1.14 0.42 Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 0.72 1.44 0.72 Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 1.26 2.52 1.26 Receptacles Open Area-Elec. Room & R 2X 10 AWG -#10G 20A-1P 1.26 1.76 0.50 Toilet N 2X 10 AWG -#10G 25A-2P 2.20 4.40 2.20 Auto Lift-1 N 2X 10 AWG -#10G 25A-2P 2.20 4.40 2.20 Auto Lift-3 N 2X 10 AWG -#10G 25A-2P 1.72 3.37 1.65 Air Compressor N 2X 10 AWG -#10G 20A-1P 1.80 9.30 7.50 RTU-01 A 2X 1 AWG -#10G 20A-1P 1.80 9.30 7.50 RTU-01 A 2X 1 AWG -#66 100A-2P 7.50 7.50 7.50	Lighting Closed Areas L 2X 12 AWG -#12G 15A-1P 0.40 1.70 1.30 15A-1P Lighting Open Area L 2X 12 AWG -#12G 15A-1P 0.90 1.62 0.72 15A-1P Lighting External L 2X 12 AWG -#12G 15A-1P 0.72 1.44 0.42 15A-1P Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 0.72 1.44 0.72 20A-1P Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 1.26 2.52 1.26 20A-1P Receptacles Open Area R 2X 10 AWG -#10G 20A-1P 1.26 2.52 1.26 20A-1P Auto Lift-1 N 2X 10 AWG -#10G 25A-2P 2.20 4.40 2.20 25A-2P N 2X 10 AWG -#10G 25A-2P 2.20 4.40 2.20 25A-2P Air Compressor N 2X 10 AWG -#10G 20A-1P 1.72 3.37 1.65 20A-1P Air Compressor N 2X 10 AWG -#10G 20A-1P 1.72 3.37 1.65 20A-1P Water Heater-01 H 2X 10 AWG -#10G 20A-1P 1.80 9.30 7.50 20A-1P RTU-01 A 2X 1 AWG -#6G 100A-2P 7.50 15.00 7.50 20A-1P	Lighting Closed Areas L 2X 12 AWG #12G 15A-1P 0.40 1.70 1.30 15A-1P 2X 12 AWG #12G	Lighting Closed Areas	Lighting Closed Areas L 2X 12 AWG

Total Connected Load 21.24 26.91 18.32

InnoDez

ldress: Foxbrough pl Pleasanton *CA* 9

Phone: (424) 414-0997

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REV. NO.	DESCRIPTION	DATE	BY

PROJEC

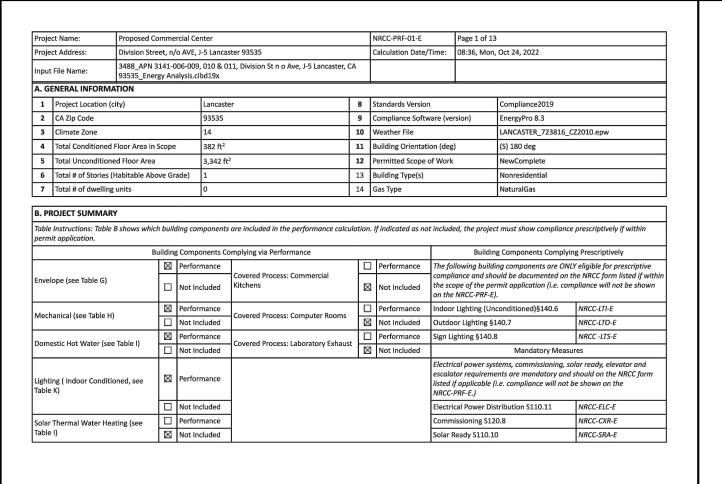
PROPOSED COMMERCIAL CENTER

BUILDING-1

TITLE:

PANEL BOARD SCHEDULE

PROJ. NO.	PROJ. ENGR.	ALE @ 24X36: ITS
DRAWING NO.		REV.
E 4.	0 0	



CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-10-24 08:37:48

Process Motors			105.01		105.01	
Other Ltg			372.36		372.36	
Process						
Receptacle			851.93		851.93	
	Miscellaneous Energy Component	Standard Design	(TDV)	Prop	oosed Design (TDV)	Compliance Margin (TDV)1
☐This project is purs	uing CalGreen Tier 1			☐This proje	ect is pursuing CalGreen Tier	2
C2. RESULTS FOR 'A	ABOVE CODE' QUALIFICATIONS ¹					
Notes: The number	er in parenthesis following the Compliance Marg	in in column 4. represents	the Percent B	etter than S	Standard.	
			571.65		367.25	204.40 (35.8%)
	IDARDS COMPLIANCE TOTAL					
Domestic Hot Water Indoor Lighting			53.67 42.56		89.94 34.28	-36.2
Pumps & Misc.						-
Heat Rejection						-
ndoor Fans			257.78		66.76	191.02
Space Cooling			191.63		137.75	53.88
Space Heating			26.01		38.52	-12.5
	Energy Component	Standard Design	(TDV)	Prop	osed Design (TDV)	Compliance Margin (TDV) ¹
		COMPLI	ES			
C1. COMPLIANCE F	RESULTS FOR PERFORMANCE COMPONENTS (A	nnual TDV Energy Use, kBt	u/ft ²-yr)		•	
nput File Name:	3488_APN 3141-006-009, 010 & 011, Division St 93535_Energy Analysis.cibd19x	n o Ave, J-5 Lancaster, CA				
Project Address:	Division Street, n/o AVE, J-5 Lancaster 93535		Calculation D	ate/Time:	08:36, Mon, Oct 24, 2022	
Project Name:	Proposed Commercial Center		NRCC-PRF-01		Page 2 of 13	

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 Calculation Date/Time:
 08:36, Mon, Oct 24, 2022

Shut-Off Controls §130.1(c)

oject Name:	Proposed Commercial Cer	nter	N	RCC-PRF-01-E	Page 3 of 13						
roject Address:	Division Street, n/o AVE, J	-5 Lancaster 93535	C	alculation Date/Time:	08:36, Mon, Oct 24, 2022						
nput File Name:	3488_APN 3141-006-009, 93535_Energy Analysis.cil	010 & 011, Division St n o Ave, bd19x	J-5 Lancaster, CA								
3. ENERGY USE SU	IMMARY		•		•						
Ener	rgy Component	Standard Design Site (MWh)	Proposed Design Si (MWh)	te Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)				
Sį	pace Heating	-	0.6	-0.6	4.8		4.8				
Sį	pace Cooling	1.9	1.2	0.7							
I	ect Address: Division Street, n/o AVE	3.4	0.9	2.5							
He	eat Rejection										
Pι	umps & Misc.										
Dom	estic Hot Water	0.1	1.2	-1.1	9.8		9.8				
In	door Lighting	0.6	0.5	0.1			>				
Cor	mpliance Total	6.0	4.4	1.6	14.6	0.0	14.6				
	Receptacle	11.2	11.2	0.0							
	Process	-	-		-						
	Other Ltg	4.9	4.9	0.0							
Pr	ocess Motors	1.4	1.4	0.0	-						
	TOTAL	23.5	21.9	1.6	14.6	0.0	14.6				

This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is

required.

The user model includes space(s) that are designed to be served by mechanical cooling systems, but the cooling systems were not included in the simulation model. A cooling system has been modeled for both the proposed and standard cases.

The user model includes space(s) without sufficient cooling equipment. Cooling equipment has been added to the model to meet cooling loads.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844

E. HERS VERIFICATION

Project Name: Proposed Commercial Center

Division Street, n/o AVE, J-5 Lancaster 93535

Input File Name: 3488_APN 3141-006-009, 010 & 011, Division St n o Ave, J-5 Lancaster, CA 93535_Energy Analysis.cibd19x

Opaque Surfaces & Orientation														
Opaque Surraces & Orientation	Total Gross	Surface Area (ft²)	То	tal Fenestrati	on Are	a (ft²)			Window to Wall Ratio (%)				
North-Facing	1		0 ft ²					0 ft²		(00.09			
East-Facing	2		220 ft ²				11	0 ft ²		!	50.19			
South-Facing	3		200 ft ²				11	2 ft²		!	56.09			
West-Facing	4		220 ft ²					0 ft²		(00.09			
Tota	Oft2													
f			382 ft ²					0 ft ²		-	00.09			
st-Facing is oriented to within 45 degree outh-Facing is oriented to within 45 degr	es of true east, includ rees of true south, inc ees of true west, inclu	ling 45°00'00 cluding 45°00	" south of eas '00" west of s	st (SE), but outh (SW),	excluding 45 but excluding	5°00'00 ng 45°0	0" north oj '00'00" eas	east (i t of sou	NE). uth (SE).					
1			2	$\overline{}$	3			4		5				
Assembly Name				Aged		ance	Therma							
Metal Roof22			Low-Slope		0.64	\neg		0.75		Not Provided				
	-	_						_			_			
OPAQUE SURFACE ASSEMBLY SUMMA	-	3	4	5	6	7	7	8		9				
OPAQUE SURFACE ASSEMBLY SUMMA 1 Surface Name	2		Framing	Cavity	Continuous				Desc					
1	2 Surface Type	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value	Uni	its	'alue	Var Wood	Stucco - 7/8 in. or permeable felt - 1/8 in. framed wall, 16in. OC, 3.5in., R-15	Status ¹			

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Calculation Date/Time: 08:36, Mon, Oct 24, 2022

Project Name: Proposed Commercial Center

Project Address: Division Street, n/o AVE, J-5 Lancaster 93535

Input File Name: 3488_APN 3141-006-009, 010 & 011, Division St n o Ave, J-5 Lancaster, CA 93535_Energy Analysis.cibd19x

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

Project Name:	Proposed Co	mmercial Center					NRCC	-PRF-01-E		Page 5	of 13				
Project Address:	Division Stre	et, n/o AVE, J-5 Lanca	ster 93535				Calcul	lation Date/Ti	me:	08:36,	Mon, Oct 24	, 2022			
Input File Name:	93535_Energ	141-006-009, 010 & 0 gy Analysis.cibd19x	11, Division St n	o Ave, J-	-5 Lancaster, (CA									_
G3. OPAQUE SURFA		<u> </u>													_
1	l .	2		3	4	_	5	6		7	8	9			
Surface	Name	Surface	Type Ar	ea (ft²)	Framing Type	Cavity R-Value		Continuous R-Value	Units		Value	Descript	on of Assem	bly Layers	Status ¹
Slab On	Grade20	Undergrou	ndFloor	3724	4 NA	(0	NA	F-Fa	ctor	0.73	Insulation	UnheatedSi n Orientatio ation R-Value	n = None	N
Metal I	Roof22	Roc	f :	3724	Metal	3	18	NA	U-Fa	ector	0.065	Vapor p P Air Metal frame	olt shingles - ermeable fel ywood - 1/2 - Ceiling - 3/ d roof, 16in. R-38 um Board - 1	t - 1/8 in. in. 4 in. OC, 11.25in.,	N
8 CMU Wall29		Exterio	Wall	6246	NA	(0	NA	U-Fa	ctor	0.379		art Grouted 25 lb/ft3 - 8		N
¹ Status: N - New, A - Altered, G4. OPAQUE DOOR							2						3		
Į.	Overall U-factor						Status ¹								
				0.	.700						N				
G5. FENESTRATION	ASSEMBLY SUN														
1		2			3			4			5	6	7	8	9
Fenestration Assemb	oly Name / Tag	Fenestration Type Frame		Cer	tification Me	thod ¹		Assembly	Metho	od	Area ft	Overa U-facto		Overall VT	Status ²
or I.D.	ilazed	VerticalFen FixedWi N/A	ndow		NFRC Rated	I		Manufad	ctured		222	0.47	0.32	0.50	N
or I.D. Fixed Dual G		IN/A	•												

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-10-24 08:37:48

	_						_	RCC-PRF-01-E		_	ge 6 of 13						
Project Address:		Division Stree	t, n/o AVE, J-	ter 93535				Ci	alculation Date	e/Time:	08	:36, Mon, Oct	24, 2022				
Input File Name:	t File Name: 3488_APN 3141-006-009, 010 & 011, Division S 93535_Energy Analysis.cibd19x DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat p 1 2 3 4 Equipment Name Equipment Type Qty Total Heat Output																
LIA DOVINGUESTA) (DE										
	EQUIF					umps	, VKF, 6	conomizei	s etc.,) 7	8		9	10		11	12
	-		<u> </u>		-			leating					Cooling	1 10	+		-
Equipment Name				Qty	Total Heatii Output (kBtu/h)	٦	Supp H Outp (kBtu	eat Effic	iency Init	Efficiency	Tot Cool Out (kBt)	ing put	Efficiency Un	t Efficiency		izer Type (if esent)	Status-
DX Heat Pump	,			1	12		0	н	SPF	14.00	12	2	SEER/EER	22.00 / 13.5	50	NA	^
¹ Status: N - New, A - Alte	red, E –	Existing												_			
U2 EAN EVETEN	CLINA	MADV															
	_			т —	. 1		6	7	_	8	9	Г	10	11	12	13	14
-	1 2 3 4 5 Design OA Supp							•	۰		10	Return Fan	12	13			
Name or Item Tag	ame or Item Tag Qty		ing Method Powe			Power Units		Control	СЕМ	Mod	leling Method	Power	Power Units	Control	status-		
DX Heat Pump	1	0	300	Brakel	HorsePower	0.:	150	bhp	Con	stantVolume	NA		NA NA	NA /	NA	NA	N
¹ Status: N - New, A – Alte	red, E –	Existing		1													
H3. EXHAUST FAI	N SUM	IMARY															
1				2			3	4		5		•	5	7		8	
System	1 2 System ID Zone Name							CFM		Motor BHP	Pc	wer P	er Flow fm) Total Static Pressur		sure (in. H ₂ O)		
Office A	System ID Zone Name Office Area3 1-Office Area							100		0.029		0.2	250	1.18		N	
Auto Repair To	ilets U	ti23	2-Auto	Repair To	oilets Uti		2	500		0.143		0.2	:50	1.18		N	
¹ Status: N - New, A – Alte	ered, E –	Existing															
H4. Wet System I	quipn	nent(boilers,	chillers,coo	ling tov	vers,etc.)												
This Section Does N	lot App	ly															

							_					
Project Name:	Proposed Commercia					RCC-PRF-01-E		ge 7 of 13				
Project Address:		VE, J-5 Lancaster 93535				alculation Date/T	ime: 08:	:36, Mon,	Oct 24, 2022			
Input File Name:	3488_APN 3141-006- 93535_Energy Analys	009, 010 & 011, Division is.cibd19x	St n o Av	e, J-5 Lancaster	, CA							
H5. PUMPS												
This Section Does Not Ap	oply											
H6. SYSTEM SPECIAL F	FEATURES											
1		2			3				4			
System Nan	ne	Equipment Type			nterlocks p 10.4(n)	er		Other S	pecial Features	and Contro	ols	
Point of Use1 -	SHW Ser	rvice Hot Water, Primary	Only		NA			Fix	ed Temperature	Control		
lotes: This table includes contro	ils related to the performance	path only. For projects using the	prescriptive	path, mandatory o	and prescriptiv	re controls requireme	nts are docum	ented on the	NRCC-MCH-E.			
H7. NONRESIDENTIAL	VENTUATION											
1	1	2			З 3	1 4	5		6	1	7	
				Mec	hanical Ve	ntilation			-			
Zone Nar	ne 📙				# of	Supply OA	Exha	ust	Conditioned Are		or Occupan	
		Ventilation I	function		people		CFI		(sf)			
1-Office A	rea	Office - Office	ce space		1.91	57	10	0	382	NA NA		
This Section Does Not Ap	oply											
H9. ZONAL SYSTEM A	ND TERMINAL UNIT	SUMMARY										
1	2	3	4	5	6	7	8	9	10	11	12	13
			1	Rated Cap	acity	81.4	low (cfm)		1	E:	an	
System ID	Zone Name	System Type	Otv	(kBtuh		AIII	,					
System ID	Zone Name	System Type	Qty	(kBtuh		Design	Min.	Min. Rat	io Power	Power Units	Cycles	vs
System ID DX Heat Pump	Zone Name	System Type MiniSplitHP	Qty	(kBtuh	1)			Min. Rat	io Power 0.150	Power	ı	vs
DX Heat Pump	1-Office Area			(kBtuh Heating	n) Cooling	Design	Min.			Power Units	Cycles	
	1-Office Area			(kBtuh Heating	n) Cooling	Design	Min.			Power Units	Cycles	
DX Heat Pump H10. EVAPORATIVE CO	1-Office Area			(kBtuh Heating	n) Cooling	Design	Min.			Power Units	Cycles	
DX Heat Pump	1-Office Area			(kBtuh Heating	n) Cooling	Design	Min.			Power Units	Cycles	

ion Street, n/o AVE, _APN 3141-006-005 5_Energy Analysis.c WARY ENT SUMMARY 3 Tank Type Instantaneous LIGHTING GENER 2	, 010 & ibd19x	5 Tank Vol (gal)		7		9 Efficiency Unit	10 Tank Insulation R-value (Int/Ext)	11 Standby Loss Fraction	12 1st Hour Rating or Flow Rate (gal)	13 Heat Pump Type	14 Tank Location or Ambient Condition
ENT SUMMARY 3 Tank Type Instantaneous	4 Qty	5 Tank Vol (gal)	6 Rated Input	7 Rated Input Unit	8 Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
ENT SUMMARY 3 Tank Type Instantaneous	Qty 2	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
3 Tank Type Instantaneous	Qty 2	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
3 Tank Type Instantaneous	Qty 2	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
3 Tank Type Instantaneous	Qty 2	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
Tank Type Instantaneous LIGHTING GENER	Qty 2	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Unit	Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
LIGHTING GENER	I	l		kW	0.92	UEF	NA	NA	0	NA	NA
	AL INFO	o	3								
I		- 1	I		I I alada a d			Additi	onal (Custom)	Allowance	
Conditioned Floo	r Area ²	(ft²)	Installed Light (Watt		Lighting Control Credits (Watts)		Area	Category Foot (Watts)	notes	Tailored Metho	od (Watts)
382			200)		0		0		0	
382			200)		0		0		0	
aces modeled is not included in	the table										
m	odeled is not included in	odeled is not included in the table	odeled is not included in the table	odeled is not included in the table	odeled is not included in the table	odeled is not included in the table					

Project Name:	Propo	sed Commercial Center			N	IRCC-PR	F-01-E	Page 9 of	13			
Project Address:	Divisio	on Street, n/o AVE, J-5 L	ancaster 93535		c	Calculatio	on Date/Time:	08:36, Mo	n, Oct 2	4, 2022		
Input File Name:		APN 3141-006-009, 010 _Energy Analysis.cibd1) & 011, Division St n o Ave,)x	J-5 Lancast	ter, CA							
K2. INDOOR CO	NDITIONED L	IGHTING SCHEDULE										
		permanent installed lig r 0.3 w/ft² in offices)	hting in conditioned				Install	ed Watts (Conditio	ned)		
1			2		3		4			5	6	
Name or Item Tag		fluorescent troffer	Description (i.e., 3-lamp F32T8, one dimmable nic ballast)	Watt	Watts per luminaire		How Watta Determin				ts	
С		1 Lamp 2 ft	U-Tube T8 Elec		50		According §130.0(150	
D	D 2 Lamp 21w Line				50		According §130.0(1	50	
K3 INDOOR CO	NDITIONED	IGHTING CONTROL O	PEDITS									
KS. INDOOR CO			e (includes all lighting cont	rols installer	d in condition	ned spa	ce for compliance	e credit per	r §140.60	a)2 and Table 140).6-A)	
1		2	3		4		5	6	, <u>5</u> _ ,	7	8	9
Area Description		ction Area (must meet nts of Table 140.6-A)	Type of Lighting Con	trol	Power Adjustme Factor (PA	nt L	uminaire Name or Item Tag	Watts Lumina		# of Luminaires	Lighting Controlled (Watts)	Control Credit (Watts)
S-1-Office Area	Office Area	Office Area (>250 square feet) NA			0.00 0.00 0.00 0.00 0.00		С	150.	.0	3	150	0
S-1-Office Area	Office Area	a (>250 square feet)	NA		0.00 0.00 0.00 0.00 0.00		D	50.0	0	1	50	0
						·						

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-12092021-6844 Report Generated at: 2022-10-24 08:37:48

4	5	6	7	8	9	10
Area Description	Area Category Primary Function Area	Area Controls 130.1(a)	Multi-Level Controls 130.1(b)	Shut-Off Controls 130.1(c)	Primary Daylighting 130.1(d)	Secondary Daylighting 140.5(d)
Office Area	Office Area (>250 square feet)	Required	Required	Required	Required	Required
Auto Repair	General/Commercial & Industrial Work Area (High Bay)	Required	Required	Required	Required	Required

Division Street, n/o AVE, J-5 Lancaster 93535

Input File Name:

3488_APN 3141-006-009, 010 & 011, Division St n o Ave, J-5 Lancaster, CA 93535_Energy Analysis.cibd19x

Mandatory Demand Response §110.12(c)

	93535_Energy Analysis.cibd19x		
L. DECLARATION OF R	EQUIRED CERTIFICATES OF INSTALLATION		
compliance. These do	ections shall be made by Documentation Author to in cuments bust be retained and provided to the building a.gov/title24/2019standards/2019_compliance_docu	g inspector during construction and can be f	
Building Component		Form/Title	
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings		
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings		
Plumbing	NRCI-PLB-01-E - Must be submitted for all buildings		
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings		

 NRCC-PRF-01-E
 Page 11 of 13

 Calculation Date/Time:
 08:36, Mon, Oct 24, 2022

Project Address:	Division Street, n/o AVE, J-5 Lancaster 93535	Calculation Date/Time:	08:36, Mon, Oct 24, 2022							
nput File Name:	3488_APN 3141-006-009, 010 & 011, Division St n o Ave, J-5 Lancaster, CA 93535_Energy Analysis.cibd19x									
M. DECLARATION OF	REQUIRED CERTIFICATES OF ACCEPTANCE	•								
compliance. These doc	ections shall be made by Documentation Author to indicate which Certif cuments must be provided to the building inspector during construction more information visit:https://www.energy.ca.gov/title24/2019standar	and must be completed	through an Acceptance Test Technician Certification							
Building Component		Form/Title								
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration	NRCA-ENV-02-F - NRFC label verification for fenestration								
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls									
muoor Lighting	NRCA-LTI-03-A - Automatic Daylight Controls									
	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC (Acceptance (if applicable) since testing activities overlap	units. Note: MCH02-A can b	e performed in conjunction with MCH-07-A Supply Fan VFD							
Mechanical	NRCA-MCH-03-A Constant Volume Single Zone HVAC									
	NRCA-MCH-11-A Automatic Demand Shed Controls									
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Uni	ts Acceptance								

Project Name: Proposed Commercial Center
Project Address: Division Street, n/o AVE, J-5 Lancaster 93535

 NRCC-PRF-01-E
 Page 12 of 13

 Calculation Date/Time:
 08:36, Mon, Oct 24, 2022

CLIENT:	
ADDRESS:	

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE

DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE. 2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS. 3. THE CONTRACTOR MUST CHECK ALL

DIMENSION AT SITE BEFORE COMMENCING 4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. N]. DESCRIPTION	DATE	BY

PROJECT:				
TITLE:				
T24 01				
		Loon	<u> </u>	
PROJ. NO. 	PROJ. ENGR.	_	E @ 24	łXC
		ı !	NTC	

N I O DRAWING NO. **T** - 1

Project Name:	Proposed Commercial Center	NRCC-PRF-01-E	Page 13 of	Page 13 of 13			
Project Address:	Division Street, n/o AVE, J-5 Lancaster 93535	Calculation Date/Tim	e: 08:36, Mon	n, Oct 24, 2022			
Input File Name:	3488_APN 3141-006-009, 010 & 011, Division St n o Ave, J-5 Lancaster 93535_Energy Analysis.cibd19x	; CA					
	AUTHOR'S DECLARATION STATEMENT ate of Compliance documentation is accurate and complete.						
Documentation Auth	or Name: Viranchi Shah	Signature: Minaral i Clark					
Company: www.getti	tle24.com	Signature: Viranchi Shah					
Address: 14730 Beac	n Blvd.	Signature Date: 2022-10-24					
City/State/Zip: La Mir	ada CA 90638	CEA/ HERS Certification Ident	fication (if applic	cable):			
Phone:							
RESPONSIBLE PERS	ON'S DECLARATION STATEMENT						
4. The building design to plans and specification 5. I will ensure that a coinspections. I understa	rar 6 of the California Code of Regulations. ceatures or system design features identified on this Certificate of Compliance are cor s submitted to the enforcement agency for approval with this building permit applica ampleted signed copy of this Certificate of Compliance shall be made available with the odd that a completed signed copy of this Certificate of Compliance is required to be in	tion. he building permit(s) issued for th	e building, and ma	ade available to the enforcement agency for all applicable			
4. The building design to plans and specification 5. I will ensure that a conspections. I understa	eatures or system design features identified on this Certificate of Compliance are cor s submitted to the enforcement agency for approval with this building permit applica ompleted signed copy of this Certificate of Compliance shall be made available with t nd that a completed signed copy of this Certificate of Compliance is required to be in	tion. he building permit(s) issued for th	e building, and ma	ade available to the enforcement agency for all applicable			
The building design in plans and specification I will ensure that a continuous inspections. I understan Responsible Enveloper Company: InnoDez	eatures or system design features identified on this Certificate of Compliance are cor submitted to the enforcement agency for approval with this building permit applica ompleted signed copy of this Certificate of Compliance shall be made available with t nd that a completed signed copy of this Certificate of Compliance is required to be in Designer Name:	ition. he building permit(s) issued for the building permit(s) issued for the cluded with the documentation the signature:	e building, and ma	ade available to the enforcement agency for all applicable			
4. The building design plans and specification 5.1 will ensure that a conspections. I understan Responsible Envelope Company: InnoDez Address: 726 Foxbroad.	eatures or system design features identified on this Certificate of Compliance are cor submitted to the enforcement agency for approval with this building permit applica pmpleted signed copy of this Certificate of Compliance shall be made available with t and that a completed signed copy of this Certificate of Compliance is required to be in Designer Name:	tion. he building permit(s) issued for th cluded with the documentation th	e building, and ma	ade available to the enforcement agency for all applicable			
4. The building design in plans and specification 5. I will ensure that a co- inspections. I understa Responsible Envelope Company: InnoDez Address: 726 Foxbrou City/State/Zip: Please	eatures or system design features identified on this Certificate of Compliance are cor submitted to the enforcement agency for approval with this building permit applica pmpleted signed copy of this Certificate of Compliance shall be made available with t and that a completed signed copy of this Certificate of Compliance is required to be in Designer Name:	tion. he building permit(s) issued for tr cluded with the documentation th Signature: Date Signed:	e building, and ma	nde available to the enforcement agency for all applicable to the building owner at occupancy.			
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CERTIF	FICATE OF COMPLIANCE					NRCC-CXR-	
	sidential spaces. This document do				g requirements in <u>§120.8</u> for nonresidential build. nmissioning requirements within Title 24, Part 11,		
Projec	t Name:	Commercial Center	at Divisio	n Street,	n/o AVE, J-5 Report Page:	(Page 1 of	
Project Address: Division Street, n/o AVE, J-5 Date Prepared: 10							
A. GE	ENERAL INFORMATION						
01	Project Location (city)	ancaster		04	Building Size (ft ²)	382	
02	Occupancy Type N	onresidential		05	Nonresidential Conditioned Floor Area (ft²)	< 10,000 ft ²	
03	Project Type N	ewly constructed		06	HVAC System Type	Unitary or packaged equipment each serving one zone	
01	Table F: Design Review Kickof	§120.8(d)1 and					
			The d				
02	Table G: Owner's Project	§120.8(d)2	The d		view kickoff meeting establishes who will play the dentify owner's requirements. This meeting should This requirement doe	be conducted during schematic design.	
02	Table G: Owner's Project Requirements (OPR)	§120.8(d)2 §120.8(b)	The di		dentify owner's requirements. This meeting should This requirement doe	d be conducted during schematic design. s not apply.	
.000	Table G: Owner's Project	§120.8(d)2 §120.8(b)	The de goals. (commi	sign rev Commis	dentify owner's requirements. This meeting should This requirement doe This requirement doe iewer(s) reviews the construction documents for a sioning measures must be included in the constru	s not apply. s not apply. clarity, completeness, and adherence to the owner's ction documents to facilitate the design review and sidential conditioned floor area the design review is	
03	Table G: Owner's Project Requirements (OPR) Table H: Basis of Design (BOD	\$120.8(d)2 \$120.8(b) \$120.8(c) \$120.8(d) and \$120.8(e)	The de goals. (commi	sign rev Commis issioning nerence	This requirement doe This requirement doe This requirement doe This requirement doe iewer(s) reviews the construction documents for a sioning measures must be included in the construction process. For projects with >= 10,000 ft ² of nonrestruction construction documents for a sioning measures must be included in the construction documents.	Is not apply. Is not apply. Is not apply. Is rity, completeness, and adherence to the owner's ction documents to facilitate the design review and idential conditioned floor area the design review is I Basis of Design (BOD). This should be conducted	
03	Table G: Owner's Project Requirements (OPR) Table H: Basis of Design (BOD Table I: Design Review	\$120.8(d)2 \$120.8(b) \$120.8(c) \$120.8(d) and \$120.8(e) \$120.8(f)	The de goals. (commi	sign rev Commis issioning nerence	this requirements. This meeting should this requirement doe This requirement doe This requirement doe this requirement doe to the construction documents for a sioning measures must be included in the construction to the construction of the cons	d be conducted during schematic design. Is not apply. Is not apply. Idarity, completeness, and adherence to the owner's ction documents to facilitate the design review and sidential conditioned floor area the design review is I Basis of Design (BOD). This should be conducted as not apply.	
03	Table G: Owner's Project Requirements (OPR) Table H: Basis of Design (BOD Table I: Design Review Table J: Commissioning Plan Table K: Functional Performan	\$120.8(d) 2 \$120.8(b) \$120.8(c) \$120.8(d) and \$120.8(e) \$120.8(f) ce \$120.8(g)	The de goals. (commi	sign rev Commis issioning nerence	This requirement doe iewer(s) reviews the construction documents for a sioning measures must be included in the construction grocess. For projects with >= 10,000 ft² of nonrewith the Owner's Project Requirements (OPR) and This requirement doe	Is not apply. Is not apply. Is not apply. Is not apply. Islarity, completeness, and adherence to the owner's ction documents to facilitate the design review and sidential conditioned floor area the design review is I Basis of Design (BOD). This should be conducted as not apply.	

Registration Date/Time:

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

	LIANCE							NRCC-CXR-E
Project Name:	1	Commercial Cent	er at Division Str	eet, n/o AVE, J-5	Report Page:			(Page 2 of 6)
Project Address:			Division Str	eet, n/o AVE, J-5	Date Prepared:			10/24/2022
C. COMPLIANCE RESULT	TS						-	
Table C will indicate if the this table says "DOES NOT							§120.8. This table is	not editable by the user. If any cell on
01	02	03	04	05	06	07	08	09
Design Kickott Review 1	Owner's Project Requirements	ner's Project Basis of Design		Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	Compliance Results
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
Yes			Yes					COMPLIES
10	Design Revie	wer(s) for the pro	ject include:					COMPLIES
D. EXCEPTIONAL COND	ITIONS							
This table is auto-filled wit	th uneditable co	mments because	of selections ma	de or data entere	d in tables throu	ighout the form.		
E. ADDITIONAL REMAR	RKS							

Registration Date/Time:

Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

CERTIFICATE OF COMPLIANCE							NRCC-CXR-E
	enter at Division Street, n/o						(Page 3 of 6)
Project Address:	Division Street, n/o A	AVE, J-5 Dat	te Prepared:				10/24/2022
F. DESIGN REVIEW KICKOFF MEETING							
This table indicates that the design reviewer meets the o)1 and demonstrates cor	npliance	with design revi	ew kickoff
requirements per <u>§120.8(d)2</u> . This meeting should occur	during the Schematic Design	n phase of th	he project.				
Design Review Kickoff Meeting Details							
01 Date of Design Review Kickoff Meeting					0001-	01-01	
02 Meeting Attendees: (one person may play multiple	oles)						
Owner/Facility Manager:			Design Reviewer(s)				
Project Manager:			Design Architect/ Eng				
Contractor:			Certified Acceptance				
Commissioning Provider:	and the second s		Energy/ T24 Part 6 Co	onsultant:			
Design Reviewer Qualifications per Title 24 Part 1 Section	and contact reporting the ordinary			1000			
The design reviewer(s) must be licensed professional en under the direct supervision of a licensed engineer or a						Do the Design R these qualificati	eviewer(s) meet ons?
In addition, for buildings with >= 10,000 ft ² but < 50	,000 ² , the design reviewer(s) shall be a c	qualified in-house engi	neer or architect with no	other	Yes	No
project involvement or a third party engineer, archit	ect, or contractor					•	
04 The design reviewer(s) for this project will be:							
Preliminary Construction Schedule	-6						
	S	tart Date			Complet	ion Date	
05 Schematic Design	00	001-01-01			0001-	01-01	
06 Design Development	00	001-01-01			0001-	01-01	
07 Construction Documents	00	001-01-01			0001-	01-01	
08 Construction	00	001-01-01			0001-	01-01	
09 Building Turnover	00	001-01-01			0001-	01-01	
Project Goals Related to Energy Efficiency							
10 Operational Costs							
11 Desired Building Lifespan							
12 Equipment Lifecycle							
13 Project Energy Efficiency Goals							
14 Envelope Goals							
Registration Number:		Registration	n Date/Time:		ı	Registration Prov	vider: Energysoft
g							

STATE OF CALIFORNIA

Nonresidential Building Commissionin

Registration Provider: Energysoft

Report Generated: 2022-10-24 08:39:02

CERTIFICATE OF COMPLIAN	NCF				ORNIA ENERGY COMMISSION NRCC-CXR
Project Name:	Commercial Center at Division Stre	et. n/o AVE, J-5	Report Page:		(Page 4 of
Project Address:			Date Prepared:		10/24/20
F. DESIGN REVIEW KICKOFF	MEETING				
15 HVAC System Goals	MEETING				
16 Indoor Lighting System Go	nale				
17 Outdoor Lighting System G	1				
18 Water Heating System Goa	Nagara da				
19 Equipment and System Sp					
20 Operations and Maintenar					
G. OWNER'S PROJECT REQU					
This section does not apply to					
This section does not apply to I. CONSTRUCTION DOCUM! This table is only completed if conditioned floor area, the des	this project.	nents meet the C	Owner's Project Requirements (Tab tion documents meet the goals do	le G.) and the Basis of De	esign Documents (Table H.). For ring the Design Review Kickoff.
This table is only completed if of conditioned floor area, the des buildings with < 10,000 ft ² con	this project. ENT DESIGN REVIEW CHECKLIST a design review document is not attached to p sign review will ensure the construction docum	nents meet the C	Owner's Project Requirements (Tab	le G.) and the Basis of De	esign Documents (Table H.). For
This section does not apply to a I. CONSTRUCTION DOCUM! This table is only completed if a conditioned floor area, the deshebuildings with < 10,000 ft ² con	this project. ENT DESIGN REVIEW CHECKLIST a design review document is not attached to p sign review will ensure the construction docum ditioned floor area, the design review will ens	nents meet the C	Owner's Project Requirements (Tab tion documents meet the goals do YES	le G.) and the Basis of De	esign Documents (Table H.). For ring the Design Review Kickoff.
This section does not apply to a I. CONSTRUCTION DOCUMI This table is only completed if conditioned floor area, the desibuildings with < 10,000 ft ² con O1 Attaching Completed Desired De	this project. ENT DESIGN REVIEW CHECKLIST a design review document is not attached to p sign review will ensure the construction docum ditioned floor area, the design review will ensure sign Review Documentation?	nents meet the C	Owner's Project Requirements (Tab tion documents meet the goals do YES	le G.) and the Basis of De	esign Documents (Table H.). For ring the Design Review Kickoff.
This section does not apply to a I. CONSTRUCTION DOCUMI This table is only completed if a conditioned floor area, the des buildings with < 10,000 ft ² con O1 Attaching Completed Des	this project. ENT DESIGN REVIEW CHECKLIST a design review document is not attached to p sign review will ensure the construction docum aditioned floor area, the design review will ens sign Review Documentation? this project.	nents meet the C	Owner's Project Requirements (Tab tion documents meet the goals do YES	le G.) and the Basis of De	esign Documents (Table H.). For ring the Design Review Kickoff.
This section does not apply to a I. CONSTRUCTION DOCUMI This table is only completed if conditioned floor area, the desibuildings with < 10,000 ft ² con O1 Attaching Completed Desiration I. COMMISSIONING PLAN This section does not apply to a K. FUNCTIONAL PERFORMA	this project. ENT DESIGN REVIEW CHECKLIST a design review document is not attached to p sign review will ensure the construction docum aditioned floor area, the design review will ensure sign Review Documentation? this project. ANCE TESTING	nents meet the C	Owner's Project Requirements (Tab tion documents meet the goals do YES	le G.) and the Basis of De	esign Documents (Table H.). For ring the Design Review Kickoff.
This section does not apply to a I. CONSTRUCTION DOCUMI This table is only completed if a conditioned floor area, the destination of the condition of the cond	this project. ENT DESIGN REVIEW CHECKLIST a design review document is not attached to p sign review will ensure the construction docum dittioned floor area, the design review will ens sign Review Documentation? this project. ANCE TESTING this project.	nents meet the C	Owner's Project Requirements (Tab tion documents meet the goals do YES	le G.) and the Basis of De	esign Documents (Table H.). For ring the Design Review Kickoff.

		STATE OF CALIFORNIA			
nresidential Building Commissioning		Nonresidential Buildir	ng Commissioning		
	CALIFORNIA ENERGY COMMISSION	NRCC-CXR-E			CALIFORNIA ENERGY COMMISS
TIFICATE OF COMPLIANCE	NRCC-CXR-E	CERTIFICATE OF COMPLIANCE			NRCC-C)
ect Name: Commercial Center at Division Street, n/o AVE, J-5 Report Page:	(Page 5 of 6)	Project Name:	Commercial Center at Division Street, n/o		(Page 6
oct Address: Division Street, n/o AVE, J-5 Date Prepared:	10/24/2022	Project Address:	Division Street, n/c	o AVE, J-5 Date Prepared:	10/24/
OMMISSIONING REPORT		DOCUMENTATION AUTHOR'S D	ECLARATION STATEMENT		
section does not apply to this project.		I certify that this Certificate of C	ompliance documentation is accurate and	d complete.	
		Documentation Author Name:		Documentation Author Signature:	anchi Shah
ECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION		Viranchi Shah			
e are no Certificates of Installation applicable to commissioning requirements.		Company: www.gettitle24.com		Signature Date: 2022-10-24	
		Address:		CEA/ HERS Certification Identification (if applie	cable).
ECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE		14730 Beach Blvd.		CETY TELO CETHICATION INCIDENCATION (II appin	abic).
ough there are no "CXR" Certificates of Acceptance required to document commissioning requirements, Certificates of Acceptance may be a remance testing required by \$120.8(g).	used to supplement functional	City/State/Zip: La Mirada CA 90638		Phone: 7148884736	
		I am eligible under Division 3 of The energy features and perforn of Title 24, Part 1 and Part 6 of ti The building design features or s plans and specifications submitt I will ensure that a completed sign.	s Certificate of Compliance is true and correct. the Business and Professions Code to accept responsibility anace specifications, materials, components, and manufac ne California Code of Regulations. ystem design features identified on this Certificate of Com ed to the enforcement agency for approval with this buildi gned copy of this Certificate of Compliance shall be made a	npliance are consistent with the information provided on oting permit application.	tified on this Certificate of Compliance conform to the requiren ther applicable compliance documents, worksheets, calculations , and made available to the enforcement agency for all applicab
		Responsible Designer Name:		Responsible Designer Signature:	
		Company:		Date Signed:	
		InnoDez		2022-10-24	
		Address: 726 Foxbrough Pl		License:	
		City/State/Zip: Pleasanton CA 94566		Phone:	
istration Number: Registration Date/Time:	Registration Provider: Energysoft	Registration Number:		Registration Date/Time:	Registration Provider: Energy
Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2022-10-24 08:39:02	CA Building Energy Efficiency Stan	dards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2022-10-24 08:39

Registration Provider: Energysoft

Report Generated: 2022-10-24 08:39:02

NRCC-CXR-E	CERTIFICATE OF COMPL	LIANCE												NRCC-LTI-E
(Page 6 of 6)	This document is used	d to demonstro	ate complianc	e with requiren	nents in §110.9	, §11	0.12(c), §130.	0, §1	30.1, §140.6	and §141.0(b)2	for i	ndoor lighting scope	es using the	prescriptive
10/24/2022	path.			•										
	Project Name:		Co	mmercial Center			<u> </u>							(Page 1 of 6)
	Project Address:				Division Stre	et, n/o	AVE, J-5 Date	Prepa	ared:					10/24/2022
	A. GENERAL INFOR	MATION												
n	01 Project Location (city)	Lar	ncaster				04	Total Condition	ned Floor Area (f	t²)	0		
	02 Climate Zone		14					05 1	Total Uncondit	ioned Floor Area	a (ft²) 3,342		
	03 Occupancy Types	Within Projec	t (select all th	at apply):				06 #	# of Stories (Ha	abitable Above (Grade	e) 1		
	Commercial Indust	rial • Office												
	B. PROJECT SCOPE									=				
	This table includes an §141.0(b)2 for altera		ems that are	within the scope	e of the permit	appli	cation and ar	e der	monstrating co	ompliance using	the p	rescriptive path ou	tlined in <u>§14</u>	<u>0.6</u> or
	<u>9141.0(D)Z</u> Joi untera		pe of Work					Con	ditioned Spac	PC		Uncor	ditioned Sp	ares
ance (responsible designer) ate of Compliance conform to the requirements	==	500	01			0)2	antioned space	03		04	raicionea sp	05
	My	Project Consist		I that apply):		87	Calculatio	-	ethod	Area (ft²)		Calculation N	Method	Area (ft²)
iance documents, worksheets, calculations,	New Lighting Sy						Area Categ			0		Area Category		3342
to the enforcement agency for all applicable ilding owner at occupancy.	☐ New Lighting Sy		g Garage					,						
inding owner at occupancy.		Total Ar	ea of Work (f	t²)					0	1			3342	
4														
	C. COMPLIANCE RE	SULTS												
	If any cell on this tabl						nditions" refe	r to T	Table D. for gui	idance.				
	ttobaton to		Commence of the Commence of th	ting Power per		atts)			A CONTRACTOR OF THE PARTY OF TH	hting Power per	514		Complia	ince Results
	Lighting in conditioned and	01	02	03	04		05		06	07		08		09
	unconditioned	Complete	Area	Area Category	Tailored			Ш	Total	Adjustments		T-+-1 A di		
	spaces must not be	Building	Category	Additional	§140.6(c)3	=	Total	≥	Designed	PAF Lighting Control Credits	=	Total Adjusted (Watts)	05 mu	st be >= 08
	combined for compliance per	§140.6(c)1	§140.6(c)2	§140.6(c)2G	(+)	$ \ $	Allowed	Ш	(Watts)	§140.6(a)2		*Includes	15 55 55 55 55	L40.6
	§140.6(b)1			(+)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(Watts)			(-)		Adjustments	-	
	EN-OFENING-SE	(See Table I)	(See Table I)	(See Table J)	(See Table K)	Ш			(See Table F)	(See Table P)				
	Conditioned					╚		≥			=			
	Unconditioned		2,172.3	0		=	2,172	≥	2,150	0	=	2150	со	MPLIES
Registration Provider: Energysoft	Registration Number:						Registration Da	ate/Ti	ime:			Re	gistration Pro	vider: Energysoft
port Generated: 2022-10-24 08:39:02	CA Building Energy Effi	ciency Standard	ls - 2019 Nonre	sidential Complia	ance		Report Version	ո։ 201	19.1.003			Report Ge	enerated: 202	2-10-24 08:39:02

CLIENT:	
CLILIAI	
ADDRESS:	

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE

DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

NOTES

ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
 THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.

3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY

PROJECT:		
TITLE		
T24 02		
PROJ. NO.	PROJ. ENGR.	SCALE @ 24X
		NTS
DRAWING	ND.	REV.
T - 2		

CERTIFICATE OF	COMPLIANCE									NRCC-LTI
Project Name:		Commercial Ce	nter at Division S	treet, n/o AVE, J	-5 Report Page:					(Page 2 of
Project Address:	:		Division S	treet, n/o AVE, J	-5 Date Prepared:					10/24/20
C. COMPLIAN	ICE RESULTS									
							ce (See Table H fo		COMPL	IES
					Rated Power Redu	iction Complian	ce (See Table Q fo	or Details)		
D. EXCEPTION	NAL CONDITIONS				_					
	to-filled with uneditable comn	nents herause o	f selections mai	de or data ente	ered in tables throu	ahout the form				
	to fined with uncultable contin	ienes because o	, 30,000,000,000	ac or data crite	rea in tables timea	gnout the joins.				
E ADDITION	AL REMARKS				-					
E. ADDITION	AL KLIVIAKKS									
	ides remarks made by the perr	nit applicant to	the Authority H	aving Jurisdict	ion.					
This table inclu	des remarks made by the perr		the Authority H	aving Jurisdict	ion.					
This table inclu	ides remarks made by the perr	E	,	•	ion.					
This table inclu F. INDOOR LIG This table inclu	ides remarks made by the perr GHTING FIXTURE SCHEDUL ades all permanent designed lig	E	,	•	ion.					
This table inclu F. INDOOR LIG This table inclu Designed Watt	des remarks made by the perr GHTING FIXTURE SCHEDUL des all permanent designed lig tage: Unconditioned Spaces	E ghting and all po	ortable lighting	in offices.						
This table inclu F. INDOOR LIG This table inclu	ides remarks made by the perr GHTING FIXTURE SCHEDUL ades all permanent designed lig	E	,	•	on. 06	07	08	09	1	0
This table inclu F. INDOOR LIG This table inclu Designed Watt	GHTING FIXTURE SCHEDUL des all permanent designed lig tage: Unconditioned Spaces	E ghting and all po	ortable lighting 04 Small	in offices.		07 Total Number	08 Excluded per	337	1 Field In	3
F. INDOOR LIG This table inclu Designed Watt	des remarks made by the perr GHTING FIXTURE SCHEDUL des all permanent designed lig tage: Unconditioned Spaces	ghting and all po	ortable lighting	in offices.	06			09 Design Watts		3
F. INDOOR LIG This table inclu Designed Watt 01 Name or Item	GHTING FIXTURE SCHEDUL des all permanent designed lig tage: Unconditioned Spaces 02 Complete Luminaire	ghting and all po	04 Small Aperture &	in offices. 05 Watts per	06 How is Wattage	Total Number	Excluded per	337	Field In	spector
F. INDOOR LIG This table inclu Designed Watt 01 Name or Item Tag	GHTING FIXTURE SCHEDUL des all permanent designed lig tage: Unconditioned Spaces 02 Complete Luminaire Description	ghting and all po 03 Modular (Track) Fixture	04 Small Aperture & Color Change ¹	in offices. 05 Watts per luminaire ²	06 How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Field In	spector Fail
F. INDOOR LIG This table inclu Designed Watt 01 Name or Item Tag	GHTING FIXTURE SCHEDUL Ides all permanent designed lig tage: Unconditioned Spaces 02 Complete Luminaire Description 1 Lamp 2 ft U-Tube T8 Elec	ghting and all po 03 Modular (Track) Fixture	Otable lighting O4 Small Aperture & Color Change ¹ No	in offices. 05 Watts per luminaire ² 50	06 How is Wattage determined Mfr. Spec	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Field In	spector Fail

Registration Date/Time:

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Schema Version: rev 20200601

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA									
Indoor Lighting									
NRCC-LTI-E							CALIFORN	IIA ENERGY C	
CERTIFICATE OF COMPLIANCE									NRCC-LTI-E
Project Name:	Commercial Center	at Division Street,	n/o AVE, J-5 Repo	ort Page:					(Page 3 of 6)
Project Address:Division Street, n/o AVE, J-5Date Prepared:10/24/							10/24/2022		
H. INDOOR LIGHTING CONT	ROLS (Not including PAFs)			-			-	_	
	trols for conditioned and uncondit hting controls section of the Comp								w
Building Level Controls									
	01			(12		_	0	3
Mandaton	Demand Response §110.12(c)			Shut-off cont	role \$120.1/e)			Field Inspector	
iviaridatory	Demand Response 9110.12(c)			Shut-on cont	1015 9150.1(C)			Pass	Fail
Not	Required <= 10,000 SF			Whole Building	Auto Time Sw	ritch			
Area Level Controls									
04	05	06	07	08	09	10	11	1	2
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Sky lit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field In	spector
								Pass	Fail
Office Area	Office greater than 250 square feet	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No		
Auto Repair	General Commercial Industrial Work Area High Bay	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No		
*NOTES: Controls with a * requ	ire a note in the space below exp	laining how com	pliance is achiev	ed.			13		
EX: Conference 1: Primary/Skyl to §130.1(d)2	light Daylighting: Exempt because	less than 120 wo	atts of general li	ghting; EXCEPTION 1		Plan Shee	t Showing Da	ylit Zones:	

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Allowed Density

 (W/ft^2)

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

04

Area (ft²)

Allowed Wattage Additional Allowance / Adjustment

Area Category PAF

Registration Provider: Energysoft

Report Generated: 2022-10-24 08:39:02

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

Complete Building or Area Category Primary

Function Area

Unconditioned Spaces

Registration Number:

Area Description

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

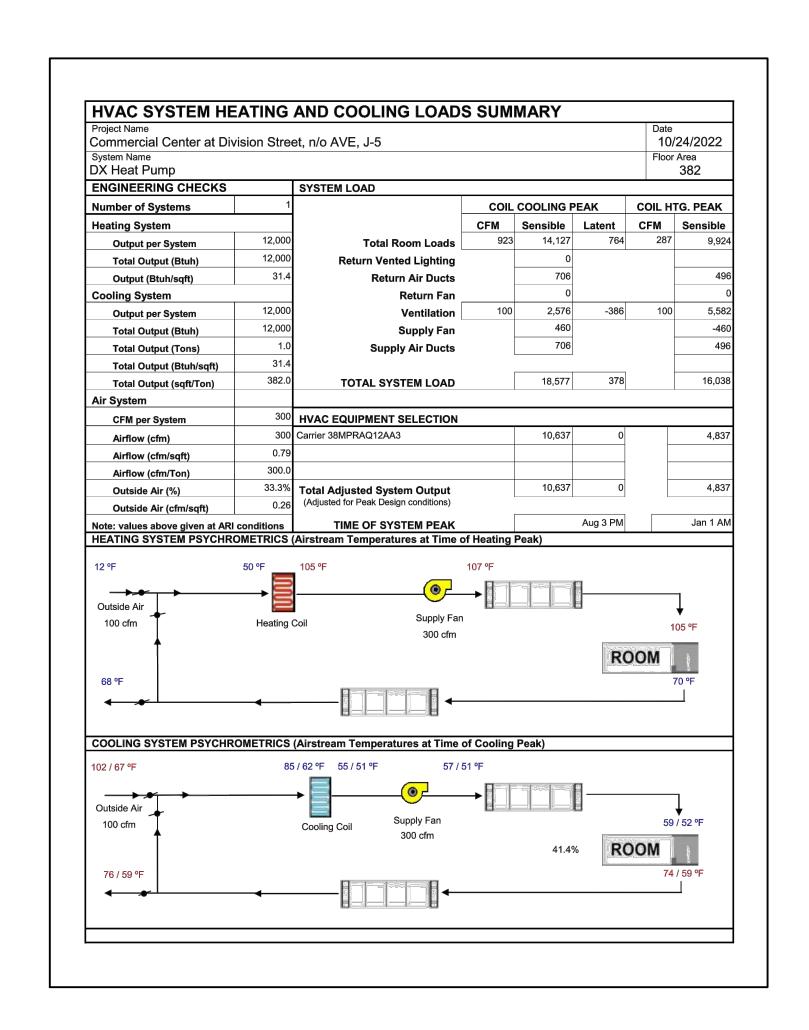
STATE OF CALIFORNIA			
Indoor Lighting NRCC-LTI-E			CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name: Commercial Center at Di	ivision Street, n/o AVE, J-5 Report Page:		(Page 4 of 6)
Project Address: D	ivision Street, n/o AVE, J-5 Date Prepared:		10/24/2022
I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR A			
Auto Repair, Toilets, Utility General Commercial Industri Bay	0.65 0.65	2,172.3	No No
	TOTALS: 3,34.	2 2,172.3	See Tables J, or P for detail
J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUA	LIFYING LIGHTING SYSTEM		
This section does not apply to this project.			
K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWAN	ICE		
This section does not apply to this project.			
L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISP	LAY		
This section does not apply to this project.			
M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AM	ID TASK LIGHTING		
This section does not apply to this project.		V	
N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMEN	ITAL/SPECIAL EFFECTS		
This section does not apply to this project.			
O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUE	JABLE MERCHANDISE		
This section does not apply to this project.			
P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWE	R ADJUSTMENT FACTOR (PAF))		
This section does not apply to this project.			
Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATION	vs		
This section does not apply to this project.			
Registration Number:	Registration Date/Time:		Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601		Report Generated: 2022-10-24 08:39:02

Schema Version: rev 20200601

STATE OF CALIFORNIA				STATE OF CALIFORNIA		
Indoor Lighting			CALIFORNIA ENERGY COMMISSION	Indoor Lighting		CALIFORNIA ENERGY COMMUNICION
NRCC-LTI-E			CALIFORNIA ENERGY COMMISSION	NRCC-LTI-E		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE	Communication Communication Character	h - /- AVE E Barant Baran	NRCC-LTI-E	CERTIFICATE OF COMPLIANCE	Commencial Contract Division Character / AVE 15 Bound Book	NRCC-LTI-E
Project Name:	Commercial Center at Division Street		(Page 5 of 6)	Project Name:	Commercial Center at Division Street, n/o AVE, J-5 Report Page:	(Page 6 of 6)
Project Address:	Division Street	t, n/o AVE, J-5 Date Prepared:	10/24/2022	Project Address:	Division Street, n/o AVE, J-5 Date Prepared:	10/24/2022
R. 80% LIGHTING POWER FO	R ALL ALTERATIONS - CONTROLS EXCEPTIO	INS		DOCUMENTATION AUTHOR'S DECL	ARATION STATEMENT	
This section does not apply to t	nis project.			I certify that this Certificate of Com	npliance documentation is accurate and complete.	
				Documentation Author Name:	Documentation Author Signature	e: \
S. DAYLIGHT DESIGN POWER	R ADJUSTMENT FACTOR (PAF)			Viranchi Shah		Viranchi Shah
This section does not apply to t	nis project.			Company:	Signature Date:	
				www.gettitle24.com	2022-10-24	
T. DECLARATION OF REQUIR	ED CERTIFICATES OF INSTALLATION			Address: 14730 Beach Blvd.	CEA/ HERS Certification Identific	ation (if applicable):
Selections have been made bas	ed on information provided in this document. If a	any selection have been changed by permit applican	t, an explanation should be included in Table E.	City/State/Zip:	Phone:	
Additional Remarks. These docu	ments must be provided to the building inspecto	or during construction and can be found online at		La Mirada CA 90638	7148884736	
https://www.energy.ca.gov/titl	e24/2019standards/2019_compliance_documen	nts/Nonresidential_Documents/NRCI/		RESPONSIBLE PERSON'S DECLARAT	ION STATEMENT	
	Form/Title		Field Inspector	I certify the following under penalty of perjury, ur		
			Pass Fail		rtificate of Compliance is true and correct.	
NRCI-LTI-01-E - Must be submit	ted for all buildings				Business and Professions Code to accept responsibility for the building design or system design iden te specifications, materials, components, and manufactured devices for the building design or syster	
				of Title 24, Part 1 and Part 6 of the Ca	alifornia Code of Regulations.	
	RED CERTIFICATES OF ACCEPTANCE				or design features identified on this Certificate of Compliance are consistent with the information properties The enforcement agency for approval with this building permit application.	rovided on other applicable compliance documents, worksheets, calculations,
			icant, an explanation should be included in Table E.		I copy of this Certificate of Compliance shall be made available with the building permit(s) issued for	r the building, and made available to the enforcement agency for all applicable
		or during construction and any with "-A" in the form	name must be completed through an Acceptance		pleted signed copy of this Certificate of Compliance is required to be included with the documentat	ion the builder provides to the building owner at occupancy.
lest lechnician Certification Pro	vider (Ai TCP). For more information visit: http://	/www.energy.ca.gov/title24/attcp/providers.html	6 - 5 5 11 6 111	Responsible Designer Name:	Responsible Designer Signature:	
	Form/Title	System	ns/Spaces To Be Field Field Inspector Verified Pass Fail	Company: InnoDez	Date Signed: 2022-10-24	
			1035	Address:	License:	
	tted for occupancy sensors and automatic time s			726 Foxbrough PI		
NRCA-LTI-03-A - Must be submi	tted for automatic daylight controls.			City/State/Zip:	Phone:	
				Pleasanton CA 94566		
			7			
			7			
Registration Number:		Registration Date/Time:	Registration Provider: Energysoft	Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
						
CA Building Energy Efficiency Stan	dards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2022-10-24 08:39:02	CA Building Energy Efficiency Standards - 20	2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2022-10-24 08:39:02

Registration Provider: Energysoft

Report Generated: 2022-10-24 08:39:02



CLIENT:	
ADDRESS:	

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE

DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

NOTE

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.

3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. N], DESCRIPTION	DATE	BY

PROJECT		
TITLE:		

T24 03

PROJ. NO. PROJ. ENGR. SCALE @ 24X36:

NTS

DRAWING NO. REV.