GRILLES/DIFFUSE	RS & DAMPER:			
	SUPPLY DIFFUSER	(	s)	PUSH BUTTON
	SIDEWALL MOUNTED SUPPLY REGISTER		T)	THERMOSTAT
	RETURN GRILLE	(	Ts)	TEMPERATURE SENSOR
	EXHAUST GRILLE		-)	HUMIDISTAT
	VOLUME CONTROL DAMPER	(1	) (c	PRESSURE SENSOR
B	BACK DRAFT DAMPER	~ ~	s	SMOKE DETECTOR
_			-	
	NEW SHEET METAL DUCTWORK			CONNECT TO EXISTING
	EXISTING DUCT/PIPE TO BE REMOVED	$\langle \cdot$	?〉	NOTE DESIGNATION
			?	REVISION DESIGNATION
	EXISTING DUCT/PIPE TO REMAIN	MA	<u>RK</u>	MECHANICAL EQUIPMENT DESIGNATION
	SUPPLY OR OUTSIDE AIR DUCT		IARK CFM	DIFFUSER DESIGNATION AND CFM
	RETURN AIR DUCT	ABBREVI	ATIONS	:
	EXHAUST AIR DUCT	AD		S DOOR
	DUCTWORK TRANSITION	AFF AHU		E FINISHED FLOOR
	SUPPLY DUCT ELBOW UP OR DOWN	AHU		DRITY HAVING JURISDICTION
	RETURN DUCT ELBOW UP OR DOWN	BOD	вотто	M OF DUCT
	EXHAUST DUCT ELBOW UP OR DOWN	BHP	BRAKE	HORSEPOWER
	DUCT ELBOW WITH FIXED TURNING VANES	BTU CFM		H THERMAL UNIT FEET PER MINUTE
	DUCT BRANCH TAKE-OFF	DB	DRY BI	
		EC	ELECT	RICAL CONTRACTOR
	ROUND SPIN-IN TAKEOFF	EA	EXHAU	
	MANUAL DAMPER	EAT ESP		ING AIR TEMPERATURE
	FLEXIBLE DUCT CONNECTION	ETR		NG TO REMAIN
	FIRE DAMPER	EWT	ENTER	ING WATER TEMPERATURE
	SMOKE DAMPER	FPC	FIRE P	ROTECTION CONTRACTOR
SD SD		FOB		
FSD	COMBINATION FIRE/SMOKE DAMPER	FOT GPM	FLAT C	NS PER MINUTE
	ELECTRIC OPERATED DAMPER	GC		RAL CONTRACTOR
EOD		HP	HEAT F	PUMP
	BACKDRAFT DAMPER	HZ	FREQU	
BDD		LAT		
	VOLUME DAMPER	LWT MA	MIXED	IG WATER TEMPERATURE
*****	FLEXIBLE DUCTWORK	MC		ANICAL CONTRACTOR
//   / / ,		NFPA	NATIO	NAL FIRE PROTECTION ASSOCIATION
EQUIPMENT:		NC	NOISE	CRITERIA
	ROOF MOUNTED EXHAUST FAN	OA	OUTSI	DE AIR
	CEILING MOUNTED EXHAUST FAN	PC		
	IN-LINE CABINET FAN	POD PD		IATIC OPERATED DAMPER
		PSI		DS PER SQUARE INCH
	FAN TERMINAL UNIT	RA	RETUR	IN AIR
	VAV TERMINAL UNIT	RLF	RELIEF	
		RTU SA	ROOFT SUPPL	
	AIR HANDLING UNIT	TSP		STATIC PRESSURE
		TYP	TYPIC	
	ROOFTOP UNIT	UNO	UNLES	S NOTED OTHERWISE
	UNIT HEATER	WC		R COLUMN
	ELECTRIC DUCT HEATER IN DUCT	WB		
		C.U E.F		ENSING UNIT
		MUA	MAKE (	JP AIR UNIT

# MECHANICAL GENERAL NOTES

CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW CONSTRUCTION DOCUMENTS. INFORMATION REGARDING COMPLETE WORK IS DISPERSED THROUGHOUT DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO COMPLETE DOCUMENT SET

- COORDINATE WITH WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS. REQUIREMENTS OF OWNER. AND WITH CONSTRAINTS OF EXISTING CONDITIONS OF PROJECT SITE. COORDINATE THE INSTALLATION OF MECHANICAL EQUIPMENT. DUCTWORK, ETC. TO FIT WITHIN THE SPACE ALLOWED BY ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER OF RECORD AND COORDINATION WITH THE GENERAL CONTRACTOR. PROVIDE DUCT AND PIPE RISES AND DROPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT OR SUBMITTING SHOP DRAWINGS. FURNISH EQUIPMENT WIRED FOR VOLTAGES SHOWN THEREIN. CONTRACTOR SHALL BEAR ALL COST(S) ASSOCIATED WITH FAILURE TO COORDINATE ELECTRICAL CHARACTERISTICS. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
- DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC. SHOWING THE GENERAL LOCATION. TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEM. GENERALLY DUCTWORK SHALL BE KEPT AS HIGH AS POSSIBLE.
- WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY GOVERNING CITY. PURCHASE PERMITS ASSOCIATED WITH WORK. OBTAIN INSPECTIONS REQUIRED BY CODE.
- INSTALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCE.
- PROVIDE ACCESS PANELS IN CEILINGS AND WALLS TO ALLOW ACCESS TO VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. MINIMUM ACCESS SIZE - 12"x12", UNLESS LIMITED BY PHYSICAL CONSTRAINTS.
- CONTRACT LANDLORD APPROVED ROOFING CONTRACTOR TO FLASH AND SEAL RELATED ROOF PENETRATIONS TO MAINTAIN ROOFING WARRANTY
- INSTALL EXHAUST FAN A MINIMUM OF 10 FT FROM INTAKE AIR OPENINGS.
- COORDINATE LOCATIONS OF GRILLES, REGISTERS AND DIFFUSERS WITH ARCHITECTURAL REFLECTED CEILING PLAN. LOCATIONS SHOWN ARE APPROXIMATE, ADJUST LOCATIONS IN THE FIELD AS REQUIRED BY CONSTRUCTION CONSTRAINTS.
- 10 ELECTRICAL CONTRACTOR SHALL FURNISH, ROUTE, AND INSTALL CONTROL WIRING FOR MECHANICAL SYSTEMS. MECHANICAL CONTRACTOR SHALL PROVIDE CONTROLS AND CONTROL WIRING TERMINATIONS FOR MECHANICAL SYSTEMS.

### MECHANICAL SPECIFICATIONS

PROVIDE EQUIPMENT INDICATED ON DRAWINGS, AND AS REQUIRED FOR COMPLETE FUNCTIONING SYSTEM.

DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS REQUIRED FOR ONE YEAR AFTER OWNER ACCEPTANCE OF COMPLETED PROJECT. REFRIGERATION COMPRESSORS SHALL HAVE A FIVE YEAR (PARTS ONLY) WARRANTY. NATURAL GAS HEAT EXCHANGERS SHALL HAVE A TEN YEAR (PARTS ONLY) WARRANTY. PROVIDE SEPARATE LINE ITEM DEDUCT AMOUNT ON PROPOSAL FORM TO DELETE WARRANTY SERVICE. AT OWNER'S OPTION.

COORDINATION: COORDINATE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF OWNER, AND WITH CONSTRAINTS OF EXISTING CONDITIONS OF PROJECT SITE.

DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

SHEETMETAL DUCTWORK: PROVIDE SHEETMETAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEETMETAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEETMETAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS.

REFRIGERANT PIPING: TYPE ACR HARD DRAWN COPPER TUBING MEETING REQUIREMENTS OF ASTM B280, WITH WROUGHT COPPER FITTINGS MEETING REQUIREMENTS OF ANSI B16.22, WITH BRAZED JOINTS MEETING REQUIREMENTS OF AWS A 5.8, USING BAG-1 (SILVER) FILLER MATERIAL. INSULATE SUCTION LINE PIPING WITH 1" THICK ARMAFLEX TYPE AP. PAINT INSULATION LOCATED OUTDOORS WITH ARMAFLEX WB FINISH.

ROUND SHEETMETAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR PLASTIC LAMINATE LABEL FOR EACH MAJOR ITEM OF MECHANICAL SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.

FLEXIBLE DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH 1" THICK 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 2" W.G. PRESSURE AND 0°F TO 250°F TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK TAP COLLARS AT CONNECTIONS INTO SHEETMETAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL **JOT EXCEED 6 FEET.** 

DUCT SEALANT: PROVIDE WATER BASED SYNTHETIC LATEX EMULSION PERMANENTLY FLEXIBLE HIGH VELOCITY DUCT SEALANT, DUCTMATE INDUSTRIES, INC. PRO SEAL OR EQUAL. SEALANT SHALL BE LOW VOC LEED COMPLIANT CAPABLE OF 15 "W.G., NFPA 90A AND 90B APPROVED, UL 181B-M LISTED AND UL 723 CLASSIFIED. INSTALL PER MANUFACTURER INSTRUCTIONS. SEALANT SHALL BE APPROVED FOR PLENUM INSTALLATIONS AND MEET FLAME SPREAD AND SMOKE DEVELOPED RATINGS FOR PLENUM APPLICATIONS.

DUCT INSULATION (ALL ROUND SUPPLY DUCT AND ROUND RETURN DUCT ABOVE CEILING AND ALL MAKEUP AIR DUCTWORK): PROVIDE MINIMUM 1-1/2" THICK BLANKET TYPE FIBERGLASS INSULATION COMPLYING WITH ASTM C-553. TYPE II. WITH FACTORY APPLIED KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS VAPOR BARRIER/JACKET. JACKET SHALL CONFORM TO ASTM C-1136, TYPE II.

DUCT LINER (ALL RECTANGULAR SUPPLY AND RETURN DUCT EXCLUDING MAKEUP AIR DUCTWORK): PROVIDE MINIMUM 1" THICK, 2 PCF DENSITY, LONG TEXTILE FIBER TYPE DUCT LINER, WITH COATING ON AIR STREAM SIDE CONFORMING TO NFPA 90A. DUCT LINER SHALL BE SECURED TO DUCT WITH ADHESIVE AND MECHANICAL FASTENERS. ADHESIVE SHALL BE LEED COMPLIANT LOW VOC AS RECOMMENDED BY DUCT LINER MANUFACTURER, AND SHALL COMPLY WITH ASTM C-916. DUCT LINER FASTENERS SHALL COMPLY WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", LATEST EDITION. THERMAL CONDUCTIVITY SHALL BE EQUAL TO OR LESS THAN 0.24 AT 75°F.

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 SHEETMETAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION.

RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM 1/2" HEXAGONAL AXLE, MOLDED SYNTHETIC BEARINGS. WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO 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.

DUCT CONNECTIONS TO ALL VIBRATING EQUIPMENT.

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 SHEETMETAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UNINSULATED DUCTS. AND EXTENDED FRAMES FOR EXTERNALLY INSULATED UCTS. 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.

GREASE EXHAUST DUCTWORK: PROVIDE FACTORY BUILT OUBLE-WALL GREASE EXHAUST DUCT FOR USE WITH TYPE I HOODS AS MANUFACTURED BY CAPTIVEAIRE OR APPROVED EQUAL. DUCT SHALL BE ETL LISTED TO UL-1978 AND UL-2221 CONDITION B, FOR MAXIMUM 1" CLEARANCE TO COMBUSTIBLES AND ZERO CLEARANCE NON-COMBUSTIBLES. ALL ELBOWS IN GREASE EXHAUST DUCTWORK SHALL BE RADIUS ELBOWS. NO SQUARE ELBOWS ARE ALLOWED

ECHANICAL EQUIPMENT IDENTIFICATION: PROVIDE ENGRAVED EQUIPMENT & EACH OPERATIONAL DEVICE. LETTERS SHALL BE MINIMUM OF 1/2 " HIGH. PROVIDE SIGNS TO INFORM OPERATOR OF OPERATIONAL REQUIREMENTS, TO INDICATE SAFETY AND EMERGENCY PRECAUTIONS, AND TO WARN OF HAZARDS AND IMPROPER OPERATION.

TESTING AND BALANCING: TEST AND ADJUST MECHANICAL SYSTEMS AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB OR AABC, AND ASHRAE STANDARDS. TEST AND BALANCE REPORT SHALL INCLUDE OUTDOOR AIR TEMPERATURE AT TIME OF TESTING, ENTERING AIR TEMPERATURE AND LEAVAING AIR TEMPERATURE AT THE COIL(S), AIR TEMPERATURE AND AIR FLOW AT EACH SUPPLY AIR DIFFUSER AND RETURN AIR GRILLE. AND SPACE TEMPERATURE FOR EACH SYSTEM. ELIMINATE OBJECTIONABLE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR, WITH NEBB OR AABC CERTIFICATION. SUBMIT COMPLETED AND CERTIFIED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCE SYSTEMS TO WITHIN 5% OF AIR FLOWS INDICATED ON DRAWINGS, AND REPORT DISCREPANCIES TO HVAC INSTALLER FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER

OPERATIONS AND MAINTENANCE MANUALS (O&M): AT COMPLETION OF PROJECT PROVIDE MINIMUM OF TWO O&M MANUALS IN THREE RING BINDERS TO OWNER/TENANT. MANUALS SHALL HAVE TABS LABELED WITH ALL SECTIONS SEPARATED WITH CLEAR INDEX AT FRONT. PROVIDE WARRANTY LETTER AT FRONT OF MANUAL STATING DATES OF WARRANTY (START DATE AND END DATE) AND CONTACTS WITH PHONE NUMBERS FOR WARRANTY WORK. PROVIDE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE INCLUDING RECOMMENDED SETPOINTS. MANUALS SHALL INCLUDE SUBMITTALS OF ALL EQUIPMENT, SIZE AND OPTIONS SELECTED. PROVIDE ALL BALANCING REPORTS. PROVIDE MANUFACTURER LITERATURE FOR OPERATIONS AND MAINTENANCE FOR ALL EQUIPMENT ON PROJECT. ALL PERIODIC AND ROUTINE MAINTENANCE SHALL BE CLEARLY IDENTIFIED. PROVIDE CONTROLS SECTION LISTING SYSTEM OPERATING AND CONTROL INSTRUCTIONS, MAINTENANCE, CALIBRATION, WIRING DIAGRAMS SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS.

### VIRGINIA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF VIRGINIA BUILDING 9. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND CODE 2018 AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE SMOKE WALL CONSTRUCTION AND LOCATION. DEPARTMENT OF BUILDINGS TO DATE.

- THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS.
- 2. TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS 11. A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS. THE TESTS WILL SHOW COMPLIANCE WITH 2015 IOWA BUILDING CODE .
- THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON 13. SMOKE DETECTOR SHALL MEET UL268A. HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH 14. INDOOR DUCT AND PLENUM INSULATION SCHEDULE; (SECTION 230713) TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE A. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION MC 107 AND THE FOLLOWING SECTIONS OF THE 2018 VIRGINIA MECHANICAL CODE: A. REFRIGERATION SYSTEMS - VMC 1108
- THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD: A. STANDARDS OF HEATING - 2018 VMC 309.1 B. GAS FIRED EQUIPMENT - FUEL GAS CODE
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- VENTILATION FOR ALL AREA SHALL COMPLY WITH 2018- VMC 401.
- A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY 2018 VMC 403.3

- FOLLOWS: UNCONDITIONE WITHIN BUILDIN

FLEXIBLE DUCT CONNECTORS: PROVIDE UL LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS AT THERMOSTATIC CONTROLS:

C403.4 HEATING AND COOLING SYSTEM CONTROLS EACH HEATING AND COOLING SYSTEM SHALL BE PROVIDED WITH THERMOSTATIC CONTROLS AS SPECIFIED IN SECTION C403.4.1, C403.4.1.2, C403.4.1.3 AND C403.4.2

C403.4.1 THERMOSTATIC CONTROLS

THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.

C403.4.1.2 DEADBAND

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.

C403.4.1.3 SET POINT OVERLAP RESTRICTION

WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE PROVIDED WITH THE CAPABILITY TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.4.1.2.

C403.4.2 OFF-HOUR CONTROLS

EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.

C403.4.2.1 THERMOSTATIC SETBACK CAPABILITIES

THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

#### C403.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES

AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

#### C403.4.2.3 AUTOMATIC AND OPTIMUM START CAPABILITIES

AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CONFIGURED TO AUTOMATICALLY ADJUST THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

INDIVIDUAL HEATING AND COOLING SYSTEMS WITH SETBACK CONTROLS AND DIRECT DIGITAL CONTROL SHALL HAVE OPTIMUM START CONTROLS. THE CONTROL ALGORITHM SHALL, AS A MINIMUM, BE A FUNCTION OF THE DIFFERENCE BETWEEN SPACE TEMPERATURE AND OCCUPIED SET POINT, THE OUTDOOR TEMPERATURE, AND THE AMOUNT OF TIME PRIOR TO SCHEDULED OCCUPANCY. MASS RADIANT FLOOR SLAB SYSTEMS SHALL INCORPORATE FLOOR TEMPERATURE INTO THE OPTIMUM START ALGORITHM.

10. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

COMPLETED IN ACCORDANCE WITH SECTION 2018-IECC, C408.2.1.

12. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.

OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION: B. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS

UNCONDITIONED SPACES WITHIN BUILDING:	R-6
WITHIN BUILDING ENVELOPE ASSEMBLY:	R-8
OUTSIDE OF BUILDING:	R-8

HEATING     ELECTRICAL       INPUT     OUTPUT	
EFFICIENCY EER/IEERCAPACITY FUEL TYPECAPACITY (BTU/HR)EFFICIENCYVOLTAGEMCAMOCPAPPROXIDADIAWEIGHT(BTU/HR)(BTU/HR)(BTU/HR)EFFICIENCYVOLTAGEPHASE(A)(A)WEIGHT	
10.2/15 NATURAL GAS 224 181 80% 208 3 68 80 1289	3

NOTES:

S.A.E : SAME AS EXISTING.
 RTU TO BE PROVIDED AND INSTALLED BY LANDLORD.

CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF RTU ON SITE.
 IF REQUIRED, PROVIDE NEW THERMOSTAT AND TEMPERATURE SENSOR COMPATIBLE WITH EXISTING RTU. CO-ORDINATE FINAL LOCATION OF T-SENSOR WITH ARCHITECT/OWNER.
 CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON RTU TO MATCH VALUES MENTIONED IN THE TABLE ABOVE.

				FAN
MARK	MANUFACTURER	MODEL	AIR FLOW (CFM)	EXTERNA STATIC (IN. W.G.)
	1			
MUA-1(N)	CAPTIVEAIRE	A1-D.250-15D-MPU	1,350	0.5

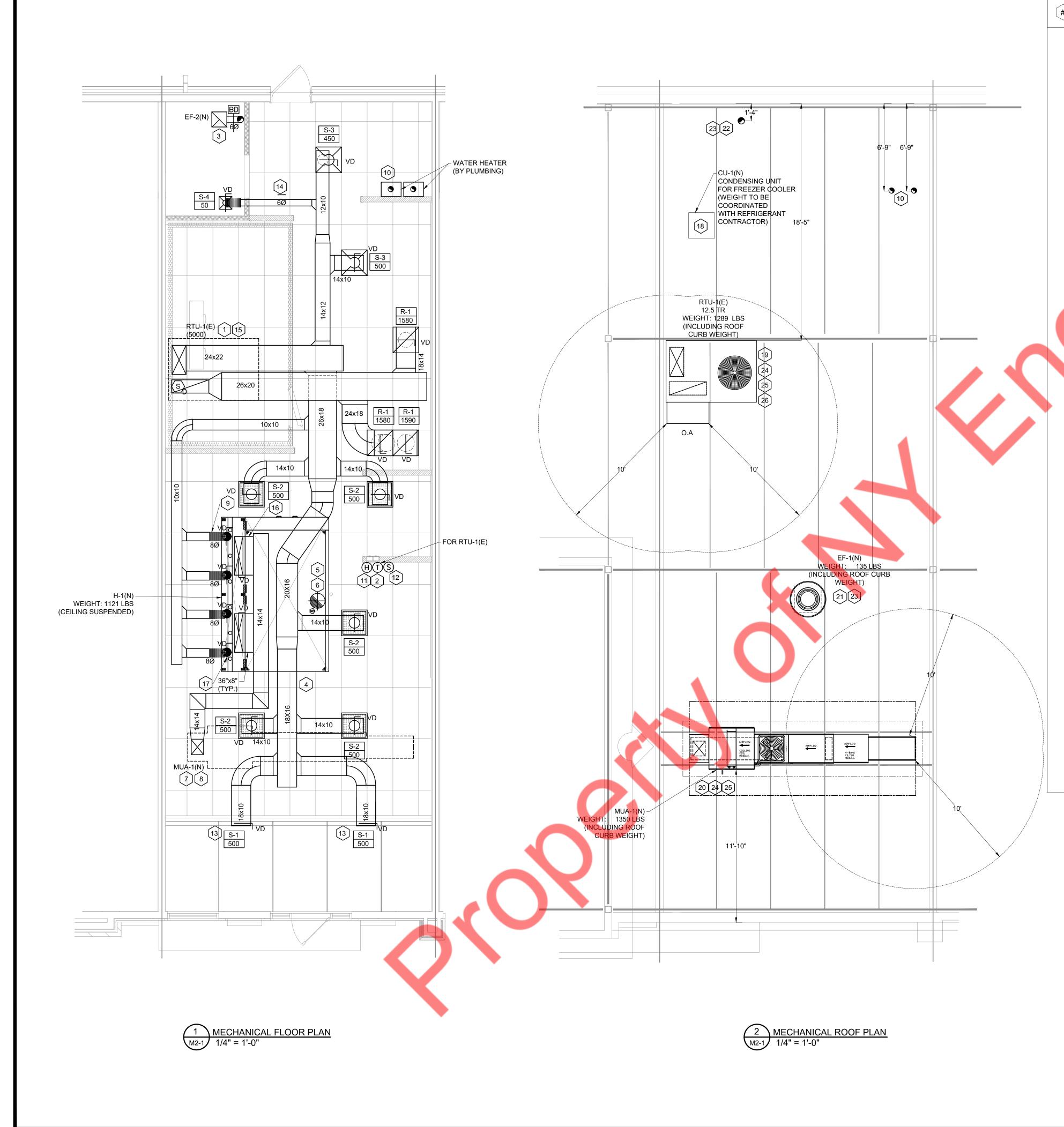
MARK	MANUFACTURER	MODEL	TYPE	AREA SERVED	E) Al
				1	
EF-1(N)	CAPTIVEAIRE	DU85HFA	UPBLAST	H-1	
EF-2(N)	COOK	GC-148	CEILING	RESTROOM	
BD-BAC	SORIES: KDRAFT DAMPER, DP- ATION ISOLATION, WP-				UPR
2. RE 3. INT	N SHALL BE CONTROLI FER TO CAPTIVEAIRE I ERLOCK FAN OPERAT	DRAWINGS F ION WITH RT	OR ADDITIC U-1(E).	NAL INFORMATION	

															2	
MARK	MANUFACTURE	R MODE	AIR FLO L (CFN	N STATIC	MOTOR HP	AMBIENT	DLING TOTAL SENS CAPACITY CAPA (BTU/HR) (BTU	CITY EFFICIENCY	Y INP	HEATING UT OUTPUT CITY CAPACITY (HR) (BTU/HR) EFFIC		CONDENSER MCA PHASE (A)	ELECTRICAL	FAN E PHASE (A) (A)	SUPPLIED INSTA BY B'	
2. PRC 3. PRC 4. PRC 5. PRC 6. PRC	VIDE WITH MOTORI VIDE WITH WEATHE VIDE WITH DOWNFI VIDE WITH MANUFA VIDE WITH 3 TON S	R HOOD AND OW DISCHAR CTURER FABF NGLE CIRCUIT G INTERLOCK I	BIRDSCREEN. GE. RICATED 20" HIG I CONDENSING RELAY FOR MU/	H ROOF CURB. UNIT. CONDENSING UN A-1(N) AND RTU-1(E).	1 NIT SHALL HAV	90.0 3	29,600 19,8 CTION AT 208V-1PH,		NATURAL GAS 119,9	988 110,389 9	2% 208/230	1 18.1	30 115	1 16.6 25	O G(	C 1
						FXHAU	ST FAN SC									
MARK EF-1(N)	MANUFACTURE	R MODEL		AIR EA SERVED (0	FLOW	FAN (TERNAL			MCA MOCP APPRC (A) (A) WEIGH	DXIMATE SUPPLIED INS IT (LBS) BY			IOTES 1,2			
		P-DISCONNECT	t plug, gdc- g		70 FACTORY FUF	0.8 DIRECT	45 -	120 1		20 GC	GC BD, DP,	, FSC, VI	3,4			
2. REF 3. INTE	ER TO CAPTIVEAIRE ERLOCK FAN OPERA	DRAWINGS F	OR ADDITIONAL U-1(E).			OCCUPIED MODE WHILE KITC	HEN EXHAUST FAN I	S ENERGIZED.								
				GRILLE	REGIS	TER, AND DIFFU	ISER SCHE									
								NO	ISE	SUPPLIED INSTALLED						
MARK	MANUFACTURE	R MODEL	TY	PE NEC		SIZE TYPE MATER	RIAL FINI		ERIA ACCESSORIES		QUANTITY					
	HAVACO HEART & COOLEY HAVACO HAVACO ORIES: POSED BLADE DAMF RFACE MOUNT FRAM	HT-2X2-SP HT-2X2-SP	N EGGCRAT REGIS L PERFORATE L SQUARE CON L SQUARE CON	STER 18 D DIFFUSER IE DIFFUSER	3"X10" 20 12"Ø 24 12"Ø 24	I"X24" LAY-IN ABS POLY "X12" SURFACE ALUMIN I"X24" LAY-IN ABS POLY I"X24" LAY-IN ABS POLY I"X12" SURFACE ABS POLY	NUM STANDAR YMER STANDAR YMER <mark>ST</mark> ANDAR	RD WHITE <3 RD WHITE <3 RD WHITE <3	30         OBD           30         OBD	GCGCGCGCGCGCGCGCMCMC	3 2 5 2 1					
CU-1 SHOWN I	MANUFACTURE KOLPAK FOR REFERENCE OI O KITCHEN EQUIPM	AM36-145-1E	EC-PR-4	RESSOR	BE PHASE	13.6 20 KEC		PROXIMATE IGHT (LBS) 165								
	MANUFACTURE		IODEL		HOOD HI LENGTH W		Y MAKEUP EX W AIR FLOW S (CFM) (II	STATIC RISER N. W.G.) (CFM)	R MAKEUP AIR PER RISER (CFM) B	Y BY						
H-1			WI-PO-ACPSP-F			6'-6" 1500 500	1350	0.578 125	675 0	D GC						
				QUIREMENTS AND ACC	LOOUKIES.			\/ <b></b>						2019		
MARK	BUILDING							VEN		JLATION AS PER I				2010		
	(CFM)	SUPPLY		CFM) (CFM	A)			AREA OUTDOOR					PROVIDED		TOTAL	
RTU -1(E EF-2(N)	Ξ) 5000	250	5.0 4	70		ROOM NAME	AREA	AIR RATE	AIR RATE	PER CODE		REQUIRED OA (CFM)	OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT		PROVIDEI EXHAUST
EF-2(N) MUA-1(N	- N) 1350	1;	350				(SQ.FT.)	CFM/SQ.FT	CFM/PAX	PEOPLE/1000 SQFT	NO OF PEOPLE			OR CFM/FIXT.)	EXHAUST (CFM)	(CFM)
EF-1(N)	6350	- 16	-	- 1500 750 1570				0.06	7.5	50	2	25		-	-	-
TOTAL RESUL1	6350 FING BUILDING PI			CFM POSIT		WARE WASHING	300	0.12	7.5	20	3	59	1600	0.7	405	1570
NOTES: 1. CONT	RACTOR TO AD.			R ON FRESH AIR TA	P TO	KITCHEN	534	0.12	7.5	20	5	102	1000	0.7	440	
	E OUTSIDE AIR A					RESTROOM	TOTA	- I	-	-	- 10	- 185		-	70 985	_
					]	L	IUIA	<u> </u>			IU	100		1		1

													2	
					Ν		R UNIT SCHED	DULE						
			FAN	COOLIN	IG		F F	HEATING			ELECTRICAL			
		AIR FLOW	EXTERNAL STATIC MOTO		TAL SENS	IBLE CITY EFFICIENCY		UT OUTPUT BUF CITY CAPACITY EFFIC			моср	FAN MCA MOCD	SUPPLIED INSTA	
MARK MANUFACTURER	MODEL	(CFM)	(IN. W.G.) HP		U/HR) (BTU		FUEL TYPE (BTU/	/HR) (BTU/HR) EFFIC	VOLTAGE	PHASE (A)	(A) VOLTAG	E PHASE (A) (A)	BY BY	
MUA-1(N) CAPTIVEAIRE	A1-D.250-15D-MPU	J 1,350	0.5 1	90.0 3 29	,600 19,8	00 15.0	NATURAL GAS 119,9	988 110,389 9	2% 208/230	1 18.1	30 115	1 16.6 25	0 G0	C 13
NOTES: 1. PROVIDE WITH MOTORIZE 2. PROVIDE WITH WEATHER		CREEN			· · · · ·	I			i					
3. PROVIDE WITH DOWNFLO 4. PROVIDE WITH MANUFAC	W DISCHARGE.		OF CURB.											
<ol> <li>PROVIDE WITH 3 TON SING</li> <li>PROVIDE WITH COOLING</li> <li>REFER TO CAPTIVEAIRE D</li> </ol>	NTERLOCK RELAY	FOR MUA-1(N	) AND RTU-1(E).	IAVE SEPARATE POWER CONNECTIO	N AT 208V-1PH,	18.1 MCA, AND MOCP (	OF 30.			$\checkmark$	り			
				EXHAUST	FAN SC									
				FAN		ELECTRI	CAL							
			EXHAUST AIRFLOW	EXTERNAL STATIC MOT					TALLED					
MARK MANUFACTURER	MODEL TY	PE AREA		(IN. W.G.) DRIVE TYPE WAT				IT (LBS) BY		SORIES	NOTES			
EF-1(N) CAPTIVEAIRE	DU85HFA UPBL		I-1 1,500	1.0 DIRECT -	0.75		( )	35 0		GDC, WP	1,2			
EF-2(N) COOK ACCESSORIES:	GC-148 CEIL	ING REST	ROOM 70	0.8 DIRECT 45	) –	120 1	1.0 15 2	20   GC	GC BD, DP,	, FSC, VI	3,4			
			E DRAIN CUPRC-FACTORY F	URNISHED 18" ROOF CURB, FSC-FAC	TORY MOUNTED	O AND WIRED VARIABL	E SPEED CONTROL,							
NOTES: 1. FAN SHALL BE CONTROLL	ED BY HOOD CON	TROLS. INTERI	LOCK RTU-1(E) TO OPERATE	IN OCCUPIED MODE WHILE KITCHEN	EXHAUST FAN I	S ENERGIZED.								
2. REFER TO CAPTIVEAIRE D 3. INTERLOCK FAN OPERATI	RAWINGS FOR AD	DITIONAL INFO						•						
			NES, GREENHECK, AND PEN	N.										
			GRILLE, REGIS	STER, AND DIFFUS	ER SCHE	DULE								
				FACE FRAME		NO		SUPPLIED INSTALLED						
MARK MANUFACTURER	MODEL	TYPE	NECK SIZE	SIZE TYPE MATERIAL	FINI	SH CRIT	ERIA ACCESSORIES	BY BY	QUANTITY					
R-1 HAVACO S-1 HEART & COOLEY	HT-2X2-ERTN E SVH	EGGCRATE GR REGISTER		24"X24" LAY-IN ABS POLYMER 20"X12" SURFACE ALUMINUM	R STANDAR STANDAR		30 - 30 OBD	GC GC GC GC	3					
S-2 HAVACO	HT-2X2-SPL PEF	RFORATED DIF	FUSER 12"Ø	24"X24" LAY-IN ABS POLYMER	R STANDAR	D WHITE <3	30 OBD	GC GC	5					
	HT-2X2-SPL SQL HT-2X2-SPL SQL			24"X24"LAY-INABS POLYMER12"X12"SURFACEABS POLYMER			30         OBD           30         OBD, SMF	GC GC MC MC	2					
ACCESSORIES: OBD-OPPOSED BLADE DAMPE	R													
SMF-SURFACE MOUNT FRAME														
	WALK-IN	COOLE		G UNIT SCHEDULE										
MARK MANUFACTURER	MODEL	COMPRES	SSOR VOLTAGE PHASE	MCA MOCP SUPPLIED INS		PROXIMATE IGHT (LBS)								
		1 15	208 1		00	165								
SHOWN FOR REFERENCE ONL	AM36-145-1EC-PR- Y.	4 1.5	206 1	13.6 20 KEC		00								
REFER TO KITCHEN EQUIPMEN	IT SCHEDULE AND	MANUFACTUF	RER'S DRAWINGS FOR EXACT	T REQUIREMENTS.										
				OOD SCHEDULE										
						(HAUST SUPPLY								
					MAKEUP EX	TERNAL AIR PER	R MAKEUP AIR							
MARK MANUFACTURER	MODEL	L	TYPE LENGTH	HOOD AIR FLOW AIR FLOW (CFM)		N. W.G.) (CFM)								
H-1 CAPTIVEAIRE	7824ND-2WI-PO-	-ACPSP-F	ISLAND 11'-0"	6'-6" 1500 500	1350	0.578 125	675 0	D GC						
REFER TO CAPTIVEAIRE HOOD	DRAWINGS FOR E	EXACT REQUIR	EMENTS AND ACCESSORIES	).										
BUILDING	AIR BALANC		ULE:			VEN	TILATION CALCU	JLATION AS PER I	NTERNATION	AL MECHN	CAL CODE 2	2018		
MARK SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)		N AIR EXHAUST AIR (CFM)				VENTILATION	CALCULATION FOR RT	U-1 (E) & MAU-1(N)	)				
RTU -1(E) 5000	<b>SUPPLY</b> %	AO				AREA OUTDOOR AIR RATE	PEOPLE OUTDOOR	OCCUPANCY AS PER CODE	OCCUPANCY		PROVIDED OA (CFM)	EXHAUST AIRFLOW		PROVIDED
EF-2(N) -	-	-	70	ROOM NAME	AREA (SQ.FT.)	CFM/SQ.FT	CFM/PAX	PEOPLE/1000 SQFT	NO OF PEOPLE	OA (CFM)		RATE (CFM/SQ.FT OR CFM/FIXT.)	CALCULATED EXHAUST (CFM)	EXHAUST (CFM)
MUA-1(N) 1350 EF-1(N) -	1350	-	- 1500	ORDERING AND WAITING	135	0.06	7.5	50	2	25		-	-	
TOTAL 6350	1600	4750	1570	WARE WASHING	300	0.12	7.5	20	3	59		0.7	405	
RESULTING BUILDING PRE NOTES:		30 CF		KITCHEN	534	0.12	7.5	20	5	102	1600	0.7	440	1570
1. CONTRACTOR TO ADJUS PROVIDE OUTSIDE AIR AS				RESTROOM	54	-	-	-	-	-		-	70	
					ΤΟΤΑ	L			10	185			985	

															2	
MARK	MANUFACTURE	R MODE	AIR FLO L (CFN	N STATIC	MOTOR HP	AMBIENT	DLING TOTAL SENS CAPACITY CAPA (BTU/HR) (BTU		Y INP	HEATING UT OUTPUT CITY CAPACITY (HR) (BTU/HR) EFFIC		CONDENSER MCA PHASE (A)	ELECTRICAL	FAN E PHASE (A) (A)	SUPPLIED INSTA BY B'	
2. PRC 3. PRC 4. PRC 5. PRC 6. PRC	VIDE WITH MOTORI VIDE WITH WEATHE VIDE WITH DOWNFI VIDE WITH MANUFA VIDE WITH 3 TON S	R HOOD AND OW DISCHAR CTURER FABF NGLE CIRCUIT G INTERLOCK I	BIRDSCREEN. GE. RICATED 20" HIG I CONDENSING RELAY FOR MU/	H ROOF CURB. UNIT. CONDENSING UN A-1(N) AND RTU-1(E).	1 NIT SHALL HAV	90.0 3	29,600 19,8 CTION AT 208V-1PH,		NATURAL GAS 119,9	988 110,389 9	2% 208/230	1 18.1	30 115	1 16.6 25	0 G(	C 1
						FXHAU	ST FAN SC									
MARK EF-1(N)	MANUFACTURE	R MODEL		AIR EA SERVED (0	FLOW	FAN (TERNAL			MCA MOCP APPRC (A) (A) WEIGH	DXIMATE SUPPLIED INS IT (LBS) BY			IOTES 1,2			
		P-DISCONNECT	t plug, gdc- g		70 FACTORY FUF	0.8 DIRECT	45 -	120 1		20 GC	GC BD, DP,	, FSC, VI	3,4			
2. REF 3. INTE	ER TO CAPTIVEAIRE ERLOCK FAN OPERA	DRAWINGS F	OR ADDITIONAL U-1(E).			OCCUPIED MODE WHILE KITC	HEN EXHAUST FAN I	S ENERGIZED.								
				GRILLE	REGIS	TER, AND DIFFU	ISER SCHE									
								NO	ISE	SUPPLIED INSTALLED						
MARK	MANUFACTURE	R MODEL	TY	PE NEC		SIZE TYPE MATER	RIAL FINI		ERIA ACCESSORIES		QUANTITY					
	HAVACO HEART & COOLEY HAVACO HAVACO ORIES: POSED BLADE DAMF RFACE MOUNT FRAM	HT-2X2-SP HT-2X2-SP	N EGGCRAT REGIS L PERFORATE L SQUARE CON L SQUARE CON	STER 18 D DIFFUSER IE DIFFUSER	3"X10" 20 12"Ø 24 12"Ø 24	I"X24" LAY-IN ABS POLY "X12" SURFACE ALUMIN I"X24" LAY-IN ABS POLY I"X24" LAY-IN ABS POLY I"X12" SURFACE ABS POLY	NUM STANDAR YMER STANDAR YMER <mark>ST</mark> ANDAR	RD WHITE <3 RD WHITE <3 RD WHITE <3	30         OBD           30         OBD	GCGCGCGCGCGCGCGCMCMC	3 2 5 2 1					
CU-1 SHOWN I	MANUFACTURE KOLPAK FOR REFERENCE OI O KITCHEN EQUIPM	AM36-145-1E	EC-PR-4	RESSOR	BE PHASE	13.6 20 KEC		PROXIMATE IGHT (LBS) 165								
	MANUFACTURE		IODEL		HOOD HI LENGTH W		Y MAKEUP EX W AIR FLOW S (CFM) (II	STATIC RISER N. W.G.) (CFM)	R MAKEUP AIR PER RISER (CFM) B	Y BY						
H-1			WI-PO-ACPSP-F			6'-6" 1500 500	1350	0.578 125	675 0	D GC						
				QUIREMENTS AND ACC	LOOUKIES.			\/ <b></b>						2019		
MARK	BUILDING							VEN		JLATION AS PER I				2010		
	(CFM)	(CFI SUPPLY		CFM) (CFM	A)			AREA OUTDOOR					PROVIDED		TOTAL	
RTU -1(E EF-2(N)	Ξ) 5000	250	5.0 4	70		ROOM NAME	AREA	AIR RATE	AIR RATE	PER CODE		REQUIRED OA (CFM)	OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT		PROVIDEI EXHAUST
EF-2(N) MUA-1(N	- N) 1350	1;	350				(SQ.FT.)	CFM/SQ.FT	CFM/PAX	PEOPLE/1000 SQFT	NO OF PEOPLE			OR CFM/FIXT.)	EXHAUST (CFM)	(CFM)
EF-1(N)	6350	- 16	-	- 1500 750 1570				0.06	7.5	50	2	25		-	-	-
TOTAL RESUL1	6350 FING BUILDING PI			CFM POSIT		WARE WASHING	300	0.12	7.5	20	3	59	1600	0.7	405	1570
NOTES: 1. CONT	RACTOR TO AD.			R ON FRESH AIR TA	P TO	KITCHEN	534	0.12	7.5	20	5	102	1000	0.7	440	
	E OUTSIDE AIR A					RESTROOM	TOTA	- I	-	-	- 10	- 185		-	70 985	_
					]	L	IUIA	<u> </u>			IU	100		1		1





# MECHANICAL KEY NOTES (#) CONNECTION. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN MAIN DUCTS. 10-HOUR BACKUP. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN. 5. 8. MAKEUP DUCT UP THRU ROOF TO MUA-1(N). 9. CONNECT 8"Ø SUPPLY AIR DUCT TO HOOD 125 CFM EACH. MANUFACTURER'S INSTRUCTIONS. REHEA<mark>T AS RE</mark>QUIRED TO MAINTAIN SPACE HUMIDITY AT 55% RH. AWAY FROM THE HOOD AND A MAXIMUM OF 20'. 13. SET REAR VANES FOR HORIZONTAL THROW AND FRONT VANES FOR SPLIT 45° THROW. 14. UNDERCUT DOOR 1/2" FOR TRANSFER AIR. FURNISH AND INSTALL SHOE TAP AT PLENUM CONNECTION. REQUIRED AIRFLOW AT EACH CONNECTION. REQUIRED AIRFLOW AT EACH CONNECTION. 19. MINIMUM OF 10'-0" FROM ALL OUTSIDE AR INTAKES AND TERMINATE 36" ABOVE ROOF. AND OTHER EXHAUST DUCT TERMINATING ON ROOF. RTU-1(E) & MUA-1(N). SHALL NOT DISCHARGE INTO A STREET, ALLEY OR OTHER AREAS SO AS TO CAUSE A NUISANCE. 26. RTU TO BE SUPPLIED AND INSTALLED BY LANDLORD. MECHANICAL REMODEL NOTES DRAWINGS ARE BASED ON BEST AVAILABLE INFORMATION AT TIME OF DESIGN AND MAY NOT REFLECT AS-BUILT CONDITIONS. FIELD VERIFY MECHANICAL INSTALLATIONS INDICATED ON THIS SHEET PRIOR TO BID AND DEMOLITION.

1. EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM ROOFTOP UNITS TO SPACE. EXTEND AS SHOWN. TRANSITION DUCT AS NECESSARY TO MAKE

2. FURNISH, INSTALL & WIRE HONEYWELL T7350 7-DAY PROGRAMMABLE THERMOSTAT WITH AUTO-CHANGEOVER AND AUTOMATIC START CAPABILITY. MOUNT 46" ABOVE FINISHED FLOOR. SETBACK SHALL BE SET TO 55°F HEATING AND 72°F COOLING. PROVIDE WITH 2 HOUR OCCUPANT OVERRIDE AND

CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND ROUTE 6"Ø EXHAUST DUCT UP THROUGH ROOF WITH TALL CONE FLASHING, WEATHER SKIRT, AND VENT CAP. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES.

INSTALL TYPE I GREASE EXHAUST HOOD. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. FURNISH AND INSTALL TRAPEZE HANGERS FOR ALL THREAD SUPPORT UNDER DUCTWORK AS REQUIRED. TRANSITION FROM HOOD CONNECTIONS TO WELDED KITCHEN EXHAUST DUCT SIZES SHOWN. REFER TO HOOD SCHEDULE AND DRAWINGS FOR HOOD SPECIFICATIONS AND FOR BALANCE OF MAKE-UP AND SUPPLY AIR TO HOOD.

GREASE DUCT TO BE PROVIDED WITH KITCHEN EQUIPMENT AND INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S INSTRUCTIONS. INSTALL OWNER FURNISHED UL-2221 LISTED DOUBLE-WALL GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-2R ROUND 20 GAUGE 430 STAINLESS STEEL INNER DUCT INSULATED WITH A 24 GAUGE OUTER SHELL FROM HOOD COLLAR TO EXHAUST FAN ON ROOF. INSTALL EXHAUST DUCT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE CLEANOUTS AT EVERY CHANGE OF DIRECTION IN THE DUCT AND EVERY 10 FEET WITH MINIMUM OF 3 FEET OF CLEARANCE IN FRONT OF CLEAN-OUT. COORDINATE EXACT DUCT LENGTHS REQUIRED BASED ON FIELD CONDITIONS WITH MANUFACTURER.

6. 14"Ø GREASE EXHAUST DUCT FROM HOOD UP THRU ROOF TO EF-1(N), PROVIDE FIRE WRAP ON DUCT RATED FOR 0" CLEARANCE TO COMBUSTIBLES.

7. EXTEND MAKE-UP AIR DUCT FROM HOOD COLLAR UP TO MOUNTED MAKE-UP AIR UNIT ON ROOF MUA-1(N).

10. PROVIDE AND INSTALL 3"Ø/5"Ø CONCENTRIC VENT KIT FOR WATER HEATER INTAKE & EXHAUST VENT PIPE UP THROUGH ROOF. INSTALL PER

HUMIDITY SENSOR TO BE SET WITH HONEYWELL T7350 THERMOSTAT. HUMIDITY SENSOR SHALL CONTROL REFRIGERATION SYSTEM AND INITIATE HOT GAS

PROVIDE AND INSTALL EMERGENCY MANUAL SHUTDOWN PUSH BUTTON FOR HOOD. PUSH BUTTON SHALL BE IN THE PATH OF EGRESS, A MINIMUM OF 10'

16. FURNISH AND INSTALL MANUAL VOLUME DAMPER IN EACH MAKE-UP AIR DUCT CONNECTED TO MAKE-UP AIR PLENUM. REFER TO HOOD SCHEDULE FOR

17. FURNISH AND INSTALL MANUAL VOLUME DAMPER IN EACH SUPPLY AIR DUCT CONNECTED TO HOOD SUPPLY AIR PLENUM. REFER TO HOOD SCHEDULE FOR

18. INSTALL REMOTE CONDENSING UNIT FOR FOOD SERVICE EQUIPMENT. FURNISH AND INSTALL ROOF MOUNTED EQUIPMENT RAILS, REFRIGERANT LINE SET, THERMOSTATIC EXPANSION VALVE, SOLENOID VALVE, TEMPERATURE CONTROL, SIGHT GLASS, FILTER DRIER, PRESSURE CONTROL, CRANKCASE HEATER, LOW AMBIENT CONTROLS AND WEATHERPROOF HOUSING. TRAP AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS. FURNISH AND INSTALL REQUIRED ROOF PENETRATIONS FOR REFRIGERANT PIPING. SEAL PIPING PENETRATIONS THROUGH WALK-IN ROOF.

ROOFTOP UNIT AND CURB BY LANDLORD. COORDINATE UNIT WITH STRUCTURAL ENGINEER. SHIM UNIT AND CURB LEVEL FOR PROPER CONDENSATE DRAINAGE. FURNISH AND INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN AIR DUCT CONNECTIONS. TRANSITION TO DUCT SIZES SHOWN ON MECHANICAL FLOOR PLAN. SET OUTSIDE AIR AS INDICATED ON ROOFTOP UNIT SCHEDULES. MECHANICAL CONTRACTOR SHALL SCRIBE INTO UNIT POSITION OF OUTSIDE AIR DAMPER AND LABEL OUTSIDE AIR VOLUME AND PERCENT OF OUTSIDE AIR. PROVIDE ROOF CURB ADAPTER AS REQUIRED.

20. MAKE-UP AIR UNIT AND CURB ARE OWNER PROVIDED. COORDINATE UNIT WITH STRUCTURE, LANDLORD, AND EXISTING CONDITIONS.. SHIM UNIT AND CURB LEVEL FOR PROPER OPERATION. ADJUST DUCTWORK ROUTING ACCORDINGLY. FURNISH AND INSTALL FLEXIBLE CONNECTION ON THE SUPPLY DUCT CONNECTION TRANSITION TO DUCT SIZE INDICATED. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.

21. ROOF MOUNTED GREASE EXHAUST FAN AND FAN CURB ARE OWNER PROVIDED. COORDINATE INSTALLATION OF FAN WITH LANDLORD AND EXISTING CONDITIONS TO ENSURE THAT FAN IS NOT INSTALLED WITHIN 10 FEET OF ANY OUTSIDE AIR INTAKE.

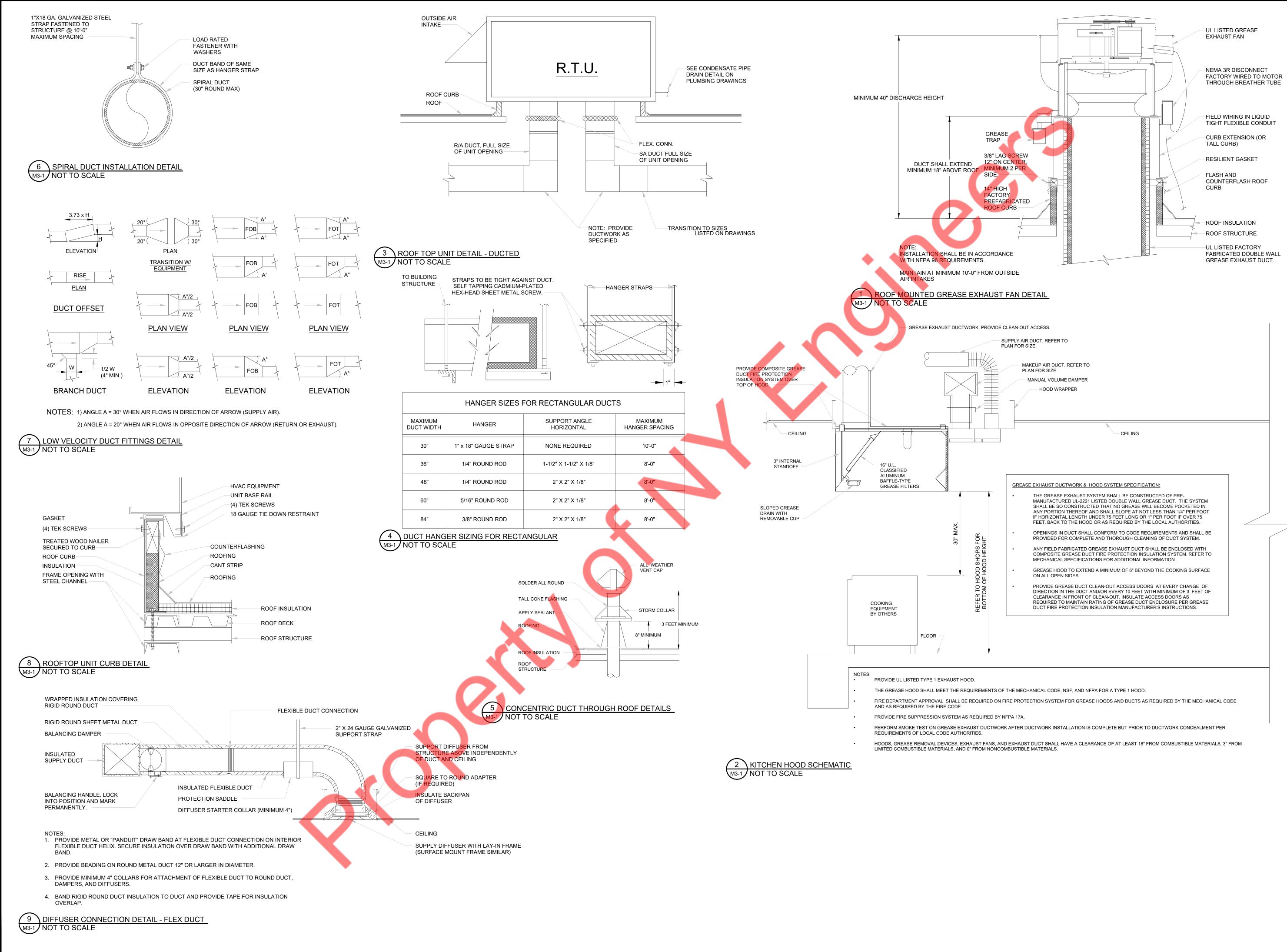
22. Ø6" EXHAUST DUCT UP THROUGH ROOF WITH WITH GOOSE NECK, BIRD SCREEN, ROOF JACK, STORM COLLAR, AND ALL-WEATHER CAP. MAINTAIN A

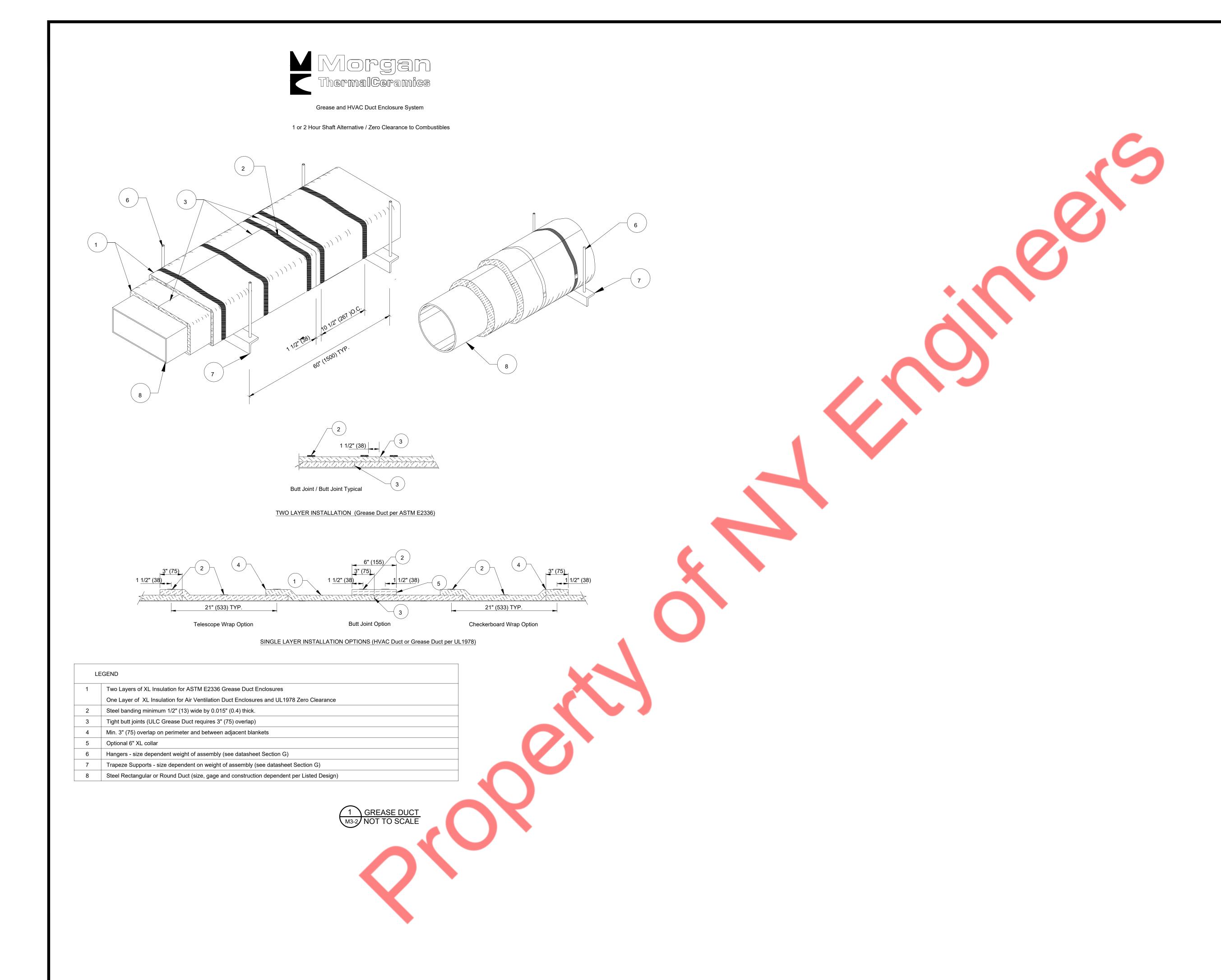
23. CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY INTAKE SOURCE FROM ADJACENT TENANTS SHOULD BE AT LEAST 10' AWAY FROM THE EF-1(N)

24. CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY EXHAUST SOURCE FROM ADJACENT TENANTS SHOULD BE AT LEAST 10' AWAY FROM THE

25. CONDENSATE DRAIN FROM RTU AND MAU SHALL BE CONVEYED TO AN APPROVED PLACE OF DISPOSAL. SUCH PIPING SHALL MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN THE 1/8TH UNIT VERTICAL IN 12 UNITS HORIZONTAL (1% SLOPE). CONDENSATE

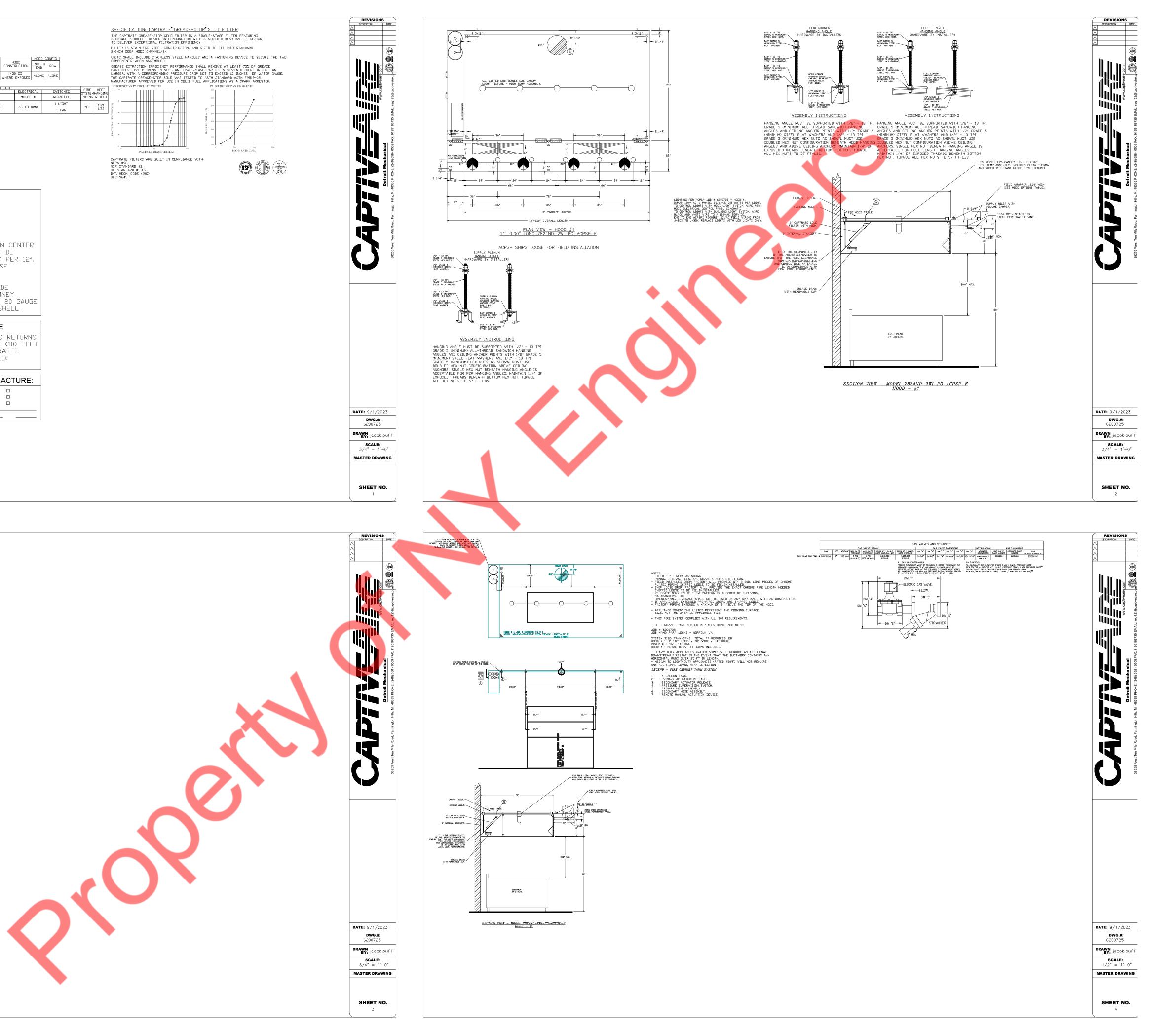




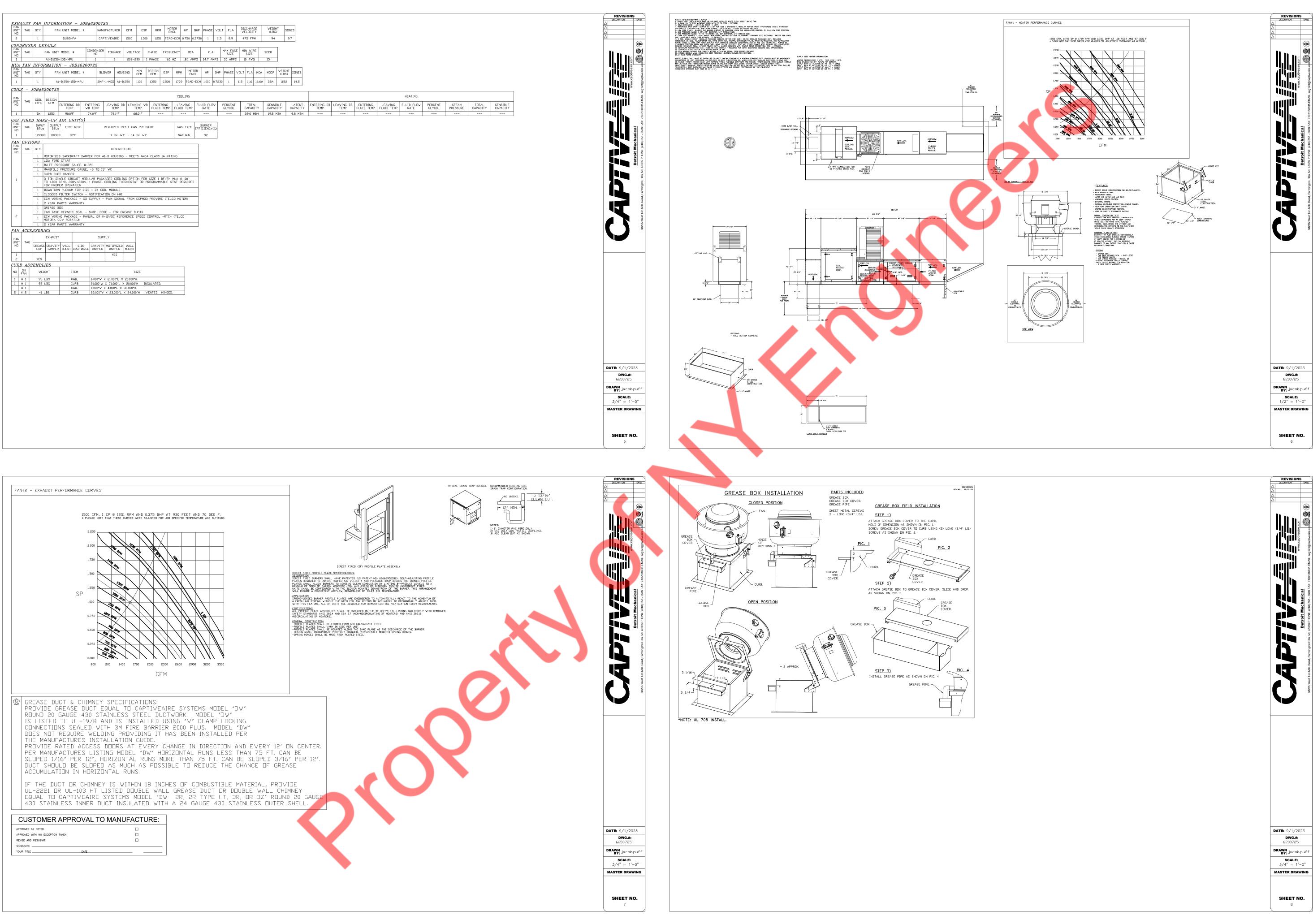


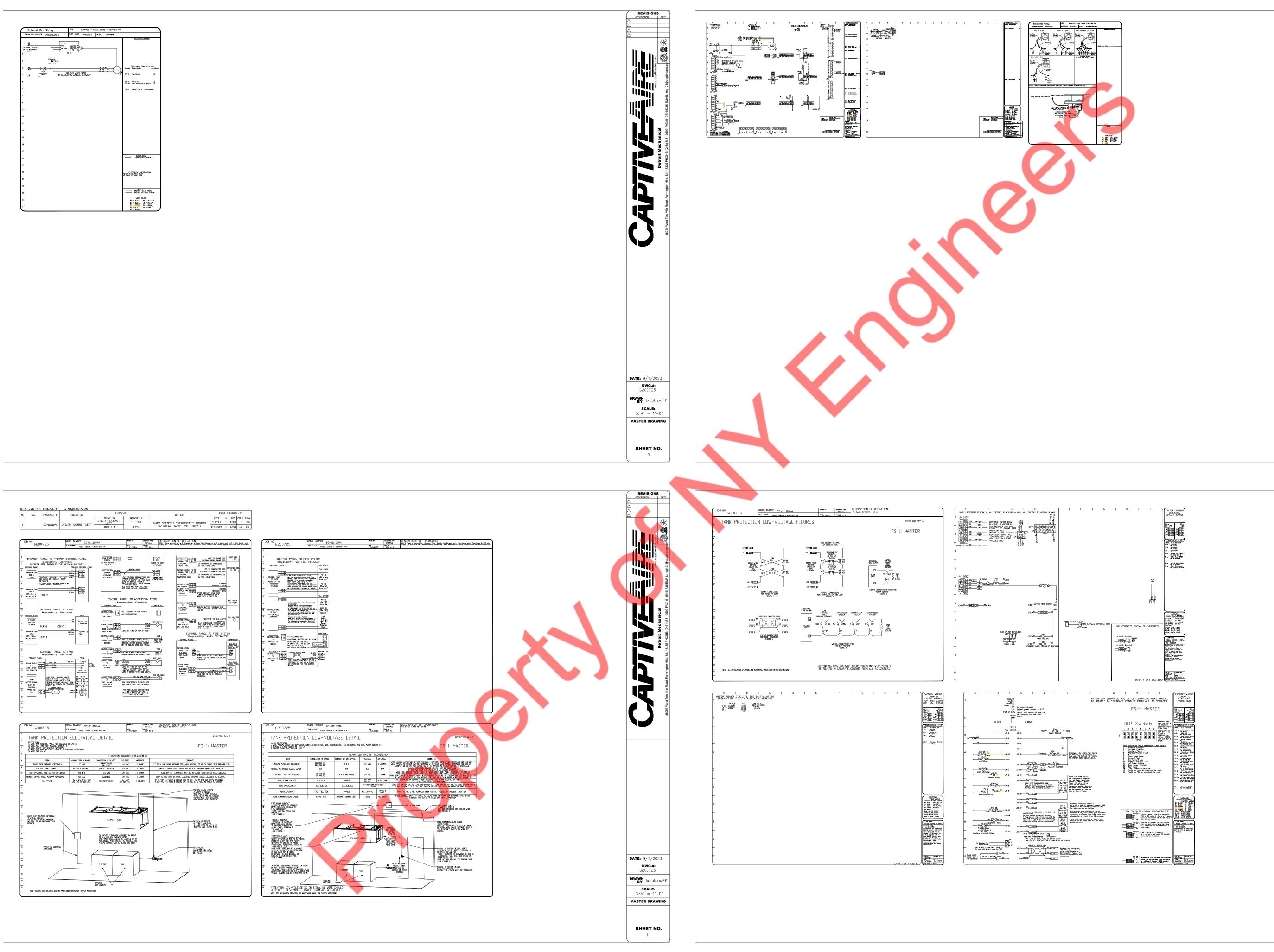
100D INFORMATION - JOB#6200725		E	R QUESTIONS, ( Detroit Mechai REGION 123 PHONE: (248) 658 MAIL: reg123@capti	nical - 0509 veaire.com		AC-PSP (L AC-PSP W	ALL (CANA)		PATENT 7963 PATENT 28205 PATENT 2520	19.									SPECIFICATION: CAPTRATE C THE CAPTRATE GREASE-STOP SOLD F A UNIQUE S-BAFTEL DESIGN IN CON. TO DELIVER EXCEPTIONAL FILTRATIC FILTER IS STAINLESS STEEL CONSTR 2-INCH DEEP HODD CHANNELSS.	TILTER JUNCTIO JN EFFI
Image: The second sec	ноор					MAX		APPLIANCE	DESIGN TOT				MU/2		нооз	D CND	тп		UNITS SHALL INCLUDE STAINLESS ST COMPONENTS WHEN ASSEMBLED.	TEEL HA
Image: Instrume - Provided in the information of the information o	ND	TAG				TEMP		DUTY	CFM/FT EXH	WIDTH LC			. SP		CONSTRU				PARTICLES FIVE MICRONS IN SIZE, ∉	AND 85%
Part         Participation         Participation <th></th> <th>·</th> <th>ND-2WI-PD-ACPSP-F</th> <th>CAPTIVE</th> <th>AIRE 11' 0"</th> <th>DEG</th> <th>I</th> <th>HEAVY</th> <th>136 150</th> <th>)</th> <th>4*</th> <th>14* 1500 1403</th> <th>8 -0.578* 1</th> <th>50 500</th> <th></th> <th></th> <th>INE ALONE</th> <th></th> <th>THE CAPTRATE GREASE-STOP SOLO \ MANUFACTURER APPRO∨ED FOR USE 1</th> <th>VAS TE:</th>		·	ND-2WI-PD-ACPSP-F	CAPTIVE	AIRE 11' 0"	DEG	I	HEAVY	136 150	)	4*	14* 1500 1403	8 -0.578* 1	50 500			INE ALONE		THE CAPTRATE GREASE-STOP SOLO \ MANUFACTURER APPRO∨ED FOR USE 1	VAS TE:
Image: Instructure in the instructure in the solution in the solutin the solution in the solutin the solution i	000					FFFI	CIENCY @ 7	7		11	2F		F	UTILITY CABIN	IET(S)	ELECTRICAL	SWITCHES		DD 100	
<ul> <li></li></ul>			TYPE	QTY	HEIGHT	н м	ICRONS	GIT	TYPE			JN SIZE	TYPE	SIZE		MODEL #		PIPING WEIG	GHT 00	<b>/-</b> -•
Image: Instruction: Status in the instruction: Status in the instruction: Status in the instruction: Status instructinstruction: Status	-			_TER 8	16″ 16″	85%		K 5	L55 SERIE	S E26 N	D LEFT	12"×78"×24	TANK FS	4.0/4.0	)	SC-111110MA		YES LBS		
1       The and wave wave wave wave wave wave wave wave	<u>901</u>	D OPTI TAG	IONS		OPTION															
CERCENT SUPPLY		I H							().											
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Image: Second	1		Front 144" 2	2" 6"	AC	36	8″ 125	0.049*											UL STANDARD #1046. INT. MECH. CODE (IMC).	
PROVIDE GREASE DUCT EQUAL TO CAPTIVEARE SYSTEMS MODEL 'DW'       PDW'         ROUND CO GAUGE 430 STAILLESS STEEL DUCTUDRK, MDDEL 'DW'         IS LISTED TO UL-1978 AND IS INSTALLED UDUCTUDRK, MDDEL 'DW'         DDES NOT REQUIRE VELDING PROVIDING IT HAS BEEN INSTALLED PER         THE MANUFACTURES INSTALLATION GUIDE.         PROVIDE RATED ACCESS DOUBES AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER.         PER MANUFACTURES LISTING MDDEL 'DW' HORIZONTAL RUNS LESS THAN 75 FT. CAN BE         SLOPED 1/16' PER 12', HORIZONTAL RUNS MERE THAN 75 FT. CAN BE         SLOPED 1/16' PER 12', HORIZONTAL RUNS.         IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE         UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY         EQUAL TO CAPTIVEARE SYSTEMS MODEL "DW' AR TYPE HT, 32, OR 32' ROUND 20 GAUGE         430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS DUTER SHELL.         CAPTIVEARE SYSTEMS RECOMMENDS THE USE         DF LISTED, PRE-FABRICATED ROUND GREASE         EXHAUST DUCT TIR REDUCE STATIC PRESSURE         DIFFUSERS ARE RECOMMENDES THE USE         DIF LISTED, PRE-FABRICATED ROUND GREASE         EXHAUST DUCT TIR REDUCE STATIC PRESSURE         DIFFUSERS ARE RECOMMENDED.         INSPECTION TIMES, AND ENSURE DUCT IS         LIQUID TIGHT         WERKEL            VERIFY CEILING HEIGHT <td></td> <td></td> <td></td> <td></td> <td>AC</td> <td></td> <td>8″ 125</td> <td>0.049*</td> <td></td> <td>ULC-S649.</td> <td></td>					AC		8″ 125	0.049*											ULC-S649.	
PREVIDE GREASE DUCT EQUAL TO CAPTIVEARE SYSTEMS MODEL 'DW'       PROVIDE GREASE DUCT GRAY STATUSES STEEL DUCTURES. MODEL 'DW'         ROUND 20 GAUGE 430 STAILESS STEEL DUCTURES. MODEL 'DW'       DUCTSHOLD SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL 'DW'         DOES NOT REQUIRE VELDING FROVIDING IT HAS BEEN INSTALLED PER       THE MANUFACTURES INSTALLATION GUIDE. 'DW' HORIZONTAL RUNS LESS THAN 75 FT. CAN BE         PREVIDE RATED ACCESS DOURS AT EVERY CHANCE IN DIRECTION AND EVERY 12' ON CENTER.       PREVIDE RATED ACCESS DOURS AT EVERY CHANCE IN DIRECTION AND EVERY 12'. ON CENTER.         PER MANUFACTURES LISTING MODEL 'DW' HORIZONTAL RUNS LESS THAN 75 FT. CAN BE       SLOPED 3/16' PER 12'.         DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE       ACCUMULATION IN HURIZONTAL RUNS.         IF THE DUCT DR CHIMNEY IS WITHIN 18 INCHESS DF COMBUSTIBLE MATERIAL, PROVIDE       UL-2221 OR VL-103 HT LISTED DOUBLE VALL GREASE DUCT OR DOUBLE VALL CHIMNEY         EQUAL TO CAPTIVEARE SYSTEMS MODEL 'DW- 28, 28 TYPE HT, 38, DR 32' ROUND 20 GAUGE       430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS DUTER SHELL.         CAPTIVEARE SYSTEMS RECOMMENDS THE USE       DIFFUSERS OR HVAC RETURNS         DIFFUSER, MINIMZE INSTALLATION AND       NOT HOR PERCED WITHIN TH GUO FEET         DIFFUSERS, AND ENSURE DUCT IS       DIFFUSERS ARE RECOMMENDED.         LIQUID TIGHT       CUSTOMER APPROVAL TO MANUFACTURE:         WHORD AN IND COMPONENTING IN THE SUBMITY       DIFFUSERS ARE RECOMMENDED.         DIFFUSERS ARE REC	5		-			SDEC			<u>`</u>								]			
REUND 20 GAUGE 430 STAINLESS STEEL DUCTWÜRK. MÜDEL "DW"         IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LÜCKING         CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MÜDEL "DW"         DES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER         PROVIDE RATED ACCESS DIDRS AT EVERY CHANGE IN DIRECTION AND EVERY 12' DN CENTER.         PER MANUFACTURES INSTALLATION GUIDE.         PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE         SLDPED 1/16' PER 12', HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLDPED 3/16' PER 12'.         DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE         ACCUMULATION IN HORIZONTAL RUNS.         IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE         UL-2221 DR UL-103 HT LISTED DOUBLE WALL GREASE DUCT DR DOUBLE WALL CHIMNEY         EQUAL TO CAPTIVEARE SYSTEMS MODEL "DW- RE P. RTYPE HT. 3R. DR 32' ROUND 20 GAUGE         430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS DUTER SHELL.         CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE         IF LISTED, PRE-FABRICATED REUNDI GREASE         EXHAUST DUCT TO REDUCE STATIC PRESSURE         IN THE SYSTEM, MINDER DUCT IS         INSPECTION THES, AND ENSURE DUCT IS         LIGUID TIGHT         UNT HORIZON DE EDUCT IS         LIGUID TIGHT         UNT HORIZON DE REGENT         MEMOUA MAND         <	3/									SYSTE	AS MO	DEL "DW	"							
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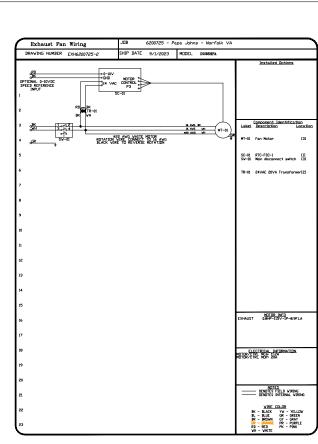
FIRE		TVDE		0175	FLOW	INSTALL	ATION		
ND ND	TAG	TYPE		SIZE	PDINTS	SYSTEM	LOCATION ON H	IDDD	
1		TANK FS		4.0/4.0	28	FIRE CABINET LEFT	LEFT, HOOD	1	
AS VAL	VE(S	')							
FIRE SYSTEM ND	TAG	TYPE	SIZE	SUPPLIED BY					
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEM	1S				
IRE S	YSTEI	M PARTS LIST	' KEY						
FIRE SYSTEM ND	TAG			KEY NUMBER - P	ART DESCRI	PTION		QTY BY FACTORY	
				ESSIDN POST-DISCHARGE			SHEET.	1	
				ESSION MAINTENANCE GUI				1	
		0 - 0 - 12-F2802 CLOSE DN TEMP R		T-360 DUCT FIRE THERME 0°F.	HTIW TATRI	12 FODT WIRE LEADS.	ND,	1	
		0 - 0 - 4429K15	3 1/2″ MAL	E NPT TO 1/2" FEMALE N	IPT ELBOW,	BRASS.		2	
				/4" BRASS REDUCING BUS				1	
				I-PRESS ELBOW WITH 1/2				1	_
				PRD-PRESS TEE X 1/2"N ONDARY ACTUATOR VALVE			50	5	+
				2, TANK FIRE SUPPRESSID		SINGLE ACTORTOR, REQUIR	(E.S	1	
		0 - 0 - 87-12004 TANK FIRE SUPPR		E, SECONDARY ACTUATOR	HOSE, 7.5″	BRAIDED STAINLESS STEE	EL,	1	
				C - PRESSURIZED TANK U				2	
		0 - 0 - 87-30003 ASSEMBLY, DNE N	30-001 PRIM EEDED PER	MARY ACTUATOR KIT (PAK) FIRE SYSTEM, SUPERVIS	⊃ – ACTUAT ED, TANK F	OR AND RELEASE SOLENO IRE SUPPRESSION	ID	1	
		0 - 0 - 87-30015	52-001 HAR	DWARE, SVA BOLTS, TANK	FIRE SUPF	PRESSION.		8	
				ESS 1/2 PRESS X PRESS		LD.		6	
				ESS PC611 1/2 PRESS TEE				4	
1		0 - 0 - 98694A11 FIRE SUPPRESSID	15 HARDWA N.	RE, DATANKLOCK LOCKING	BRACKET S	QUARE NUTS 5/16" ZINC,	TANK	4	
		0 - 0 - A003433	2 JUNCTIO	N BOX FOR MANUAL PULL	STATION. 1.	5″ DEEP BACK BOX, RED	COLOR.	1	
				CHRADER VALVE AND CAU TANK SERVICE PORT.	P, JB INDUS	STRIES. 1/4" FLARE X 1/4	r.	1	
		0 - 0 - BI145 3/	'8" BLACK	IRON 90 ELL.				3	
		0 - 0 - CBI-104	CHROME PL	ATED PIPE FITTING 3/8"	NPT TEE.			2	
				ATED PIPE FITTING 3/8"				2	
				ATED PIPE FITTING 3/8"				2	
				ARGE ADAPTER TANK LOCI FIRE SUPPRESSION.	KING PLATE	FOR FIRE SYSTEM TANK	INSTALLATION	2	
		0 - 0 - TANK ST	RAP TANK	STRAP - USED FOR TANK	FIRE SUPP	RESSION.		6	
		0 - 0 - TFS-UCT CABINETS, TANK F		T TANK BRACKET FOR FI	RE SYSTEM	TANK INSTALLATION IN U	TILITY	2	
		0 - 0 - WK-2839	952-000 DI:	SCHARGE ADAPTER, TANK	FIRE SUPPR	ESSION.		5	
				8″NPT MALE ADAPTER, ∨				5	
				TANK PROTECTION APPLIA SED WITH CHROME-PLATE:		AGE NDZZLE (INCLUDES M	ETAL	7	
		26 - 26 - QSA-3	3/8 QUIK S	EAL - 3/8" (UL).				5	
	1	24 - 24 - 40024	331 24V/DC	SINGLE ACTION MANUAL		DEVICE (PUSH/PULL STA		1	T



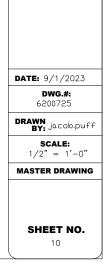
DVIL		FLANT T	NEODIC	<i><b>MION</b></i> 101	D#49999797	-																				-
EXHA FAN UNIT ND	TAG			<u><i>TION — JOI</i></u> UNIT MODEL #			CFM ES	SP R	PM E	ITOR NCL	HP I	BHP PHAS	e ve	ILT FLA	DIS	CHARGE	WEIGHT (LBS)	r sor	NES							
2		1		DU85HFA	CAPTI	VEAIRE	1500 1.0	00 12	251 TEA	О-ЕСМ (	0.750 0.3	3750 1	11	15 8.9	47	5 FPM	94	9	.7							
	DENSE	R DE1	TAILS											-												
FAN UNIT ND	TAG		TAN UNIT M		CONDENSER ND	TONNAGE	VOLTAGE	PHASE		UENCY	MCA	RL		MAX FL SIZE		N WIRE SIZE	SEER									
1	FAN		A1-D.250-15	- JOB#62(	1	3	208-230	1 PHAS	- 60	HZ	18.1 AMF	PS 14.7	AMPS	30 AM	PS   10	) AWG	15									
FAN							MIN	DESIG	1 500		мата		DU	DUM OF		<b>E 1 1 1</b>		WEIGHT	000							
JNIT ND	TAG	QTY	FAN	UNIT MODEL #	BLOW	ER HOUS	CFM	CFM	ESP	RPM	ENC		BH	P PHASE	VOLT	FLA MC	A MOCP	(LBS)								
1		1	A1-D	.250-15D-MPU	15MF-1-	-MOD A1-D.	.250 1100	1350	0.500	1709	TEAD-	ECM 1.000	0.72	30 1	115	11.6 16.6	A 25A	1152	14.5							
OIL	ς	<i>10B#62</i>	200725																							
FAN		0.771	DEOLEN							COD	LING													HEATING		
JNIT ND	TAG	CDIL TYPE	DESIGN CFM EN	TERING DB	ENTERING L WB TEMP	EA∨ING DB TEMP	B LEAVING TEMP	VB EN FLU	TERING ID TEMP	LEA' FLUID	VING TEMP	FLUID FL RATE		PERCEN GL YCDI	г с	TOTAL CAPACITY	SENSIB CAPACI	LE	LATENT CAPACITY	ENTERING DI TEMP	B LEA∨ING DI TEMP	B ENTERING FLUID TEMP	LEA∨ING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCDL	ST PRES
1		DX	1350	90.0°F	74.0°F	76.1°F	68.0°F								2	29.6 MBH	19.8 M	ВН	9.8 MBH							-
AS	FIRE	D MAK	E-UP AI	<u>R UNIT(S)</u>						1																
FAN UNIT	TAG	INPUT BTUs		TEMP RISE	RE	QUIRED INF	PUT GAS PRE	SSURE		GAS	TYPE	BURNER EFFICIENC	₹ Y(%)													
ND 1		119988		80°F		7 IN. W.C	C. – 14 IN. W	.C.		NAT	TURAL	92	_													
AN	OPTI																									
FAN UNIT	TAG	QTY				DESCRIPT	TION																			
ND				BACKDRAFT DAM					S 1A DA	TING		_														
			.DW FIRE S			D HEOSING	FILLIS HP	CH CLH3	3 IN KN	TING		_														
				SURE GAUGE, 0 RESSURE GAUGE		WC						_														
			URB DUCT		L, J 10 13	*C						_														
1		1  T	0 1,800 CF	LE CIRCUIT M⊡ M), 208∨/230∨ 2 DPERATION	DULAR PACKAO /, 1 PHASE. CE	GED COOLIN DOLING THE	NG OPTION FI RMOSTAT OR	JR SIZE PROGRAI	1 DF/EH MMABLE	MUA (1, STAT RE	,100 QUIRED															
				PLENUM FOR SI	ZE 1 DX CDIL	MODULE						_														
				LTER SWITCH · PACKAGE - DI				12 PPE		сп мпт		_														
				THERAGE DI	5 301121 1	WH SIGNAL		DO TREW				_														
			REASE BOX	ERAMIC SEAL -			EASE DUCTS					_														
2		, E	CM WIRING	PACKAGE - MA				) CONTRO	JL -RTC-	- (TELCI	0	_														
		1		ROTATION								_														
AN	ACCE	SSORI																								
FAN			EXHAUST		SUPPL	Y																				
UNIT ND	TAG	GREASE		WALL SIDE			WALL																			
1		CUP	DAMPER N	DISCHAR	GE DAMPER	DAMPER YES	MOUNT																			
		YES				TES																				
CURE	3 <u>AS</u> S	EMBLI	ES								-															
ND	DN FAN	WEIC	ыт	ITEM			SIZE																			
	# 1	95 L	.BS	RAIL	6.000″W X	21.000*L X	20.000"H.				-															
	# 1	95 L	BS	CURB			20.000"H	INSULATE	D.																	
2	# 1	41 L	BS	CURB		4.000"L X 3	36.000°H. X 24.000°H	VENTED	HINGE	D.	-															
·											_															













TAG	PART #	CFM	GPM	ZONE COVER	EDBY SP	WEIGHT	VELOCITY		DESCRIPTION
P1	DW1411LT	1500			-0.003	5.46	1403.16	-	SINGLE WALL DUCT 14" DIAMETER, 11" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P2	DW1445ASY	1500			-0.031		1403.16	-	SINGLE WALL DUCT 45 DEGREE ELBOW, 14" DUCT, ASSEMBLY.
P3	DW1417LT	1500			-0.005	8.22	1403.16	1	SINGLE WALL DUCT 14" DIAMETER, 17" LDNG, FLANGE AT BDTH ENDS. STAINLESS STEEL.
P4	DW14SUBRASY					2.96		1	DUCT SUPPORT BRACKET KIT, 14" DUCT, USED FOR HANGING DUCT. 12 GA STEEL, CLEAR Z: COATING 2 RINGS, 4 BRACKETS, & HARDWARE BAG 2.
P5	DW1445ASY	1500			-0.045	7.22	1403.16	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 14" DUCT, ASSEMBLY.
P6 ASSEMBLED W/P7	DW14TEASY	1500		1	-0.008	15.95	1403.16	1	SINGLE WALL DUCT TEE, 14" DUCT, ASSEMBLY.
P7 ASSEMBLED W/P6 D=T	DW1415ADKIT					3.72		1	DUCT ACCESS DODR WITH HANDLE & GREASE DAM, FOR 14" DUCT USE 15" DODR. STAINLE STEEL.
P8	DW1447LT	1500			-0.013	5 21.79	1403.16	1	SINGLE WALL DUCT 14" DIAMETER, 47" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P9	DW1423LT	1500			-0.006	7 10.97	1403.16	1	SINGLE WALL DUCT 14" DIAMETER, 23" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P10 ASSEMBLED W/P12	DW1430AJDKIT	1500			-0.004	7 17.56	1403.16	1	SINGLE WALL DUCT ADJUSTABLE, 14" DIAMETER, 29.5" LDNG, FLANGE AT DNE END WITH A ADJUSTABLE COLLAR - STAINLESS STEEL.
P11	DW14∨ESU18					22.58		1	DUCT VERTICAL SUPPORT KIT, 14" DUCT, 18" CLEARANCE TO COMBUSTIBLES. PARTS ARE Z COATED. HARDWARE KIT #3 USED ON DWXXVESU & DWXXVESU18.
P12 ASSEMBLED W∕P10 D=B	DW2314TP	1500				8.49	1403.16	1	DUCT TO CURB TRANSITION, 23' CURB TO 14' DUCT, 16 GA ALUMINIZED. USED ON BDU15, 3 & 85.
SYSTEM AT P12					-0.695	5 0.00			
	3M-2000PLUS					0.80		З	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOIN
	735602000					52.00		5	DUCT - DUCT INSULATION FOR ZERO CLEARANCE TO COMBUSTIBLES - 300' X 24' X 1-1/6 ROLL. UNIFRAX FYREWRAP ELITE 1.5.
	BANDING.5					5.00		5	DUCT - FIRE BARRIER WRAP STAINLESS STEEL BANDING .5" WIDTH - 200 FT PER RDLL.
	DW14CLASY					1.06		9	DUCT "V" CLAMP WITH NEW DESIGN 14 GA BRACKETS, 14" DUCT, ASSEMBLY.
	SEAL.50-50					0.50		5	DUCT - FIRE BARRIER WRAP STAINLESS STEEL BANDING SEAL .5" WIDTH. QUANTITY DF
	TAPEALUM					0.25		2	DUCT - FIRE BARRIER WRAP ALUMINUM FOIL TAPE - 3" X 150' ROLL.
TOTAL WEIGHT						415.58			

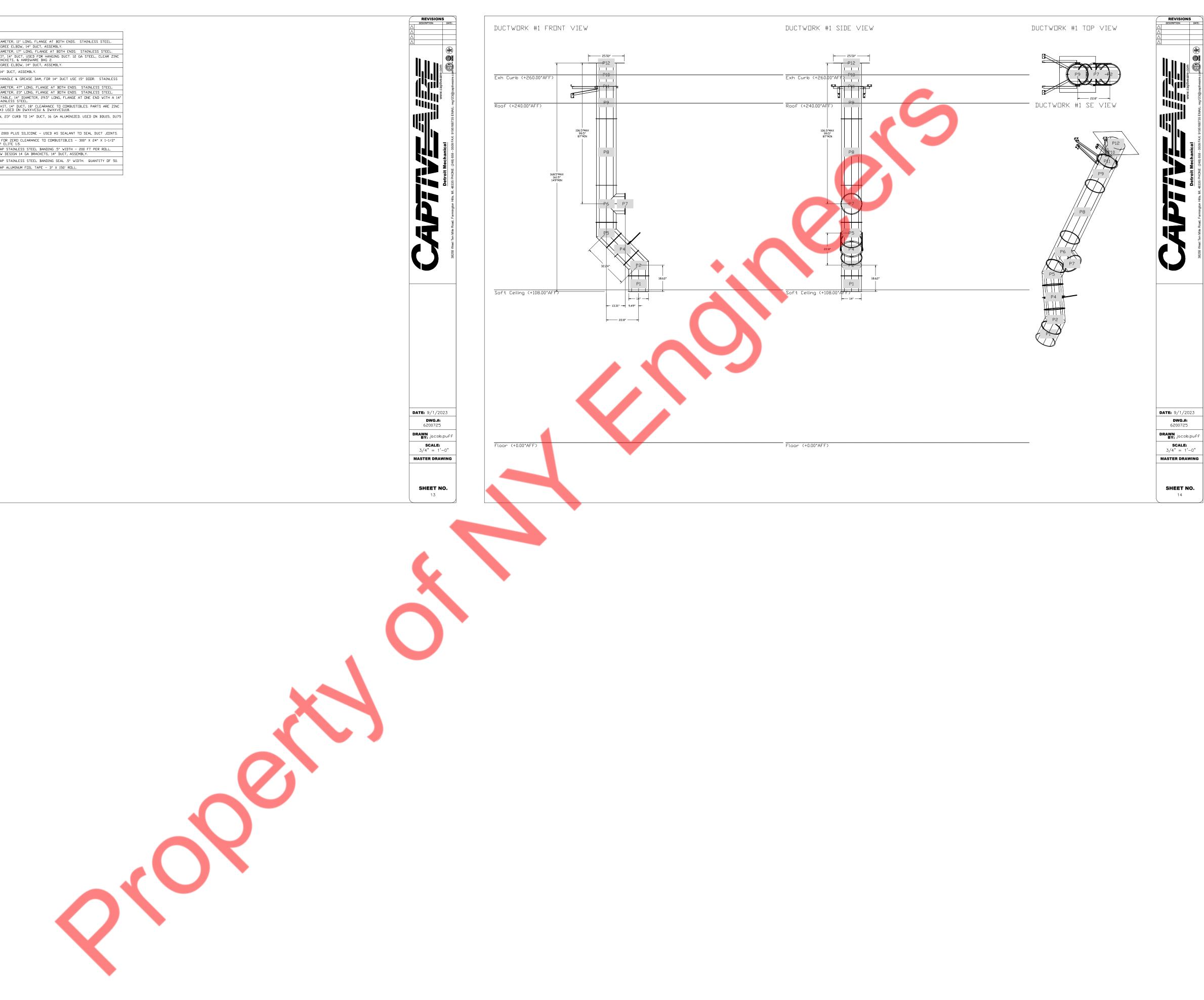
SINGLE WALL FACTORY BUILT DUCTWORK - ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.

- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL.

- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16' PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR. - WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16' PER LINEAR FOOT.

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5″	10'	10'	24′
6″	10'	10'	24′
7″	10'	10'	24′
8″	10'	10'	24′
10*	10'	10'	24′
12'	10'	10'	24′
14*	10'	10'	24′
16*	10'	10'	24′
18"	10'	10'	24′
20"	10'	10'	24′
22″	10'	10'	24′
24*	10'	10'	24′
26″	10'	10'	24′
28″	10'	10'	24′
30'	10'	10'	24′
32″	10'	10'	24′
34″	10'	10'	24′
36*	10'	10'	24′

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES, CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS,



# FLECTRICAL SYMBOLS LEGEND

POWER TO TRANSPORT TO MARKET, CHECK RELITING, AND DROUND CONDUCTOR      PARTIAL CIRCUIT.     PARTIAL CIRCUIT.     PARTIAL CIRCUIT.     PARTIAL CIRCUIT.     CONDUCT INSTALLACION DO MARKATA APPRICABLE.     PARTIAL CIRCUIT.     CONDUCT INSTALLACION DO MARKATA APPRICABLE.     CONDUCT INSTALLACIONAL DI MARKATA APPRICABLE.     CONDUCT INSTALLACIONAL DI MARKATA APPRICABLE.     CONDUCT INSTALLE APPRICABLE INFORMATION DOTINITION.     CONTRUCT RECEPTACLE LETTER DEGODINATION DOTINITION.     CONTRUCT INSTALLE INFORMATION DOTINITION.     CONTRUCT INSTALLED AND INTE AR MOTED.     CONTRUCT INSTALLED AND MOTED.     CONTRUCT INSTALLED				
Image: Construct NetTAILED CONCENTED ABOVE CELING OR N MAILL           Image: Construct NetTAILED CONCENTED BELOW FLOOR DALE OF MADER RADUAD.           Image: Construct NetTAILED CONCENTED BELOW FLOOR DALE OF MADER RADUAD.           Image: Construct NetTAILED CONCENTED ALE OF MADER.	33/11/5 3 1			
CONDUCT MATALLED CONCEALED BELOW FLOOR BLAD OR UNDERGROUND.     GONDUCT DORNELTON.     GONDUCT DORNELTON.     GONDUCT DORNELTON.     THERE AND STRUCT A STATUTO OR AN INTED.     GONDUCT DORNELTO OCCUPANCY GENOR.     GONDUCT DORNEL INFORMATION DORNEL.     GONDUCT DORNELTO OCCUPANCY GENOR.     GONDUCT DORNELTO OCCUPANCY GENOR.     GONDUCT DORNEL INFORMATION DORNEL.     GONDUCT DORNEL INFORMATION DORNEL INFORMATION     GONDUCT DORNEL INFORMATION DORNEL INFORMATION     GONDUCT DORNEL INFORMATION DORNEL DO AND DORNEL INFORMATION     GONDUCT DO AND AND DOT DOC ONTO DO AND DOT DOC DOT DO		PARTIAL CIRCUIT.		
COUND CONNECTION     SAME FOR SATURAL 4-0100 A SUDTED     COUND COUNANCE SERVICE 1-0100 A SUDTED     COUND COUND AND TO THE ADVECTOR		CONDUIT INSTALLED CONCEALED ABOV	E CEILING	G OR IN WALL.
Image: Service Procession (CAL-Source Or AS NOTED)	<b>_</b>		W FLOOR	SLAB OR UNDERGROUND.
10 <sup>3</sup> THREE MAY SWITCH - 301 OR AS NOTED.         103       WALL BOUNTED OCCUPANCY SENSOR +ULT OR AS NOTED.         103       OLIN MONTED OCCUPANCY SENSOR +ULT OR AS NOTED.         103       UNITER RECEPTACE - 197 OR AS NOTED.         104       OLINAMYEX RECEPTACE - 197 OR AS NOTED.         105       UNITER RECEPTACE INSTALLED FUSION ALLY, BOTTOM AT +4" AROVE COUNTER TOP.         105       UNITER RECEPTACE INSTALLED FUSION IN CELLING.         105       TYNET LOCK RECEPTACE INSTALLED AS NOTED.         106       DUELEX RECEPTACE INSTALLED AS NOTED.         107       TYNET LOCK RECEPTACE INSTALLED AS NOTED.         108       SECONDECT SWITCH. TOP AT 16 0F OR AS NOTED.         108       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         108       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         109       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         110       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         111       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         112       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         113       PUBBLICHME + 44" OR AS NOTED.         114       DISCONNECT SWITCH. TOP AT 16 0F OR AS NOTED.         115       DISCONNECT SWITCH MONTED SALE AS NOTED.         116       DOOR DELL OHIME + 44" OR AS NOTED.			TED.	
Image: State of the sector of the sector is a sector of the sector of				
BS       CELINAS MOUNTED OCCUPANCY SENSOR         C       SAMILEN HICCHTAGLE, HIT ONAS NOTED.         C       CURLAR RECEPTAGLE NIT ON AS NOTED.         C       CURLAR RECEPTAGLE NATALLED FUED NATALLED NATALLED FUED NATALLED NATALLED FUED NATALLED NATALLED SERVICE         C       SECEPTAGLE INSTALLED FUED NATALLED FUED NATALLED AS NOTED.         C       SECEPTAGLE NATALLED FUED NATALLED AS NOTED.         C       SECEPTAGLE NATALLED AS NOTED.         C       SECEPTAGLE NATALLED NATALLED AS NOTED.         C       SECEPTAGLE NATALLED AS NOTED.         C       SECENT NATALLED AS NOTED.         C       SECENT NATALLED NATALLED AS NOTED.         C       CONTROCIO REPORTED NATALLED AS NOTED.         C       SECENT NATALLED NATALLED AS NOTED.         C       CONTROCIO REPORTED NATALLED AS NOTED.         C       CONTROCIO TANGE NATALLED AS NOTED.         C       CONTROCIO TANGE NATALLED AS NOTED.         C       CONTROCIO TANATATEMASE S				R AS NOTED.
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Control of Provide Installed Honizonital Y, Bottom AT +9* ABOVE COUNTER TOP.     DURES RECEIPTACLE INSTALLED FUNDER USEN INCLUSE.     TWAT LOCK RECEIPTACLE INSTALLED FUNDER USEN     LEAD OF THE COUNDER OF USEN INCLUSES IN CELLING.     TWAT LOCK RECEIPTACLE INSTALLED FUNDER USEN     DURES IN THE COUNDER OF USEN INCLUSES INTERPORT     LINGTON BOX UNLESS OTHERWISE NOTED.     JUNCTON BOX. UNLESS OTHERWISE NOTED.     DISCONNECT SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT TOP CONTEOL PARENT.     DISCONNECT SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT TOP SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT TOP SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT TOP SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT TOP SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT TOP SWITCH. TOP AT +94° OR AS NOTED.     DISCONNECT SWITCH CONTEDL PARENT.     DISCONNECT TOP SWITCH. TOP AT +94° OR AS NOTED.     DOOR CONTEDL PARENT. TOP AT +94° OR AS NOTED.     DOOR CONTENTS.     DOOR CONTENT. SWITCH CONTEDL TOP AT +94° OR AS NOTED.     DOOR CONTENT. SWITCH CONTENT TO PAR +94° OR AS NOTED.     DOOR CONTENT. SWITCH CONTENT TO PAR +94° OR AS NOTED.     DOOR CONTENT. TOP AT +94° OR AS NOTED.     DOOR CONTENT. TOP AT +94° OR AS NOTED.     DOOR CONTENT. SWITCH CONTENT TO PAR +94° OR AS NOTED.     DOOR CONTENT. TOP AT +94° OR AS NOTED.     DOOR CONTENT. TOP AT +94° OR AS NOTED.     DOOR CONTENT. TOP AT +94° OR AS NOTED.     TRAN	_			
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WP WEATHERPHOOP CAULT INTRUPTING DEVICE     CONTROLE, REAM STUE AS NOTED.     JUNCTION BOX     JUNCTION		IG ISOLATED GROU	ND	PTING DEVICE
TR       TAMEER RESISTANT         Image: Second Receptable, Networks Noteb.		WP WEATHERPROOF		D FAULT INTRUPTING DEVICE
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44 JUNCTION BOX, UNLESS OTHERWISE NOTED.         Image: Contract Switch, TOP AT +6-0° CR AS NOTED.         Image: Contract Switch, INSTALLED AS NOTED.         Image: Contract TRANSFORMER, FLOOR MOUNTED OF AT +6-0° OR AS NOTED.         Image: Contract TRANSFORMER, FLOOR MOUNTED OR SUBPENDED FROM STRUCTURE AS NOTED.         Image: Contract TRANSFORMER, FLOOR MOUNTED OR AS NOTED. <td></td> <td></td> <td>NOTED, +</td> <td>+18" OR AS NOTED.</td>			NOTED, +	+18" OR AS NOTED.
Image: Second Construct Switch, TOP AT 46-0° OR AS NOTED.         Image: Switch, Top AT 46-0° OR AS NOTED.	<u> </u>			
DISCONNECT SWITCH PROVIDED WITH EQUIPMENT.     EXTERIOR PHOTOCELL, NSTALLED ON ROOF FACING NORTH     CONTROL OR POWER RELAY, INSTALLED AS NOTED.     DURINEDTION, TOP AT 4*-0° OR AS NOTED.     DOR BELL CHINE, 45-0° OR AS NOTED.     DOR BELL CHINE, 45-0° OR AS NOTED.     DOR BELL CHINE, 45-0° OR AS NOTED.     DOR DELL CHINE, 45-0° OR AS NOTED.     THERNOSTAT, TEMPERATURE SENSOR, CARBON MODIFIC CARBON DID/ODE SENSOR     NOTED, REPERTATURE SENSOR, CARBON MODIFIC CARBON DID/ODE SENSOR     SECURTY SYSTEM CONTROL PANEL, TOP AT 6*0°.     KEYPAD, 40° OR AS NOTED.     SECURTY SYSTEM CONTROL PANEL, TOP AT 6*0°.     KEYPAD, 40° OR AS NOTED.     DOOR CONTACTS.     MI POWER COMPANY METER. TOP AT 46-10° AFG OR AS NOTED.     DOOR CONTACTS.     MI POWER COMPANY METER. TOP AT 46-10° AFG OR AS NOTED.     DOR CONTACTS.     MI POWER COMPANY METER. TOP AT 46-0° OR AS NOTED.     DOR CONTACTS.     MI POWER COMPANY METER. TOP AT 46-0° OR AS NOTED.     DOR CONTACTS.     MI POWER COMPANY METER. TOP AT 46-0° OR AS NOTED.     DOR CONTACTS.     MI POWER COMPANY METER. TOP AT 460° OR AS NOTED.     DOR CONTACTS.     MI POWER COMPANY METER. TOP AT 460° OR AS NOTED.     DOR CONTACTS.     MI POWER COMPANY METER. TOP AT 460° OR AS NOTED.     DOR CONTACTS.     MINING MEDIATION NONTED OR SUSPENDED FROM STRUCTURE AS NOTED.     DOR COMPANEL POAT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY METER. TOP AT 460° OR AS NOTED.     DOR COMPANY MET	J			
Image: Contract Relation of the second of				
CONTROL OR POWER RELAY, INSTALLED AS NOTED.  PUSHBUTTON, TOP AT +4-9" OR AS NOTED.  PANCE BUTTON, TOP AT +3-9" OR AS NOTED.  CONTROL TON, TOP AT +3-9" OR AS NOTED.  CONTROL TRANSFORMER, INSTALLED AS NOTED.  CONTROL TO PUT TYPE SMORE DETECTOR  CONTROL TO PUT TYPE SMORE DETECTOR  CONTROL TO PUT TYPE SMORE DETECTOR  CONTROL TYPE SMORE DETECTOR  CONTROL TO A TO PAREL TOP AT 6-10" AFG OR AS NOTED.  CONTROL TO CONTROL TO AS NOTED.  CONTROL TO AND THE PUT TO AT +6-10" AFG OR AS NOTED.  CONTROL TO ADDRESS CURITY CAMERA  CONTROL TO AND TO AT -6-4" OR AS NOTED.  DISTIBUTION PAREL TOP AT -6-4" OR AS NOTED.  DISTIBUTION PAREL TOP AT -6-4" OR AS NOTED.  CONTROL TO ADDRESS CURITY CAMERA  CONTROL TO ADDRESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO A BOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO A BOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO A BOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO A BOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO A BOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO ABOVE CELLING. NO  CONTROL T, +16" UNLESS NOTED OTHERWISE WITH 1" CONDULT TO ABOVE CELLING. CONTROL TO A BOVE FORM TORY AND A BOVE POP OF CONTROL TO A BOVE CELLING. CONTROL TO A BOVE FORM TORY AND A BOVE POP OF CONTROL TO A BOVE CELLING. CONTROL TO A BOVE FORM TERS INFORED TO A S NOTED.  CONTROL TORY ATION SYSTEM				
□       PUSHBUTTON, TOP AT +4'6' OR AS NOTED.         □       PANIC BUTTON, TOP AT +3'6' OR AS NOTED.         □       DOOR BELL CHIME +3'0' OR AS NOTED.         □       CONTROL TRANSFORMER, INSTALLED AS NOTED.         □       THERMOSTIT, TEMPERATURE SENSOR, CARBON MONOXIDE, CARBON DIDXIDE SENSOR / NOTED. REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.         ●       ELECTRICALLY OPERATED DAMPER         □       120 VOLT DUCT TYPE SMOKE DETECTOR         SECURITY SYSTEM CONTROL PANEL, TOP AT 5'4''.         K       KEYPAD, 46' OR AS NOTED.         □       DOOR CONTACTS.         □       DETABLITION PAREL, TOP AT +6'-0' OR AS NOTED.         ■       CETION DENDEC PROMONEL TO ASONTED.	_			
□       PANIC BUTTON, TOP AT +3'-9' OR AS NOTED.         □B)       DOOR BELL CHINE, +8'-9' OR AS NOTED.         □R       CONTROL TRANSFORMER, INSTALLED AS NOTED.         □D)       TREMOSTAT, TEMPERATURE SENSOR, CARBON MONIDEL CARBON DIOXIDE SENSOR / NOTED. PREFER TO MECHANCIA. DRAWINGS FOR MORE INFORMATION.         ■D)       ELECTRICALLY OPERATED DAMPER         ■D)       ELECTRICALLY OPERATED DAMPER         ■D)       SECURITY SYSTEM CONTROL PANEL, TOP AT 6'-0'.         ■K       KEYPAD, 46'' OR AS NOTED.         >SECURITY CAMERA, PENDANT MOUNTED         ■D)       DOOR CONTACTS.         ■       POWER COMPANY METER, TOP AT +6'-10' AFG OR AS NOTED.         ■       TRANSFORMER, FLOOR MOUNTED OR SUSPENDED FROM STRUCTURE AS NOTED.         ■       POWER COMPANY METER, TOP AT +6'-0' OR AS NOTED.         ■       DOOR CONTACTS.         ■       POWER COMPANY METER, TOP AT +6'-0' OR AS NOTED.         ■       FRANCH CIRCUIT PANEL BOARD, TOP AT +6'-0' OR AS NOTED.         ■       PLYWOOD PHONEBOARD, INSTALLED AS NOTED.         ■       CAT6 OUTLET, +18' UNLESS NOTED OTHERWISE WITH +1' CONDUIT TO ABOVE CELLING, NOTED         ■       CATA OUTLET, +18' UNLESS NOTED OTHERWISE WITH +1' CONDUIT TO ABOVE CELLING, NOTED         ■       CATA OUTLET, +18' UNLESS NOTED OTHERWISE WITH +1' CONDUIT TO ABOVE CELLING, NOTED         ■				ED.
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Image: Contract Transformer, Installed As NoteD.         Image: Contract Transformer, Image: Contract Trans	_			
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OUTED. REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.         Image: Construct of the control damper         Image: Control damper <th></th> <th></th> <th></th> <th></th>				
↓       120 VOLT DUCT TYPE SMOKE DETECTOR         SCP       SECURITY SYSTEM CONTROL PANEL. TOP AT 6-0°.         ★       KEYPAD, +40° OR AS NOTED.         ★       SECURITY CAMERA, PENDANT MOUNTED         ↓       ↓         ↓       SECURITY CAMERA, PENDANT MOUNTED         ↓       ↓         ↓       SECURITY CAMERA, PENDANT MOUNTED         ↓       DOOR CONTACTS.         M       POWER COMPANY METER, TOP AT +6-10° AFG OR AS NOTED.         ↓       TRANSFORMER, FLOOR MOUNTED OR SUSPENDED FROM STRUCTURE AS NOTED.         ↓       BRANCH CIRCUIT PANELBOARD, TOP AT +6-0° OR AS NOTED.         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING. NOTY         ↓       CATE OUTLET, +18° UNLESS NOTED OTHERWISE WITH 1° CONDUIT TO ABOVE CEILING.				
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K       KEYPAD, +46° OR AS NOTED.         SECURITY CAMERA, PENDANT MOUNTED         IIII         WALL MOUNTED SECURITY CAMERA         K       SECURITY KEYPAD         D       DOOR CONTACTS.         M       POWER COMPANY METER, TOP AT +6'-10' AFG OR AS NOTED.         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		120 VOLT DUCT TYPE SMOKE DETECTOR	२	
SECURITY CAMERA, PENDANT MOUNTED         IN         WALL MOUNTED SECURITY CAMERA         IN         SECURITY KEYPAD         ID         DOOR CONTACTS.         IM         POWER COMPARY METER, TOP AT +6'-10' AFG OR AS NOTED.         ID         ID         BRANCH CIRCUIT PANELBOARD, TOP AT +6'-0' OR AS NOTED.         INSTRIBUTION PANEL, TOP AT +6'-0' OR AS NOTED.         INSTRIBUTION PANEL, TOP AT +6'-0' OR AS NOTED.         ID         CAT6 OUTLET, +18' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CELLING. NO         ID         CAT6 OUTLET, +18' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CELLING. NO         ID         CELLING MOUNTED DATA OUTLET         ID       AREA TYPE PHOTOELETRIC SMOKE DETECTOR, CELLING MOUNTED, OR AS NOTED.         CELLING MOUNT DEVICE +6' ABOVE TOP OF COUNTER TO BOTTOM OF DEVICE.         +48''       MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE.         9565       DETAIL OR SECTION REFERENCE.         TYPE       COUPMENT DESIGNATION.         YPER       COUPFINISHED FLOOR/GRADE.         AFFIAFG       ABOVE FINISHED FLOOR/GRADE.         AFFIAFG       BUILLING AUTOMATION SYSTEM.         NR       DEPARTMENT OF NATURAL RESOURCES.		SECURITY SYSTEM CONTROL PANEL, TO	)P AT 6'-0	".
WALL MOUNTED SECURITY CAMERA         K       SECURITY KEYPAD         D       DOOR CONTACTS.         M       POWER COMPANY METER, TOP AT +6'-10' AFG OR AS NOTED.         TRANSFORMER, FLOOR MOUNTED OR SUSPENDED FROM STRUCTURE AS NOTED.         DISTRIBUTION PANEL, TOP AT +6'-0' OR AS NOTED.         PLYWOOD PHONEBOARD, INSTALLED AS NOTED.         V       CAT6 OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. RC         V       CAT6 OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. RC         V       CAT6 OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. C         V       CAT6 OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. C         V       CEILING MOUNTED DATA OUTLET         Image: Comparison of the protocletric shoke DETECTOR, CEILING MOUNTED, OR AS NOTED.         GENERAL REFERENCES/NOTATIONS         AC       MOUNT DEVICE +6'' ABOVE TOP OF COUNTER TO BOTTOM OF DEVICE.         48''       MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE.         03''E5       DETAIL OR SECTION REFERENCE.         Image: Protocletric coulprent DESIGNATION.       Protocletric coulprent DESIGNATION.         Image: Protocletric coulprent DESIGNATION.       NEPA         AFFIAFG       ABOVE FINISHED FLOORIGRADE.       NEC         AFFIAFG       ABUILO	K		_	
Image: Security KeyPad         Image: Security KeyP	~0 ~	SECURITY CAMERA, PENDANT MOUNTER	C	
DOOR CONTACTS.         M       POWER COMPANY METER, TOP AT +6'-10' AFG OR AS NOTED.         TRANSFORMER, FLOOR MOUNTED OR SUSPENDED FROM STRUCTURE AS NOTED.         DISTRIBUTION PANEL, TOP AT +6'-0' OR AS NOTED.         PLYWOOD PHONEBOARD, INSTALLED AS NOTED.         V       CAT6 OUTLET, +18' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. NO         V       DATA OUTLET, +18' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. C         CEILING MOUNTED DATA OUTLET       CEILING MOUNTED DATA OUTLET         Image: Contractor of the photoelletric SMOKE DETECTOR, CEILING MOUNTED, OR AS NOTED.         GENERAL REFERENCES/NOTATIONS         AC       MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE.         #48''       MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE.         03/E5       DETAIL OR SECTION REFERENCE.         [???]       FOODSERVICE EQUIPMENT DESIGNATION.         Image: Philoshed FLOOR/GRADE.       NEC         AFF/AFG       ABOVE FINISHED FLOOR/GRADE.         AFF/AFG       ABOVE FINISHED FLOOR/GRADE.         MO       DEPARTMENT OF NATURAL RESOURCES.         AFF/AFG       ABOVE FINISHED FLOOR/GRADE.         AFF/AFG       ABOVE FINISHED FLOOR/GRADE.         MIN       DIPARTMENT OF NATURAL RESOURCES.         FC       EQUIPMENT OF NATURAL RESOURCES.	FV	WALL MOUNTED SECURITY CAMERA		
M       POWER COMPANY METER, TOP AT +6'-10' AFG OR AS NOTED.         Image: Stratement of the stratement of		SECURITY KEYPAD		
TRANSFORMER, FLOOR MOUNTED OR SUSPENDED FROM STRUCTURE AS NOTED.         BRANCH CIRCUIT PANELBOARD, TOP AT +6'-0' OR AS NOTED.         DISTRIBUTION PANEL, TOP AT +6'-0' OR AS NOTED.         Y         CAT6 OUTLET, +18' UNLESS NOTED OTHERWISE WITH 1' CONDUIT TO ABOVE CEILING. NO         Y       DATA OUTLET, +18' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       DATA OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       DATA OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       DATA OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       DATA OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       DATA OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       DATA OUTLET, +18'' UNLESS NOTED OTHERWISE WITH 1'' CONDUIT TO ABOVE CEILING. C         Y       CEILING MOUNTED DATA OUTLET         ®       AREA TYPE PHOTOELETRIC SMOKE DETECTOR, CEILING MOUNTED, OR AS NOTED.         GENERAL REFERENCE.       TO CENTRATION OF DEVICE.         93/E5       DETAL OR SECTION REFERENCE.         Y       FOODSERVICE EQUIPMENT DESIGNATION.         YPPE       REVISION DESIGNATION.         YPPE       EQUIPMENT DESIGNATION.         YPPE       EQUIPMENT DESIGNATION. <td< td=""><td>D</td><td>DOOR CONTACTS.</td><td></td><td></td></td<>	D	DOOR CONTACTS.		
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SYMBOLS LEGEND NOTES				
			WP	WEATHERPROUF.
2. REFER TO SPECIFICATIONS AND PLAN NOTES FOR DETAILED DESCRIPTION OF ALL DEVICES SHOWN IN THIS	1. REFER TO LIG	HT FIXTURE SCHEDULE FOR SPECIFICATION		

CONTRACTOR. 3. MOUNTING HEIGHTS INDICATED ARE MEASURED FROM FINISHED FLOOR TO THE CENTERLINE OF THE DEVICE UNLESS NOTED OTHERWISE.

	ELECTRICAL SPECIFICATIONS	GENER
RS INDICATED ALONG	LIGHTING FIXTURES	1. INCLUDE ALLO MINOR DEVIA
	A. PROVIDE LIGHTING FIXTURES, OF SIZES, TYPES AND RATINGS INDICATED-COMPLETE WITH ALL COMPONENTS AND ACCESSSORIES. SHIP FIXTURES FACTORY ASSEMBLED, WITH THOSE COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION. DESIGN FIXTURES WITH CONCEALED	INCLUDED IN 2. COORDINATE
	HINGES AND CATCHES, WITH METAL PARTS GROUNDED AS COMMON UNIT, AND SO CONSTRUCTED AS TO DAMPEN DRIVER GENERATED NOISE.	POSSIBLE CLI RELOCATING FROM A LACK
	B. ALL LIGHTING SHALL BE U.L LISTED.	EXPENSE.
	C. INSTALL INTERIOR LIGHTING FIXTURES AT LOCATIONS AS INDICATED, IN ACCORDANCE WITH FIXTURE MANUFACTURER'S WRITTEN INSTRUCTIONS, APPLICABLE REQUIREMENTS OF NEC, NECA'S "STANDARD OF INSTALLATION", NEMA STANDARDS, AND WITH RECOGNIZED INDUSTRY	3. VERIFY PLAC PLACEMENT.
	PRACTICES TO ENSURE THAT LIGHTING FIXTURES FULFILL REQUIREMENTS. D. FASTEN LIGHTING FIXTURES SECURELY TO STRUCTURAL SUPPORTS, AND ENSURE THAT FIXTURES	4. PROVIDE ALL 5. ELECTRICAL I
	ARE PLUMB AND LEVEL. E. LIGHT FIXTURES INSTALLED IN LAY-IN CEILINGS SHALL BE SUPPORTED BY ADDITIONAL WIRE	TERMINAL LU EQUIPMENT V INCREASED T
	E. LIGHT FIXTORES INSTALLED IN LAY-IN CEILINGS SHALL BE SUPPORTED BY ADDITIONAL WIRE SUPPORT AT TWO CORNERS. ATTACHED TO CEILING GRID, AND ANCHORED TO STRUCTURAL MEMBER. THIS ADDITIONAL WIRE SUPPORT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND IS NOT CONSIDERED PART OF GENERAL GRID LAYOUT.	6. CONTROL VO 7. DATA WIRING
	F. PROVIDE EQUIPMENT GROUNDING CONNECTIONS FOR INTERIOR LIGHTING FIXTURES AS INDICATED. TIGHTEN CONNECTION TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL STD 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDS.	8. CONDUIT SHA FASTENED TO
	A TO ASSURE PERMANENT AND EFFECTIVE GROUNDS. <u>FIRE RATED WALL PENETRATIONS</u> A. PROVIDE U.L. LISTED FIRESTOP SYSTEM SEALANTS AROUND ALL CONDUITS PASSING THROUGH     ALL RATED WALLS OR FLOORS IN ACCORDANCE WITH THE U.L. FIRE RESISTANCE DIRECTORY.	9. ALL BRANCH NOTED. USE ( ALLOWED.
	<ul> <li>B. THE SELECTED SYSTEM MUST BEAR AN APPROVED U.L. PENETRATION SYSTEM NUMBER AND BE INSTALLED IN ACCORDANCE WITH THE SELECTED SYSTEM TAKING INTO ACCOUNT THE CONSTRUCTION AND THE RATING OF THE RATED ASSEMBLY BEING PENETRATED AND THE TYPE</li> </ul>	10. BRANCH CIRC GROUND CON STRIP)INSTAL
	OF PENETRATION BEING MADE. C. THE ELECTRICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM NUMBER AND EXTENT OF ALL FIRE RATED PARTITIONS IN THE FACILITY.	11. CONDUCTOR: PLANS OR IN AND (1) #12 E
	D. APPROVED PRODUCTS: 1. HILTI CS240	12. THERMOSTAT NOTED OTHE
	2. TERMCO FYRESHIELD 3. 3M CP-25	ACCESSIBLE 13. ALL EMPTY C
	A. THE ELECTRICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM NUMBER	14. ALL RACEWA ADOPTED ELE
	AND EXTENT OF ALL FIRE RATED PARTITIONS IN THE FACILITY.	15. SWITCHBOAR
	B. CONDUIT SHALL BE SUPPORTED AT INTERVALS PER NEC REQUIREMENTS AND SHALL BE SECURELY FASTENED TO BUILDING WITH AN APPROVED FASTENING SYSTEM.	SHALL BE "LIS 16. PROVIDE FLE
	C. MINIMUM CONDUIT SIZE IS 1/2". MINIMUM CONDUIT SIZE FOR HOMERUNS IS 3/4". MINIMUM CONDUIT SIZE FOR UNDERGROUND IS 1".	LENGTH). PR LOCATIONS A
R AND HUMIDISTAT, +3'-10" OR AS	D. MC CABLE MAY BE USED IN CONCEALED LOCATIONS ABOVE CEILINGS OR IN WALLS WHERE ALLOWED BY LOCAL LODES. MC CABLE SHALL NOT BE USED TO ENTER PANEL BOARDS.	17. ALL PANELBC MARKED TO V SHALL BE LOO
AND HOMIDISTAT, +3-10 OK AS	WIRING, WIRING DEVICES, PLATES AND GROUNDING A. ALL WIRING SHALL CONSIST OF COPPER CONDUCTORS WITH THERMOPLASTIC INSULATION RATED	ADJUSTING, S COMMERCIAL
	FOR SIX HUNDRED (600) VOLTS. ALL WIRING INSULATION SHALL BE HEAT AND MOISTURE RESISTANT TYPES THW, THWN, OR THHN FOR INTERNAL AND DRIVE LOCATIONS.	18. LIGHT SWITCH CONTROLS S THE REACH IS
	B. MINIMUM CONDUCTOR SIZE SHALL BE NO. 12 AWG FOR ALL POWER CIRCUITS (I.E. RECEPTACLES, LIGHTING, EQUIPMENT POWER, ETC.). NUMBER 14 AWG SHALL BE MINIMUM SIZE PERMITTED FOR EQUIPMENT CONTROL CIRCUIT WIRING.	BE REDUCED OBSTRUCTIO FROM THE W/
	C. ALL SPLICES AND CONNECTIONS SHALL BE MADE IN OUTLET BOXES, JUNCTION BOXES OR EQUIPMENT WHERE ACCESSIBLE.	19. PROVIDE AS-I
	D. CONDUCTORS SHALL BE PULLED WITHOUT THE USE OF OIL OR GREASE. WIRE PULLING	20. ALL WORK SH
	LUBRICANTS WHICH ARE APPROVED FOR USE WITH CONDUCTOR INSULATION MAY BE USED. CARE SHALL BE TAKEN IN PULLING WIRE TO ASSURE THAT MAXIMUM ALLOWABLE PULLING TENSION OF WIRE IS NOT EXCEEDED. WIRING WITH DAMAGED CONDUCTORS OR INSULATION WILL NOT BE ACCEPTED.	21. PROVIDE STA SWITCH. BOT THE SAME SV
	E. ALL PLUG-IN DEVICES TO BE GROUNDED TYPE.	22. ALL JUNCTIOI SUPPORTED
	<ul><li>F. INSTALL INSULATED GREEN GROUNDING CONDUCTOR (NO.12 AWG MINIMUM) IN ALL RACEWAYS.</li><li>G. WIRING DEVICES SHALL BE INDUSTRIAL GRADE. FINISH SHALL BE PER ARCHITECT.</li></ul>	23. PORCELIAN W VOID THE MA HEAT STRIP L
	<ul> <li>H. PLATES SHALL BE PROVIDED FOR ALL WIRING DEVICES, DATA OUTLETS, JUNCTION BOXES, ETC.</li> </ul>	24. MC CABLE MA
NO # = 1 PORT, # = NUMBER OF PORTS	I. PLATES FOR FLUSH MOUNTED DEVICES SHALL BE STAINLESS STEEL. PLATES FOR SURFACE MOUNTED BOXES SHALL BE GALVANIZED STEEL. PLATE COLOR SHALL BE WHITE WHEN MOUNTED	ALLOWED BY
C = COAX , H= HDMI, V = VGA	IN CEILING.	SHALL - ACTION T FURNISH - CONTF INSTALL - CONTR
		NECESSARY TO S CONTRACTOR. PROVIDE - CONTR
		LIGHTIN
		1. CONNECT EX ANY OCCUPA
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		POWER
IATION.		
		1. VERIFY EXAC CONNECTION
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		3. REFER TO ME COORDINATE INTERLOCKIN
		REQUIREMEN
		4. MOUNT DEVIC

THIS SCHEDULE, PROVIDED BY

# RAL ELECTRICAL NOTES

ALLOWANCE FOR UNFORSEEN CONDITIONS THAT MAY AFFECT THE SCOPE OF WORK. VIATIONS REQUIRED FOR ACCOMPLISHING THE INTENT OF THIS DESIGN ARE TO BE D IN THIS ALLOWANCE.

ATE WORK ABOVE THE CEILING WITH OTHER TRADES TO PROVIDE THE GREATEST CLEARANCE. CONDUIT RUNS SHALL BE RUN THROUGH TRUSSES WHERE POSSIBLE. ANY NG OR REROUTING OF EQUIPMENT, PIPES, CONDUITS, DUCTS OR MATERIAL RESULTING LACK OF COORDINATION BETWEEN CONTRACTORS WILL BE AT THE CONTRACTOR'S

ACEMENT OF ALL DEVICES SHOWN ON CONSTRUCTION DOCUMENT PRIOR TO FINAL

ALL REQUIRED DISCONNECT SWITCHES AND MOTOR STARTERS TO ALL EQUIPMENT.

AL DESIGN IS BASED ON THE INSTALLATION OF 75°C CONDUCTORS CONNECTED TO LUGS AND EQUIPMENT U.L. LISTED FOR A MINIMUM 75°C CONDUCTORS TERMINATED. ON NT WITH A LOWER RATING 60°C OR NO RATING SHOWN, CONDUCTOR SIZE SHALL BE D TO CONFORM TO ADOPTED ELECTRICAL CODE AND UL/CUL NO. 489 REQUIREMENTS.

OLTAGE WIRING SHALL BE PLENUM RATED OR INSTALL IN CONDUIT.

O BUILDING WITH AN APPROVED FASTENING SYSTEM.

G SHALL BE ROUTED IN 3/4" CONDUIT BACK TO DEMARC AREA FROM DEVICE LOCATION. ALL BE SUPPORTED AT INTERVALS PER NEC REQUIREMENTS AND SHALL BE SECURELY

CH CIRCUT WIRING SHALL BE ELECTRICAL METALLIC TUBING (EMT), MINIMUM 3/4" OR AS E COMPRESSION TYPE FITTINGS ON ALL EMT. SET SCREW OR CRIMP FITTINGS ARE NOT

IRCUITS SHOWN WITH TWO GROUNDING CONDUCTORS SHALL HAVE ONE EQUIPMENT CONDUCTOR (GREEN) AND ONE ISOLATED GROUND CONDUCTOR (GREEN W/ YELLOW TALLED IN RACEWAY.

ORS SHALL BE A MINIMUM OF #12 THHN/THWN COPPER UNLESS NOTED OTHERWISE ON N SPECIFICATIONS. BRANCH CIRCUITS SHALL BE PROVIDED WITH (2) #12 CONDUCTORS 2 EQUIPMENT GROUND CONDUCTOR UNLESS NOTED OTHERWISE.

TATS, TEMPERATURE SENSORS, CARBON DIOXIDE SENSORS AND HUMIDISTATS: UNLESS THERWISE, PROVIDE WALL BOX AT +3'-10' AFF WITH 3/4" CONDUIT STUBBED OUT TO ABOVE BLE CEILING WITH NYLON BUSHINGS AND PULLSTRINGS.

Y CONDUIT SHALL BE PROVIDE WITH A PULL STRING.

WAYS SHALL CONTAIN A GROUNDING ELECTRODE OR CONDUCTOR SIZED PER THE ELECTRICAL CODE.

DARDS, PANELBOARDS, DISCONNECT SWITCHES, TRANSFORMERS AND CONTACTORS "LISTED" AND "IDENTIFIED" AS RATED FOR A MINIMUM OF 75°C CONDUCTOR TERMINATION.

ELEXIBLE CONNECTIONS ONLY FOR FINAL CONNECTION TO EQUIPMENT (6'-0" MAXIMUM PROVIDE LIQUID TIGHT FLEXIBLE CONNECTION (6'-0" MAXIMUM LENGTH) AT EXTERIOR S AND WHERE EXPOSURE TO MOISTURE IS POSSIBLE.

BOARDS, SWITCHBOARDS AND LINE VOLTAGE CONTROL EQUIPMENT SHALL BE FIELD O WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. MARKING LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, G, SERVICING OR MAINTENANCE OF EQUIPMENT. MARKING SHALL BE SELF ADHESIVE, CIAL LABEL CONFORMING TO ADOPTED CODES.

TCHES, CONVENIECE ELECTRICAL OUTLETS, THERMOSTATS AND OTHER ENVIRONMENTAL S SHALL BE LOCATED NO HIGHER THAN 48" AND NO LOWER THAN 15" ABOVE THE FLOOR. IF H IS OVER AN OBSTRUCTION BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS TO ED TO 44" FOR FORWARD APPROACH OR 46" FOR SIDE APPROACH, PROVIDED THE TION IS NO MORE THAN 24" IN DEPTH. OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25" E WALL BENEATH A CONTROL.

AS-BUILTS DRAWING AT JOB COMPELTION TO OWNER.

SHALL BE INSTALLED PER ALL GOVERING CODES.

STARTERS FOR ROOF MOUNTED EXHAUST FAN (EF), SUPPLY FANS (MUA) AND START-STOP OTH MAU AND EF SHALL RUN AND STOP TOGETHER AND SHALL BE CONTROLLED FROM SWITCH.

FION BOXES INSTALLED ABOVE OR DIRECTLY BELOW SUSPENDED CEILING SHALL BE TED IN ACCORDANCE WITH NEC.

N WIRE NUTS SHALL BE USED WITH THE HEAT LAMP. THE USE OF PLASTIC WIRE NUTS WILL MANUFACTURERS' WARRANTY. CONTRACTOR SHALL USE 90°C WIRE FOR CONNECTION TO IP UNITS PER MANUFACTURER'S RECOMMENDATION.

MAY BE USED IN CONCEALED LOCATIONS ABOVE CEILINGS OR IN WALLS WHERE BY LOCAL CODES. MC CABLE SHALL NOT BE USED TO ENTER PANEL BAORDS.

ON THAT IS REQUIRED WITHOUT OPTION OR QUALIFICATION.

NTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING. ITRACTOR SHALL BE RESPONSIBLE FOR LABOR AND CONSTRUCTION EQUIPMENT O SET IN PLACE, CONNECT, CALIBRATE AND/OR TEST EQUIPMENT FURNISHED BY

NTRACTOR SHALL FURNISH AND INSTALL.

# ING GENERAL NOTES

EXIT SIGNS, EMERGENCY TO AN UNSWITCHED LIGHTING CIRCUIT, NOT CONTROLLED BY JPANCY SENSORS, SWITCHES OR CONTACTORS.

"TYPICAL RECESSED FIXTURE INSTALLATION DETAIL," FOR INFORMATION ON SUPPORT CESSED LIGHT FIXTURES.

ARCHITECTURAL REFLECTED CEILING PLAN AND DETAILS FOR THE LOCATION OF ALL FIXTURES AND ALL OTHER EQUIPMENT INSTALLED IN THE CEILING SYSTEM. VERIFY G HEIGHTS AND FINISHES WITH ARCHITECT PRIOR TO ROUGH IN.

THE POWER PLANS FOR LOCATIONS OF ELECTRICAL EQUIPMENT.

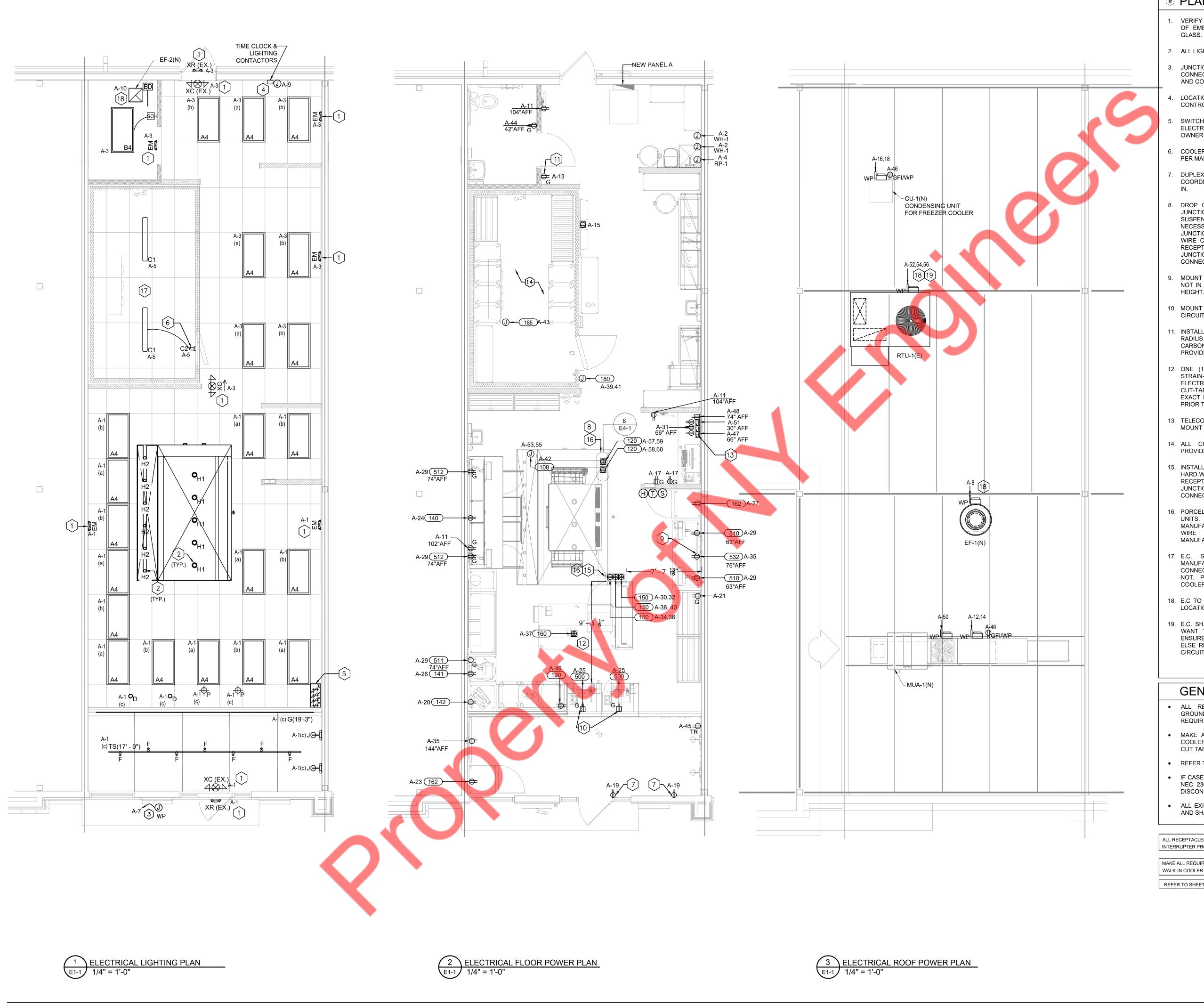
## ER GENERAL NOTES

KACT LOCATION IF HVAC AND PLUMBING EQUIPMENT CONDUIT STUB-UPS AND POWER TION PRIOR TO ROUGH-IN.

KACT LOCATION, MOUNTING HEIGHTS AND CONDUIT ROUTING FOR ALL THERMOSTATS, TURE SENSORS, HUMIDSTATS AND CO2 SENSOR PRIOR TO ROUGH-IN

MECHANICAL AND PLUMBING DRAWINGS FRO ADDITIONAL ELECTRICAL REQUIREMENTS. ATE PROVISIONS FOR ALL CONTROLS CONDIUT AND WIRING AS REQUIRED FOR KING OF FANS, MOTORS, ETC. REFER TO SPECIFICATIONS FOR ADDITIONAL IENTS.

EVICES INSTALLED ON EQUIPMENT ON A NON-REMOVEABLE PANEL. COORDINATE PRIOR TO COMMENCING ROUGH-IN WORK.



**PLAN NOTES** 

- 1. VERIFY WITH OWNER EXACT LOCATION AND MOUNTING HEIGHT OF EMERGENCY EGRESS LIGHTING ABOVE DOOR AND PLATE GLASS.
- 2. ALL LIGHTING UNDER HOOD IS INTEGRAL TO HOOD.
- 3. JUNCTION BOX WITH TOGGLE DISCONNECT SWITCH FOR CONNECTION TO SIGN. FIELD VERIFY EXACT MOUNTING LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
- 4. LOCATION OF TIME CLOCK AND LIGHTING CONTACTOR. REFER TO CONTROL DIAGRAM ON DETAIL SHEET.
- SWITCH BANK FOR CONTROL OF INTERIOR LIGHT FIXTURES. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- 6. COOLER LIGHTING CONTROL PROVIDE WITH COOLER. INSTALLED PER MANUFACTURER'S INSTRUCTION.
- 7. DUPLEX RECEPTACLE INSTALLED 6" ABOVE WINDOW. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH
- 8. DROP CORDS TO PIZZA OVEN RECEPTACLE. CONNECTED TO JUNCTION BOX AT CEILING. DO NOT ROUTE THROUGH SUSPENDED CEILING TILE. ADD DROP CORDS FOR THIRD OVEN IF NECESSARY. ELECTRICAL CONTRACTOR SHALL INSTALL JUNCTION BOX BELOW SUSPENDED CEILING AND MAKE HARD WIRE CONNECTION TO TYPE SO CORD DROP TO PIZZA OVEN RECEPTACLE. PROVIDE STRAIN RELIEF FOR CONNECTION AT JUNCTION BOX. FIELD VERIFY EXACT MOUNTING LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
- 9. MOUNT RECEPTACLE TO THE SIDE OF THE MONITOR WHERE IT IS NOT IN VIEW OF CUSTOMER. REFER TO ARCHITECTS DRAWINGS HEIGHT.
- 10. MOUNT RECEPTACLE UNDER COUNTER TOP. PROVIDE (2) POWER CIRCUIT TO EACH QUAD. REFER TO ORDER STATION ELEVATION.
- 11. INSTALL DUPLEX RECEPTACLE 6" BELOW LAY-IN CEILING AND 15' RADIUS MINIMUM FROM GAS-FIRED OVEN FOR CONNECTION TO CARBON MONOXIDE DETECTOR. GENERAL CONTRACTOR SHALL PROVIDE DETECTOR.
- 12. ONE (1) TWIST-LOCK OUTLET IN CEILING WITH TWIST-LOCK STRAIN-RELIEF DROP CORD TERMINATING 12" BELOW CUT-TABLE. ELECTRICAL CONTRACTOR SHALL INSTALL JUNCTION BOX UNDER CUT-TABLE AND NEXT TO REFRIGERATION UNIT. FIELD VERIFY EXACT MOUNTING LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
- 13. TELECOM SYSTEM FURNISHED BY TELECOM CONTRACTOR. MOUNT AT DESIGNATED DEMARC AREA.
- 14. ALL CONDUITS PENETRATING COOLER WALLS SHALL BE PROVIDED WITH CONDUIT SEALS.
- 15. INSTALL JUNCTION BOX BELOW SUSPENDED CEILING AND MAKE HARD WIRE CONNECTION TO TYPE SO CORD DROP TO HEAT LAMP RECEPTACLE. PROVIDE STRAIN RELIEF FOR CONNECTION AT JUNCTION BOX. FIELD VERIFY EXACT MOUNTING LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
- 16. PORCELAIN WIRE NUTS SHALL BE USED WITH THE HEAT LAMP UNITS. THE USE OF PLASTIC WIRE NUTS WILL VOID THE MANUFACTURERS' WARRANTY. CONTRACTOR SHALL USE 90°C WIRE FOR CONNECTION TO HEAT LAMP UNITS PER MANUFACTURER'S RECOMMENDATION.
- 17. E.C. SHALL COORDINATE WITH THE WALK-IN COOLER MANUFACTURER TO DETERMINE IF THE LIGHTING CAN BE CONNECTED TO THE BATTERY BACK UP (MINIMUM 90 MINUTES). IF NOT, PROVIDE EMERGENCY LIGHTING INSIDE THE WALK-IN COOLER
- 18. E.C TO COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION AND POWER REQUIREMENT. PROVIDE ACCORDINGLY.
- 19. E.C. SHALL COORDINATE WITH THE LANDLORD/OWNER IF THEY WANT TO FEED RTU FROM THE LANDLORD PANEL (H) THAN ENSURE PROPER CONNECTION FROM THE LANDLORD PANEL (H). ELSE REROUTE THE WIRING AND CONNECT TO THE INDICATED CIRCUIT.

### GENERAL NOTES

- ALL RECEPTACLES LOCATED IN KITCHEN AREA SHALL BE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION AS REQUIRED BY NEC 210.8(8)
- MAKE ALL REQUIRED ELECTRICAL CONNECTIONS FOR WALK-IN COOLER LIGHTING, WALK-IN COOLER REFRIGERATION UNIT AND CUT TABLE HEAT LAMP UNITS.
- REFER TO SHEET E3-1 FOR EQUIPMENT FEEDER SCHEDULE.
- IF CASE OF TWO TO SIX DISCONNECT SWITCHES IF PERMITTED BY NEC 230.71, THEY SHALL BE GROUPED PER NEC 230.72. EACH DISCONNECT SHALL BE MARKED TO INDICATE THE LOAD SERVED.
- ALL EXIT AND EMERGENCY LIGHTS SHALL BE AHEAD SWITCHING AND SHALL BE ENERGIZED ALL THE TIME.

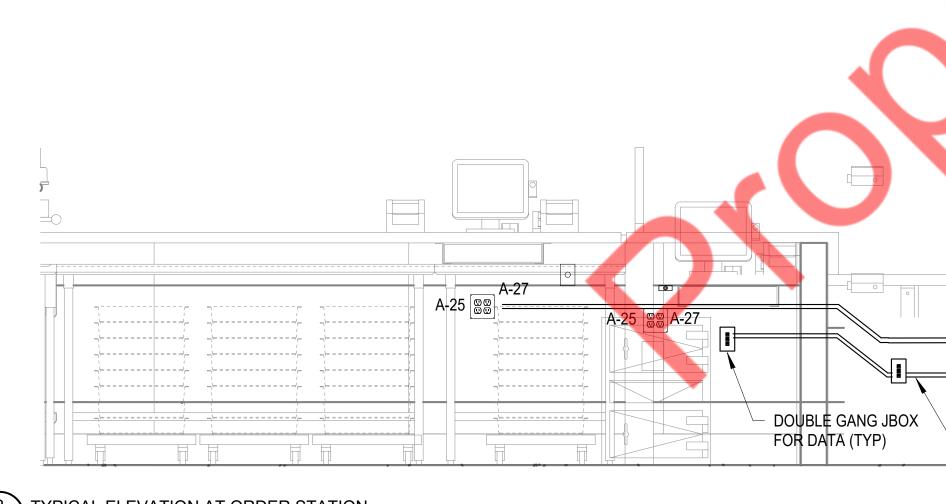
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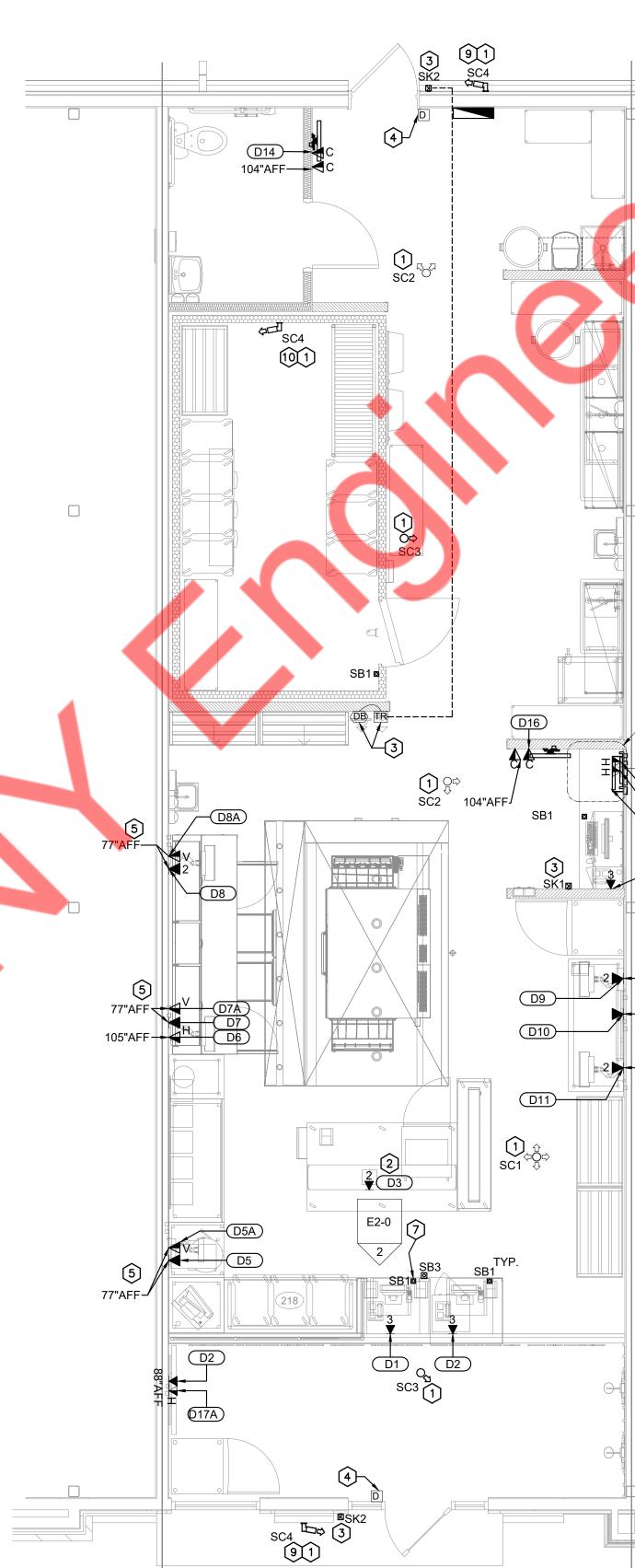
REFER TO SHEET E3-1 FOR EQUIPMENT FEEDER SCHEDULE

DATA SCHEDULE											
Data ID Tag	Equipment	Description	Connection Type	Requirment	Mounting Height	Supplied By	Installed By				
D1	FRONT COUNTER POS SYSTEM #1	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 3 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	1' - 6"	GC	GC				
D2	FRONT COUNTER POS SYSTEM #2	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 3 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	2' - 0"	GC	GC				
D3	FUTURE FRONT COUNTER POS SYSTEM #3	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 2 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	2' - 0"	GC	GC				
D4	NA										
D5	MIRROR MAKE LINE	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 1 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	6' - 5"	GC	GC				
D5A	MIRROR MAKE LINE	SINGLE GANG BOX, NO FACEPLATE (WIRE CONNECTS DIRECTLY TO EQUIPMENT), 1" CONDUIT FROM BOX STUBED ABOVE CEILING	VGA	WIRE SUPPLIED AND INSTALLED BY OWNER	6' - 5"	GC	GC				
D6	MAKE LINE SECURITY MONITOR	SINGLE GANG BOX, FACEPLATE W/ HDMI JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	HDMI	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO MATCHING HDMI JACK AT IT RACK	8' - 9"	GC	GC				
D7	MAKE LINE	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 1 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	6' - 5"	GC	GC				
D7A	MAKE LINE	SINGLE GANG BOX, NO FACEPLATE (WIRE CONNECTS DIRECTLY TO EQUIPMENT), 1" CONDUIT FROM BOX STUBED ABOVE CEILING	VGA	WIRE SUPPLIED AND INSTALLED BY OWNER	6' - 5"	GC	GC				
D8	MAKE LINE	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 1 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	6' - 5"	GC	GC				
D8A	MAKE LINE	SINGLE GANG BOX, NO FACEPLATE (WIRE CONNECTS DIRECTLY TO EQUIPMENT), 1" CONDUIT FROM BOX STUBED ABOVE CEILING	VGA	WIRE SUPPLIED AND INSTALLED BY OWNER	6' - 5"	GC	GC				
D9	DRIVER'S STATION	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 2 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	5' - 3"	GC	GC				
D10	DRIVER'S STATION SECURITY MONITOR	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 1 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	6' - 4"	GC	GC				
D11	DRIVER'S STATION	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 2 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	5' - 3"	GC	GC				
D12	MANAGER'S DESK	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 3 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	1' - 6"	GC	GC				
D13	DEMARC AREA	SINGLE GANG BOX, FACEPLATE W/ HDMI JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	HDMI	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO MATCHING HDMI JACK AT IT RACK	7' - 0"	GC	GC				
D14	REAR SECURITY MONITOR	SINGLE GANG BOX, FACEPLATE W/ COAX JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	COAX SIAMESE CABLE (BELDEN 639948 OR EQUAL)	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO SECURITY PANEL AT IT RACK AND LEAVE LOOSE	8' - 8"	GC	GC				
D15	DEMARC AREA	SINGLE GANG BOX, FACEPLATE W/ HDMI JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	HDMI	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO MATCHING HDMI JACK AT IT RACK	7' - 0"	GC	GC				
D16	REAR SECURITY MONITOR	SINGLE GANG BOX, FACEPLATE W/ COAX JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	COAX SIAMESE CABLE (BELDEN 639948 OR EQUAL)	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO SECURITY PANEL AT IT RACK AND LEAVE LOOSE	8' - 8"	GC	GC				
D17	LOBBY MONITOR	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 1 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	7' - 4"	GC	GC				
D17A	LOBBY MONITOR	SINGLE GANG BOX, FACEPLATE W/ HDMI JACK, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	HDMI	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO MATCHING HDMI JACK AT IT RACK	7' - 4"	GC	GC				
PB24	GC TO PULL WIRES AND LEAVE LOOSE, FINAL CONNECTIONS BY OWNER	LEVITON, 69586-U24, 24 PORT CAT6 PATCH PANEL, MOUNTED WITH ALLEN AT55HM-1 HINGED WALL MOUNT BRACKET (19.2"x1.75"x6"D)		PUNCHDOWN BLOCK - 24		GC	GC				
D18	FRONT COUNTER POS SYSTEM #2	SINGLE GANG BOX, FACEPLATE W/ KEYSTONE JACKS, 1" CONDUIT FROM BOX STUBED ABOVE CEILING	CAT6 - 3 PORT	WIRE SUPPLIED AND INSTALLED BY GC, ROUTE TO PUNCHDOWN BLOCK AT IT RACK AND LEAVE LOOSE	2' - 0"	GC	GC				

SECURITY ID TAG	QTY	EQUIPMENT	REQUIREMENT	MANUFACTURER	MODEL	DESCRIPTION	SUPPLIE D BY	
BA1	1	BURGLAR ALARM PANEL	WIRES BY OWNER	TBD	TBD	BURGLAR ALARM PANEL, HOLD TIGHT TO CEILING	0	0
EN1	1	ENCODER	WIRES BY OWNER	HANWHA TECHWIN	SPE-1620	ENCODER, 15"Wx18"Hx2"D, VERTICAL MOUNTED ON JUNIPER 1URACK-119	GC	GC
SB1	4	PANIC BUTTON	WIRELESS UNDERCOUNTER BUTTON, BATTERY POWERED	TBD	TBD		0	GC
SB3	1	DOOR OPENER BUTTON - WALL MOUNTED	MOUNTED TO FACE OF KNEE WALL @ 36" A.F.F.	TBD	TBD	WALL MOUNTED BUTTON	0	GC
SC1	1		CEILING MOUNTED. ROUTE COAX CABLE TO CONTROL PANEL AT DEMAC AREA.	HANWHA TECHWIN	HCF-8010V	WISENET HD+, ANALOG HD FISHEYE CAMERA, 5MP, 4.72"Ø X 2.50"H	VENDER	VENDER
SC2	3	CAMERA, DIRECTIONAL, CEILING MOUNTED	CEILING MOUNTED. ROUTE COAX CABLE TO CONTROL PANEL AT DEMAC AREA.	HANWHA TECHWIN	HCD-7010RA	WISENET HD+, ANALOG IR DOME CAMERA, 4MP, 4.33"Ø X 3.39"H	VENDER	VENDER
SC3	1	CAMERA, DIRECTIONAL, PENDANT MOUNT	PROVIDED W/ PENDANT MOUNT KIT, SEE ELEVATIONS FOR MOUNTING HEIGHT	HANWHA TECHWIN	HCD-7010RA	WISENET HD+, ANALOG IR DOME CAMERA, 4MP, 4.33"Ø X 3.39"H	VENDER	VENDER
SC4	3	CAMERA, DIRECTIONAL, WALL MOUNTED	WALL MOUNTED. ROUTE COAX CABLE TO REAR SECURITY MONITOR	HANWHA TECHWIN	HCO-7010RA	WISENET HD+, ANALOG IR BULLET CAMERA, 4MP, 75.2"Ø X 9.69"H	VENDER	VENDER
SK1	1	INTERIOR KEYPAD	Wall Mounted @ 42" a.f.f. Route Cable back to Burglar Control Panel	TBD	TBD	SECURITY KEYPAD	0	GC
SK2	2	EXTERIOR KEYPAD	Wall Mounted @ 42" a.f.f. Route Cable back to Burglar Control Panel	TBD	TBD	SECURITY KEYPAD	0	GC
SM1	1	MONITOR - REAR DOOR	WALL MOUNTED, SEE ELEVATIONS AND NOTES FOR HEIGHT	WBOX	0E-24LED2	24" MONITOR, W/ PEERLESS QP-ST630P TILT MOUNT	0	GC
SM2	1	MONITOR - MAKELINE	WALL MOUNTED, SEE ELEVATIONS AND NOTES FOR HEIGHT	TBD	TBD	32" MONITOR, W/ PEERLESS QP-ST630P TILT MOUNT	0	GC

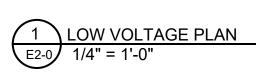


2 TYPICAL ELEVATION AT ORDER STATION E2-0 NOT TO SCALE



PA

4#12,3#12G, IN 3/4"C



ELECTRICAL CONDUIT

L	OW VOLTAGE GENERAL NOTES
A.	DATA LINES SHOULD BE CATEGORY 6 AND RUN THROUGH THE WALLS AND CEILING FROM THE OFFICE AREA WHERE COMPUTER EQUIPMENT WILL BE CONNECTED. IN THE OFFICE AREA, ALL DATA LINES SHOULD BE TERMINATED TO A PUNCH-DOWN BLOCK (12 OR 24 PORT). THE OTHER END OF THE DATA LINES SHOULD BE PUNCHED DOWN TO EITHER WALL PLATES OR SURFACE MOUNT JACKS.
В.	ALL OF THE DATA LINES WILL BE TESTED. EACH PIECE OF EQUIPMENT IN FRONT OF STORE SHALL HAVE A DATA LINE. THIS INCLUDES ALL TERMINAL AND PRINTERS.
C.	WALL JACKS SHALL BE LABELED BY CONTRACTOR TO IDENTIFY THE PORT ON THE PUNCH-DOWN PANEL IN THE OFFICE.
D.	CAT6 DATA LINES FROM WALL JACK TO PUNCH-DOWN PANEL IN OFFICE SHALL BE PUNCH-DOWN TO THE STANDARD B CONFIGURATIONS; GIVING THEM A STRAIGHT THROUGH-CONNECTION.
E.	EACH DEVICE CONNECTED TO THE OFFICE COMPUTER BY MEANS OF A "HOME RUN" OF CAT6 CABLE, DATA CABLE.
F.	DEVICES ARE POLARITY SENSITIVE.
G.	WIRES MUST BE NUMBERED AND PUNCHED DOWN AND CHECK FOR CONTINUITY ON ALL 8 CONDUCTORS. DISCONTINUOUS RUNS MUST BE REPAIRED OR REPLACED. SPLICED RUNS ARE NOT ACCEPTABLE.
H.	LOW VOLTAGE CONTRACTOR SHALL SUPPLY CAT6 CABLE (8 CONDUCTOR), PUNCH DOWN BLOCK (12 OR 24 PORT), AND ALL MODULAR JACKS. MANUFACTURER PART (SEE BELOW) GRAYBAR 502-969-2971.
I.	LOW VOLTAGE CONTRACTOR TO PROVIDE CAT6 CONTINUOUSLY TO EACH DEVICE LOCATION, AS WELL AS ENDING THE CABLE WITH THE BLOCK (OFFICE) AND JACK (OUT FRONT) - TYPE 'B' CONFIGURATIONS.
J.	DATA CABLE "HOME RUN" ARE CONTAINED WITHIN WALL, SHALL EXIT WALL THROUGH JUNCTION BOX AT APPROXIMATELY THE SAME HEIGHT AS THE 110V DEDICATED LINE OUTLET, BUT WITHIN ONE FOOT HORIZONTALLY OF THAT OUTLET.
K.	MAKE TABLE PRODUCTION MONITOR SHALL BE MOUNTED AT 76" AFF OF WALL MOUNTED BRACKET. SEE DETAIL SHEET.
L.	CALL THE STORE SYSTEMS HELP LINE WITH ANY QUESTIONS: 1-800-755-1907
M.	INSTALL PLYWOOD BACKING BEHIND MONITOR SHELF.
N.	PLAN IS SHOWN FOR INFORMATION ONLY. COORDINATE WITH OWNER AND SECURITY VENDOR FOR EXACT REQUIREMENTS.
	PLAN NOTES
1.	PROVIDE COAX CABLE TO ALL SECURITY CAMERA FROM CONTROL PANEL LOCATION. FOR ALL EXTERIOR SECURITY CAMERA RUN COAX CABLE BACK TO REAR MONITOR.
2.	DATA OUTLET SHALL BE MOUNTED FLUSH IN CEILING FOR STRIP PRINTER INSTALLED ON CENTER ISLAND STYLE CUT TABLE.
3.	PUSH BUTTON AND DOORBELL SYSTEM. COORDINATE ALL REQUIREMENT WITH MANUFACTURER'S INSTALLATION.
4.	PROVIDE J-BOX AND CONDUIT FOR ELECTRIC STRIKE. COORDINATE WITH DOOR INSTALLER.
5.	PROVIDE 1-1/2" CONDUIT INSIDE WALL BEHIND THESE (2) DATA OUTLETS. STUB OUT CONDUIT ADJACENT TO OUTLETS.
6.	PROVIDE 12" X 12" RECESSED JUNCTION WITH (2) 2" CONDUITS STUBBED OUT TO ABOVE CEILING FOR SECURITY CABLING.
7.	COORDINATE EXACT LOCATION WITH OWNER.
8.	STUB OUT 3" CONDUIT FROM CONTROL PANEL ABOVE CEILING.
9.	SECURITY CONTRACTOR TO MAKE EXTERIOR PENTRATION TO ENSURE PROPER PLACEMENT. PROVIDE CONDUIT AND WATERPROOF PENTRATION TO REACH PLENUM SPACE. EC SHALL PULL CABLE TO NEAREST PENTRATION LOCATION WITH 5 FEET SERVICE LOOP.
10.	PROVIDE CONDUIT AND PENTRATION TO WALK-IN WALL OR CEILING AND EXTEND INTO PLENUM SPACE. CONDUIT SHALLED BE PLUGGED TO PREVENT CONDENSATION FROM ENTERING J-BOX THAT CAMERA CONNECTIONS WILL BE SPLICED IN
BLOC	<u>JFACTURER SUPPLY NUMBERS:</u> CK 12-PORT, CAT6 - 69586-U89 CK 24-PORT, CAT6 - 69586-U24
MOU	NTING BRACKET - AT55HM-1 ULAR JACKS, CAT6 - 61110-RL5 (THE "L" DENOTES THE COLOR, THIS HAPPENS TO BE BLUE) FACE MOUNT BOX (BISCUIT) - AT33S-15 NTING JACKS, CAT6 - ATT6EZ-XX (XX-COLOR) - THESE ARE THE JACKS THAT WOULD FIT INTO THE
SURF MOU SURF SURF	FACE MOUNT BOXES FACE MOUNT BOX (REQUIRES A FACEPLATE) - AT30M-XX (XX-COLOR) FPLATE - AT30-1-XX (XX-COLOR)

LIGHTING FIXTURE SCHEDULE										
TAG	QTY	REMARKS	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMPS	WATTAGE	VOLTAGI		INSTALLE BY
A4	22	Flat Panel 2x4	EnvisionLED	LED-BPL-2X4-3M50-TRI	Flat Panel LED, ACT ceiling recessed, Dimmable	Integral LED, 4000K, 82 CRI, 95° Beam Angle	38 W	120 V	EC	EC
B4	1	Flat Panel 2x4	EnvisionLED	LED-BPL-2X4-3M50-TRI / LED-PNL-2X4-SM	Flat Panel LED, Surface mounted w/ 2x4 mount frame, Dimmable	Integral LED, 4000K, 82 CRI, 95° Beam Angle	38 W	120 V	EC	EC
C1	2	Cooler Lights	Kason	1810JUV	4' Enclosed Gasketed Linear LED, 46 15/32"Lx4 59/64"Wx2 9/16"H, White painted steel, polycarbonate lens	Integral LED, 4550 Lumen, 4000K	40 W	120 V	0	GC
C2	1	Cooler Light Door	Kason	1803LED	Cooler Door light w/ bulb, globe, and nightlight	LED, 1100 Lumen, 4000K, 85 CRI, E26 Base	4 W	120 V	0	GC
D	2	4IN LED Downlight	Liteline	SLMB4-12W-CCT-WH / P-4020 / P-NCMK-1	Recessed Downlight	Integral LED, set to 4000K, 1000LM	5 W	120 V	EC	EC
EM	4	Emergency Lighting	Best	LEDR-1	2 Head, aimable, white housing, Nicad battery backup, 9.82"x4.68"x3.10"	(2) LP220L, 200 Lumen, 2.4W, linear pattern	2 W	120 V	EC	EC
G	1	Linear LED	GM Lighting	KM-(LENGTH)-40K-HO-HF-FC-SA-B-F-WH, Power Supply: PSV-96-24-U2ND-D	Kendo M LED Strip, aluminum channel w/ half frosted lens, back feed, 0.69"W x 0.49"H, Length as indicated, Non Dimming	295 lm/ft LED, 4000K, 90+ CRI, integral	16 W	120 V	0	EC
F	7	Track Head	Juno	R605L-40K-80CRI-PDIM-WFL-WH	Trac-Lites LED Cylinder, phase dimable, 2 1/2"dia 6 5/8"H, wide flood, white finish	935 lumens LED, 35° optic, 80 CRI, 4000K, Integral	120 V	6 W	TBD	EC
H1	5	Hood Lights	Captive Aire	L55	L55 Series E26 Canopy light fixture, high temp assembly, clear thermal and shock resistant globe, Provided w/ hood	LED	4 W	120 V	0	GC
H2	6	Hood Lights	Captive Aire	Captive Aire	LED puck light mounted to air plenum, Provided w/ hood	LED	4 W	120 V	0	GC
J	2	Wall Sconce	Hi-Lite Mfg. Co	H-18106-91/M-13-BM-1-91	Decorative sconce, black finish, mounted to custom millwork pizza peel fixture.	Satco S8593; LED, 400 Lumen, 4000K, 90+ CRI, A19 Shape, E26 Base	100 W	120 V	0	EC
Р	2	Pendant	Hi-Lite Mfg. Co	Globe Pendant - Bronze w/black canopy & drop	Suspended decorative pendant	LED	10 W	120 V	0	EC
TS	1	Track	Contech	LT-8-B	8ft Track, Black	NA	0 W	120 V	EC	EC
WP	EX.	Building Lighting	EnvisionLED	LED-WPS-60W-50K-BZ-PC	Wall pack, wet location listed, photo cell, dark bronze housing and polycarbonate cover, 16 1/8"x15 1/2"x7 3/4"	Integral LED, 5000K, 5174 Lumens	48 W	120 V	EC	EC
XC	3	Exit Sign / Emergency Lighting	Best	LEDCXTEU2GWRC	LED Exit EM Combo - Remote Capable- White with green letters	LED	4 W	120 V	EC	EC
XR	2	Emergency Lighting Exterior	Best	RHLED2-WP-MV-B	Wet Rated LED Remote Heads	LED	3 W	120 V	EC	EC

# GENERAL PANEL SCHEDULE NOTES

A. PROVIDE LISTED HANDLE TIES FOR ALL BREAKERS SERVING MULTIWIRE BRANCH CIRCUITS, I.E, SEPERATE BRANCH CIRCUITS THAT SHARE THE NEUTRAL CONDUCTOR IN ACCORDANCE WITH NEC 210.4

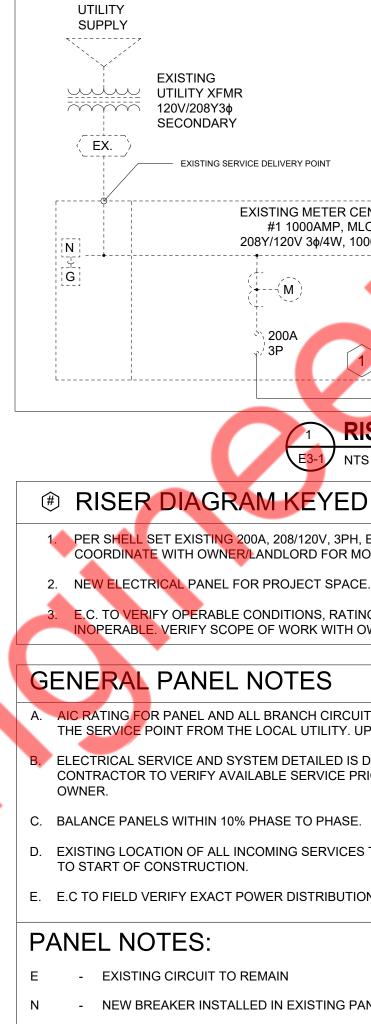
PANEL:	Α	NEW					LOCATION	: FIRST F	LOOR					NEMA ENCLOSURE TYPE 1		
SYSTEM	208/120V-3P						BUS:	225 A						CABINET MOUNTING SURFACE		
ЛСВ	200	A					MAINS:	NA						FED FROM 200A DISCONNE	CT	
			VAC, M: MOTOR,	E: EQUIPMEN	TS, O: OTH	ER										
	BKR SIZE/POLE		LOAD DESCRIPTION			LOAD (KVA)	NOTE	PER F	PHASE ( B	KVA) C	NOTE	LOAD (KVA)	LOAD TYPE	LOAD DESCRIPTION	BKR SIZE/POLE	
1	20A/1P	FOH LIGHTING			L	0.80	C2	1.00				0.20	0	WH-1	20A/1P	2
3	20A/1P	BOH LIGHTING			L	0.80	C2		0.90		C2	0.10	M	RCP-1	20A/1P	4
5	20A/1P	WALK-IN COOLEF	R LIGHTS		L	0.10				0.10				SPARE	20A/1P	6
7	20A/1P	EXTERIOR SIGNA	GE		L	1.20	C1	1.40				0.20	М	EF-1(N)	20A/1P	8
9	20A/1P	TIME CLOCK			L	0.20			0.40			0.20	М	EF-2(N)	20A/1P	10
11	20A/1P	SECURITY MONIT	OR		R	0.72	LO			1.97		1.25	E	MUA-1(N)	30A/2P	12
13	20A/1P	CARBON MONO	KIDE DETECTOR		R	0.18	LO	1.43				1.25	E		30A/ 2F	14
15	20A/1P	CAR TOPPER			R	0.18			1.64			1.46	н	WALK-IN-CU-1	20A/2P	16
17	20A/1P	MANAGERS DESK	<		R	0.36				1.82		1.46	н			18
19	20A/1P	RCPT-WINDOW			R	1.20	C1	1.20						SPARE	20A/1P	20
21	20A/1P	FUTURE SINGLE D			R	0.80	C1		0.80					SPARE	20A/1P	22
23	20A/1P	162-REFRIGERATI	ED MERC.		E	0.70	G			1.55		0.85	E	140-PIZZA PREP. TABLE	20A/1P	24
25	20A/1P	500/501/502-FRC	NT POS/PRINTER		R	1.00	G	1.60			G	0.60	E	141-PIZZA DOUGH SPINNER	20A/1P	26
27	20A/1P	162-REFRIGERATI	ED MERC.		E	0.70	G		1.30			0.60	E	142-DOUGH SHEETER	20A/1P	28
29	20A/1P	510/511/512-POS	S EQUIPMENT		R	1.00	G			1.81	G, LF	0.81	E	150-60" HEAT LAMP	20A/2P	30
31	20A/1P	511/512-POS EQI	JIPMENT		R	1.00	G	1.81			0, 1	0.81	E		20, 17 21	32
33	20A/1P	520/525-POS-PC-	TELEHONE		R	0.72	G		1.53		G, LF	0.81	E	150-60" HEAT LAMP	20A/2P	34
35	20A/1P		PLAY 49" CCTV/SECU	IRITY	R	0.50				1.31	-,	0.81	E			36
37	20A/1P	160-U/C REFRIGE	RATOR		E	1.05	G	1.86			G, LF	0.81	E			38
39	20A/2P	180-COOLER CON	IDENSING UNIT		Н	1.41			2.22			0.81	E			40
41					Н	1.41				1.89		0.48		100- HOOD CTRLS/LTG	20A/1P	42
43	20A/1P	185-WALK-IN EA			E	0.28	G	1.68			G	1.40	R	GENERAL / RESTROOM RCPT	20A/1P	44
45		RCPT-CONVENIE			R	1.40	G		1.94			0.54	R	HVAC EQUIP. SERVICE RCPT	20A/1P	46
47	20A/1P	IT RACK RECEPTA			R	0.36	G			0.54	G, LF	0.18	R	RCPT - DEMARC	20A/1P	48
49	20A/1P	190-HEATED CAB			E	0.25	G	1.75			-	1.50	Н	MAU-1	25A/1P	50
51	20A/1P	RCPT - OFFICE TE	LEPHONE		R	0.18	G		8.18		G, LF	8.00	H		00/00	52
53	20A/2P	100 - HOOD				0.57		0.57		8.57		8.00	H	RTU-1(E)	80/3P	54
55					E	0.57	G	8.57	2.42		G, LF	8.00				56
57	20A/2P	120 - PIZZA OVEN	J			1.56			3.12	2 1 2		1.56	E	120 - PIZZA OVEN	20A/2P	58
59								1 22 20	22.02	3.12		1.56	E			60
		LOAD CLASSIFI	CATION			CONNECTED I		MANC								
OTAL LIGI	HTING			1		3.58			5%		48			PANEL TOTAL LOAD		
OTAL LIG				R R	+	11.72			0%		.72	τοτα		TOTAL CONNECTED LOA		9 ΚVΑ
OTAL NUC				K	+	31.25			0%		.25		TOTAL CONNECTED LOAD			8 KVA
OTAL MO				<u> </u>	+	0.50		10			.23 50					4 AMP
	CHEN/EQUIPME	NTS		E	+	19.74			5%		.83	TOTAL CONNECTED CORRENT TOTAL DEMAND CURRENT			6 AMP	
OTAL OTH				0		0.20			0%		20				140.00	
				<u> </u>						5.		1			I	
ANEL SCH	EDULE NOTES															
		ACTOR INDICATE	D. REFER TO LIGHTI	NG CONTROL D	AGRAM.											
		RUPTING BREAK			·											

PROVIDE PAD LOCK ATTACHMENT FOR MAINTENANCE LOCK OUT FOR CIRCUIT BREAKER. LF

LO PROVIDE LOCK ON DEVICE FOR CIRCUIT BREAKER.

SUB SUB-FEED CIRCUIT BREAKER.

HC ROUTE CIRCUIT BREAKER HOMERUN VIA HOOD CONTACTOR.



EXISTING

E	- EXISTING CIRCUIT TO REMAIN	LO - PROVIDE LOCK-ON DEVICE FOR CIRCUIT BREAKER
N	- NEW BREAKER INSTALLED IN EXISTING PANEL	SUB - SUB-FEED CIRCUIT BREAKER
R	<ul> <li>REUSE EXISTING BREAKER IN EXISITING PANEL WITH NEW LOAD</li> </ul>	HC - ROUTE CIRCUIT HOMERUN VIA HOOD CONTACTOR
C#	- ROUTE CIRCUIT HOMERUN VIA LIGHTING CONTACTOR	LF - PROVIDE PAD-LOCK ATTACHMENT FOR MAINTENANCE LOCK-OUT OF CIRCUIT BREAKER
	INDICATED	G - GFI CIRCUIT BREAKER

**REMARK:-1. PROVIDE SO CORD DROP WITH STRAIN RELIEF. REFER TO ELECTRICAL POWER PLAN.** 2. FURNISHED WITH CONTROL BOX. CONNECT ALL COMPONENTS.

TAG	EQUIPMENT DESCRIPTION	VOLT	PHASE	LOAD (VA)	WIRE - CONDUIT SIZE	CONNECTION	PANEL	CIRCUIT NO.	REMARK
100	HOOD	208	1	624	(2)#12 & (1)#12G, IN 3/4"C	JUNCTION BOX	Α	53,55	-
120	PIZZA OVEN	208	1	3120	(2)#12 & (1)#12G, IN 3/4"C	NEMA L6-20	A	57,59	1
120	PIZZA OVEN	208	1	3120	(2)#12 & (1)#12G, IN 3/4"C	NEMA L6-20	А	58,60	1
140	PIZZA PREP TABLE	120	1	852	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	24	-
141	PIZZA DOUGH SPINNER	120	1	600	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	A	26	-
142	PIZZA DOUGH SHEETER	120	1	600	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	A	28	-
150	HEAT LAMP - 60"	208	1	1610	(2)#12 & (1)#12G, IN 3/4"C	JUNCTION BOX	А	30,32	1,2
150	HEAT LAMP - 60"	208	1	1610	(2)#12 & (1)#12G, IN 3/4"C	JUNCTION BOX	А	34,36	1,2
150	HEAT LAMP - 60"	208	1	1610	(2)#12 & (1)#12G, IN 3/4"C	JUNCTION BOX	А	38,40	1,2
162	REFRIGERATED MECHANDISER	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	27	1
180	WALK-IN COOLER	208	1	2828	(2)#12 & (1)#12G, IN 3/4"C	JUNCTION BOX	А	39,41	-
185	WALK-IN COOLER EVAPORATOR COIL	120	1	288	(2)#12 & (1)#12G, IN 3/4"C	JUNCTION BOX	А	43	-
190	HEATED CABINET	120	1	1600	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	49	-
500	POS TERMINAL	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	25	-
500	POS TERMINAL	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	25	-
500	POS TERMINAL	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	25	-
510	POS TERMINAL	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	29	-
510	POS TERMINAL	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	29	-
511	POS PRINTER	120	1	180	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	31	
512	POS PRINTER	120	1	180	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	31	-
512	POS PRINTER	120	1	180	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	31	-
532	DRIVOCITY MONITOR	120	1	360	(2)#12 & (1)#12G, IN 3/4"C	NEMA 5-20	А	35	-

CONTACTOR TO COORDINATE WITH MANUFACTURER FOR EXACT POWER REQUIREMENTS OF THE EQUIPMENT AND PROVIDE ACCORDINGLY.

	MECHANICAL EQUIPMENT SCHEDULE											
REMARK:-												
I. ADJACENT TO WH-1. DO NOT INSTALL BELOW WH-1.												
2. FAN SHALL BE POWERED AND CONTROLLED WITH LIGHTS.												
3. SEE HOOD	DETAILS.											
TAC	VOLTACE	рилст		LOAD				CIRCUIT		REMAR		
TAG	VOLTAGE	PHASE	KW	НР	FLA	CONDUCTOR & CONDUIT	DISCONNECT	PANEL	NO.			
RTU-1 (E)	208	3	8	-	-	3#4, 1#8G, IN 1"C	INTERGRAL	А	52,54,56	-		
MUA-1(N)	120	1	1.5	-	-	2#10, 1#10G, IN 3/4"C	INTERGRAL	А	50	-		
MUA-1(N)	208	1	2	-	-	2#10, 1#10G, IN 3/4"C	INTERGRAL	А	12,14	-		
EF-1(N)	120	1	0.2	-	-	2#12, 1#12G, IN 3/4"C	INTERGRAL	А	8	3		
EF-2 (N)	120	1	0.2	-	-	2#12, 1#12G, IN 3/4"C	INTERGRAL	А	10	2		
CU-1	208	1	1.5	-	-	2#12, 1#12G, IN 3/4"C	INTERGRAL	А	16,18	-		
WH-1	120	1	0.2	-	-	2#12, 1#12G, IN 3/4"C	HARDWIRE	А	2	-		
RCP-1	120	1	0.1	_	_	2#12, 1#12G, IN 3/4"C	HARDWIRE	Α	4	1		

3			
т			
TER CENTER MP, MLO 4W, 1000AXB		2	
		NEW PANEL A 200A-MCB 208Y/120V	
1	4-3/0, 1#6G, 2"C.		
	Ь		

### E3-1 NTS

/ED	NOTES:
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1. PER SHELL SET EXISTING 200A, 208/120V, 3PH, ELECTRICAL METER, BREAKER AND SERVICE FEEDER FROM EXISTING METER CENTER. E.C. TO COORDINATE WITH OWNER/LANDLORD FOR MORE INFORMATION.

2. NEW ELECTRICAL PANEL FOR PROJECT SPACE. E.C. TO COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION.

E.C. TO VERIFY OPERABLE CONDITIONS, RATINGS AND EXACT LOCATIONS OF THE EXISTING ITEMS IN THE RISER. REPLACE IF FOUND INOPERABLE. VERIFY SCOPE OF WORK WITH OWNER/LANDLORD. BASE BID ACCORDINGLY.

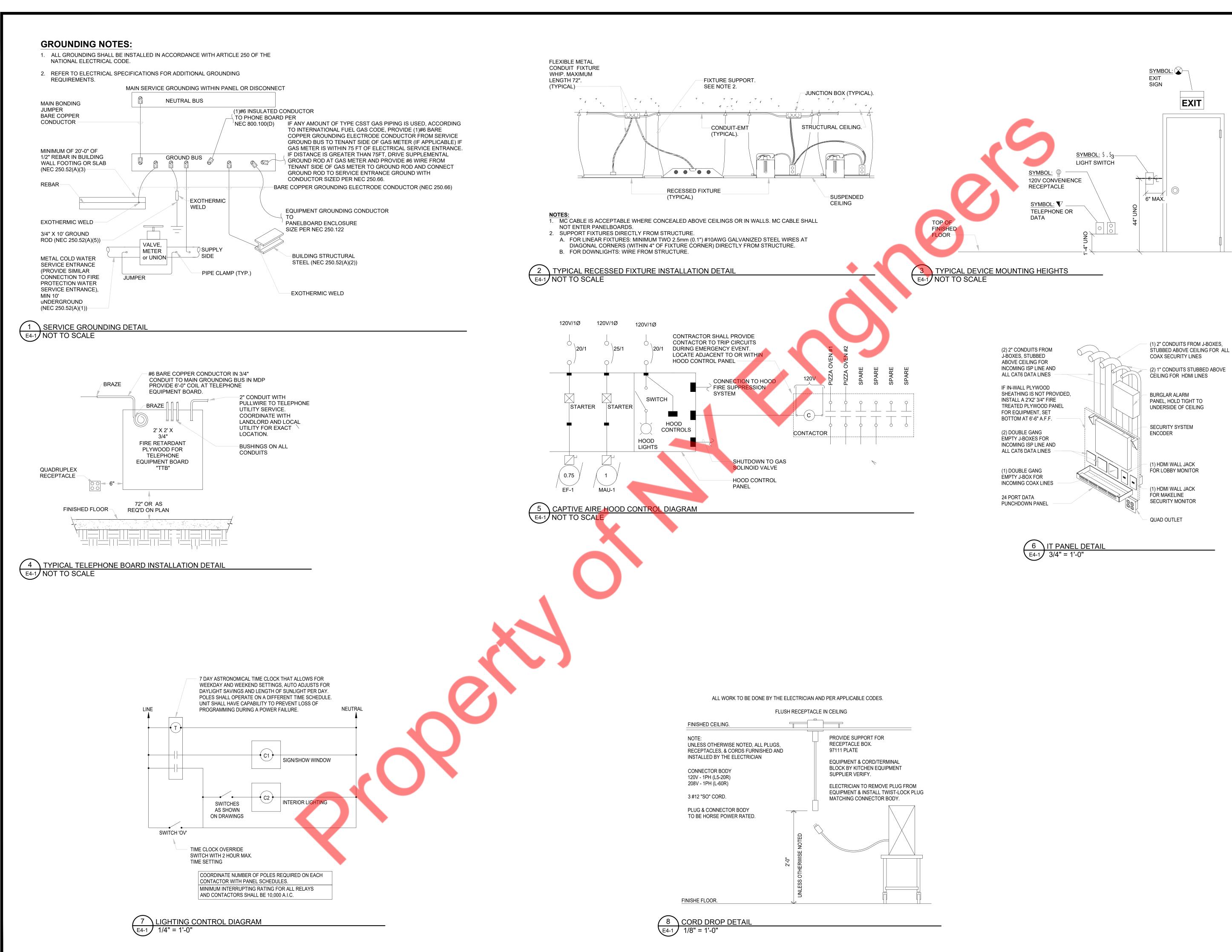
A. AIC RATING FOR PANEL AND ALL BRANCH CIRCUIT BREAKERS: CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT AT THE SERVICE POINT FROM THE LOCAL UTILITY. UPGRADE THE AIC RATING OF THE PANEL AS NECCESSARY.

B. ELECTRICAL SERVICE AND SYSTEM DETAILED IS DESIGNED BASED ON 120/208 VOLT THREE PHASE SERVICE. ELECTRICAL CONTRACTOR TO VERIFY AVAILABLE SERVICE PRIOT TO START OF CONSTRUCTION. COORDINATE ANY REQUIRED CHANGES WITH

D. EXISTING LOCATION OF ALL INCOMING SERVICES TO BE VERIFIED IN FIELD AND TO NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR

E. E.C TO FIELD VERIFY EXACT POWER DISTRIBUTION. VERIFY SCOPE OF WORK WITH OWNER/LANDLORD. PRIOR TO BID.

# **KITCHEN EQUIPMENT POWER SCHEDULE**



	PL			RE SCHEDULE				PLUM	1BING LEGEND	PLUMBING NOTES AND SPECIFIC
ID QTY DESCRIPTION MANUFACTURER	MODEL NO.	CONNEC CW HW	TION SIZES		TRIM AND REMARKS	SUPPLIED BY	INSTALLED BY	SYMBOL	DESCRIPTION	WASTE AND VENT PIPING
FD-1 2 FLOOR DRAIN, 3"&4" PIPE ZURN	Z415N-3NL		3",4" 1 1/	BODY ASSEMBLY WITH TYPE N 2" STRAINER, DURA-COATED CAST IRON WITH BOTTOM OUTLET	PROVIDE WITH PROVENT SYSTEMS TRAP GUARD OR APPROVED EQUIVALENT	PC	PC	— — SAN — —	SANITARY SEWER (UNDERFLOOR)	A. PROVIDE SCHEDULE 40 POLYVINYL CHLORIDE PIPE FOR AI AND VENT PIPING WHERE PERMITTED BY LOCAL CODES.
				DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, PRE-PACKAGED SHIMS				— — — EX.SAN— —	EXISTING SANITARY SEWER (UNDERFLOOR)	
FFCO 6 FLOOR CLEANOUT ZURN	Z1400-B			FOR TILT CORRECTION, AND "TYPE B" LIGHT DUTY COVER.	REFER TO PLANS FOR OUTLET SIZE.	PC	PC		VENT PIPING	PIPING SHALL NOT BE USED IN RETURN AIR PLENUM. COO REQUIREMENT WITH H.V.A.C. CONTRACTOR PRIOR TO INS
FS-1 2 FLOOR SINK, 3" PIPE PROFLO	PF42857, PF42895		3" 1 1/	2" PVC, 12"X12"X5 3/4"DEEP, WITH 9"X9" HALF GRATE		PC	PC		COLD WATER	B. FIELD VERIFY INVERT ELEVATIONS OF ALL NEW AND EXIST SEWERS PRIOR TO ROUGH-IN.
GT-1 1 GREASE INTERCEPTOR SCHIER	GB-250		4" 2'	100 GPM, 1048 LBS LIQUID CAPACITY, 1895 LBS GREASE CAPACITY	VENTED, NOT REQUIRE FLOW CONTROL DEVICE	PC	PC		HOT WATER	<ul> <li>C. ELEVATION OF FLOOR DRAINS SHALL BE HELD 1/2" BELOW TILE.</li> <li>D. CLEANOUTS SHALL BE INSTALLED FLUSH WITH FINISHED G</li> </ul>
				7" BACKSPLASH AND WALL BRACKETS,	T&S B-1115 FAUCET W/				RECIRCULATING HOT WATER	<ul> <li>E. PLUMBING VENTS SHALL BE MINIMUM 10'-0" FROM OUTSIDE</li> </ul>
HS-1 2 HAND SINK UNIVERSAL STAINLESS BY SPG	UNSEHS-1RL	1/2" 1/2"	2" 1 1/	2" RIGHT AND LEFT SPLASH GUARDS, 12"X10"X6" BASIN, SS FINISH	059X-A22 6" SWING NOZZLE W/ 2.2 GPM AERATOR, SPLASH MOUNTED	KEC	PC		EXISTING COLD WATER	WHERE STATE OR LOCAL CODES REQUIRE MORE SEPARA OFFSET TO MEET THE MORE STRINGENT REQUIREMENTS.
				93.25"X23.5"X44"H,	T&S BRASS B-0133-ADF12-B PRE-RINSE FAUCET, 8"				EXISTING COLD WATER	LOCATION WITH H.V.A.C. CONTRACTOR. F. CONDENSATE DRAIN PIPING SHALL BE TYPE L HARD DRAW
KS-1 1 SINK, 3 COMPARTMENT JOHN BOOS	3B184-2D18	1/2" 1/2"	0" 0'	18"X18"X14"DEEP BASINS, (2) 18"L DRAINBOARDS, 10"X2" BACKSPLASH, 2" INDIRECT DRAIN	CENTERS, 12" SWING NOZZLE, 1.07 GPM JETSPRAY VALVE,	KEC	PC		CONDENSATE DRAIN	B-88, WITH TYPE DWV FITTINGS, ASME B16.23, OR SCHEDU D1785, WITH TYPE DWV FITTINGS, ASTM D2672. COPPER D FITTINGS SHALL BE JOINED USING 95-5 SILVER SOLDER, AI
				1 COMPARTMENT SINK,	POLISHED CHROME T&S BRASS B-0133-ADF12-B			N	CHECK VALVE	FITTINGS SHALL BE JOINED USING 95-5 SILVER SOLDER, A FITTINGS SHALL BE JOINED USING SOLVENT CEMENT. PR CLEANOUT AND UNIONS. SLOPE CONDENSATE DRAIN LIN
KS-2 1 SINK, 1 COMP, LEFT JOHN BOOS	1B184-1D18L	1/2" 1/2"	0" 0'	40"WX23.5"DX44"H, 18"X18"X14"D BASIN, 18"L LEFT DRAINBOARD,	PRE-RINSE FAUCET, 8" CENTERS, 12" SWING NOZZLE,	KEC	PC		BALANCING VALVE	PER FOOT AWAY FROM MECHANICAL EQUIPMENT. G. SOIL, WASTE AND VENT PIPING SHALL BE SERVICE WEIGH
DRAINBOARD JOHN BOOS				10"BACKSPLASH, 1 SET FAUCET HOLES 8" CENTERS, 16/300 STAINLESS STEEL, 2" INDIRECT DRAIN	1.07 GPM JETSPRAY VALVE, POLISHED CHROME				FLOOR DRAIN	SCHEDULE 40 PVC DWV PLASTIC PIPE WHERE ALLOWED B AUTHORITY HAVING JURISDICTION FOR THIS INSTALLATIO
					FAUCET: AMERICAN STANDARD 7385.004.002. RELIANT SINGLE				PIPE UP OR DOWN	FIRE BARRIER CAULK CP-25 CAULKING, OR U.L. APPROVED PENETRATIONS OF FIRE RATED ASSEMBLIES.
LAV-1 1 LAVATORY - WALL HUNG AMERICAN STANDARD	0355.912.020	1/2" 1/2"	2" 1 1/	LUCERNE, ADA COMPLIANT, FAUCET 2" HOLES 4" CENTERS, VITREOUS CHINA WHITE	CONTROL 4" CENTERSET, INDEXE METAL LEVER HANDLE, 1.2GPM,	ED PC	PC	5		H. SOIL, WASTE AND VENT PIPING SHALL BE UNIFORMLY GRA HAVE A SLOPE OF NOT LESS THAN 1/4" PER FOOT FOR PIP
STANDARD					LESS DRAIN AND POP-UP (1) FAUCET T&S				PIPE UP	AND SMALLER AND 1/8" PER FOOT FOR PIPE LARGER THAI
				PORTLAND CEMENT BASIN, PEARL GREY	È-0660-BSTR, 8" CENTERS WALL MOUNT W/ BRACE, ROUGH				UNION	DOMESTIC WATER PIPING
MS-1 1 MOP SINK STERN WILLIAMS MTB	MTB-2424	1/2" 1/2"	3" 1 1/	2" AND WHITE FINISH, 24"X24"X10", W/ SS DOMED STRAINER	CHROME FINISH, PLAIN END OUTLET, PROVIDE A-20	PC	PC		- ISOLATION VALVE	A. INTERIOR DOMESTIC WATER: CROSS-LINKED POLYETHYLE TUBING. PEX-A GRADE, ASTM F-876; ASTM F-877 (100 PSI A COPPER OR ENGINEERED PLASTIC (EP) FITTINGS, ASTM F-
					ALUMINUM BUMPER GUARDS AT EXPOSED EDGES				CAP ON END OF PIPE	FITTINGS AND JOINTS TO COMPLY WITH NSF 61-G, NSF 61 EXPANSION FITTING WITH PEX REINFORCING RINGS, ASTM
MV-1 3 MIXING VALVE SYMMONS	7-225-CK	1/2" 1/2"		1/2" INLETS AND OUTLET, THERMOSTATIC CONTROLLER WITH INTEGRAL CHECKS, AL BRASS BODY WITH STAINLESS STEEL	SET TO TUS F. MOUNT IN	PC	PC		CLEANOUT	EXPANSION FITTING WITH METAL COMPRESSION SLEEVE, B. EXTERIOR DOMESTIC WATER: TYPE 'K' SOFT DRAWN COPI
	7-223-GR	1/2 1/2		STRAINER, VANDAL-RESISTANT TEMPERATURE ADJUSTMENT HANDLE.	ACCESSIBLE LOCATION.	FO	FC		REDUCED PRESSURE BACKFLOW PREVENTER	FITTINGS ONLY. C. PROVIDE 1" THICK FIBERGLASS PIPE INSULATION WITH SE
WOAL WATER CLOSET - FLOOR		3/4"	411 0	TWO PIECE, ADA COMPLIANT 16 23/32" RIM, ELONGATED BOWEL, 1.28	CHURCH 9500CT-000	50	50			ALL DOMESTIC WATER PIPING. DOMESTIC COLD WATER F SHALL HAVE A CONTINUOUS VAPOR BARRIER.
WC-1 1 WATER CLOSET - FLOOR ZURN	Z5555-K	5/4	4" 2'	GPF, SIPHON JET FLUSH, 12" STANDARD ROUGH-IN	ELONGATED OPEN FRONT SEAT	PC	PC		POINT OFF CONNECTION	D. DOMESTIC WATER PIPING SHALL BE DISINFECTED PRIOR BUILDING OCCUPANTS. DISINFECT PER REQUIREMENTS O
RPZ 1 REDUCED PRESSURE ZONE ASSEMBLY(BFP) WATTS	LF009	1"		LEAD FREE CAST COPPER SILICON ALLOY BODY, QT WITH AIR GAP	_	PC	PC	G	NEW GAS PIPING	DEPT., STATE AND LOCAL PLUMBING CODE. E. PLUMBING HOSE BIBBS OR VALVES WITH THREADED CONI
KFZ     1     (PROVIDE IF NEW)     WATTS       SERVICE PROPOSED     VATTS		•		AND ELBOW				<b> √</b>	GAS SHUT OFF VALVE	BE PROVIDED WITH VACUUM BREAKERS AND APPROVED IN BACKFLOW PREVENTION AS REQUIRED BY STATE AND LO
HD-1 1 HUB DRAIN, 3" PIPE ZURN	Z415E-3NL	3"		BODY ASSEMBLY WITH TYPE E STRAINER AND FUNNEL, DURA COATED CAST IRON WITH BOTTOM OUTLET	PROVIDE WITH PROVENT SYSTEM TRAP GUARD OR APPROVED EQUIVALENT	MS PC	PC	—— <b>ф</b> ——	GAS PRESSURE REGULATOR VALVE	F. PROVIDE SHUT-OFF VALVES ON ALL EQUIPMENT AND STO AND COLD WATER PIPING TO ALL PLUMBING FIXTURES.
					EQUIVALENT					<ul> <li>G. PROVIDE DIELECTRIC UNIONS AT ALL PIPING CONNECTION DISSIMILAR METAL PIPING IS JOINED.</li> <li>H. VALVES SERVING DOMESTIC WATER SYSTEMS SHALL BE IN THE ADDRESS SHALL BE INTERS SHALL BE IN THE ADDRESS SHALL BE IN THE ADDRESS SHALL BE INTERS SHALL SHALL BE INTERS SHALL SHALL BE INTERS SHALL SHALL BE INTERS SHALL BE INTERS SHALL SHALL BE INTERS SHALL SHAL</li></ul>
								PLUMBIN	G ABBREVIATIONS	APPROVED EQUAL. ALL VALVES SHALL BE LOCATED SO A ACCESSIBLE BY MAINTENANCE PERSONNEL.
		VVAIE						ABBREVIATIONS	DESCRIPTION	I. WATER PIPING SHOWN ROUTED IN EXTERIOR WALLS SHAI INSIDE THE BUILDING INSULATION AND FINISHED WALL TO
ID DESCRIPTION QUANTITY MANUFACTURER	MODEL NO.	VOLT PH		RATE DESCRIPTION CONDENSING TANKLESS GAS	TRIM AND REMARKS 4.4GAL EXPANSION TANK AMTRO	_	Y INSTALLED BY	CW HW	COLD WATER HOT WATER	DAMAGE.
WH-1 WATER HEATER 2 NAVIEN	NPE-240S	120 V 1	199900 Btu/h	WATER HEATER, 17 4.4 GPM 5/16"WX31"HX13 19/32"D,	ST-12 OR EQUAL, GXXX001325 CONDENSATE NEUTRALIZER TAN		PC	HWR	HOT WATER RETURN	NATURAL GAS PIPING
				@90°F CLEARANCES: 3" SIDES, 9" TOP, 12" BOTTOM	COMMON VENT KIT, PRESSURE RELIEF SAFETY VALVE			SAN	SANITARY	A. COORDINATE INSTALLATION OF GAS METER WITH LOCAL REQUIREMENTS PRIOR TO INSTALLATION.
NOTES: WATER HEATER SIZED FOR 4.4 GPM @ 90°F RISE.								v	VENT	B. GAS PIPING SHALL BE STANDARD WEIGHT SCHEDULE 40 E PIPE SHALL BE THREADED OR WELDED AS DIRECTED BY L COMAPNAY AND STATE AND LOCAL PLUMBING CODES.
APPROVED ALTERNATE: RINNAI CU199iN								AFF/AFG	ABOVE FINISHED FLOOR/GRADE	C. PROVIDE GAS PIPING COMPLETE WITH ALL REQUIRED FIT HANGERS, SUPPORTS, ETC. OBTAIN ALL REQUIRED INSPE
	PU	MP SCH	EDULE					AHJ	AUTHORITY HAVING JURISDICTION	APPROVALS. GAS PIPING SHALL BE INSTALLED IN ACCOR LATEST EDITION OF NFPA 54 AND ANY APPLICABLE STATE
ID DESCRIPTION MANUFACTU			PH	TRIM AND REMARKS	SUPPLIED BY INSTALL	LED BY		BFP	BACKFLOW PREVENTER	OR REGULATIONS. E. GAS PIPING ROUTED ON ROOF SHALL BE SUPPORTED BY
RP-1 RECIRCULATION PUMP GRUNDED	OS ALPHA2	2 120 V	MA	PM @ 3.0 FT. HD. INSTALL NEAR WATER HEAT NUFACTURER'S RECOMMENDATIONS. OVIDE AQUASTAT WITH TIMER KIT	ER PER PC PC	c		со	CLEANOUT	SUPPORT 10'-0" O.C. F. PAINT GAS PIPING EXPOSED TO WEATHER WITH (2) COATS
			PR	JVIDE AQUASTAT WITH TIMER KIT				ЕТР	EXISTING TO REMAIN	OR EQUAL PAINT. COLOR TO BE SELECTED BY OWNER OR CONTRACTOR AND PER REQUIREMENTS OF THE AUTHORI
	GREASE I	INTERCE	EPTORS	SIZING				FFCO/FGCO	FLUSH FLOOR/GRADE CLEANOUT	JURISDICTION. G. MAKE FINAL CONNECTIONS TO GAS FIRED EQUIPMENT. PR
	ENSIONS		VOLUME					EX.FFCO/FGCO	EXISTING FLUSH FLOOR/GRADE CLEANOUT	SHUT-OFF VALVE AND 6" DIRT LEG AT EACH CONNECTION INSTALL AND CONNECT FLEXIBLE GAS PIPING PROVIDED V
LENGTH(IN) WI	. ,	( )	NCHES GALLO	ONS (GALLOI	, i wint.			GC	GENERAL CONTRACTOR	OVEN EQUIPMENT AND MAKE FINAL CONNECTIONS TO OV H. PAINT GAS PIPING EXPOSED IN STORE BELOW CEILING SIL
COMP SINK - KS-1         1         18           COMP SINK - KS-2         1         18	18         14           18         14							IW	INDIRECT WASTE	
OP SINK - MS-1         1         24	24 10							PC	PLUMBING CONTRACTOR	ENERGY CONSERVATION NOTES:
AND SINK - HS-1         2         12           .OOR DRAIN-FD-1         1         -	10 6 	- 1440	) 6.23	0.75 4.67	4.67			ТҮР	TYPICAL	1. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL B FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVI
				TOTAL	. 83.22			VTR	VENT THRU ROOF	PIPING WITH FACTORY-APPLIED VAPOR BARR REQUIREMENT SHOULD COMPLY WITH INTERNA
								wco	WALL CLEANOUT	CONSERVATION CODE 2018 SECTION C-404.4 & TABLE BELOW TABLE.
OPOSED GREASE INTERCEPTOR, SCHIER GB-250								WH-1	WATER HEATER	MINIMUM PIPE INSULATION THICKNES
OPOSED GREASE INTERCEPTOR, SCHIER GB-250								1		
OPOSED GREASE INTERCEPTOR, SCHIER GB-250	PTOR SCI	HEDULE						ET-1	EXPANSION TANK	FLUID INSULATION CONDUCTIVITY NOMI
GREASE INTERCE								RP-1	HOT WATER CIRCULATION PUMP	OPERATING TEMPERATURE CONDUCTIVITY MEAN DATING
		HEDULE	CAPACITY MAN	AND				RP-1 FD	HOT WATER CIRCULATION PUMP FLOOR DRAIN	OPERATING     S       TEMPERATURE     CONDUCTIVITY       RANGE AND     BTU· IN./       USAGE (°E)     BTU· IN./
	FLOW CAPAG (GPM)	CITY GREASE (	CAPACITY MAN S)					RP-1	HOT WATER CIRCULATION PUMP	OPERATING     INSULATION CONDUCTIVITY     S       OPERATING     TEMPERATURE     CONDUCTIVITY     MEAN RATING       RANGE AND     BTILLIN /     TEMPERATURE     1 to

				Р	LUN	<b>IBIN</b>	G FIX	TUR	E SCHEDULE				PLUM	BING LEGEND	PLI	JMBING	NOTES
ID	QTY	DESCRIPTION	MANUFACTURER	MODEL NO.			TION SIZE		DESCRIPTION	TRIM AND REMARKS	SUPPLIED BY	INSTALLED BY	SYMBOL	DESCRIPTION	- WA	STE AND VE	NT PIPING
FD-1	2	FLOOR DRAIN, 3"&4" PIPE	ZURN	Z415N-3NL			3",4"	1 1/2"	BODY ASSEMBLY WITH TYPE N STRAINER, DURA-COATED CAST IRON	PROVIDE WITH PROVENT SYSTEMS TRAP GUARD OR	PC	PC	— — SAN — —	SANITARY SEWER (UNDERFLOOR)		PROVIDE SCHED	
									WITH BOTTOM OUTLET DURA-COATED CAST IRON BODY WITH	APPROVED EQUIVALENT			— — EX.SAN— —	EXISTING SANITARY SEWER (UNDERFLOOR)	. 18	S NOT PERMITT PIPING. ALL PIPII	ED BY LOCAL C
FFCO	6	FLOOR CLEANOUT	ZURN	Z1400-B					BOTTOM OUTLET, PRE-PACKAGED SHIMS FOR TILT CORRECTION, AND "TYPE B" LIGHT DUTY COVER.	REFER TO PLANS FOR OUTLET SIZE.	PC	PC		VENT PIPING	P	PIPING SHALL NOREQUIREMENT V	OT BE USED IN
FS-1	2	FLOOR SINK, 3" PIPE	PROFLO	PF42857, PF42895			3"	1 1/2"	PVC, 12"X12"X5 3/4"DEEP, WITH 9"X9" HALF GRATE		PC	PC		COLD WATER		FIELD VERIFY IN SEWERS PRIOR	
GT-1	1	GREASE INTERCEPTOR	SCHIER	GB-250			4"	2"	100 GPM, 1048 LBS LIQUID CAPACITY,	VENTED, NOT REQUIRE FLOW CONTROL DEVICE	PC	PC		HOT WATER	Т	ELEVATION OF F	
							-	<i>L</i>	1895 LBS GREASE CAPACITY	T&S B-1115 FAUCET W/					F	LEANOUTS SHA	
HS-1	2	HAND SINK	UNIVERSAL STAINLESS	UNSEHS-1RL	1/2"	1/2"	2"	1 1/2"	7" BACKSPLASH AND WALL BRACKETS, RIGHT AND LEFT SPLASH GUARDS, 12"X10"X6" BASIN. SS FINISH	059X-A22 6" SWING NOZZLE W/ 2.2 GPM AERATOR, SPLASH	KEC	PC		RECIRCULATING HOT WATER	V	PLUMBING VENT WHERE STATE C DFFSET TO MEE	OR LOCAL CODI
			BY SPG						93.25"X23.5"X44"H,	MOUNTED T&S BRASS B-0133-ADF12-B				EXISTING COLD WATER	L	OCATION WITH	H.V.A.C. CONT
KS-1	1	SINK, 3 COMPARTMENT	JOHN BOOS	3B184-2D18	1/2"	1/2"	0"	0"	18"X18"X14"DEEP BASINS, (2) 18"L DRAINBOARDS, 10"X2" BACKSPLASH,	PRE-RINSE FAUCET, 8" CENTERS, 12" SWING NOZZLE, 1.07 GPM JETSPRAY VALVE,	KEC	PC		CONDENSATE DRAIN	B	3-88, WITH TYPE D1785, WITH TYPE	DWV FITTINGS
									2" INDIRECT DRAIN 1 COMPARTMENT SINK.	POLISHED CHROME				CHECK VALVE	F	TITTINGS SHALL	BE JOINED US
	4	SINK, 1 COMP, LEFT			4 /0"	4 (0)	0.1	0.1	40"WX23.5"DX44"H, 18"X18"X14"D BASIN, 18"L LEFT DRAINBOARD,	T&S BRASS B-0133-ADF12-B PRE-RINSE FAUCET, 8"	1/50	50		BALANCING VALVE	F	CLEANOUT AND PER FOOT AWAY	Y FROM MECHA
KS-2		DRAINBOARD	JOHN BOOS	1B184-1D18L	1/2"	1/2"	0"	0"	10"BACKSPLASH, 1 SET FAUCET HOLES 8" CENTERS, 16/300 STAINLESS STEEL,	CENTERS, 12" SWING NOZZLE, 1.07 GPM JETSPRAY VALVE, POLISHED CHROME	KEC	PC			S	SOIL, WASTE AN SCHEDULE 40 P\ AUTHORITY HAV	VC DWV PLAST
									2" INDIRECT DRAIN	FAUCET: AMERICAN STANDARD				FLOOR DRAIN	F	FIRE BARRIER C	AULK CP-25 CA
LAV-1	1	LAVATORY - WALL HUNG	AMERICAN	0355.912.020	1/2"	1/2"	2"	1 1/2"	LUCERNE, ADA COMPLIANT, FAUCET HOLES 4" CENTERS, VITREOUS	7385.004.002, RELIANT SINGLE CONTROL 4" CENTERSET, INDEXED	PC	PC	)	PIPE UP OR DOWN		SOIL, WASTE AN HAVE A SLOPE C	
			STANDARD						CHINA WHITE	METAL LEVER HANDLE, 1.2GPM, LESS DRAIN AND POP-UP			· · · · · · · · · · · · · · · · · · ·	PIPE UP		AND SMALLER A	
									PORTLAND CEMENT BASIN, PEARL GREY	(1) FAUCET T&S B-0660-BSTR, 8" CENTERS WALL MOUNT W/ BRACE, ROUGH				UNION	DON	NESTIC WAT	ER PIPING
MS-1	1	MOP SINK	STERN WILLIAMS MTB	MTB-2424	1/2"	1/2"	3"	1 1/2"	AND WHITE FINISH, 24"X24"X10", W/ SS DOMED STRAINER	CHROME FINISH, PLAIN END OUTLET, PROVIDE A-20	PC	PC		ISOLATION VALVE	Т	NTERIOR DOME FUBING. PEX-A (	GRADE, ASTM F
										ALUMINUM BUMPER GUARDS AT EXPOSED EDGES				CAP ON END OF PIPE	F	COPPER OR ENC	OINTS TO COMP
	_								1/2" INLETS AND OUTLET, THERMOSTATIC CONTROLLER WITH INTEGRAL CHECKS, / BRASS BODY WITH STAINI ESS STEEL	ALL SET TO 105°E, MOUNT IN				CLEANOUT	E	EXPANSION FITT	TING WITH MET
MV-1	3	MIXING VALVE	SYMMONS	7-225-CK	1/2"	1/2"			BRASS BODY WITH STAINLESS STEEL STRAINER, VANDAL-RESISTANT TEMPERATURE ADJUSTMENT HANDLE.	ACCESSIBLE LOCATION.	PC	PC		REDUCED PRESSURE BACKFLOW PREVENTER	F	EXTERIOR DOME	
		WATER CLOSET - FLOOR							TWO PIECE, ADA COMPLIANT 16 23/32" RIM, ELONGATED BOWEL, 1.28	CHURCH 9500CT-000				BACKFLOW PREVENTER	A	PROVIDE 1" THIC ALL DOMESTIC V SHALL HAVE A C	WATER PIPING.
WC-1		MOUNTED	ZURN	Z5555-K	3/4"		4"	2"	GPF, SIPHON JET FLUSH, 12" STANDARD ROUGH-IN	ELONGATED OPEN FRONT SEAT	PC	PC		POINT OFF CONNECTION	D. C	DOMESTIC WATE	ER PIPING SHAI
		REDUCED PRESSURE ZONE ASSEMBLY(BFP)		1 5000					LEAD FREE CAST COPPER SILICON ALLOY BODY, QT WITH AIR GAP				G	NEW GAS PIPING		DEPT., STATE AN PLUMBING HOSE	ND LOCAL PLUN
RPZ	1	(PROVIDE IF NEW SERVICE PROPOSED	WATTS	LF009	1"				AND ELBOW	-	PC	PC	│	GAS SHUT OFF VALVE	В	BE PROVIDED W BACKFLOW PRE	ITH VACUUM B
HD-1	1	HUB DRAIN, 3" PIPE	ZURN	Z415E-3NL	3"				BODY ASSEMBLY WITH TYPE E STRAINEF AND FUNNEL, DURA COATED CAST IRON	TRAP GUARD OR APPROVED	PC	PC	ΦΦ	GAS PRESSURE REGULATOR VALVE		PROVIDE SHUT-(	
			20111						WITH BOTTOM OUTLET	EQUIVALENT					_  [	PROVIDE DIELEC	AL PIPING IS JO
												]	PLUMBING	G ABBREVIATIONS	A	ALVES SERVIN	JAL. ALL VALVE
					W	ATE			SCHEDULE				ABBREVIATIONS	DESCRIPTION	I. V	ACCESSIBLE BY WATER PIPING S NSIDE THE BUIL	SHOWN ROUTE
ID	DES	CRIPTION QUANTITY	MANUFACTURER	MODEL NC	). VO	LT PH	HEATII CAPAC		LOW RATE DESCRIPTION	TRIM AND REMARKS		Y INSTALLED BY	cw	COLD WATER		DAMAGE.	DING INSULATI
	\ <b>A/A</b> T	ER HEATER 2	NAVIEN	NPE-240S	120	V 1	100000	Dtu/b 4	CONDENSING TANKLESS GAS WATER HEATER, 17 4 GPM 5/16"WX31"HX13 19/32"D,	4.4GAL EXPANSION TANK AMTROL ST-12 OR EQUAL, GXXX001325 CONDENSATE NEUTRALIZER TANK		PC	HWR	HOT WATER	NAT	URAL GAS F	PING
VVII-1	VVAI		NAVIEN	NPE-2403	120	VII	199900 0		290°F CLEARANCES: 3" SIDES, 9" TOP, 12" BOTTOM	COMMON VENT KIT, PRESSURE RELIEF SAFETY VALVE			SAN	SANITARY		COORDINATE IN REQUIREMENTS	
NOTES		ATER SIZED FOR 4.4 GPM @	90°E RISE			I						_	v	VENT	P	GAS PIPING SHA PIPE SHALL BE T	THREADED OR
		ALTERNATE: RINNAI CU19											AFF/AFG	ABOVE FINISHED FLOOR/GRADE	C. F	COMAPNAY AND PROVIDE GAS PI	IPING COMPLE
				PI		SCH	IEDUL	F					АНЈ	AUTHORITY HAVING JURISDICTION		HANGERS, SUPP APPROVALS. GA ATEST EDITION	AS PIPING SHAI
IC	)	DESCRIPTION	MANUFACTU			VOLT	PH		TRIM AND REMARKS	SUPPLIED BY INSTALLE	D BY	•	BED	BACKFLOW PREVENTER		OR REGULATION	NS.
RP	-1	RECIRCULATION PUMP	P GRUNDFO	S ALPHA	42	120 V	1	MANU	@ 3.0 FT. HD. INSTALL NEAR WATER HEA ACTURER'S RECOMMENDATIONS.						s	SUPPORT 10'-0" PAINT GAS PIPIN	O.C.
								PROVI	DE AQUASTAT WITH TIMER KIT				CO			OR EQUAL PAINT	T. COLOR TO BE
			(	GREASE	ΙΝΤΙ	ERC	ΕΡΤΟ	RS S	SIZING				ETR		G. N	IURISDICTION. MAKE FINAL COM	NNECTIONS TO
										USAGE FLOW RATE(GPM)			FFCO/FGCO EX.FFCO/FGCO	FLUSH FLOOR/GRADE CLEANOUT EXISTING FLUSH FLOOR/GRADE CLEANOUT	- S	SHUT-OFF VALV NSTALL AND CC	E AND 6" DIRT L NNECT FLEXIB
				DTH(IN) DEPT	· ,	CUBIC I	NCHES G		(GALLC	DNS) 1 MIN.			GC	GENERAL CONTRACTOR		OVEN EQUIPMEN PAINT GAS PIPIN	
3 COMP S			18 18	18         14           18         14		1360 4536		58.9 19.6	0.75 44.7 0.75 14.7					INDIRECT WASTE			
MOP SIN	< - M	S-1 1	24	24 10	)	5760	0	24.9	0.75 18.6	87 18.67			PC	PLUMBING CONTRACTOR	ENE	RGY CONSERV	ATION NOTES:
HAND SIN FLOOR D			- 12	10 6 		- 1440	D C	6.23 -	0.75 4.67	4.0			ТҮР	TYPICAL		ALL DOMESTIC FIRE-RETARDA	
									TOT				VTR	VENT THRU ROOF		PIPING WITH REQUIREMENT	FACTORY-
PROPOSI	ED GI	REASE INTERCEPTOR, SCH	IER GB-250						1017				wco	WALL CLEANOUT		CONSERVATION BELOW TABLE.	N CODE 2018
													WH-1	WATER HEATER	[		MINIMUM P
		GREASE I	NTERCFF	PTOR SC	ΉΕΓ	DULF	=						ET-1	EXPANSION TANK		FLUID	INSULATION
													RP-1	HOT WATER CIRCULATION PUMP		OPERATING TEMPERATURE	
ITE	=IVI	SERVICE	LOCATION	FLOW CAP/ (GPM)		GREASE (LB		A	NCTURER ND DEL				FD	FLOOR DRAIN		RANGE AND USAGE (°F)	CONDUCTIVIT
GREASE		RCEPTOR KITCHEN WAST		JND 100		18	95	SC					HD			105-140	(H. FT2. °F) 0.21-0.28
	GI-1							GB	250				FS	FLOOR SINK		40-60	0.21-0.27

			Р	LUMBI	NG FI	XTUF	E SCHEDULE				PLUM	BING LEGEND	PLU	MBING	NOTES /
ID QTY DESC	RIPTION	MANUFACTURER	MODEL NO.	CONI CW HW	NECTION S		DESCRIPTION	TRIM AND REMARKS	SUPPLIED BY	INSTALLED BY	SYMBOL	DESCRIPTION	WAST	E AND VE	NT PIPING
FD-1 2 FLOOR D	RAIN, 3"&4" PIPE	ZURN	Z415N-3NL		3",4"	1 1/2"	BODY ASSEMBLY WITH TYPE N STRAINER, DURA-COATED CAST IRON	PROVIDE WITH PROVENT SYSTEMS TRAP GUARD OR	PC	PC	— — SAN — —	SANITARY SEWER (UNDERFLOOR)			OULE 40 POLYVIN G WHERE PERM
							WITH BOTTOM OUTLET DURA-COATED CAST IRON BODY WITH	APPROVED EQUIVALENT			EX.SAN	EXISTING SANITARY SEWER (UNDERFLOOR)	IS N	NOT PERMITT	ED BY LOCAL CO
FFCO 6 FLOOR C	CLEANOUT	ZURN	Z1400-B				BOTTOM OUTLET, PRE-PACKAGED SHIMS FOR TILT CORRECTION, AND "TYPE B" LIGHT DUTY COVER.	REFER TO PLANS FOR OUTLET SIZE.	PC	PC		VENT PIPING	REC	QUIREMENT V	OT BE USED IN F WITH H.V.A.C. CC
FS-1 2 FLOOR S	SINK, 3" PIPE	PROFLO	PF42857, PF42895		3"	1 1/2"	PVC, 12"X12"X5 3/4"DEEP, WITH 9"X9" HALF GRATE		PC	PC		COLD WATER	SEV	WERS PRIOR	VERT ELEVATIO TO ROUGH-IN.
GT-1 1 GREASE	INTERCEPTOR	SCHIER	GB-250		4"	2"	100 GPM, 1048 LBS LIQUID CAPACITY, 1895 LBS GREASE CAPACITY	VENTED, NOT REQUIRE FLOW CONTROL DEVICE	PC	PC		HOT WATER	TILE	E.	LOOR DRAINS S
							7" BACKSPLASH AND WALL BRACKETS.	T&S B-1115 FAUCET W/				RECIRCULATING HOT WATER	FLC	DORS.	ALL BE INSTALLE
HS-1 2 HAND SI	NK	UNIVERSAL STAINLESS BY SPG	UNSEHS-1RL	1/2" 1/2'	' 2"	1 1/2"	RIGHT AND LEFT SPLASH GUARDS, 12"X10"X6" BASIN, SS FINISH	059X-A22 6" SWING NOZZLE W/ 2.2 GPM AERATOR, SPLASH MOUNTED	KEC	PC		EXISTING COLD WATER	WH	IERE STATE C	OR LOCAL CODE
		DT SPG					93.25"X23.5"X44"H,	T&S BRASS B-0133-ADF12-B PRE-RINSE FAUCET, 8"				EXISTING COLD WATER	F. CO	NDENSATE D	H.V.A.C. CONTR RAIN PIPING SH
KS-1 1 SINK, 3 C	COMPARTMENT	JOHN BOOS	3B184-2D18	1/2" 1/2'	' 0"	0"	18"X18"X14"DEEP BASINS, (2) 18"L DRAINBOARDS, 10"X2" BACKSPLASH, 2" INDIRECT DRAIN	CENTERS, 12" SWING NOZZLE, 1.07 GPM JETSPRAY VALVE,	KEC	PC		CONDENSATE DRAIN	D17	785, WITH TYF	E DWV FITTINGS, PE DWV FITTINGS BE JOINED USIN
							1 COMPARTMENT SINK,	POLISHED CHROME T&S BRASS B-0133-ADF12-B				CHECK VALVE	FIT	TINGS SHALL	BE JOINED USIN UNIONS. SLOPE
KS-2 1 SINK, 1 C	COMP, LEFT	JOHN BOOS	1B184-1D18L	1/2" 1/2'	' 0"	0"	40"WX23.5"DX44"H, 18"X18"X14"D BASIN, 18"L LEFT DRAINBOARD, 10"BACKSPLASH, 1 SET FAUCET HOLES	PRE-RINSE FAUCET, 8" CENTERS, 12" SWING NOZZLE,	KEC	PC	Q	BALANCING VALVE			Y FROM MECHAN
							8" CENTERS, 16/300 STAINLESS STEEL, 2" INDIRECT DRAIN	1.07 GPM JETSPRAY VALVE, POLISHED CHROME			· · · · · · · · · · · · · · · · · · ·	FLOOR DRAIN	AUT	THORITY HAV	VC DWV PLASTIC
							LUCERNE, ADA COMPLIANT, FAUCET	FAUCET: AMERICAN STANDARD 7385.004.002, RELIANT SINGLE				PIPE UP OR DOWN	PEN	NETRATIONS	AULK CP-25 CAU OF FIRE RATED ID VENT <mark>PIPING</mark> S
LAV-1 1 LAVATOF	RY - WALL HUNG	AMERICAN STANDARD	0355.912.020	1/2" 1/2'	' 2"	1 1/2"	HOLES 4" CENTERS, VITREOUS CHINA WHITE	CONTROL 4" CENTERSET, INDEXE METAL LEVER HANDLE, 1.2GPM,	D PC	PC	· · · · · · · · · · · · · · · · · · ·	PIPE UP	HA\	VE A SLOPE C	OF NOT LESS TH
								LESS DRAIN AND POP-UP (1) FAUCET T&S				UNION			ER PIPING
MS-1 1 MOP SIN	ĸ	STERN WILLIAMS	MTB-2424	1/2" 1/2'	' 3"	1 1/2"	PORTLAND CEMENT BASIN, PEARL GREY AND WHITE FINISH, 24"X24"X10", W/	B-0660-BSTR, 8" CENTERS WALL MOUNT W/ BRACE, ROUGH CHROME FINISH, PLAIN END	PC	PC					STIC WATER: CF
		МТВ					SS DOMED STRAINER	OUTLET, PROVIDE A-20 ALUMINUM BUMPER GUARDS AT					CO	PPER OR ENG	GRADE, ASTM F- GINEERED PLAS
							1/2" INLETS AND OUTLET, THERMOSTATIC	EXPOSED EDGES				CAP ON END OF PIPE	EXF	PANSION FITT	DINTS TO COMPI
MV-1 3 MIXING V	/ALVE	SYMMONS	7-225-CK	1/2" 1/2'			CONTROLLER WITH INTEGRAL CHECKS, A BRASS BODY WITH STAINLESS STEEL STRAINER, VANDAL-RESISTANT	LL SET TO 105°F. MOUNT IN ACCESSIBLE LOCATION.	PC	PC		CLEANOUT REDUCED PRESSURE	B. EXT		ESTIC WATER: T
							TEMPERATURE ADJUSTMENT HANDLE. TWO PIECE, ADA COMPLIANT 16					BACKFLOW PREVENTER	C. PRO	OVIDE 1" THIC	CK FIBERGLASS I NATER PIPING. 1
WC-1 1 WATER C	CLOSET - FLOOR	ZURN	Z5555-K	3/4"	4"	2"	23/32" RIM, ELONGATED BOWEL, 1.28 GPF, SIPHON JET FLUSH, 12" STANDARD	CHURCH 9500CT-000 ELONGATED OPEN FRONT SEAT	PC	PC		POINT OFF	SH/	ALL HAVE A C	ONTINUOUS VAI
	ED PRESSURE						ROUGH-IN LEAD FREE CAST COPPER SILICON					CONNECTION	DEF	PT., STATE AN	PANTS. DISINFE ND LOCAL PLUMI
RPZ 1 (PROVIE	SSEMBLY(BFP) DE IF NEW E PROPOSED	WATTS	LF009	1"			ALLOY BODY, QT WITH AIR GAP AND ELBOW	-	PC	PC	G G	NEW GAS PIPING GAS SHUT OFF VALVE	BEI	PROVIDED W	E BIBBS OR VAL\ ITH VACUUM BR VENTION AS REG
							BODY ASSEMBLY WITH TYPE E STRAINER AND FUNNEL, DURA COATED CAST IRON	PROVIDE WITH PROVENT SYSTEM TRAP GUARD OR APPROVED				GAS PRESSURE REGULATOR VALVE	F. PRO	OVIDE SHUT-0	OFF VALVES ON ER PIPING TO AL
HD-1 1 HUB DRA	AIN, 3" PIPE	ZURN	Z415E-3NL	3"			WITH BOTTOM OUTLET	EQUIVALENT	PC	PC	↓ ↓		G. PRO	OVIDE DIELEO	CTRIC UNIONS A
												G ABBREVIATIONS	H. VAL	LVES SERVIN PROVED EQU	G DOMESTIC WA
				WAT	ER H	EATE	R SCHEDULE				ABBREVIATIONS	DESCRIPTION	I. WA	TER PIPING S	MAINTENANCE SHOWN ROUTED
ID DESCRIPTION	QUANTITY	MANUFACTURER	MODEL NO	). VOLT			FLOW RATE DESCRIPTION	TRIM AND REMARKS	SUPPLIED BY	INSTALLED BY	cw	COLD WATER		SIDE THE BUIL MAGE.	DING INSULATIO
							CONDENSING TANKLESS GAS WATER HEATER, 17	4.4GAL EXPANSION TANK AMTRO ST-12 OR EQUAL, GXXX001325		50	HW	HOT WATER	NATU	RAL GAS F	PIPING
WH-1 WATER HEATE	=R 2	NAVIEN	NPE-240S	120 V	1 19990	00 Btu/h	4.4 GPM 5/16"WX31"HX13 19/32"D, @90°F CLEARANCES: 3" SIDES, 9" TOP, 12" BOTTOM	CONDENSATE NEUTRALIZER TAN COMMON VENT KIT, PRESSURE RELIEF SAFETY VALVE	IK, PC	PC	HWR	HOT WATER RETURN			STALLATION OF PRIOR TO INST
NOTES: WATER HEATER SIZE		a one rise									V	VENT	PIP	E SHALL BE T	LL BE STANDAR
APPROVED ALTERNA											AFF/AFG	ABOVE FINISHED FLOOR/GRADE	C. PRO	OVIDE GAS PI	STATE AND LO
			PI	JMP SC		IJЕ					АНЈ	AUTHORITY HAVING JURISDICTION	APF	PROVALS. GA	PORTS, ETC. OB AS PIPING SHALI I OF NFPA 54 AN
ID	DESCRIPTION	MANUFACTU	1				TRIM AND REMARKS	SUPPLIED BY INSTALL	ED BY		RED	BACKFLOW PREVENTER	OR	REGULATION	NS. JTED ON ROOF S
RP-1 RECI	IRCULATION PUM	P GRUNDFO	S ALPH	A2 120	V 1	MANU	A @ 3.0 FT. HD. INSTALL NEAR WATER HEAT IFACTURER'S RECOMMENDATIONS.	PC PC	;		со	CLEANOUT	SUF	PPORT 10'-0"	
						PRO/	IDE AQUASTAT WITH TIMER KIT				ETR		OR COI	EQUAL PAIN NTRACTOR A	T. COLOR TO BE ND PER REQUIR
		C	GREASE	INTER	CEPT	ORS	SIZING				FFCO/FGCO	FLUSH FLOOR/GRADE CLEANOUT	G. MA		NNECTIONS TO ( E AND 6" DIRT LE
FIXTURE	QUANTITY		ENSIONS		VOLUN		PERCENTAGE USAGE(%)				EX.FFCO/FGCO	EXISTING FLUSH FLOOR/GRADE CLEANOUT	. INS	TALL AND CO	E AND 6" DIRT LE NNECT FLEXIBL NT AND MAKE FI
3 COMP SINK - KS-1	1	LENGTH(IN) WIE	DTH(IN) DEPT		IC INCHES	GALLON 58.9	GALLO 0.75 44.18				GC	GENERAL CONTRACTOR			IG EXPOSED IN S
1 COMP SINK - KS-2	1	18	18 14	4 4	536	19.6	0.75 14.7	14.7			IW	INDIRECT WASTE			
MOP SINK - MS-1 HAND SINK - HS-1	1 2	24 12	24 10 10 6		5760 440	24.9 6.23	0.75 18.67 0.75 4.67				PC	PLUMBING CONTRACTOR			ATION NOTES:
FLOOR DRAIN-FD-1	1	-			-	-		1.0			ТҮР	TYPICAL	FIF	RE-RETARDA	WATER PIPING
		1	1				ΤΟΤΑΙ	L: 83.22			VTR	VENT THRU ROOF	RE	EQUIREMENT	I FACTORY-AI SHOULD C N CODE 2018 S
PROPOSED GREASE IN	TERCEPTOR, SCH	HER GB-250									WCO	WALL CLEANOUT		ELOW TABLE.	
											WH-1				MINIMUM PI
6	GREASE I	NTERCEF	PTOR SC	HEDU	LE			$\sim$			ET-1 RP-1	EXPANSION TANK		FLUID PERATING	INSULATION C
ITEM	SERVICE	LOCATION	FLOW CAP	ACITY GREA							FD	FLOOR DRAIN	TEN R.	MPERATURE	CONDUCTIVITY BTU· IN./
					(LBS)	М	DDEL				HD	HUB DRAIN		JSAGE (°F)	(H. FT2. °F)
GREASE INTERCEPTOF GI-1	R KITCHEN WAS	TE UNDERGROU	JND 100		1895		:HIER -250				FS	FLOOR SINK		105-140	0.21-0.28
													L	40-60	0.21-0.27

G	REASE IN	TERCEPT	OR SCHE	DULE		
ITEM	SERVICE	LOCATION	FLOW CAPACITY (GPM)	GREASE CAPACITY (LBS)	MANUFACTURER AND MODEL	
GREASE INTERCEPTOR GI-1	KITCHEN WASTE	UNDERGROUND	100	1895	SCHIER GB-250	
NOTE- CONTRACTOR TO PROVIDE ALL REQUIRED ACCESSORIES FOR SATISFACTORY WORKING OF GREASE INTERCEPTOR AS PER SITE CONDITIONS.						

AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018 C404.6.3 THE 2. CONTROLS ON PUMPS THAT CIRCULATE WATER BETWEEN A WATER HEATER AND A HEATED-WATER STORAGE TANK SHALL LIMIT OPERATION OF THE PUMP FROM HEATING CYCLE STARTUP TO NOT GREATER THAN 5 MINUTES AFTER THE END OF THE CYCLE.

3. AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018 C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

# S AND SPECIFICATIONS

YVINYL CHLORIDE PIPE FOR ALL SOIL, WASTE ERMITTED BY LOCAL CODES. WHERE PVC PIPING L CODES. USE STANDARD WEIGHT CAST IRON RADE MAY HAVE HUBLESS FITTINGS. PLASTIC IN RETURN AIR PLENUM. COORDINATE THIS . CONTRACTOR PRIOR TO INSTALLATION. TIONS OF ALL NEW AND EXISTING SANITARY

IS SHALL BE HELD 1/2" BELOW FINISH FLOOR\_\_\_\_ ALLED FLUSH WITH FINISHED GRADE/FINISHED

MINIMUM 10'-0" FROM OUTSIDE AIR INTAKES. DES REQUIRE MORE SEPARATION, PROVIDE STRINGENT REQUIREMENTS. COORDINATE

SHALL BE TYPE L HARD DRAWN COPPER, ASTM GS, ASME B16.23, OR SCHEDULE 40 PVC, ASTM NGS, ASTM D2672. COPPER DRAIN PIPE AND JSING 95-5 SILVER SOLDER, AND PVC PIPE AND

USING SOLVENT CEMENT. PROVIDE TRAP WITH OPE CONDENSATE DRAIN LINES MINIMUM OF 1/8" NG SHALL BE SERVICE WEIGHT CAST IRON OR STIC PIPE WHERE ALLOWED BY LOCAL CTION FOR THIS INSTALLATION. PROVIDE 3M CAUL<mark>KING, OR U.L. APPROVED EQUAL, AT</mark>

IG SHALL BE UNIFORMLY GRADED AND SHALL HAN 1/4" PER FOOT FOR PIPING 3" IN DIAMETER FOOT FOR PIPE LARGER THAN 3" IN DIA.

CROSS-LINKED POLYETHYLENE (PEX) PLASTIC 1 F-876; ASTM F-877 (100 PSI AT 180°F). BRASS, LASTIC (EP) FITTINGS, ASTM F-1960. PIPING, MPLY WITH NSF 61-G. NSF 61 AND NSF 372. COLD EX REINFORCING RINGS, ASTM F-1960 OR COLD ETAL COMPRESSION SLEEVE, ASTM 2080. R: TYPE `K' SOFT DRAWN COPPER WITH FLARE

SS PIPE INSULATION WITH SERVICE JACKET ON G. DOMESTIC COLD WATER PIPE INSULATION

HALL BE DISINFECTED PRIOR TO USE BY NFECT PER REQUIREMENTS OF LOCAL HEALTH

ALVES WITH THREADED CONNECTIONS SHALL BREAKERS AND APPROVED MEANS OF REQUIRED BY STATE AND LOCAL CODES.

ON ALL EQUIPMENT AND STOP COCKS IN HOT OALL PLUMBING FIXTURES.

S AT ALL PIPING CONNECTIONS WHERE

WATER SYSTEMS SHALL BE BALL VALVES OR VES SHALL BE LOCATED SO AS TO BE

TED IN EXTERIOR WALLS SHALL BE LOCATED ATION AND FINISHED WALL TO PREVENT FREEZE

OF GAS METER WITH LOCAL GAS COMPANY

DARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE. WELDED AS DIRECTED BY LOCAL GAS

ETE WITH ALL REQUIRED FITTINGS, STRAPS, OBTAIN ALL REQUIRED INSPECTIONS AND ALL BE INSTALLED IN ACCORDANCE WITH THE

AND ANY APPLICABLE STATE AND LOCAL CODES OF SHALL BE SUPPORTED BY ROOF PIPE

TO WEATHER WITH (2) COATS OF "RUSTOLEUM" BE SELECTED BY OWNER OR GENERAL UIREMENTS OF THE AUTHORITY HAVING

TO GAS FIRED EQUIPMENT. PROVIDE GAS T LEG AT EACH CONNECTION.

(IBLE GAS PIPING PROVIDED WITH GAS FIRED E FINAL CONNECTIONS TO OVEN. IN STORE BELOW CEILING SILVER.

PING ABOVE GRADE SHALL BE INSULATED WITH RY-APPLIED JACKET. PROVIDE COLD WATER Y-APPLIED VAPOR BARRIER. INSULATION COMPLY WITH INTERNATIONAL ENERGY 18 SECTION C-404.4 & TABLE C403.11.3 REFER

I PIPE INSULATION THICKNESS

NOMINAL PIPE OR TUBE SIZE (INCHES)							
:1	1 to < 1½	1½ to < 4	4 to < 8	<u>&gt;</u> 8			
.0	1.0	1.5	1.5	1.5			
).5	0.5	1.0	1.0	1.0			

#### PLUMBING GENERAL NOTES

1. REFER TO PLUMBING SPECIFICATION ELSEWHERE IN DRAWINGS FOR

FURTHER INFORMATION AND REQUIREMENTS FOR PLUMBING CONTRACTOR. 2. SUSPEND ALL HORIZONTAL SERVICE PIPING SHOWN ON THIS PROJECT SUCH AS, BUT NOT LIMITED TO WATER, SANITARY WASTE/VENT, STORM WATER, GAS, ETCETERA FROM UNDERSIDE OF ROOF AND/OR FLOOR STRUCTURE, UNLESS OTHERWISE NOTED OR INDICATED. HOLD SUCH PIPING HIGH AS POSSIBLE. EXTEND PIPING DOWN IN WALLS, PARTITIONS, CHASES, ETCETERA TO SERVE FIXTURES AND EQUIPMENT AS SHOWN ON PLANS.

CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.

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. PROVIDE PIPE RISES, DROPS, AND OFFSETS, AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.

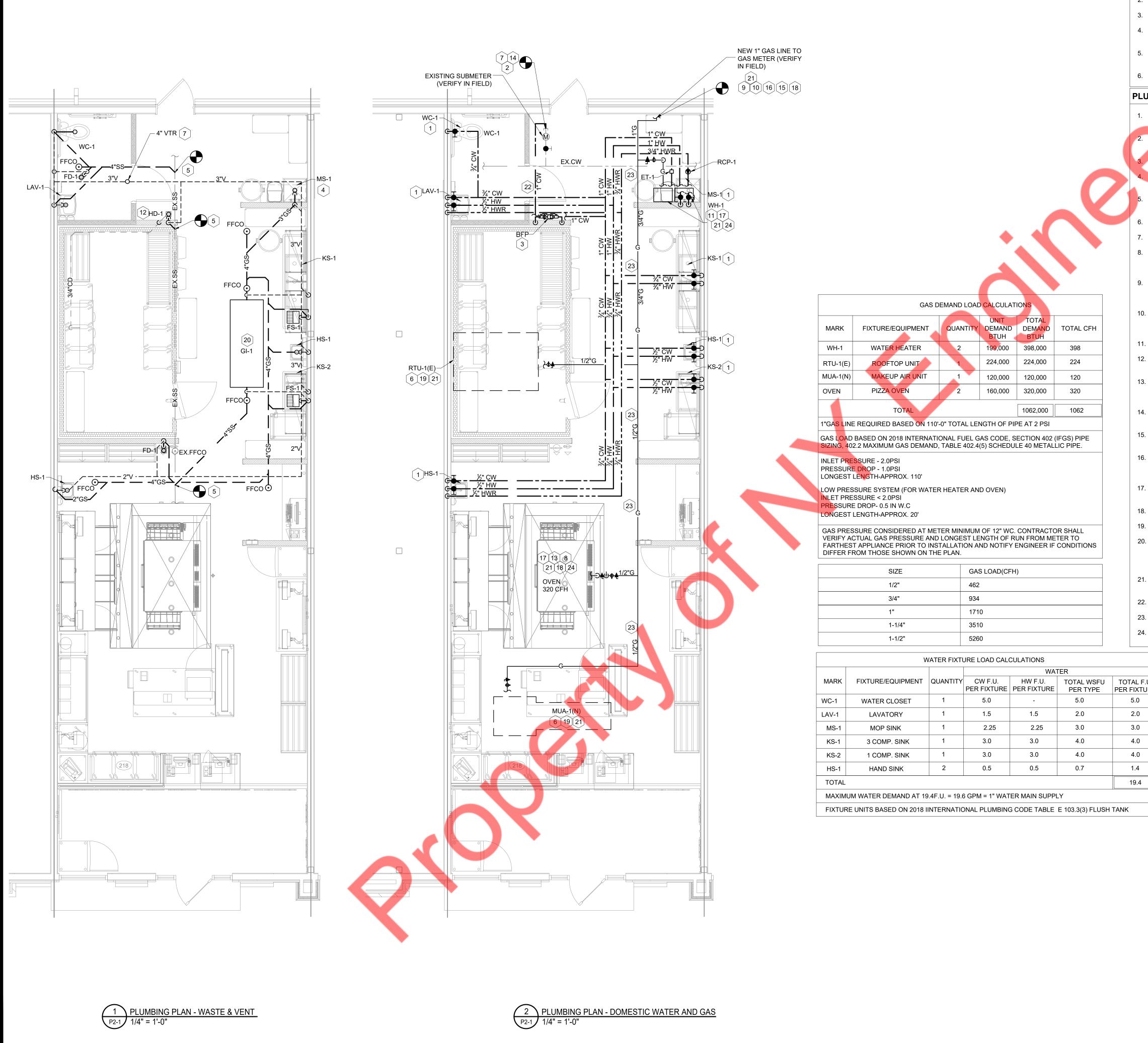
- DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE PIPING, CONNECTIONS, FITTINGS, VALVES, OFFSETS, ETCETERA AND ALL MATERIALS NECESSARY FOR A COMPLETE SYSTEM. SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS.
- 6. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY, INCLUDING APPLICABLE SECTIONS OF ANY INTERIM AMENDMENTS AT THE TIME OF THE PROPOSAL. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
- 7. PROVIDE BACKFLOW PREVENTION DEVICES, (BPD) IN WATER LINES FEEDING PLUMBING FIXTURES AND/OR EQUIPMENT, AS SHOWN ON PLANS AND ELSEWHERE AS REQUIRED BY LOCAL AUTHORITIES. USE DEVICES OF APPROVED TYPE AND MANUFACTURER (ATMOSPHERIC VACUUM, PRESSURE VACUUM, DOUBLE CHECK, AND REDUCED PRESSURE).
- VERIFY SERVICE CONNECTION POINTS, SIZES, ELEVATIONS, AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITIES COMPANY'S AND/OR CIVIL ENGINEER. SERVICES TO INCLUDE BUT NOT LIMITED TO DOMESTIC WATER, FIRE, SANITARY SEWER, STORM SEWER, GAS, ETCETERA.
- WATER HAMMER ARRESTER SHALL BE INSTALLED THROUGHOUT PLUMBING WATER SYSTEMS AS REQUIRED PER DETAIL. 10. ALL PLUMBING LINES NEED TO BE JET SPRAYED, CLEANED AND
- CHLORINATED. GREASE TRAPS NEED TO BE PUMPED AND CLEANED. GC TO PROVIDE PROOF OF COMPLIANCE.

ENERGY CONSERVATION NOTES:

- 4. WATER DISTRIBUTION SYSTEM AS PER INTERNATIONAL ENERGY
- CONSERVATION CODE 2018 C404.7, HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
  - a. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
  - b. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

5. HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER IECC 2018 C404.5.1. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	-	PIPING LENGTH (FEET)
,	PUBLIC LAV	OTHER FIXTURES
1/2"	2'	43'
3/"	0.5'	21'
1"	0.5'	13'
11/4"	0.5'	8'
1½"	0.5'	6'



#### **GENERAL NOTES:**

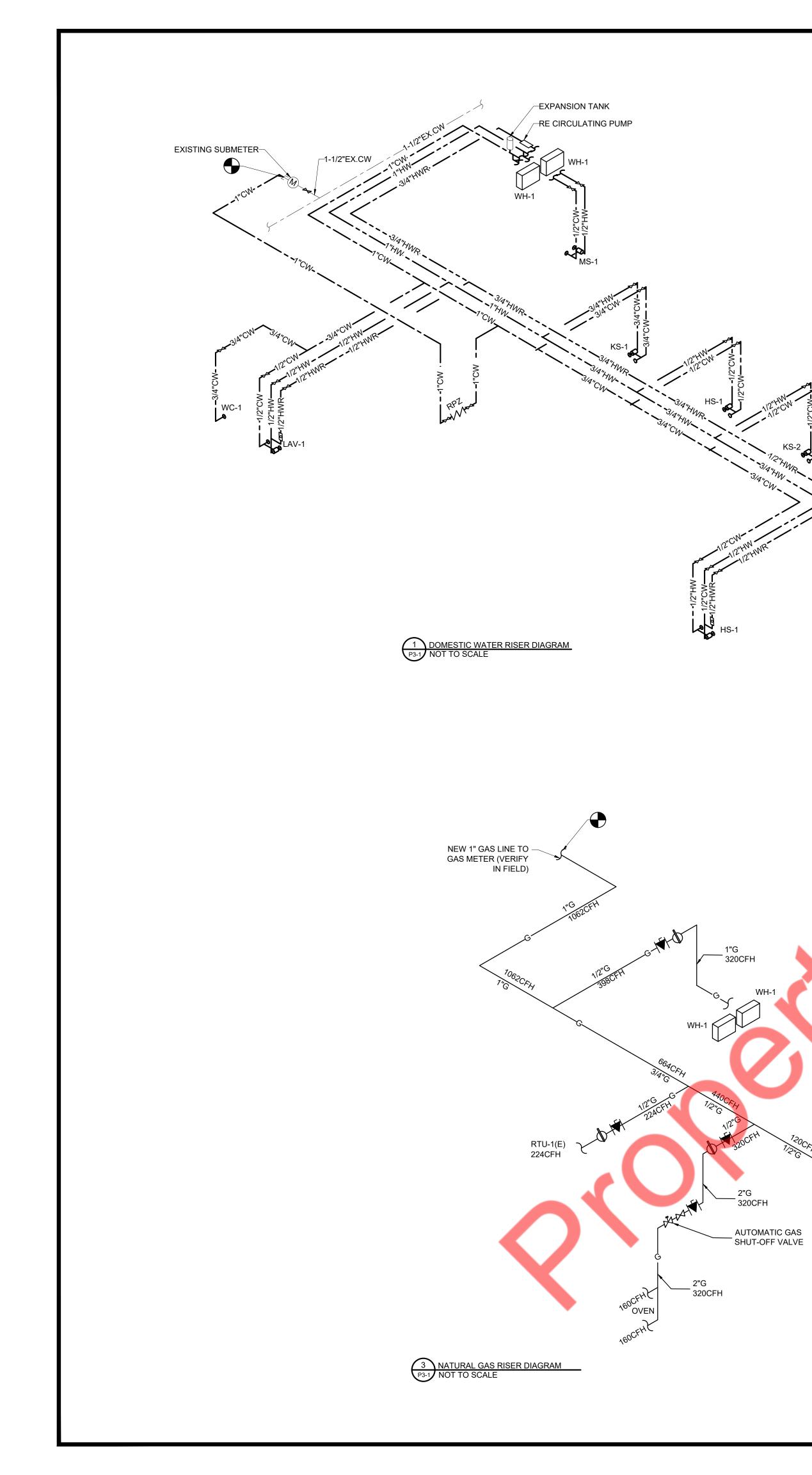
- 1. HVAC UNITS BY MECHANICAL CONTRACTOR, FINAL GAS CONNECTION BY PLUMBING CONTRACTOR.
- 2. REFER TO RISER DIAGRAMS FOR WATER AND WASTE PIPE SIZES.
- 3. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
- 4. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUT & SHUT-OFF VALVES AS REQUIRED.
- CONTRACTOR TO COORDINATE WITH WATER HEATER MANUFACTURERS FOR INSTALLATION REQUIREMENTS.
- 6. REFERENCE RISER DIAGRAMS FOR WATER AND WASTE PIPE SIZES.

#### PLUMBING KEY NOTES:

- EXTEND CW, HW LINES DOWN IN WALL TO FIXTURES AND CONNECT. REFERENCE DOMESTIC WATER RISER DIAGRAM FOR ADDITIONAL INFORMATION
- 2. EXTEND 1" NEW WATER LINE CONNECT TO EXISTING WATER LINE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING WATER LINE, SUBMETER. BASE BID ACCORDINGLY.
- PROVIDE NEW BACKFLOW PREVENTER IN AN ACCESSIBLE LOCATION.
- WATER HEATER T&P RELIEF VALVE AND DRAIN LINE. EXTEND DRAIN LINE TO MOP SINK AND SPILL. DRAIN LINE TO BE A MIN. OF 2" ABOVE FLOOD RIM LEVEL OF MOP SINK.
- EXTEND NEW 4" LINE WASTE TO SITE SANITARY / EXISTING AND CONNECT. PLUMBING CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND INVERT PRIOR TO ROUGH-IN.
- HVAC UNITS BY MECHANICAL CONTRACTOR, FINAL GAS CONNECTION BY PLUMBING CONTRACTOR.
- 4" VENT TROUGH ROOF. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND SIZE ON SITE.
- 8. DROP 2" GAS LINE FOR PIZZA OVEN. 320 MBH FOR X70 OVENS. 1" GAS MAIN LINE MIN. FROM GAS METER TO PRESSURE REGULATOR (ADJACENT TO OVENS), (2) 3/4" GAS LINE AND 12" TO14" WC GAS PRESSURE FROM REGULATOR TO OVENS.
- CONNECT NEW 1" GAS LINE TO GAS METER. CONTRACTOR TO COORDINATE WITH LANDLORD/ ARCHITECT FOR GAS METER AND LOCATION. COORDINATE SIZING OF GAS METER AND PIPING AS SHOWN IN THE DRAWINGS WITH LANDLORD.
- 10. GAS PRESSURE CONSIDERED AT METER MINIMUM OF 14" WC. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.
- 11. 1"G TO WATER HEATER AND CONNECT. PROVIDE SHUT-OFF VALVE AND 6" DIRT LEG.
- 12. EXTEND CONDENSATE DRAIN FROM COOLER TO FLOOR SINK AND SPILL WITH MIN. 2" AIR GAP. COORDINATE LOCATION OF DRAIN CONNECTION WITH COOLER SUPPLIER.
- 13. AUTOMATIC GAS SHUT-OFF VALVE FOR CONNECTION TO SUPPRESSION SYSTEM SHALL BE FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR INTERLOCK TO SUPPRESSION SYSTEM SHALL BE BY MECHANICAL CONTRACTOR (FIRE SUPPRESSION CONTRACTOR).
- 14. PLUMBING CONTRACTOR SHALL COORDINATE ROUTING OF PLUMBING PIPING WITH MECHANICAL CONTRACTOR AND MECHANICAL DRAWINGS TO AVOID CONFLICT (TYPICAL).
- 15. NATURAL GAS LINE ROUTED UP ALONG EXTERIOR WALL AND ON ROOF PER LOCAL GAS CODE REQUIREMENTS. SEAL EXTERIOR WALL PENETRATION WATERTIGHT.
- 16. PLUMBING CONTRACTOR SHALL PRIME AND PAINT ALL NATURAL GAS PIPING EXPOSED TO WEATHER WITH TWO (2) COATS OF RUST INHIBITOR PAINT. COLOR TO BE SELECTED BY OWNER'S REPRESENTATIVE.
- 17. EXTEND NATURAL GAS LINE DOWN THRU CEILING. REFERENCE NATURAL GAS PIPING DIAGRAM FOR ADDITIONAL INFORMATION AND CONTINUATION. PIPE CURB BY PLUMBING CONTRACTOR.
- 18. PLUMBING CONTRACTOR TO PROVIDE NATURAL GAS PIPE SUPPORTS / HANGERS AS REQUIRED.
- 19. 1/2"G UP TO RTU-1(E) AND MUA-1(N) AND CONNECT. PROVIDE SHUT-OFF VALVE AND 6" DIRT LEG.
- 20. NEW SCHIER GB-250 GREASE INTERCEPTOR WITH 100 GPM FLOW. INSTALL GREASE INTERCEPTOR UNDERGROUND AND AS PER THE MANUFACTURER'S RECOMMENDATION. CONTRACTOR TO COORDINATE FINAL LOCATION AND SIZE OF GREASE INTERCEPTOR AS PER THE LOCAL HEALTH JURISDICTION AND BASE BID ACCORDINGLY.
- 21. CONTRACTOR TO MAKE SURE THAT SUFFICIENT GAS PRESSURE SHOULD BE PROVIDED TO GAS EQUIPMENTS. PROVIDE PRESSURE REGULATOR IF REQUIRED AT AN ACCESSIBLE LOCATION.
- 22. NO TAP OFF TO BE TAKEN BEFORE RPZ.
- 23. GAS PIPING RUINING ON THE ROOF
- 24. LOW PRESSURE GAS SERVICE TO WATER HEATER AND OVEN.

			WASTE	Ξ
MARK	FIXTURE/EQUIPMENT	QUANTITY	WASTE F.U. PER FIXTURE	TOTAL F.U. PER FIXTUR
WC-1	WATER CLOSET	1	4.0	4.0
LAV-1	LAVATORY	1	1.0	1.0
FD-1	FLOOR DRAIN	2	5.0	10.0
MS-1	MOP SINK	1	5.0	5.0
3"FS-1	FLOOR SINK	2	5.0	10.0
KS-1	3 - COMPARTMENT SINK	1	IW TO FS-1	-
KS-2	1 - COMPARTMENT SINK	1	IW TO FS-1	-
HS-1	HAND SINK	2	1.0	2.0
4"HD-1	HUB DRAIN	1	6.0	6.0
	TOTALS			38.0

FIXTURE UNITS BASED ON 2018 INTERNATIONAL PLUMBING CODE



	GAS D	EMAND LOAD	CALCULAT	ION
MARK	FIXTURE/EQUIPMENT	QUANTITY	UNIT DEMAND BTUH	C
WH-1	WATER HEATER	2	199,000	3
RTU-1(E)	ROOFTOP UNIT	1	224,000	2
MUA-1(N)	MAKEUP AIR UNIT	1	120,000	1
OVEN	PIZZA OVEN	2	160,000	3

TOTAL

CONNECT TO EXISTING SANITARY LINE (VERIFY IN FIELD)

FFCC  $\bigcirc$ 

A"ET.S.o '

4"VTR

2" SAI

MUA-1(N) 120CFH

1"GAS LINE REQUIRED BASED ON 110'-0" TOTAL LENGTH OF PIPE A GAS LOAD BASED ON 2018 INTERNATIONAL FUEL GAS CODE, SECT SIZING, 402.2 MAXIMUM GAS DEMAND, TABLE 402.4(5), TABLE 402.4(

SCHEDULE 40 METALLIC PIPE. INLET PRESSURE - 2.0PSI

PRESSURE DROP - 1.0PSI LONGEST LENGTH-APPROX. 110'

LOW PRESSURE SYSTEM (FOR WATER HEATER AND OVEN) INLET PRESSURE < 2.0PSI

PRESSURE DROP- 0.5 IN W.C

LONGEST LENGTH-APPROX. 20'

GAS PRESSURE CONSIDERED AT METER MINIMUM OF 12" WC. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.

SIZE	GAS LOAD(CFH)
1/2"	462
3/4"	934
1"	1710
1-1/4"	3510
1-1/2"	5260

NOTES:

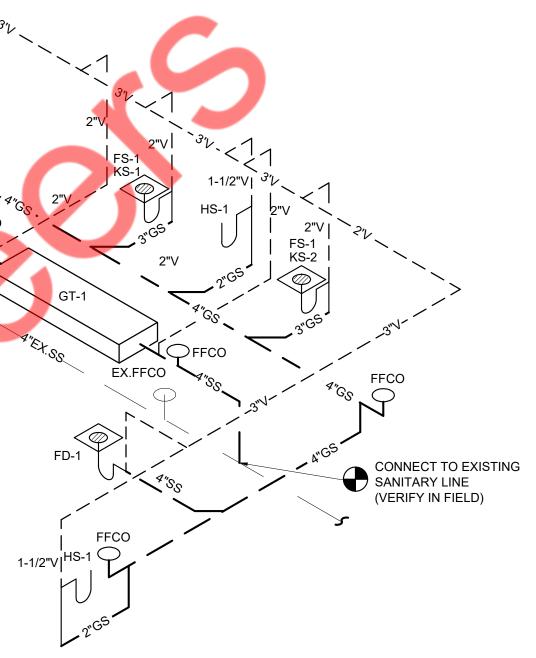
1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREWD FITTINGS

2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR. 3. VERIFY ALL EQUIPMENT BTU'S PRIOR TO INSTALLATION. ADJUST PIPE

SIZE ACCORDING 2018 INTERNATIONAL FUEL GAS CODE TABLE 402.4(5) 4. CONTRACTOR TO FIELD VERIFY FINAL TOTAL EQUIVALENT LENGTH

AND SIZE. 5. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF NEW GAS METER

LOCATION, PRESSURE AND CAPACITY.



2 SANITARY WASTE AND VENT RISER DIAGRAM P3-1 NOT TO SCALE

NS	
TOTAL DEMAND BTUH	TOTAL CFH
398,000	398
224,000	224
120,000	120
320,000	320
1062,000	1062
AT 2 PSI	
CTION 402 .4(2)	(IFGS) PIPE

