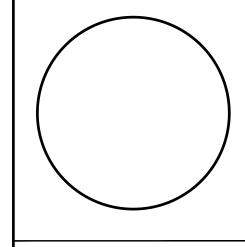
KITCHEN RENOVATION PROJECT

2299 WEST MAIN STREET LITTLETON, CO 80120

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The Ballard Group, Inc.

Mechanical Consulting Engineers 2525 S. Wadsworth Blvd. Lakewood, Colorado 80227 303 988-4514 FAX 303 988-4517

> COLUMBINE ON MAIN 2299 WEST MAIN STREE LITTLETON, CO 80120

Issue Record

Job No. **15137**

Date **01/20/2016**

Drawn CAT/JJOP

Charles de TVO /TDI

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TITLE SHEET



ROUGH CARPENTRY

1. CONTRACTOR IS RESPONSIBLE TO ADEQUATELY SHORE AND BRACE ALL FLOOR AND ROOF FRAMING AND WALLS DURING CONSTRUCTION. 2. MATERIALS:

> A. FRAMING LUMBER 1) JOIST, RAFTERS, HEADERS, BEAMS 2x AND LARGER, PLATES, SILLS

a. No. 2 DF/L

2) STUD, BEARING WALL. SEE PLAN FOR SIZE USED: a. STUDS: HEM-FIR

b. SILL AND TOP PLATES: HEM-FIR 3) SPECIES AND GRADES SHOWN ARE THE MINIMUM ACCEPTABLE. BETTER GRADES MAY BE SUBSTITUTED. 4) PRESSURE TREATED WOOD TO BE USED AT THE

FOLLOWING LOCATIONS: a. LUMBER EXPOSED TO WEATHER

b. WOOD IN CONTACT WITH CONCRETE OR MASONRY B. SHEATHING (WOOD STRUCTURAL PANEL)

1) ROOF SHEATHING: 5/8" (NOMINAL) RATED 48/24. 2. FLOOR SHEATHING: 3/4" (NOMINAL) RATED 48/24 FOR MAXIMUM JOIST SPACING. TONGUE-AND-GROOVE, GLUED TO SUPPORTS.

3) WALL SHEATHING: 1/2" (15/32" NOMINAL) 4) WOOD STRUCTURAL PANELS TO BE A.P.A. RATED AND EXPOSURE 1. PANELS TO BE MANUFACTURED PER U.S. DEP. OF COMMERCE PRODUCT STANDARDS PS1 OR PS2.

Fb = 2600 PSI E = 1.9 x 10 E6 PSI D. TIMBERSTRAND BAND BOARD: Fb = 1700 PSI E = 1.3 x 10 E6 PSI

1) BOLTS AND THREADED ROD: ASTM A307 (MIN.) 3. NAILING: SHALL BE PER FASTENING SCHEDULE OF THE INTERNATIONAL

BUILDING CODE. FOR PREFABRICATED CONNECTORS USE ALL FASTENERS AS PRESCRIBED BY THE MANUFACTURER. 4. ALL POST AND JAMBS ARE TO BE BLOCKED SOLID WITH THE SAME NUMBER OF PIECES AS THE POST OF JAMB WITHIN THE FLOOR SPACE. BLOCKING IS TO ALIGN WITH POST OR JAMBS.

BRICK VENEER

1. BRICK ANCHORS:

A. MINIMUM W1.7 (9 GAGE, MW11) ADJUSTABLE WIRE ANCHORS, HOT-DIPPED GALVANIZED, TWO-PIECÉ PER ASTM A-153, CLASS B-2. B. ANCHORS ATTACHED TO STEEL STUDS THROUGH SHEATHING, NOT SHEATHING ALONE.

C. MINIMUM ONE ANCHOR PER 22/3 FT² OF WALL AREA. D. VERTICAL SPACING @ 18" O.C. MAXIMUM

E. HORIZONTAL SPACING @ 32" O.C. MAXIMUM 2. SEE TYPICAL BRICK LINTEL SCHEDULE.

3. PROVIDE MINIMUM 1" AIR SPACE BETWEEN BRICK AND SHEATHING. 4. MORTAR SHALL COMPLY WITH ASTM C 270, TYPE N OR S.

5. REFERENCE ARCHITECTURAL FOR ADDITIONAL BRICK NOTES AND/OR

LOOSE LINTEL SCHEDULE LINTEL SPAN LINTEL SIZE **BEARING LENGTH** L 3 1/2x3x1/4 LLH L 3 1/2x3 1/2x1/4 4'-6" TO 5'-6" L 4x3 1/2x 1/4 LLV 5'-6" TO 7'-0" L 5x3 1/2x5/16 LLV 7'-0" TO 9'-0" L 6x4x3/8 LLV

REFER TO PLANS

. (1) ANGLE FOR EACH 4" WITHE OF MASONRY RÉ: ARCH'L FOR OPENING SIZES AND LOCATIONS

9'-0" & GREATER

MASONRY NOTES

1. MASONRY DESIGN IS BASED ON A MINIMUM COMPRESSIVE STRENGTH ASSEMBLY OF 1500 PSI. 2. MASONRY UNITS SHALL MEET THE REQUIREMENTS OF ASTM C-90, TYPE 1, WITH A NET AREA COMPRESSIVE STRENGTH OF 1900 PSI. 3. MORTAR SHALL BE PREPARED IN ACCORDANCE WITH ASTM C-270, AND

SHALL BE TYPE M OR TYPE S. 4. ALL GROUT SHALL BE PREPARED IN ACCORDANCE WITH ASTM C-476, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, AND A MAXIMUM AGGREGATE SIZE OF 3/8". 5. ALL MASONRY WALLS SHALL BE SHORED DURING CONSTRUCTION UNTIL THE ROOF DECK AND FLOOR SLABS ARE IN PLACE TO PROVIDE LATERAL

STABILITY. 6. REQUIREMENTS FOR REINFORCED MASONRY:

G. ALL REINFORCED MASONRY SHALL CONFORM TO ACI 530, "SPECIFICATION FOR MASONRY STRUCTURES." 7. REFER TO WALL SECTIONS FOR BOND BEAM LOCATION AND

8. PROVIDE (1) #4 AT 48"o.c. VERTICAL REINFORCEMENT FOR ALL INTERIOR NON-LOAD BEARING CMU WALLS PER ARCH. 9. PROVIDE VERTICAL CONTROL JOINTS IN CONCRETE MASONRY WITHIN

10'-0" OF CORNERS AND AT SPACINGS NOT TO EXCEED 30'-0". DO NOT LOCATE WITHIN 2'-0" OF OPENINGS. 10. PROVIDE HORIZONTAL WIRE MESH REINFORCING @ 16" O.C. (EVERY

2 COURSES, MIIN. 9 G	AUGE GALVANIZED).	
TYP. CMU REINFORC	ALL BARS TO MATCH	
	C.L. OF CONTROL JOINT	WALL REINFORCING SIZE AT 12" CMU PROVIDE 2 BARS AT EACH LOC.
CORNER BAR	BAR EA. SIDE OF JOINT	OPENING JAMB RE: PLAN BAR
	E-FABRICATED R-O-WALL PIECES	STD. WEIGHT DUR-O-WALL AT 16"o.c.

STEEL NOTES

1. ALL STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC "CODE OF STANDARD PRACTICE FOR STEEL **BUILDINGS AND BRIDGES."**

2. MATERIALS: A. WIDE FLANGE SHAPES: ASTM A992

AMERICAN WELDING SOCIETY STANDARDS.

B. CHANNELS, ANGLES, PLATES: ASTM A36

C. HOLLOW STRUCTURAL SHAPES: ASTM A500, GRADE B D. HIGH STRENGTH BOLTS: 3/4" DIAMETER (MINIMUM), A325-N. E. ANCHOR BOLTS: 3/4" DIAMETER (MINIMUM), A36 - F1554

1) HILTI HIT-HY 20 ADHESIVE w/ SCREEN TUBES IN MASONRY

2) HILTI HIT-HY 150 (OR HIT-HY 250) ADHESIVE IN CONCRETE G. EXPANSION BOLTS: HILTI KWIK BOLT III 3. BOLTED CONNECTIONS: ALL BOLTED CONNECTIONS SHALL BE SNUG-TIGHT IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" PUBLISHED BY THE RESEARCH

COUNCIL ON STRUCTURAL CONNECTIONS. 4. WELDED CONNECTIONS: ALL WELDING SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING SOCIETY CODE" (AWS D1.1-96) PUBLISHED BY THE AMERICAN WELDING SOCIETY. ELECTRODES FOR WELDING SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 3.1 OF (AWS D1.1-96). ALL WELDING TO BE DONE BY QUALIFIED WELDERS CONFORMING TO THE

5. SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. 6. CHANGES IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS. AND HOLES, SLOTS, CUTS, ETC. THROUGH ANY MEMBER, ARE NOT PERMITTED UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS. 7. NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED. 8. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP U.N.O. 9. ALL COLUMN BASE PLATES SHALL BE SOLIDLY GROUTED WITH NON-SHRINK GROUT UNDER THE ENTIRE BASE PLATE AREA. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI @ 28 DAYS.

GROUND SMOOTH. 11. THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PERFORMANCE OF ALL CONNECTIONS NOT FULLY DESIGNED OR DETAILED ON THE CONTRACT DOCUMENTS. FABRICATOR IS TO FURNISH ARCHITECT/ ENGINEER WITH SHOP DRAWINGS FOR APPROVAL

10. ALL HOLLOW STRUCTURAL SHAPE WELDED CONNECTIONS TO BE

12. ONCE THE FRAME IS ASSEMBLED, ALL STRUCTURAL STEEL SHALL BE COATED WITH A RUST INHIBITING PRIMER AND PAINTED. THE NEW AND EXISTING STEEL SHALL BE PROPERLY CLEANED AND PREPARED PRIOR TO

DESIGN INFORMATION

1. BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE AS ADOPTED AND/OR AMENDED BY LOCAL BUILDING CODES 2. WIND DESIGN INFORMATION:

A NET AREA COMPRESSIVE STRENGTH OF 1900 PSI.	BASIC WIND SPEED (3 SECOND GUST)	V =	105 mph
RTAR SHALL BE PREPARED IN ACCORDANCE WITH ASTM C-270, AND L BE TYPE M OR TYPE S.	WIND EXPOSURE CATEGORY OCCUPANCY CATEGORY		B II
GROUT SHALL BE PREPARED IN ACCORDANCE WITH ASTM C-476,	INTERNAL PRESSURE COEFFICIENT	GCpi =	+/-0.18
A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, AND A	DIRECTIONALITY FACTOR	Kd =	0.85
MUM AGGREGATE SIZE OF 3/8".	VELOCITY PRESSURE COEFFICIENT	Kh =	0.00
MASONRY WALLS SHALL BE SHORED DURING CONSTRUCTION UNTIL	TOPOGRAPHICAL FACTOR	Kzt =	1.00
ROOF DECK AND FLOOR SLABS ARE IN PLACE TO PROVIDE LATERAL ILITY.	EDGE REGION	a =	1.00
QUIREMENTS FOR REINFORCED MASONRY:	VELOCITY PRESSURE	qz =	
A. FILL ALL REINFORCED CELLS, BOND COURSES, AND LINTELS WITH	3. SEISMIC DESIGN INFORMATION:	42	
CONCRETE GROUT.	SEISMIC ANALYSIS PROCEDURE: EQUIVA	J ENT I ATERA	I FORCE
B. VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT		Ss =	0.180
SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED AND	SPECTRAL RESPONSE COEFFICIENTS	S1 =	0.058
CONTINUOUS CELL (AT LEAST 3" x 4" FOR SINGLE WYTHE CONCRETE	SEISMIC RISK CATEGORY	01-	II
BLOCK WALLS).	SITE CLASS (PER SOILS REPORT)		 D
C. PROVIDE CLEANOUT OPENINGS AT BOTTOM OF CELLS TO BE GROUTED. WHEN GROUT POUR EXCEEDS 4'-0" IN HEIGHT.	SEISMIC RESISTING SYSTEM		G WALLS
D. REMOVE ALL OVERHANGING MORTAR OR OBSTRUCTIONS AND			RY WALLS
ANY DEBRIS FROM INSIDE OF SUCH CELL WALLS.	DESIGN SPECTRAL RESPONSE ACCELERATIONS	Sds =	0.192
E. SUPPORT VERTICAL REINFORCING BARS AT TOP AND BOTTOM OF		Sd1 =	0.093
WALL AND AT INTERVALS NOT EXCEEDING 4'-0" ON-CENTER UNLESS OTHERWISE NOTED.	RESPONSE MODIFICATION	R =	2.00
F. LAP SPLICE ALL BARS 48 DIAMETERS MINIMUM AT ALL SPLICE	DEFLECTION AMPLIFICATION FACTOR	Cd =	1.75
POINTS.	OVERSTRENGTH FACTOR	Ω =	2.50
G. ALL REINFORCED MASONRY SHALL CONFORM TO ACI 530,	SEISMIC RESPONSE COEFFICIENT	Cs =	0.096
"SPECIFICATION FOR MASONRY STRUCTURES."	SEISMIC DESIGN CATEGORY		В
FER TO WALL SECTIONS FOR BOND BEAM LOCATION AND	SEISMIC BASE SHEAR	V =	
FORCING.	4. ROOF LOADING INFORMATION:		
OVIDE (1) #4 AT 48"o.c. VERTICAL REINFORCEMENT FOR ALL INTERIOR	ROOF DEAD LOAD		20 psf
LOAD BEARING CMU WALLS PER ARCH.	ROOF LIVE LOAD		20 psf
OVIDE VERTICAL CONTROL JOINTS IN CONCRETE MASONRY WITHIN	5. SNOW LOADING INFORMATION:	_	
OF CORNERS AND AT SPACINGS NOT TO EXCEED 30'-0". DO NOT	GROUND SNOW LOAD	Pg =	30 psf
TE WITHIN 2'-0" OF OPENINGS.	ROOF SNOW LOAD	Pr =	30 psf
ROVIDE HORIZONTAL WIRE MESH REINFORCING @ 16" O.C. (EVERY JRSES, MIN. 9 GAUGE GALVANIZED).	6. FLOOR LOADING INFORMATION:		
ONOLO, WINTER O CONTROLL OF THE CONTROLL OF THE CONTROLL OF THE CONTROL OF THE CO	RESTAURANT DEAD LOAD		50 psf

GENERAL NOTES

100 psf

RESTAURANT LIVE LOAD

1. THESE DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK. 2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

3. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. 4. OPENINGS IN SLAB OF 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND

MECHANICAL DRAWINGS FOR SUCH OPENINGS. 5. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE

6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.

FRAMING AT THE TIME THE LOADS ARE IMPOSED.

7. UNLESS OTHERWISE NOTED. FIREPROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS. 8. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.

9. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT/ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT/ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT/ ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

10. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT/ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.



1600 BALTIMORE, SUITE 102 www.apex-engineers.com ROOF FRAMING ASSUMED TO BE 2X10 at 16"o.c.

CONTRACTOR TO VERIFY ROOF FRAMING AND

PROVIDE INFORMATION TO STRUCTURAL

ENGINEER FOR ANALYSIS

The Ballard Group, Inc.

Mechanical Consulting Engineers 2525 S. Wadsworth Blvd Lakewood, Colorado 80227 303-988-4514

FAX 303-988-4517

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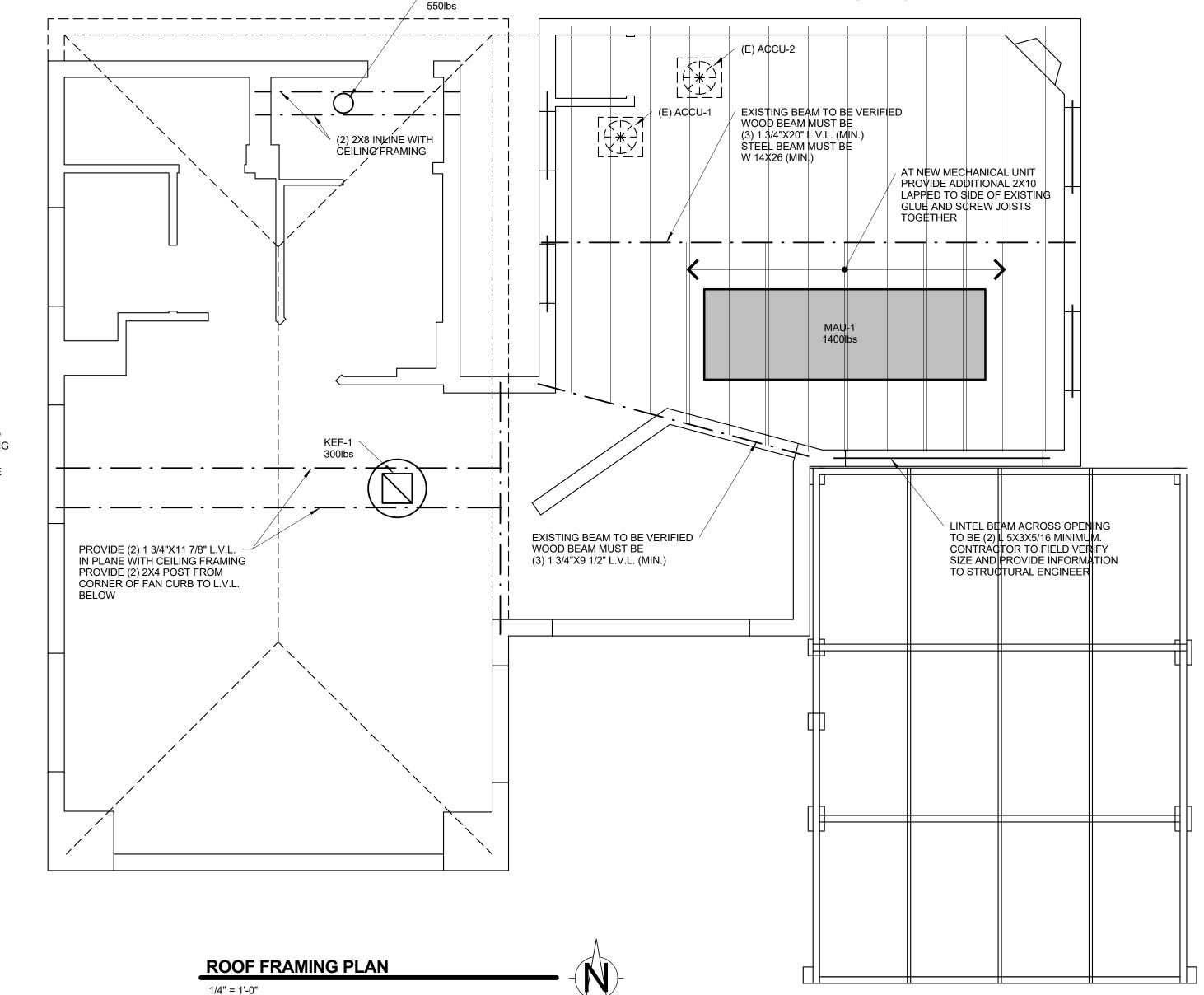
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Issue Reco	rd
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Job No.	24088
Date	01/19/2016
Drawn	RAM
Checked	JML

GENERAL NOTES

SHEET TITLE

DRAWING NUMBER



PLUMBING GENERAL NOTES:

- 1. FIELD VERIFY EXACT LOCATION OF ALL CONNECTION POINTS PRIOR TO CONSTRUCTION.
- 2. ROUGH-IN AND FINAL CONNECT ALL FIXTURES, EQUIPMENT, ETC.
- 3. CONTRACTOR SHALL INSPECT SITE TO THOROUGHLY FAMILIARIZE HIMSELF WITH THE AREA OF WORK. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS AND ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION PRIOR TO BID PRICING. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF EXISTING CONDITIONS.
- 4. ALL WORK SHALL BE PER LOCAL BUILDING AND HEALTH DEPARTMENT REQUIREMENTS.
- 5. PROVIDE BALL VALVES ON ALL BRANCH LINES FOR BUILDING ISOLATION WHETHER SHOWN OR NOT.
- 6. REFERENCE HVAC DRAWINGS FOR EXACT LOCATION OF ALL HVAC EQUIPMENT REQUIRING PLUMBING CONNECTIONS. COORDINATE WITH HVAC CONTRACTOR EXACT PLUMBING CONNECTION REQUIREMENTS PRIOR TO COMMENCING WORK.
- 7. ALL VENTS THROUGH THE ROOF (VTR) SHALL BE POSITIONED A MINIMUM OF 15'-0" FROM ANY OUTSIDE AIR INTAKE.
- 8. ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED IN ACCORDANCE WITH THE BUILDING CODE.
- 9. OFFSET ALL PIPING AS REQUIRED TO AVOID STRUCTURAL MEMBERS, CANTS, FLASHING, MECHANICAL OR ELECTRICAL EQUIPMENT.
- 10. PROVIDE CHROME PLATED SET SCREW TYPE ESCUTCHEONS AT ALL EXPOSED PIPE PENETRATIONS THROUGH WALLS AND CASEWORK.
- 11. PROVIDE TRAP PRIMERS & TRAP SEALS TO ALL FLOOR DRAINS & FLOOR SINKS AS INDICATED.
- WITH EXACT DUPLICATE AT NO ADDITIONAL COST TO THE OWNER.

 13. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND PROTECTING ALL EXISTING PIPING AND UTILITIES FOR THE DURATION OF THE WORK. ANY DAMAGE CAUSED TO EXISTING PIPING OR UTILITIES SHALL BE REPAIRED IMMEDIATELY AT NO ADDITIONAL

12. PROTECT ALL EXISTING EQUIPMENT INDICATED AS REMAINING IN PLACE OR BEING RELOCATED. REPLACE DAMAGED EQUIPMENT IMMEDIATELY

- 14. VERIFY AND COORDINATE EXACT SIZE, LOCATION, AND ELEVATION OF KITCHEN PLUMBING ROUGH—INS WITH KITCHEN EQUIPMENT CONTRACTOR PRIOR TO CONSTRUCTION.
- 15. PROVIDE ACCESSIBLE SHUT-OFF VALVES FOR ALL KITCHEN EQUIPMENT REQUIRING WATER SERVICE.
- 16. ALL EXPOSED PIPING IN THE KITCHEN AREA TO BE A CLEANABLE SURFACE PER LOCAL HEALTH DEPARTMENT
- 16. ALL EXPOSED PIPING IN THE KITCHEN AREA TO BE A CLEANABLE SURFACE PER LOCAL HEALTH DEPARTMENT.
- 17. PLUMBING CONTRACTORS SHALL PROVIDE ALL INDIRECT WASTE PIPING AND MAKE FINAL CONNECTIONS TO SINKS, KITCHEN EQUIPMENT, ETC. VERIFY SIZES AND LOCATIONS WITH KITCHEN EQUIPMENT CONTRACTOR'S SHOP DRAWINGS.
- 18. COMPLY WITH ALL BUILDING AND HEALTH DEPARTMENT REGULATIONS FOR PLUMBING INSTALLATION. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK.
- 19. FLUSH MOUNT ALL FLOOR SINKS IN KITCHEN AREA FOR FLOOR DRAINAGE USE.
- 20. ALL GAS PIPING, VALVES, PRV ETC. SHALL MEET THE REQUIREMENTS OF THE INTERNATIONAL FUEL GAS CODE.

PLUMBING DEMOLITION GENERAL NOTES:

- 1. COORDINATE DEMOLITION REQUIREMENTS WITH THE GENERAL CONTRACTOR.
- 2. COORDINATE EXTENT OF DEMOLITION WITH THE NEW CONSTRUCTION AS SHOWN IN THESE DOCUMENTS.
- 3. EXISTING PLUMBING PIPING, EQUIPMENT ETC IS SHOWN LIGHT.
- 4. ALL PLUMBING ITEMS INDICATED TO BE DEMOLISHED SHALL BE INSPECTED FOR SALVAGE BY THE OWNER. ALL NON-SALVAGEABLE ITEMS SHALL THEN BE IMMEDIATELY REMOVED FROM THE SITE BY THE PLUMBING CONTRACTOR.
- 5. ALL UNUSED HANGERS AND SUPPORTS SHALL BE REMOVED.
- 6. THE REMOVAL OR INSTALLATION OF FIXTURES, PIPES AND EQUIPMENT MAY REQUIRE THE REMOVAL OF EXISTING WALLS AND CEILINGS. THE PLUMBING CONTRACTOR AND GENERAL CONTRACTOR SHALL BE COORDINATE AND RESPONSIBLE FOR REPAIRING AND PAINTING THESE WALLS AND/OR CEILINGS SO THEY MATCH THE EXISTING WHERE NOT REPLACED UNDER THE ARCHITECTURAL DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE PLUMBING DRAWINGS TO IDENTIFY THESE LOCATIONS PRIOR TO BID PRICING.
- 7. THE GENERAL CONTRACTOR SHALL PATCH AND SEAL UNUSED ROOF PENETRATIONS AT DEMOLISHED PLUMBING TO MATCH EXISTING CONDITIONS.
- 8. THE GENERAL CONTRACTOR SHALL MAKE REPAIRS TO ALL EXISTING BUILDING COMPONENTS THAT HAVE BEEN AFFECTED BY THE DEMOLITION OF PLUMBING SYSTEMS.

SPECIFICATION (PLUMBING):

PIPING:

- A. WASTE AND VENT PIPING ABOVE FINISHED FLOOR SHALL BE SERVICE WEIGHT CAST-IRON WITH NO-HUB FITTINGS.
- B. WASTE AND VENT STORM PIPING BELOW FINISHED FLOOR/GRADE SHALL BE SCHEDULE 40 PVC "SOLID CORE" WITH SOLVENT WELDED FITTINGS.
- C. WATER PIPING SHALL BE TYPE "L" COPPER WITH NO LEAD SOLDER OR FLUX FITTINGS.
- D. GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL, 2" AND BELOW SHALL BE THREADED FITTINGS, WHILE 2-1/2" AND ABOVE SHALL BE WELDED.

INSULATION:

- A. WATER PIPING INSULATION SHALL BE 1" THICK, 1-1/2 LB/CUBIC FT. DENSITY; FOR HW & CW PIPING.
- EQUIPMENT:
- A. FLOOR DRAIN (FD-1): ZURN Z-415-B, CAST-IRON BODY, BOTTOM OUTLET, FLASHING FLANGE, NICKEL BRONZE TOP.
- B. GAS SUPPORTS ON ROOF: MIRO INDUSTRIES #RAH-12 MODEL, POLYCARBONATE ROLLER PIPE SUPPORT, 12" ABV. ROOF OR APPROVED EQUAL.
- C. FLOOR DRAIN (FD-1): CAST-IRON BODY, BOTTOM OUTLET, FLASHING FLANGE, NICKEL BRONZE TOP. WATTS OR EQUAL.
- D. FLOOR SINK (FS-1): CAST-IRON BODY, BOTTOM OUTLET, FLASHING FLANGE, SATIN NIKALOY COVER W/ 1/2 GRATE. WATTS OR FOLIAL
- E. FLOOR CLEANOUT (FCO): CAST IRON BODY & FRAME, CLEANOUT PLUG, ADJUSTABLE, ROUND, NON-SLIP OR ABRASIVE, NICKEL-BRONZE TOP. WATTS OR EQUAL.
- F. GRADE CLEANOUT (GCO): CAST IRON BODY & FRAME, CLEANOUT PLUG, ADJUSTABLE, ROUND, NO-SLIP OR ABRASIVE, CAST IRON
- G. WALL CLEANOUT (WCO): CAST IRON BOSY ADAPTABLE TO PIPE W/ CAST BRONZE OR CAST BRASS CLEANOUT PLUG. STAINLESS STEEL COVER INCLUDING SCREWS. WATTS OR EQUAL.
- H. TRAP SEAL (TS): PROSET TRAP, SURE SEAL OR EQUAL.
- I. TRAP PRIMER (TP-1): SIOUX CHIEF #PRIME PERFECT, LOCATE IN AN ACCESSIBLE LOCATION OR PROVIDE ACCESS PANEL.
 VALVES:
- A. BALL VALVES SHALL BE NSF 61 RATED AND EQUAL TO APPOLLO #77CL-100/77CL-200.

MECHANICAL HVAC NOTES:

- 1. DUCTWORK DIMENSIONS LISTED ON THE DRAWINGS ARE CLEAR, INSIDE DIMENSIONS.
- 2. FLEXIBLE DUCTWORK SHALL BE INSULATED AND SHALL BE THE SAME SIZE AS THE NECK OF THE AIR DEVICE. FLEXIBLE DUCTWORK SHALL NOT EXCEED 8'-0" IN LENGTH, PROVIDE WRAPPED RIGID ROUND DUCTWORK FOR TAKEOFFS IN EXCESS OF 8'-0".
- 3. UNLESS SHOWN OTHERWISE, THE INLET DUCTWORK TO FAN TERMINAL UNITS AND VARIABLE AIR VOLUME TERMINALS SHALL BE THE FULL SIZE OF THE UNIT CONNECTION.
- 4. PROVIDE DUCT TRANSITIONS FROM EQUIPMENT CONNECTIONS TO DUCT SIZES AS SHOWN.
- 5. PROVIDE A FLEXIBLE CONNECTION TO THE INTAKE AND DISCHARGE OF ALL MECHANICAL EQUIPMENT HAVING ROTATING PARTS. FLEXIBLE CONNECTION SHALL COMPLY WITH ALL APPLICABLE CODES.
- 6. ALL DUCTWORK SHALL BE A MINIMUM 26 GAUGE SHEETMETAL, OR AS REQUIRED BY ALL APPLICABLE CODES. ALL DUCTWORK CROSSING RATED CORRIDORS SHALL BE A MINIMUM 24 GAUGE SHEETMETAL. MEET OR EXCEED SMACNA STANDARDS.
- 7. ALL SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE SEALED AIRTIGHT WITH DUCT SEALANT (SMACNA SEAL CLASS "A") ALONG ALL SEAMS AND JOINTS.
- 8. ALL RECTANGULAR SUPPLY, RETURN AND TRANSFER DUCTWORK SHALL BE SHEETMETAL LINED WITH 1"
- 9. ALL EXHAUST DUCTWORK SHALL BE UNLINED SHEETMETAL, UNLESS NOTED OTHERWISE.
- ALL DUCTWORK SERVING CHEMICAL STORAGE ROOMS SHALL BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE. PVC COATED STEEL DUCTWORK IS NOT ACCEPTABLE.
- 11. ALL EXPOSED SPIRAL ROUND DUCTWORK SHALL BE SHEETMETAL LINED WITH 1" DUCT LINER.

13. ALL UNLINED DUCTWORK THAT IS VISIBLE THROUGH THE AIR DEVICE SHALL BE PAINTED FLAT BLACK.

- 12. ALL CONCEALED SPIRAL ROUND DUCTWORK SHALL BE SHEETMETAL WRAPPED WITH 1-1/2" DUCT WRAP.
- 14. MAINTAIN A MINIMUM 10'-0" SEPARATION FROM OUTSIDE AIR INTAKES TO EXHAUST TERMINATIONS AND FLUE OUTLETS.
- 15. MAINTAIN A MINIMUM OF 15'-0" FROM OUTSIDE AIR INTAKES TO PLUMBING VENTS.
- MAINTAIN A MINIMUM 3'-0" SEPARATION FROM EXHAUST TERMINATIONS TO OPERABLE WINDOWS AND DOORS.
- 17. COORDINATE LOUVER, WALL CAP AND AIR DEVICE PLACEMENT WITH BRICK OR BLOCK COURSING WHERE
- 18. COORDINATE THE LOCATION AND ELEVATION OF ALL EXPOSED DUCTWORK WITH THE ARCHITECT AT THE JOB SITE.
- 19. ALL EXPOSED DUCTWORK SHALL BE FREE OF IMPERFECTIONS AND DAMAGE. SEAL EXPOSED DUCTWORK IN A NEAT WORKMANLIKE MANNER SUITABLE FOR PAINTING.
- 20. THE GENERAL CONTRACTOR SHALL PAINT ALL EXPOSED DUCTWORK, FITTINGS ETC. IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATION.
- 21. ALL EXPOSED DUCTWORK SHALL BE PROVIDED WITH A GRIP-LOCK PRIMER TO PREPARE THE DUCT FOR FIELD PAINTING.
- 22. CUT ROOFTOP UNIT AND AIR-HANDLING UNIT DUCT OPENINGS THROUGH THE ROOF ½" LARGER THAN THE OUTSIDE DIMENSION OF THE SUPPLY AND RETURN DUCTS. SEAL THE OPENINGS AROUND THE
- 23. COMPLETELY FILL ALL ROOFTOP UNIT ROOF CURBS WITH UNFACED BATT INSULATION. LAYER INSULATION IN A NEAT WORKMANSHIP LIKE MANNER.
- 24. SPIN-IN FITTINGS SERVING GRILLES AND DIFFUSERS SHALL BE CONICAL WITH MANUAL VOLUME DAMPERS, UNLESS THE AIR TERMINAL IS PROVIDED WITH AN OBD.
- 25. SPIN-IN FITTINGS SERVING VAV TERMINALS SHALL BE CONICAL WITHOUT MANUAL VOLUME DAMPERS.
- 26. RECTANGULAR BRANCH DUCT TAKEOFFS SHALL HAVE 45° TAKEOFFS AND ROUND DUCT TAKEOFFS SHALL BE CONICAL.
- 27. ALL ELBOWS, BOTH HORIZONTAL AND VERTICAL, SHALL BE LONG RADIUS ELBOWS WHEREVER POSSIBLE, OR SHALL HAVE TURNING VANES WHERE SHOWN.
- 28. ALL EXTERIOR AND ROOF MOUNTED DUCTWORK SHALL BE PROVIDED WITH 1" DUCT LINER, 1-1/2" DUCT WRAP AND AN ALUMINUM ALL WEATHER JACKETING.
- 29. 12"x12" ACCESS DOORS SHALL BE PROVIDED FOR ALL MANUAL VOLUME DAMPERS LOCATED ABOVE GYPSUM BOARD CEILINGS. ALL FINAL ACCESS DOOR LOCATIONS SHALL BE APPROVED BY ARCHITECT PRIOR TO INSTALL ATION.
- 30. 24"x24" ACCESS DOORS SHALL BE PROVIDED FOR ALL VAV SUPPLY AIR TERMINAL UNITS AND HEATING COILS LOCATED ABOVE GYPSUM BOARD CEILINGS. ALL FINAL ACCESS DOOR LOCATIONS SHALL BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
- 31. ALL JOB SITE DUCTWORK PRIOR TO INSTALLATION SHALL BE COVERED AND PROTECTED FROM DIRT, DUST AND DAMAGE PER SMACNA STANDARDS.
- 32. ALL NEW AND REPLACEMENT ROOF MOUNTED EQUIPMENT SHALL BE LOCATED AT LEAST 10'-0" FROM THE EDGE OF THE ROOF. THE GENERAL AND MECHANICAL CONTRACTOR SHALL VERIFY AND CONFIRM THE ACTUAL INSTALLED LOCATIONS OF ALL NEW AND REPLACEMENT ROOF MOUNTED EQUIPMENT. IF THIS EQUIPMENT IS INSTALLED WITHIN 10'-0" OF THE ROOF EDGE, THE GENERAL CONTRACTOR SHALL INSTALL AN OSHA APPROVED GUARD RAIL.
- 33. KITCHEN EXHAUST DUCTWORK SHALL BE CONSTRUCTED OF MATERIALS AS SPECIFIED. THE JOINTS AND SEAMS WILL BE CONTINUOUSLY WELDED OR BRAZED ON THE EXTERNAL SURFACE OF THE DUCTWORK. THE HORIZONTAL DUCTWORK WILL BE SLOPED AT 1/4" PER LINEAL FOOT TOWARD THE KITCHEN HOOD. ANY PORTION OF THE DUCT SYSTEM THAT IS INACCESSIBLE FROM THE DUCT ENTRY OR DISCHARGE SHALL BE PROVIDED WITH CODE APPROVED CLEANOUTS IN THE DUCT AND DUCT ENCLOSURE.
- 34. PROVIDE A BLANKET WRAP INSULATION ON GREASE DUCT IN ACCORDANCE WITH NFPA 96
- AND LOCAL CODES.

 35. FLUES FOR BOILERS, WATER HEATERS AND POOL HEATERS SHALL BE ENGINEERED BY THE FLUE MANUFACTURER, BASED ON ACTUAL EQUIPMENT, AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 36. DRYER EXHAUST DUCTS SHALL BE CONSTRUCTED OF GALVANIZED SHEETMETAL NOT LESS THAN 0.0195 INCHES. INSIDE OF DRYER DUCT SHALL BE SMOOTH WITH NO MECHANICAL FASTENERS PENETRATING THE DUCT. POP RIVETS ARE ACCEPTABLE VERTICAL RISERS SHALL HAVE AN ACCESSIBLE CLEANOUT. COMPLY WITH MANUFACTURER'S INSTALLATION REQUIREMENTS AND LOCAL CODES.
- 37. DIVISION 26 SHALL PROVIDE A 120 VOLT, 20 AMP CIRCUIT FOR THE DDC SYSTEM LOCATED IN THE ROOM HOUSING THE DDC COMPUTER. DIVISION 26 SHALL PROVIDE MULTIPLE 20 AMP CIRCUITS IN THE CEILING SPACE TO SERVE VAV TERMINAL CONTROL TRANSFORMERS. EXACT CIRCUIT LOCATIONS SHALL BE COORDINATED WITH THE TEMPERATURE CONTROLS CONTRACTOR. DIVISION 26 SHALL PROVIDE ONE PHONE CONNECTION LOCATED IN THE ROOM HOUSING THE DDC COMPUTER. COORDINATE EXACT ROOM WITH THE OWNER.
- 38. IN THE EVENT A VARIABLE FREQUENCY DRIVE IS ADDED TO AN EXISTING PIECE OF HVAC EQUIPMENT, THE M.C. SHALL BE RESPONSIBLE FOR MAKING SURE THE MAG STARTER HAS BEEN REMOVED. THE M.C. SHALL ALSO VERIFY THAT THE MOTOR IS COMPATIBLE FOR OPERATION WITH A VARIABLE FREQUENCY DRIVE. IF THERE IS A CONFLICT WITH THE MOTOR, REPORT THE MOTOR DEFICIENCY IMMEDIATELY TO THE GENERAL CONTRACTOR.

DRAWING INDEX

DRAWING	MECHANICAL	DRAWING
NUMBER	DRAWING DESCRIPTION	SCALE
MP0.0	MECHANICAL COVER SHEET, GENERAL NOTES AND SHEET INDEX	NONE
MP0.1	MECHANICAL LEGENDS	NONE
MD1.1	MAIN LEVEL HVAC DEMOLITION PLAN	1/4"
M1.1	MAIN LEVEL AND ATTIC HVAC PLAN	1/4"
M1.2	ROOF HVAC PLAN	1/4"
M2.1	HVAC SCHEDULES AND DETAILS	NONE
M2.2	KITCHEN HOOD DRAWINGS	NONE
M2.3	M2.3 KITCHEN HOOD FIRE PROTECTION DRAWINGS	
M2.4	KITCHEN HOOD CONTROL DIAGRAMS	NONE
DRAWING	PLUMBING/FIRE PROTECTION	DRAWING
NUMBER	DRAWING DESCRIPTION	SCALE
PD1.1	MAIN LEVEL PLUMBING DEMOLITION PLAN	1/4"
	MAIN LEVEL PLUMBING PLAN	1/4"
P1.1		
P1.1 P1.2	ROOF LEVEL PLUMBING PLAN	1/4"

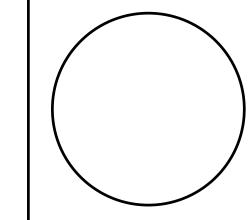
MECHANICAL GENERAL NOTES:

- 1. THE MECHANICAL CONTRACTOR SHALL INSPECT SITE TO BECOME FAMILIAR WITH THE SCOPE OF THE WORK. THESE DOCUMENTS DO NOT REFLECT AS—BUILT CONDITIONS. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS AND THE ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION PRIOR TO BID PRICING. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF THE EXISTING CONDITIONS.
- 2. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL ABOVE CEILING EQUIPMENT, DUCTWORK AND CEILING MOUNTED AIR DEVICES WITH EXISTING ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL CONDITIONS. APPROXIMATE LOCATIONS OF NEW WORK ARE SHOWN AND SHOULD BE FOLLOWED AS CLOSELY AS EXISTING CONDITIONS WILL ALLOW.
- 3. MECHANICAL WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK.
- 4. THE MECHANICAL SYSTEMS SHOWN SHALL BE RUN AS HIGH AS POSSIBLE. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIREMENTS WITH ALL TRADES PRIOR TO CONSTRUCTION.
- 5. WHERE CEILING SPACE IS TO BE USED AS A RETURN AIR PLENUM, COMPLY WITH ALL APPLICABLE CODES. ALL MATERIALS WITHIN THE CEILING PLENUM WILL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50.
- 6. WHERE THE CEILING SPACE IS TO BE USED AS A RETURN AIR PLENUM, THE GENERAL AND MECHANICAL CONTRACTORS SHALL VERIFY THAT THE RETURN AIR PATH BACK TO THE UNIT IS OPEN WITH A VELOCITY THROUGH ALL OPENINGS OF 400 FPM OR LESS.

 7. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING AIR
- REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING AIR DEVICES AND ACCESS PANELS. OBTAIN CLARIFICATION FROM THE ARCHITECT, IF EXACT LOCATIONS ARE NOT SHOWN.
- 8. REFER TO THE ARCHITECTURAL DRAWINGS FOR ROOFING DETAILS SPECIFIC TO THIS PROJECT.
- 9. THE MECHANICAL CONTRACTOR SHALL COORDINATE THERMOSTAT, SENSOR AND SWITCH LOCATIONS WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION. ALL THERMOSTATS, SENSORS AND SWITCHES SHALL BE LOCATED 54" AFF UNLESS INDICATED OTHERWISE.
- 10. COORDINATE THERMOSTAT, SENSOR AND SWITCH LOCATIONS WITH EXISTING CONDITIONS AND THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION. WHERE POSSIBLE MATCH LOCATION OF PREVIOUS CONTROL. PROVIDE WIRE MOLD TO CONCEAL EXPOSED CONTROL WIRING AND TUBING. COLOR TO BE SELECTED BY THE ARCHITECT.
- 11. BALANCE AIR AND WATER SYSTEMS TO THE QUANTITIES SHOWN AND SUBMIT BALANCE REPORT (S) TO THE ARCHITECT/ENGINEER FOR REVIEW.
- 12. PORTIONS OF THIS BUILDING WILL BE OCCUPIED DURING THIS CONSTRUCTION PROJECT. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE SCHEDULING OF THEIR WORK WITH THE GENERAL CONTRACTOR. CLEAN UP AT THE END OF EACH DAY.
- 13. ACCESS DOORS SHALL BE INSTALLED IN ORDER TO PROVIDE ACCESS TO MECHANICAL SYSTEMS LOCATED ABOVE INACCESSIBLE CEILINGS, WHETHER OR NOT SHOWN ON THE DRAWINGS. ACCESS DOORS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR. ACCESS DOOR LOCATIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION. PROVIDE 12"x12" ACCESS DOORS FOR HAND ACCESS AND 24"x24" ACCESS FOR HEAD AND SHOULDER ACCESS.

MECHANICAL DEMOLITION GENERAL NOTES:

- 1. COORDINATE DEMOLITION REQUIREMENTS WITH THE GENERAL CONTRACTOR.
- 2. COORDINATE EXTENT OF DEMOLITION WITH THE NEW CONSTRUCTION AS SHOWN IN THESE DOCUMENTS.
- 3. EXISTING MECHANICAL WORK IS SHOWN LIGHT.
- 4. ALL MECHANICAL ITEMS INDICATED TO BE DEMOLISHED SHALL BE INSPECTED FOR SALVAGE BY THE OWNER. ALL NON—SALVAGEABLE ITEMS SHALL THEN BE IMMEDIATELY REMOVED FROM THE SITE BY THE MECHANICAL CONTRACTOR.
- 5. ALL UNUSED TEMPERATURE CONTROL WIRING, WIRE MOLD, PNEUMATIC TUBING AND CONTROL COMPONENTS SHALL BE REMOVED.
- 6. ALL UNUSED HANGERS AND SUPPORTS SHALL BE REMOVED.
- 7. THE REMOVAL OR INSTALLATION OF CONTROLS, PIPES, DUCTS AND EQUIPMENT MAY REQUIRE THE REMOVAL OF EXISTING WALLS AND CEILINGS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND PAINTING THESE WALLS AND/OR CEILINGS SO THEY MATCH THE EXISTING WHERE NOT REPLACED UNDER THE ARCHITECTURAL DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW THE MECHANICAL DRAWINGS TO IDENTIFY THESE LOCATIONS PRIOR TO BID PRICING.
- 8. THE GENERAL CONTRACTOR SHALL PATCH AND PAINT WALLS TO MATCH EXISTING AT THE DEMOLISHED
- 9. THE GENERAL CONTRACTOR SHALL PATCH AND SEAL UNUSED ROOF PENETRATIONS AT DEMOLISHED MECHANICAL TO MATCH EXISTING CONDITIONS.
- 10. THE GENERAL CONTRACTOR SHALL PATCH THE CEILING, ROOF AND WALLS TO MATCH EXISTING AT DEMOLISHED HANGERS AND SUPPORTS.
- 11. THE GENERAL CONTRACTOR SHALL MAKE REPAIRS TO ALL EXISTING BUILDING COMPONENTS THAT HAVE BEEN AFFECTED BY THE DEMOLITION OF MECHANICAL SYSTEMS.





The Ballard Group, Inc.

Mechanical Consulting Engineers 2525 S. Wadsworth Blvd. Lakewood, Colorado 80227 303 988-4514 FAX 303 988-4517

> COLUMBINE ON MAIN 2299 WEST MAIN STREE LITTIFTON CO 80120

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MECHANICAL COVER
SHEET, GENERAL NOTES

AND DRAWING INDEX

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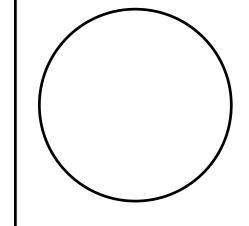


HVAC LEGEND				
ABBV.	SYMBOL	DESCRIPTION		
CD	CD	CONDENSATE DRAIN		
MCD	₩ 	MOTORIZED CONTROL DAMPER		
	B B			
	<u> </u>	BACKDRAFT DAMPER		
MVD		MANUAL VOLUME DAMPER		
FD		FIRE DAMPER		
FSD		COMBINATION MOTORIZED FIRE/SMOKE DAMPER EXISTING FIRE DAMPER		
	∅	EXISTING COMBINATION MOTORIZED FIRE/SMOKE DAMPER		
	Œ	THERMOSTAT		
	団	TEMPERATURE SENSOR		
	CO2	CARBON DIOXIDE SENSOR		
	<u>(S)</u>	OCCUPANCY SENSOR		
	(S)	SMOKE DETECTOR		
	P MS	PRESSURE SENSOR MOTOR STARTER		
	V	VELOCITY SENSOR		
	FMD	ANALOG FLOW MEASURING DEVICE		
	VFD	VARIABLE FREQUENCY DRIVE		
	AO	ANALOG OUTPUT		
	Al	ANALOG INPUT		
	(1)	DIGITAL OUTPUT		
	DI	DIGITAL INPUT		
	C SPT DPT P	STATIC PRESSURE TRANSMITTER DIFFERENTIAL PRESSURE TRANSMITTER		
		SUPPLY DUCT UP/SUPPLY DUCT DOWN		
		RETURN/EXHAUST DUCT UP/RETURN/EXHAUST DUCT DOWN		
		ROUND DUCT UP / DOWN		
		DUCT ELBOW WITH TURNING VANES		
		SQUARE TO ROUND TRANSITION		
	NO N	OFFSET DUCT UP / DOWN IN DIRECTION OF ARROW		
		CONICAL SPIN-IN FITTING WITH MANUAL VOLUME DAMPER		
	T*T	CONICAL SPIN-IN FITTING WITHOUT MANUAL VOLUME DAMPER		
		45° TAKEOFF		
		STANDARD RADIUS ELBOW		
	10x8	NEW DUCT — WIDTH x DEPTH		
		EXISTING DUCT TO REMAIN		
	 X 	EXISTING DUCT TO BE REMOVED		
CD		CEILING DIFFUSER (FOUR WAY THROW PATTERN)		
SD		SLOT DIFFUSER		
RG/EG		RETURN OR EXHAUST REGISTER OR GRILLE RETURN GRILLE WITH SOUND BOOT		
		RETURN GRILLE WITH SOUND BOOT RADIANT CEILING PANEL		
FTU		FAN TERMINAL UNIT		
VAV		VAV TERMINAL UNIT		
		FLEXIBLE DUCTWORK		
	← ∕	AIRFLOW — RETURN/EXHAUST		
	-	AIRFLOW — SUPPLY		
		SOUND ATTENUATOR		

	HVAC LEGEND					
ABBV.	ABBV. SYMBOL DESCRIPTION					
MAU		MAKE-UP AIR UNIT				
Р		PUMP				
В		BOILER				
AS		AIR SEPARATOR				
ET		EXPANSION TANK				
LVR		LOUVER				
SR		SUPPLY REGISTER				
SG		SUPPLY GRILLE				
RG		RETURN GRILLE				
ER		EXHAUST REGISTER				
EG		EXHAUST GRILLE				
TG		TRANSFER GRILLE				
SA		SUPPLY AIR				
RA		RETURN AIR				
EA		EXHAUST AIR				
OA		OUTSIDE AIR				
TA		TRANSFER AIR				
MA		MAKE-UP AIR				

ABBV. SYMBOL DESCRIPTION				
L		LAVATORY		
MSB		MOP SERVICE BASIN		
s		SINK		
TP/TS		TRAP PRIMER/TRAP SEAL		
wc		WATER CLOSET		
PET		PLUMBING EXPANSION TANK		
RPBP		REDUCED PRESSURE BACKFLOW PREVENTER		
cw		DOMESTIC COLD WATER		
HW		DOMESTIC HOT WATER		
G	G	NATURAL GAS		
w		SANITARY WASTE BELOW FLOOR		
w		SANITARY WASTE ABOVE FLOOR		
GW		GREASE WASTE		
٧		SANITARY VENT		
FC0		FLOOR CLEANOUT		
GCO	_	GRADE CLEANOUT		
wco		WALL CLEANOUT		
PRESSURE REDUCING VALVE				
	—————————————————————————————————————	HOSE END DRAIN VALVE		
		PLUG VALVE		
		GAS COCK		
		SOLENOID VALVE		
TMV		THERMOSTATIC MIXING VALVE		
нв/wн	r or →	HOSE BIBB/WALL HYDRANT		
VTR	ے د	VENT THRU ROOF		
FD		FLOOR DRAIN		
FS		FLOOR SINK		

ABBV.	SYMBOL	DESCRIPTION
G.C.		GENERAL CONTRACTOR
M.C.		MECHANICAL CONTRACTOR
E.C.		ELECTRICAL CONTRACTOR
T.C.C.		TEMPERATURE CONTROL CONTRACTOR
F.P.C.		FIRE PROTECTION CONTRACTOR
K.E.C.		KITCHEN EQUIPMENT CONTRACTOR
A.F.F.		ABOVE FINISHED FLOOR
A.F.G.		ABOVE FINISHED GRADE
B.F.F.		BELOW FINISHED FLOOR
B.F.G.		BELOW FINISHED GRADE
N.I.C.		NOT IN CONTRACT
N.C.		NORMALLY CLOSED
N.O.		NORMALLY OPEN
(N)		NEW
(E)		EXISTING
		EXISTING (DEMOLITION OR REMOVED)
		CONTROL WIRING
AD/AP		ACCESS DOOR/ACCESS PANEL
	•	POINT OF CONNECTION - NEW TO EXISTING
		DIRECTION OF FLOW IN PIPE
		PITCH PIPE DOWN IN DIRECTION OF ARROW
	<u> </u>	PIPE CAP
		GAUGE
	1.	PRESSURE GAUGE WITH COCK
		FLOW METER FITTING
	—————————————————————————————————————	PIPE UNION
		STRAINER
	.	CONCENTRIC PIPE REDUCER
CV		CHECK VALVE
BV		BALANCING VALVE
GV	—————————————————————————————————————	GATE VALVE
		BALL VALVE
		GLOBE VALVE
		BUTTERFLY VALVE
D /T	 	PRESSURE RELIEF VALVE
P/T TCV		PRESSURE/TEMPERATURE TEST PLUG
ICV		(2 OR 3-WAY) TEMPERATURE CONTROL VALVE
	——————————————————————————————————————	PIPE ELBOW DOWN
		PIPE ELBOW UP
	+0+	TEE OFF BOTTOM OF PIPE
		TEE OFF TOP OF PIPE
	X	THERMOMETER PIPE TAG — X=PIPE SIZE, Y=GPM
	X	X = SECTION/DETAIL NUMBER XXX = SHEET NUMBER WHERE





Mechanical Consulting Engineers 2525 S. Wadsworth Blvd. Lakewood, Colorado 80227 303 988-4514 FAX 303 988-4517

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Date 01/20/2016

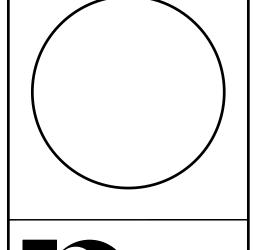
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Contents

MECHANICAL LEGENDS







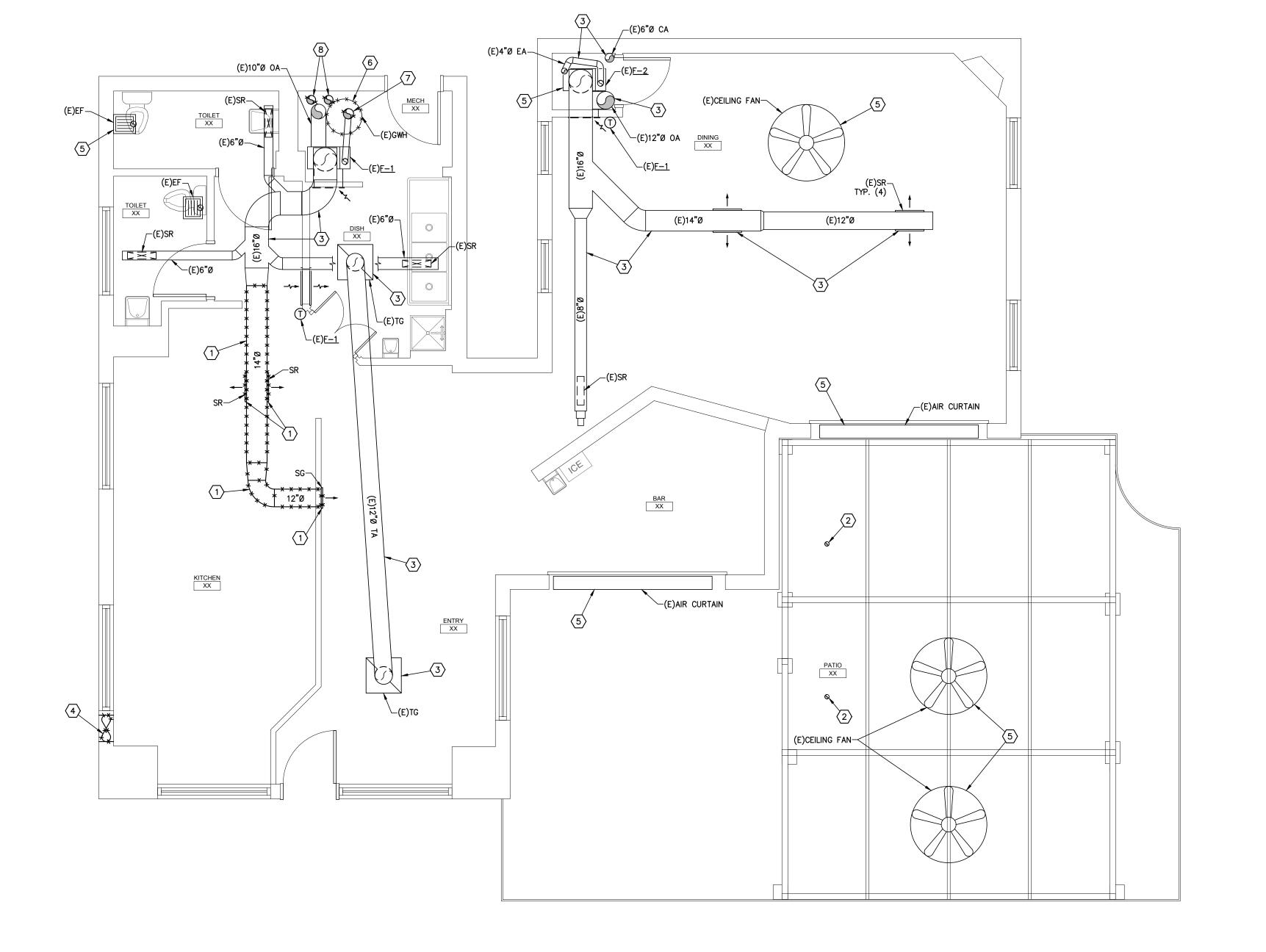
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STREE

HVAC DEMOLITION KEYNOTES:

- REMOVE EXISTING DUCTWORK OF SIZE INDICATED AND ALL ASSOCIATED HANGERS, FITTINGS, AIR DEVICES AND APPURTENANCES TO THE EXTENT INDICATED.
- 2 EXISTING 3"Ø B-VENT TO REMAIN.
- EXISTING DUCTWORK OF SIZE AND TYPE INDICATED AND ALL ASSOCIATED HANGERS, FITTINGS, AIR DEVICES AND APPURTENANCES TO REMAIN, TYPICAL.
- REMOVE EXISTING SIDE WALL EXHAUST FAN AND ALL ASSOCIATED SUPPORTS, CONTROLS, WIRING AND APPURTENANCES. G.C. TO PATCH OPENING IN WALL.
- 5 EXISTING MECHANICAL EQUIPMENT TO REMAIN, TYPICAL.
- 6 EXISTING WATER HEATER TO BE REMOVED. REFER TO PLUMBING DRAWINGS FOR REQUIREMENTS.
- 7 REMOVE EXISTING 7"Ø B-VENT AND ALL ASSOCIATED SUPPORTS, FITTINGS AND APPURTENANCES.
- REMOVE EXISTING 6'Ø COMBUSTION AIR DUCTS AND ALL ASSOCIATED SUPPORTS, FITTINGS AND APPURTENANCES.

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COLUMBINE 2299 WEST LITTLETON,

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Contents

MAIN LEVEL HVAC DEMOLITION PLAN



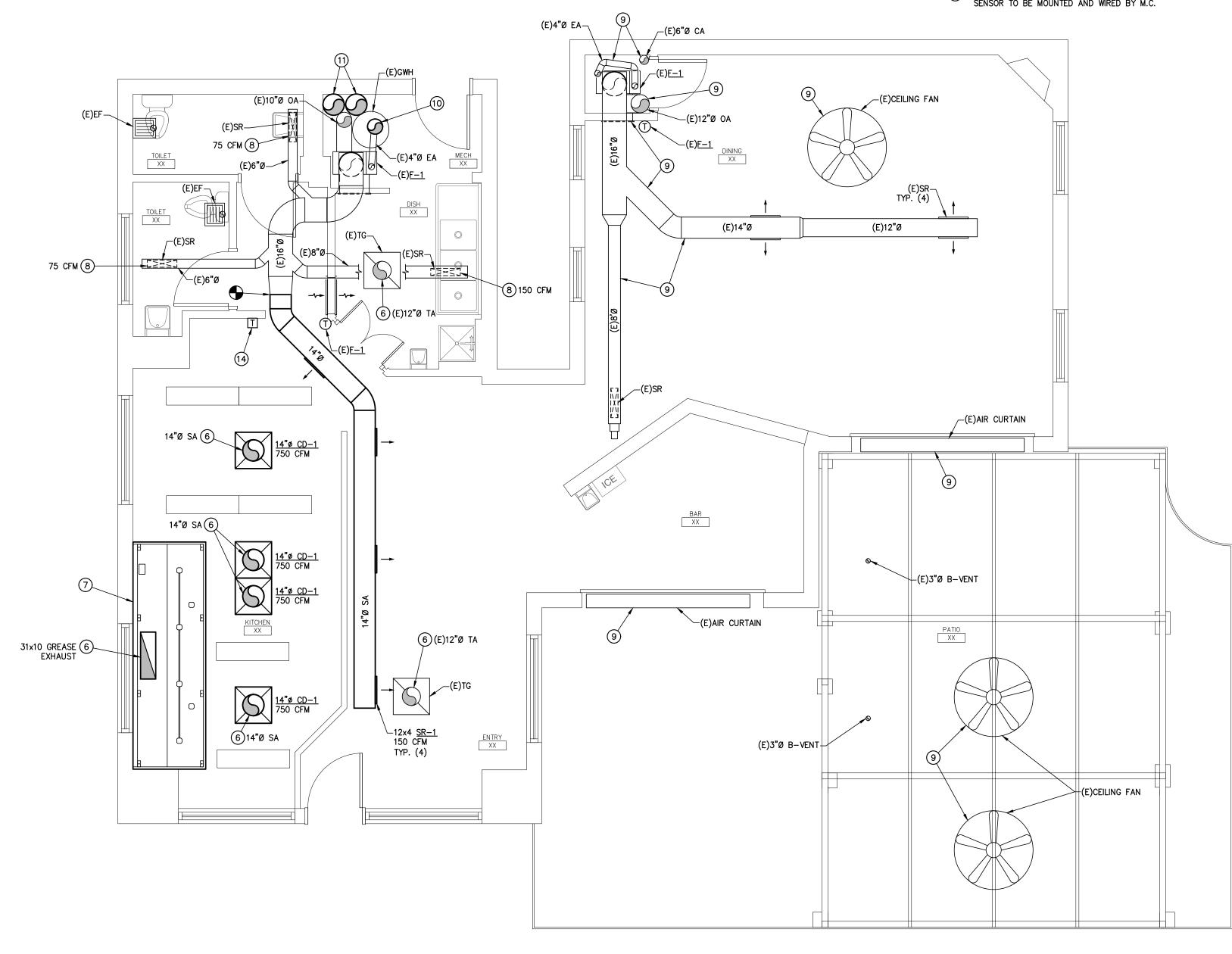
(E)10°8 OA UP (E)10°8 OA UN (E)10°8 OA DN (E)4°8 EA ATTIC XX 20x18 SA (E)10°8 TA (E)10°8 OA UP (E)10°8 OA UP (E)10°8 TA (E)10

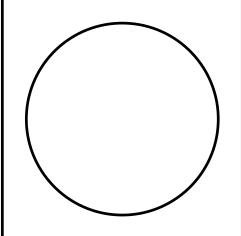
14)14"Ø SA

ATTIC HVAC PLAN
SCALE: 1/4"=1'-0"



- 1 18"x18" GREASE EXHAUST DUCT UP THROUGH ROOF TO <u>KEF-1</u>. REFER TO ROOF HVAC PLAN, DRAWING M1.2 FOR CONTINUATION.
- 20"x18" SA DUCTWORK THROUGH DORMER IN ROOF (BY G.C.). REFER TO ROOF HVAC PLAN, DRAWING M1.2 FOR CONTINUATION.
- 3 16 GAGE WELDED GREASE DUCT PER LOCAL CODE REQUIREMENTS. INSULATE WITH UL LISTED 2-LAYER FIRE WRAP INSULATION. INSTALL PER MANUFACTURER'S REQUIREMENTS. SLOPE 1/4" PER FOOT BACK TOWARD KITCHEN HOOD
- 4 DUCTWORK OF SIZE AND TYPE AS INDICATED DOWN. REFER TO MAIN LEVEL HVAC PLAN.
- 5 31"x10" GREASE EXHAUST DUCTWORK DOWN TO CONNECTION AT HOOD.
 CONNECT TO HOOD IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION
 REQUIREMENTS
- 6 DUCTWORK OF SIZE AND TYPE AS INDICATED UP TO ATTIC. REFER TO ATTIC HVAC PLAN FOR CONTINUATION.
- 7 TYPE 1 KITCHEN HOOD $\underline{\mathsf{KH-1}}$. REFER TO SCHEDULE FOR SIZE, CAPACITIES AND REQUIREMENTS. MOUNT HOOD AT ELEVATION PER DETAIL.
- 8 BALANCE EXISTING AIR DEVICE TO INDICATED AIRFLOW.9 EXISTING EQUIPMENT SHOWN FOR REFERENCE ONLY.
- 10"Ø B-VENT UP TO ATTIC. CONNECT EXISTING 4"Ø FURNACE FLUE IN VERTICAL AS INDICATED. TRANSITION TO CONNECTION SIZE AT WATER HEATER. REFER TO ATTIC HVAC PLAN FOR CONTINUATION.
- 11) 14"Ø COMBUSTION AIR DUCTS UP TO ATTIC. TERMINATE ONE DUCT 12" FROM CEILING AND THE OTHER 12" FROM FLOOR. REFER TO ATTIC HVAC PLAN FOR CONTINUIATION
- 10"Ø B-VENT DOWN AND UP THROUGH ROOF. REFER TO MAIN LEVEL HVAC PLAN AND ROOF HVAC PLAN, DRAWING M1.2 FOR CONTINUATION.
- 13 14"Ø COMBUSTION AIR DUCTS DOWN AND UP THROUGH ROOF. REFER TO MAIN LEVEL HVAC PLAN AND ROOF HVAC PLAN, DRAWING M1.2 FOR CONTINUATION.
- MAKE UP AIR UNIT MANUFACTURER SUPPLIED SPACE TEMPERATURE SENSOR. SENSOR TO BE MOUNTED AND WIRED BY M.C.







The Ballard Group, Inc.

Mechanical Consulting Engineers 2525 S. Wadsworth Blvd. Lakewood, Colorado 80227 303 988-4514 FAX 303 988-4517

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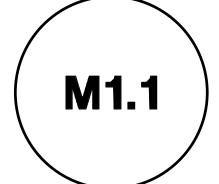
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Checked **TVS**Contents

MAIN LEVEL AND ATTIC HVAC PLANS

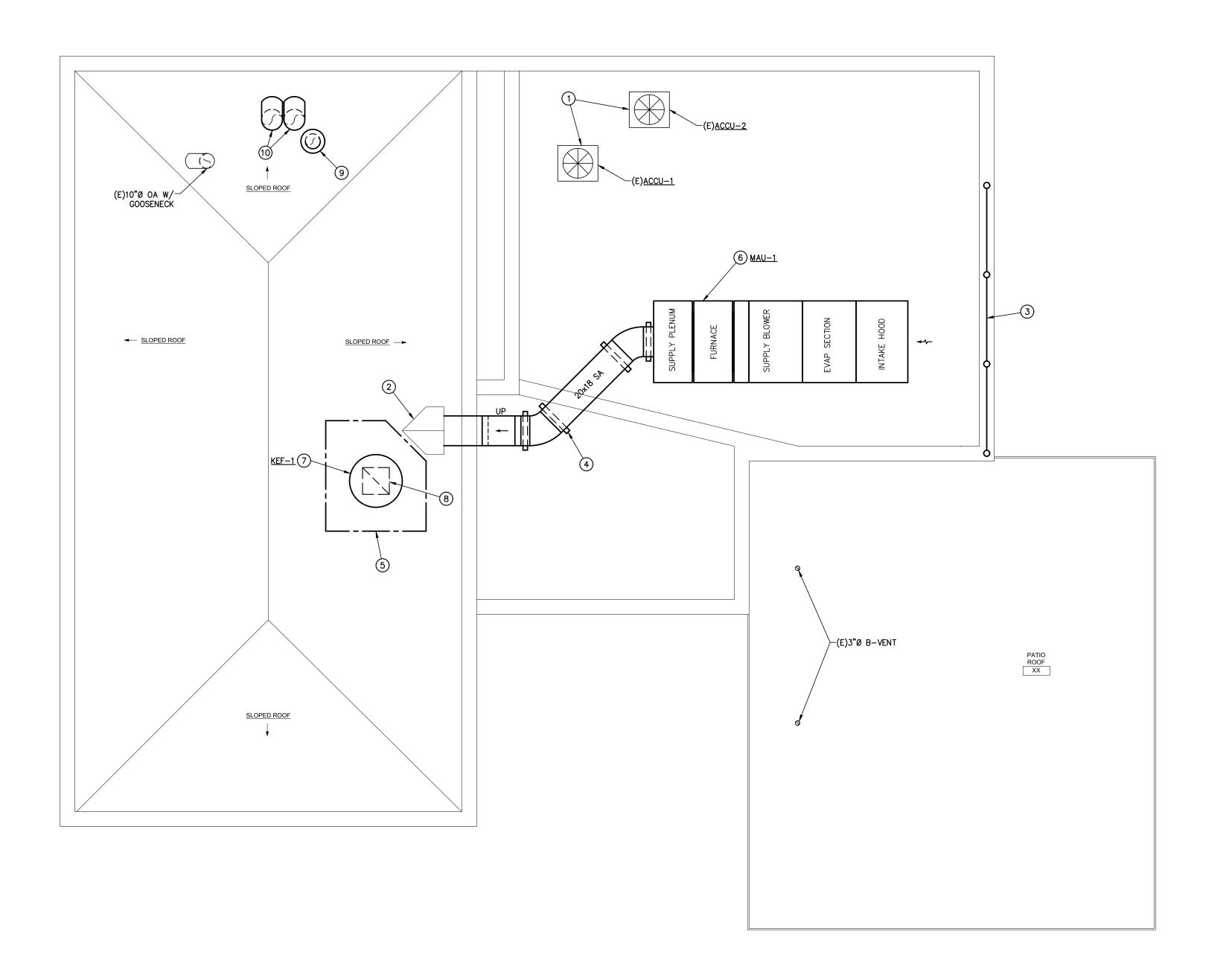


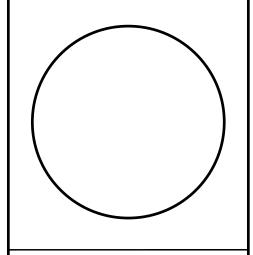




SIDEWALK

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HVAC KEYNOTES:

- 1) EXISTING MECHANICAL EQUIPMENT TO REMAIN.
- NEW ARCHITECTURAL DORMER BY G.C. PROVIDE WATER TIGHT SEAL AT DUCT PENETRATION. REFER TO ATTIC HVAC PLAN, DRAWING M1.1 FOR CONTINUATION.
- 3 NEW OSHA APPROVED GUARD RAIL BY G.C.
- 4 DUCT SUPPORT BY G.C., TYPICAL.
- 5 G.C. TO PROVIDE OSHA APPROVED WORKING PLATFORM AROUND KEF-1.
- MAKE UP AIR UNIT AS INDICATED MOUNTED ON EXISTING ROOF WITH 14" MANUFACTURER SUPPLIED ROOF CURB. REFER TO SCHEDULE FOR CAPACITIES AND REQUIREMENTS. REFER TO STRUCTURAL PLANS FOR ROOF REINFORCEMENT REQUIREMENTS.
- (7) KITCHEN EXHAUST FAN AS INDICATED MOUNTED ON MANUFACTURER SUPPLIED SLOPED ROOF CURB. REFER TO DETAIL 1/M2.1. REFER TO SCHEDULE FOR CAPACITIES AND REQUIREMENTS.
- 8) 18"x18" GREASE EXHAUST DUCTWORK DOWN THROUGH ROOF. REFER TO ATTIC HVAC PLAN, DRAWING M1.1 FOR CONTINUATION.
- 9 10"Ø B-VENT DOWN THROUGH ROOF. TERMINATE WITH U.L. APPROVED ROOF CAP. REFER TO ATTIC HVAC PLAN, DRAWING M1.1 FOR CONTINUATION.
- 14"Ø COMBUSTION AIR DUCTS DOWN THROUGH ROOF. TERMINATE WITH GOOSENECK AND 1" BIRDSCREEN. REFER TO ATTIC HVAC PLAN, DRAWING M1.1 FOR CONTINUATION.

ON MAIN
MAIN STREET

COLUMBINE 2299 WEST LITTLETON,

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Issue	e Rec	ord		
Job	No.	1513	7	

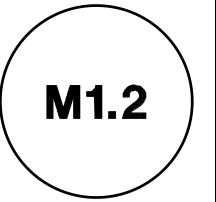
Date 01/20/2016

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Contents

ROOF HVAC PLAN





	GRILLI	ES, R	EGIST	ΓERS	AND	DIFFU	SERS		
PLAN	MANUFACTURER	TYPE &	NECK	FACE	VOLUME		MOUNTING		REMARKS
CODE	& MODEL NO.	SERVICE	SIZE	SIZE	DAMPER	MATERIAL	TYPE	FINISH	
					(OBD)				
SR-1	PRICE 720D	SUPPLY	AS NOTED	NECK+1.75"	YES	STEEL	DUCT	WHITE	NOTE: 1
CD-1	PRICE SMD	SUPPLY	AS NOTED	24" x 24"	NO	ALUMINUM	SURFACE	WHITE	
NOTES:									

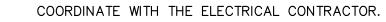
1. PROVIDE WITH HARD LID TRIM KIT FOR DIFFUSERS IN GYPSUM CEILING.

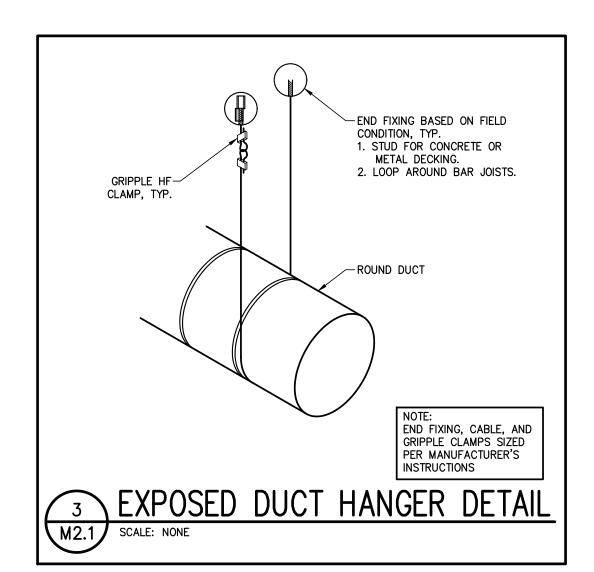
	MAKE-	UP-	- Alf	? U	NI	T SC	HE	DULE	(INDIREC	CT	G/	18 F	FIRE	D-E	VAP(DRAT		Ε	CO	OL	ED)	
			S	SUPPLY	′ FA	N		HEA	TING CAPACITY					AIR WA	SHER			DIM	ENSIC	DNS		
PLAN	MANUF.	CFM	ESP	RPM	HP	V/ø/	FLA	MBH INPUT	MBH OUTPUT	EAT	LAT	EVAP	MEDIA	AREA	HP	VOLTS/	FLA	Ι	L	W	WT	REMARKS
CODE	& MODEL NO.		(S.L.)			HZ		@ S.L.	© 5,280'	DB	DB	EFFIC.	DEPTH	(S.F.)	(PUMP)	Ø		(IN)	(IN)	(IN)	(LBS)	
MAU-1	GREENHECK IGX-112-H22	3,000	1.25	1,107	2.0	230/1/60	12.0	350.0	224.0	-10.0	76.1	90%	12"	7.5	1/70	115/1	0.92	45"	116"	54''	1,400	NOTE: 1,2,3,4,5,6

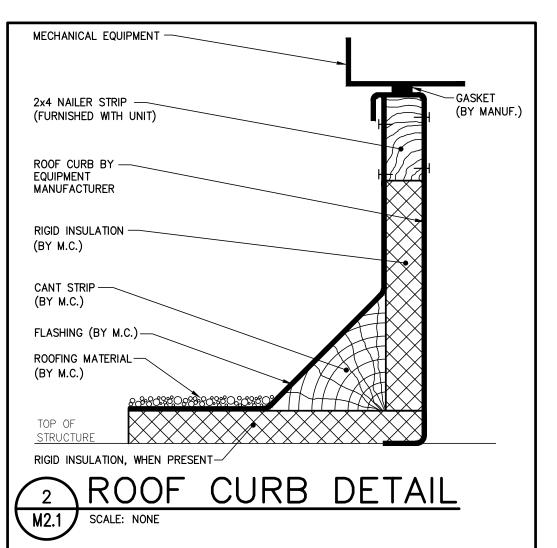
- 1. UNIT SHALL CONSIST OF AN EVAPORATIVE COOLING SECTION, FILTER MIXING BOX,
 - GAS FURNACE SECTION, SUPPLY FAN SECTION, AND SUPPLY PLENUM SECTION WITH HORIZONTAL DISCHARGE.
 - MOUNT UNIT ON 14" ROOF CURB.
- PROVIDE ELECTRIC MODULATING GAS VALVE (20-100% TURNDOWN). INLET GAS PRESSURE IS 6" W.C.
- PROVIDE UNIT WITH AUTO DRAIN AND FILL KIT FOR EVAPORATIVE SECTION. MANUFACTURER SHALL PROVIDE ALL CONTROLS INCLUDING MODULATING GAS VALVE, GAS HEAT EXCHANGER SAFETIES, BELIMO DAMPER ACTUATORS, AND
- SPACE TEMPERATURE SENSOR.
- MECHANICAL CONTRACTOR TO CONFIRM ELECTRICAL SERVICE IN THE FIELD PRIOR TO EQUIPMENT ORDER. ELECTRICAL SERVICE TO BE CIRCUIT TRACED, COORDINATE WITH THE ELECTRICAL CONTRACTOR.

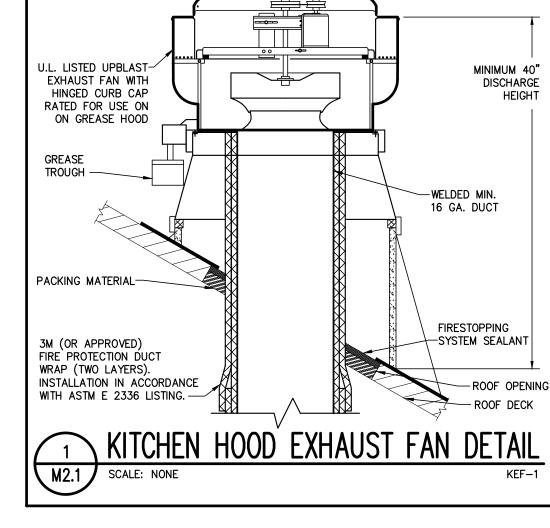
	FAN SCHEDULE															
PLAN	MANUFACTURER				CFM	T.S.P.	RPM	M	IOTOR	DIM	MENSIO	NS	WT	VIB.	DAMPER	
CODE	& MODEL NO.	TYPE	SERVICE	SONES		@ ALT	@ ALT	HP	V/ø/HZ	Η	W	L	(LBS)	ISOL.	TYPE	REMARKS
KEF-1	GREENHECK CUBE-300HP-20	ROOF	KITCHEN TYPE 1 HOOD	18.4	3,600	2.00	1,725	2	208/1/60	36"	50" [AIC	300	NOTE: 1	NONE	NOTE: 3,4,6,7,8
			-													

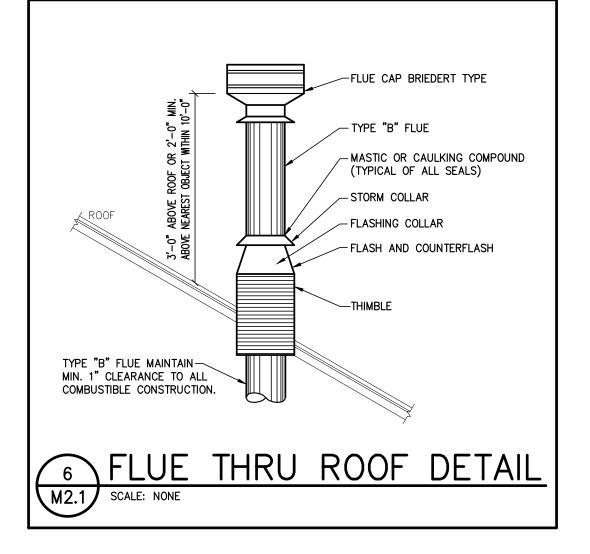
- 1. PROVIDE MASON INDUSTRIES SUPER W WAFFLE PAD BETWEEN EXHAUST FAN AND CURB. REFER TO DETAIL.
- 2. UL 762 LISTED FOR GREASE APPLICATION.
- 3. FAN TO BE INTERLOCKED TO MAU-1 AND KITCHEN HOOD.
- 4. PROVIDE WITH INTEGRAL DISCONNECT.
- 5. PROVIDE SLOPED ROOF CURB WITH EXTENSION, HINGED BASE KIT, GREASE TROUGH, AND GREASE TERMINATOR.
- 6. MECHANICAL CONTRACTOR TO CONFIRM ELECTRICAL SERVICE IN THE FIELD PRIOR TO EQUIPMENT ORDER. ELECTRICAL SERVICE TO BE CIRCUIT TRACED,

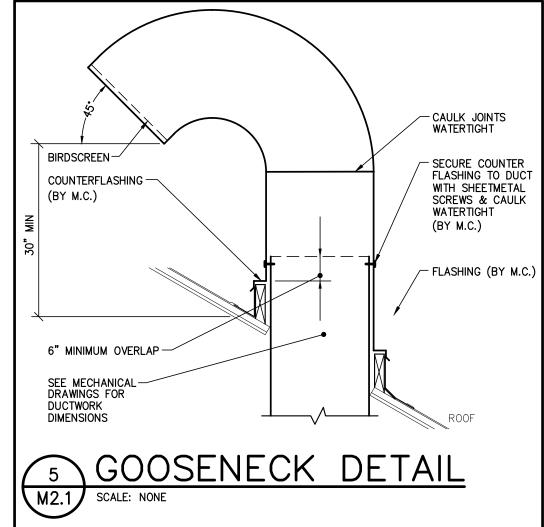


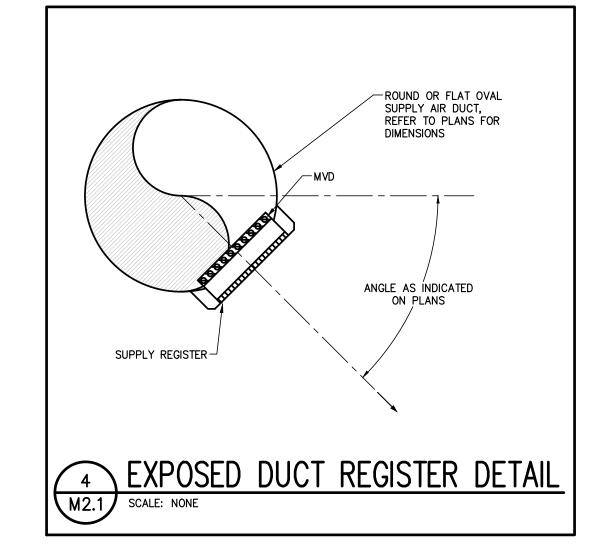


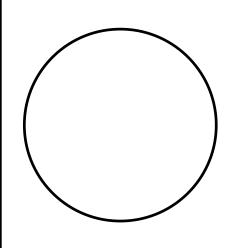














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Contents HVAC SCHEDULES AND DETAILS

M2.1

HOOD INFORMATION

1005			HOOD D	DIMENSION	NS (IN.)		HOOD		Е	XHAUST			SUF	PLY	TOTAL	05051011
HOOD NO.	MARK	MODEL		WIDTH	HEIGHT	HOOD CONSTR.	TEMP	TOTAL		COLLAR(S	S)		MUA	AC	WEIGHT	SECTION LOCATION
			LENGTH	חוטוייי	HEIGH I 		RATING	CFM	WIDTH	LENGTH DIA.	CFM	S.P.	CFM	CFM	LBS.	
	1211)(VD)(I) 450 0	450	4.0	0.4	430 SS WHERE	600	7.000	10"	31"	3,600	0.635			540.5	011101 5
1	KH-1	XXDW-150-S	150	48	24	EXPOSED	DEG F	3,600					NA	NA	512.5	SINGLE

HOOD INFORMATION

	.00		LIGHTING DET	AILS		GREASE FILTR	ATION	DETAI	LS		UTILITY	CABINET	Γ(S)	
I HO	OD O.	MARK	FIXTURE TYPE	QTY	FOOT	TYPE / MODEL	QTY	SIZE	(IN.)	LOCATION	FIRE SYS	TEM	CONTR	ROLS
			BULB / LAMP INFO	911	CANDLES	MATERIAL	Q	L	Н	LOCATION	TYPE	SIZE	MODEL	INTERFACE
	_		INCANDESCENT (GLOBE)			X-TRACTOR	3	16"	20"					
	1	KH-1	100W A19 (BULBS NOT INCL.)	4	43.48	STAINLESS STEEL	5	20"	20					

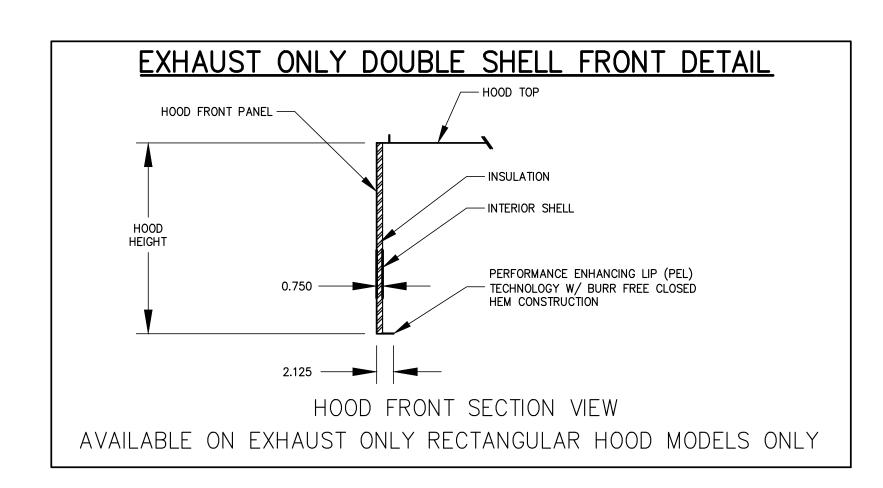
HOOD OPTIONS

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

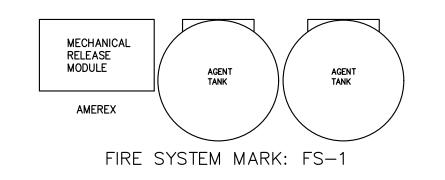
UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #R25625 BACK INTEGRAL AIR SPACE - 3 IN WIDE LEFT NON-INTEGRAL AIR SPACE - 1 IN THICK - ZERO CLEARANCE 12 IN HIGH CEILING ENCLOSURES - FRONT RIGHT - FIELD INSTALLED FACTORY MOUNTED EXHAUST COLLAR(S) BACKSPLASH 122.00 IN HIGH 169.00 IN LONG LEFT SIDESPLASH 122.00 IN HIGH 60.00 IN LONG

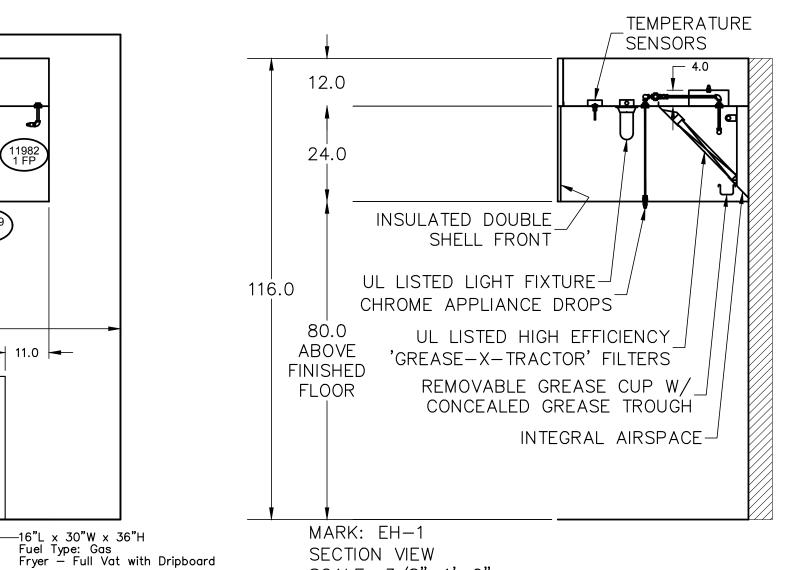
PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY

STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH

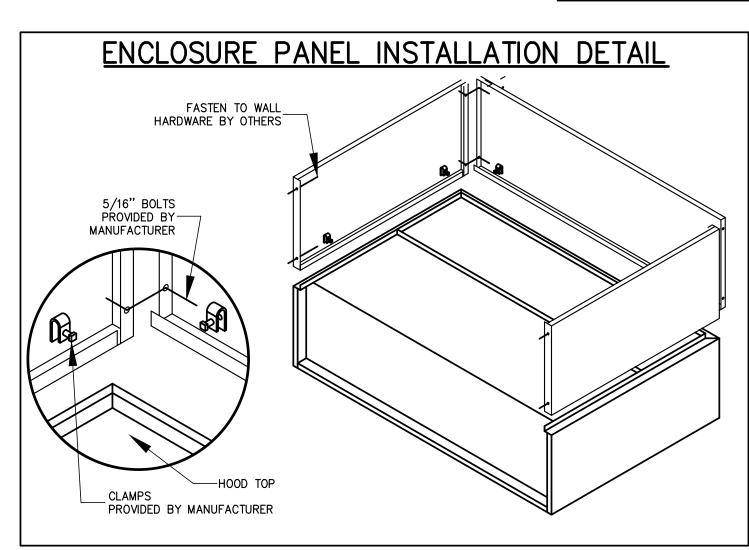


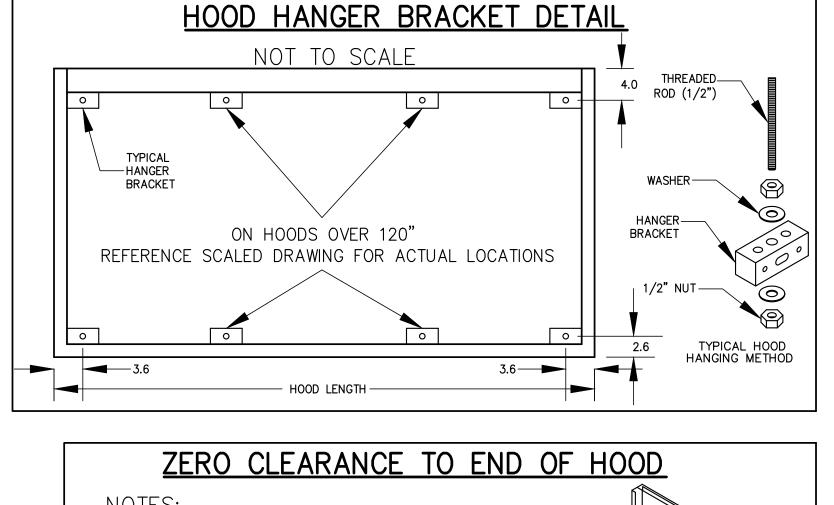
REFERENCE SCALED DRAWING FOR ACTUAL LOCATIONS

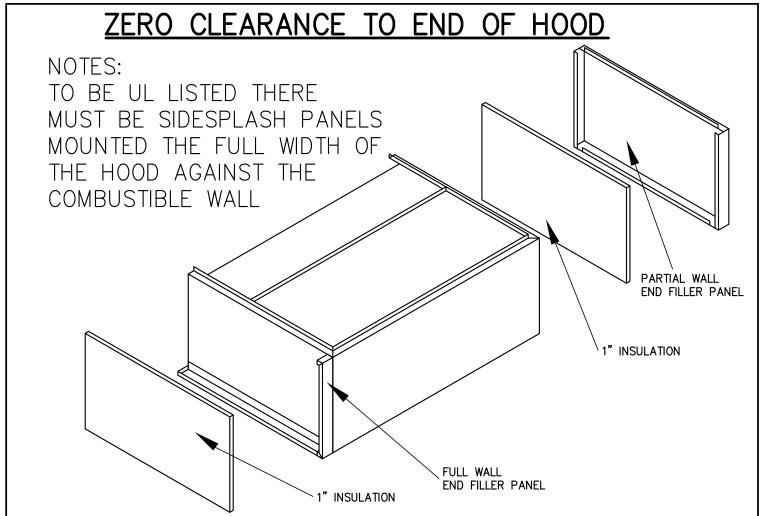




SCALE: 3/8"=1'-0"



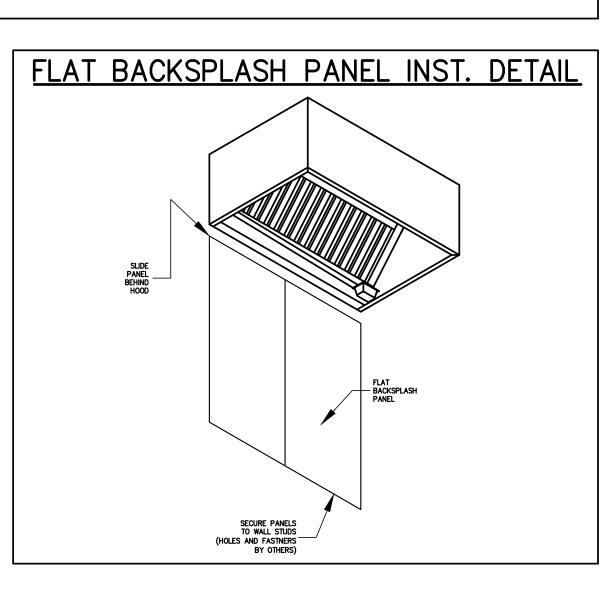


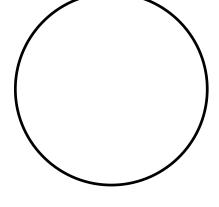


HOOD HANGING HEIGHT FOR FIRE SYSTEMS

VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.)IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

- RECOMMENDED HANGING HEIGHT = 80" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.
- OTHER HANGING HEIGHT = ______ FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.







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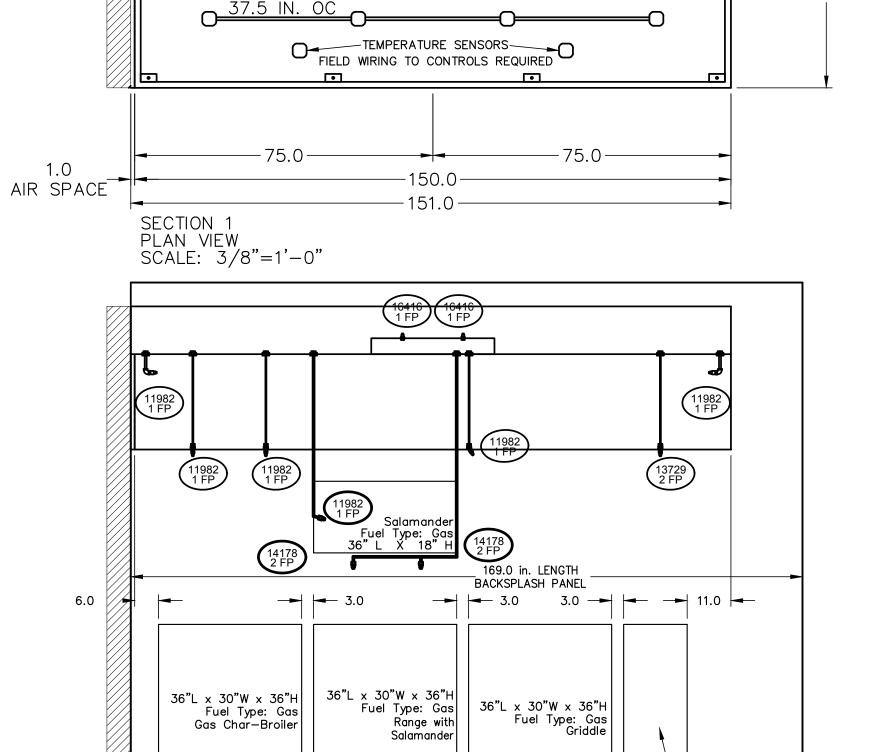
Issue Record Job No. **15137** 01/20/2016 Date Drawn CAT

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KITCHEN HOOD DRAWINGS

M2.2

KITCHEN HOOD DRAWINGS



FIRE SYSTEM INFORMATION

MARK	MODEL	LOCATION	FLOW P	OINTS	SUPPLY LINE	DETECTION	MARK(S) PROTECTED BY FIRE
MARK	MODEL	LOCATION	HOODS	PCU	SUPPLI LINE	DETECTION	SYSTEM
FS-1	AMEREX KP	REMOTE MOUNTED	14 UTILIZED		CONTINUOUS	FUSIBLE LINK	EH-1 SECTION 1
L2—1	WET CHEMICAL	REMOTE MOUNTED	16 AVAILABLE		CON HINOOOS	FUSIBLE LINK	

FIRE SYSTEM OPTIONS AND ACCESSORIES

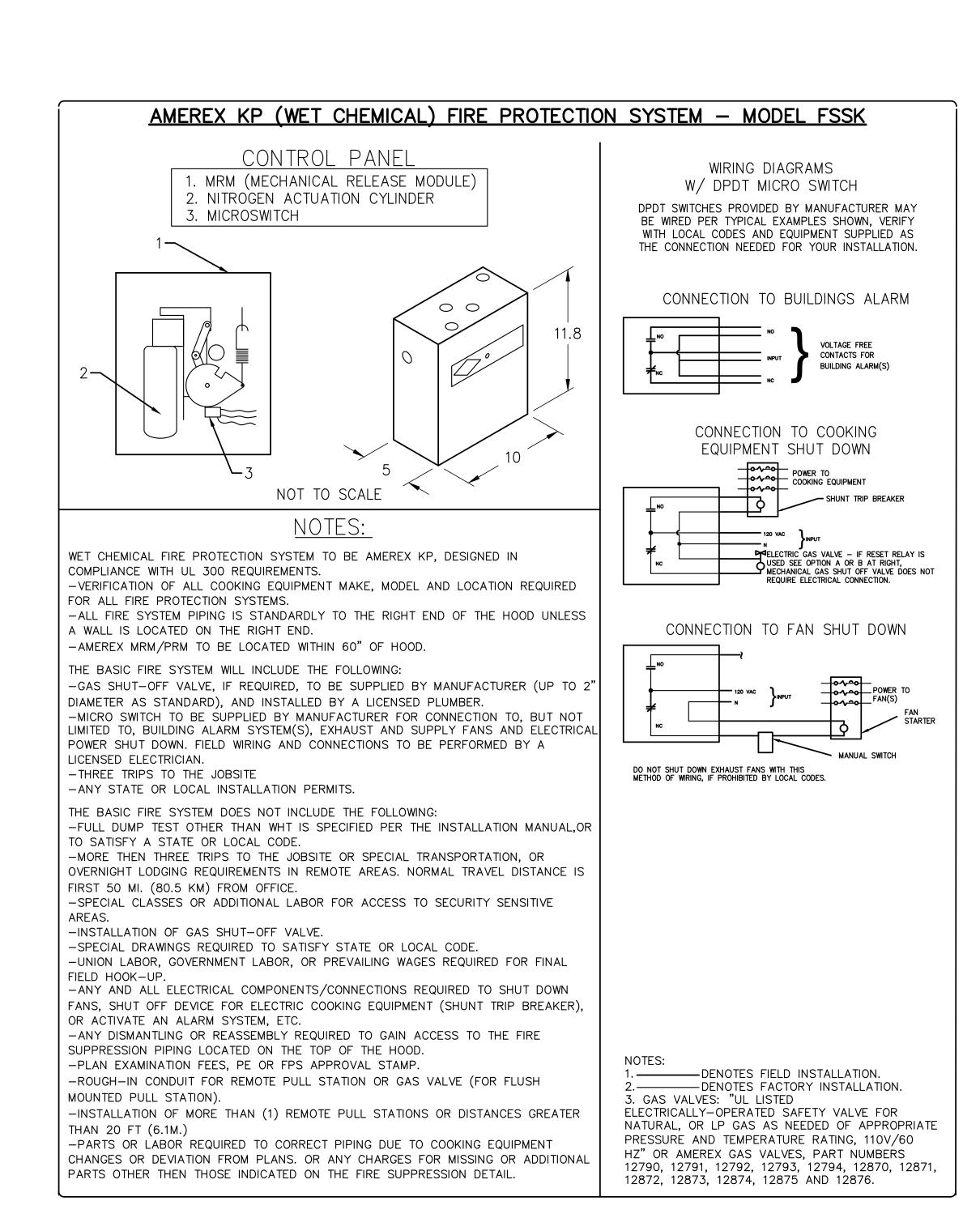
FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)

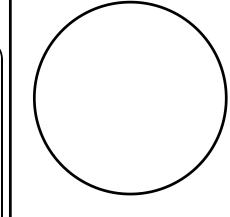
CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED

GAS VALVE - INCLUDED - MECHANICAL SHUTOFF VALVE, 2.00" (AMEREX) - PART# 12794

HOOD SUPPRESSION AGENT - INCLUDED - 5.5 GAL. - [(2) 2.75 TANK(S)]

REMOTE PULL STATION - STANDARD - INSTALLATION AT SINGLE POINT OF EGRESS





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KITCHEN HOOD FIRE PROTECTION DRAWINGS

M2.3

CONTROL INFORMATION

4. CHECK SYSTEM OPERATION BEFORE MAKING ADDITIONAL

ADJUSTMENTS

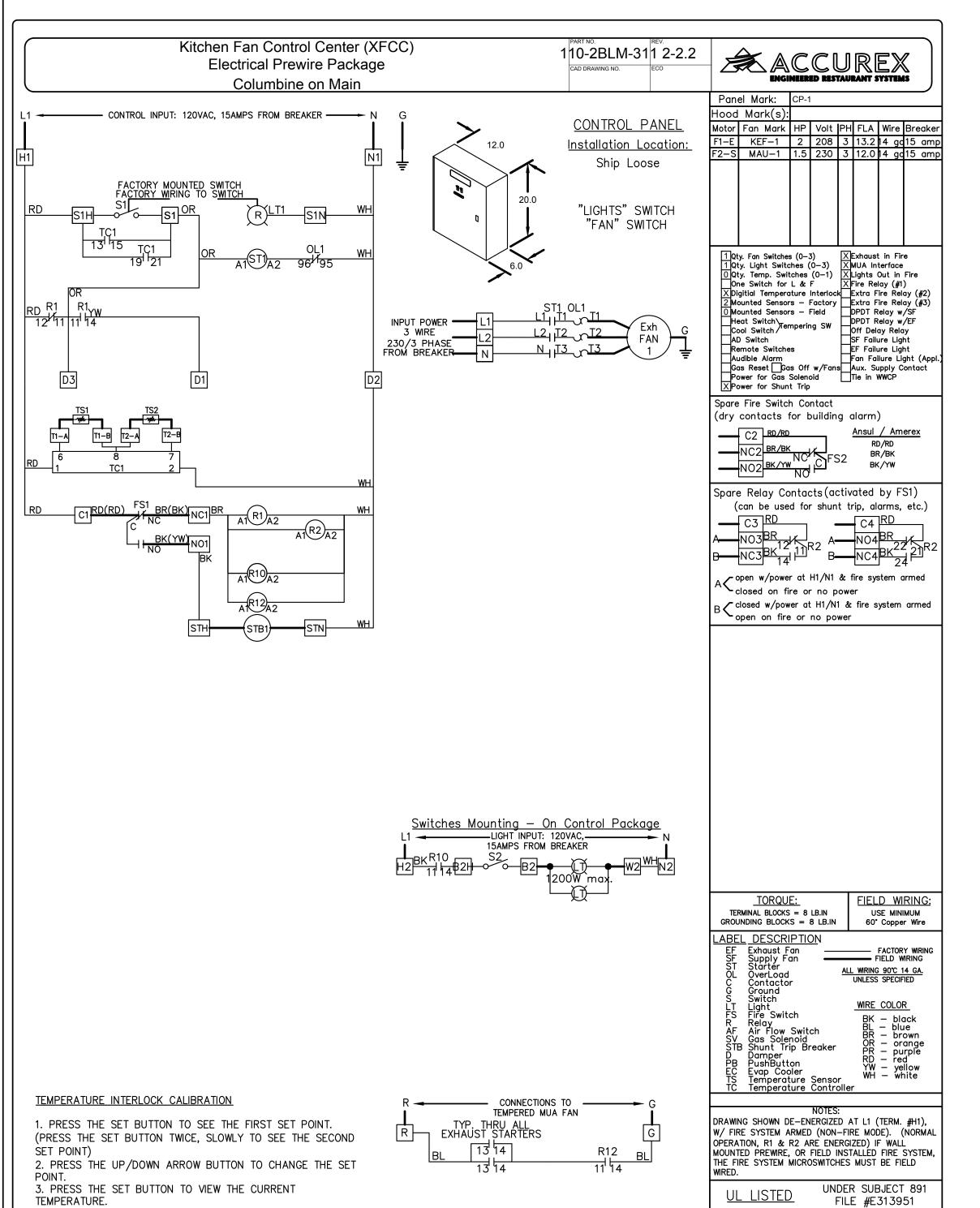
MARK	ELECTRICAL	CONTROL PACKAGE	USE	ER INTERFACE		FANS C	ONTROLL	.ED	
WANN	MODEL	LOCATION	TYPE	LOCATION	MARK	TYPE	VOLT	PHASE	HP
CP-1	XFCC	SHIP LOOSE	SWITCHES	ON CONTROL PACKAGE	KEF-1	EXHAUST	230	3	2.0
CF-1	AFCC	SUIL FOOSE	JWIICHES	ON CONTROL PACKAGE	MAU-1	SUPPLY	230	3	2.0

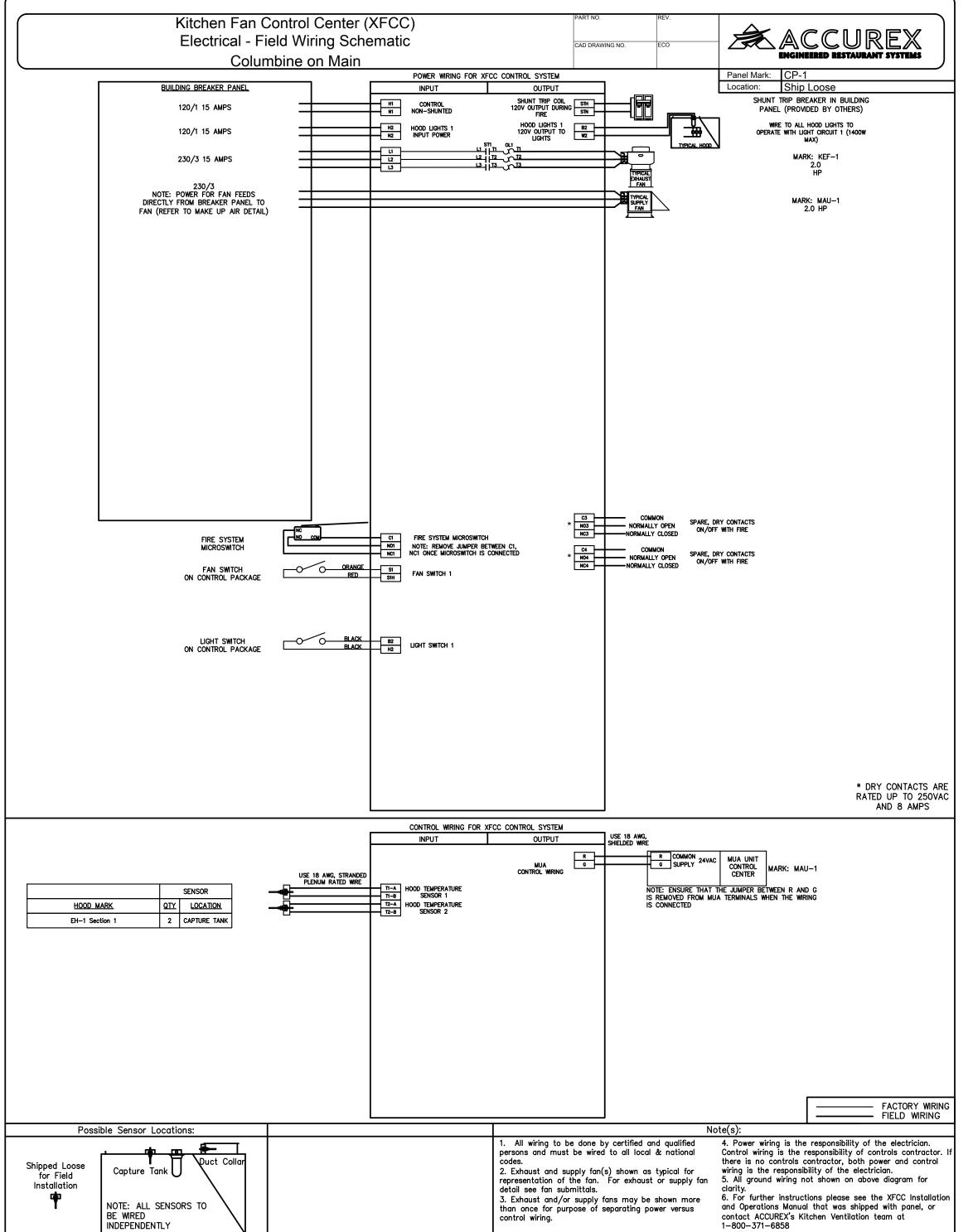
CONTROL FEATURES

CONTROL PANEL ENCLOSURE - 16 GA 300 SERIES STAINLESS STEEL ENCLOSURE (NEMA-1) - DIMENSIONS 12x20x6 STARTERS PROVIDED IN CONTROL PANEL - QTY 1 2 POSITION LIGHT SWITCH - QTY 1 2 POSITION FAN SWITCH - QTY 1 INTEGRATED EXHAUST TEMPERATURE INTERLOCK SYSTEM -FACTORY MOUNTED EXHAUST TEMPERATURE SENSORS - QTY 2 -COMPLIES WITH INTERNATIONAL MECHANICAL CODE 2006 SECTION 507.2.1.1

TURN ON EXHAUST IN FIRE LIGHTS OUT IN FIRE MUA INTERFACE

POWER FOR SHUNT TRIP THERMAL OVERLOADS IN CABINET







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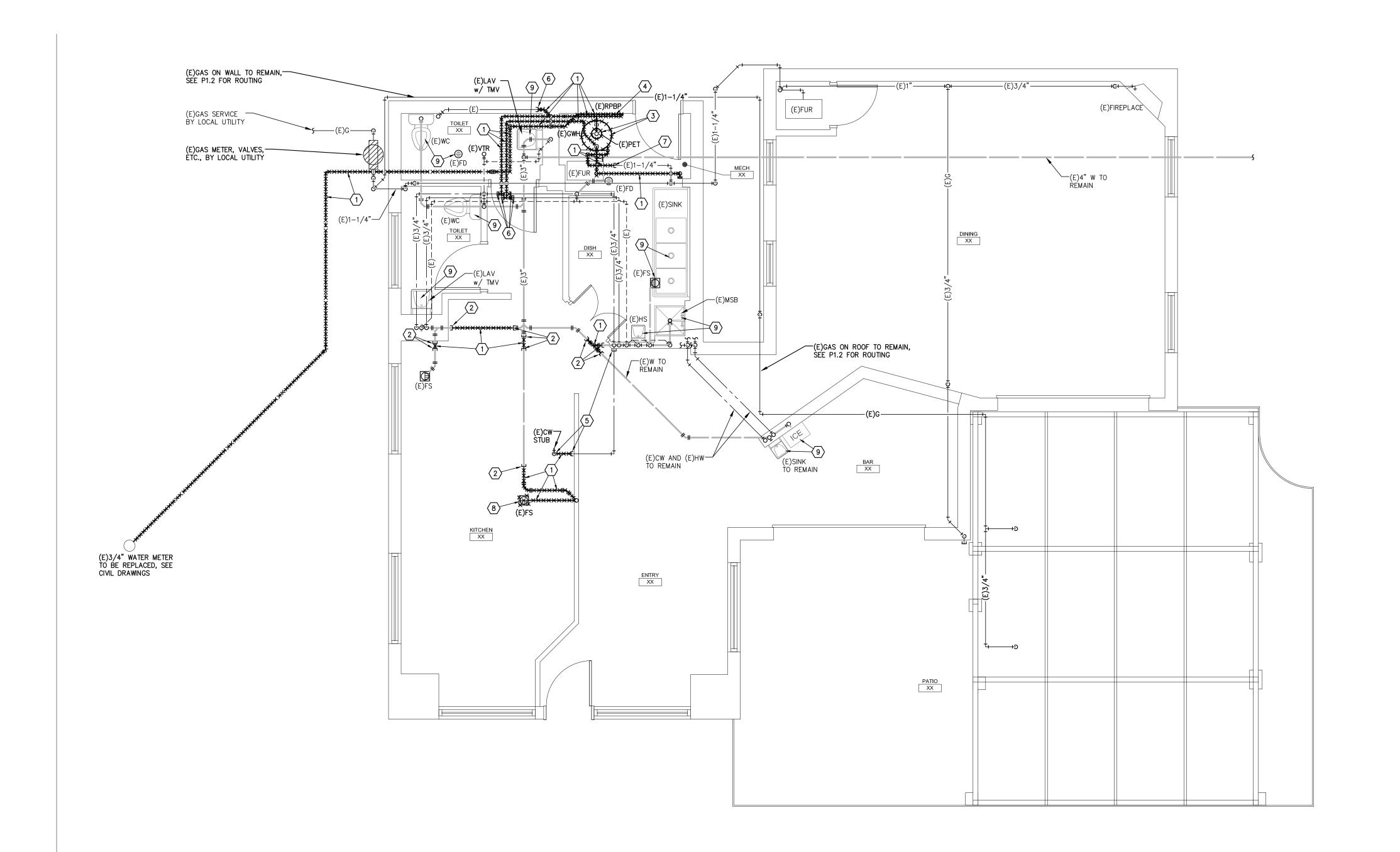
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KITCHEN HOOD CONTROL DIAGRAMS

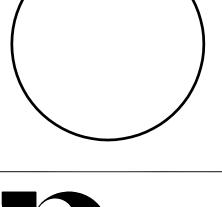
M2.4

KITCHEN HOOD CONTROL DIAGRAMS

110-2BLM-311



MAIN LEVEL PLUMBING DEMOLITION PLAN SCALE: 1/4'=1'-0"





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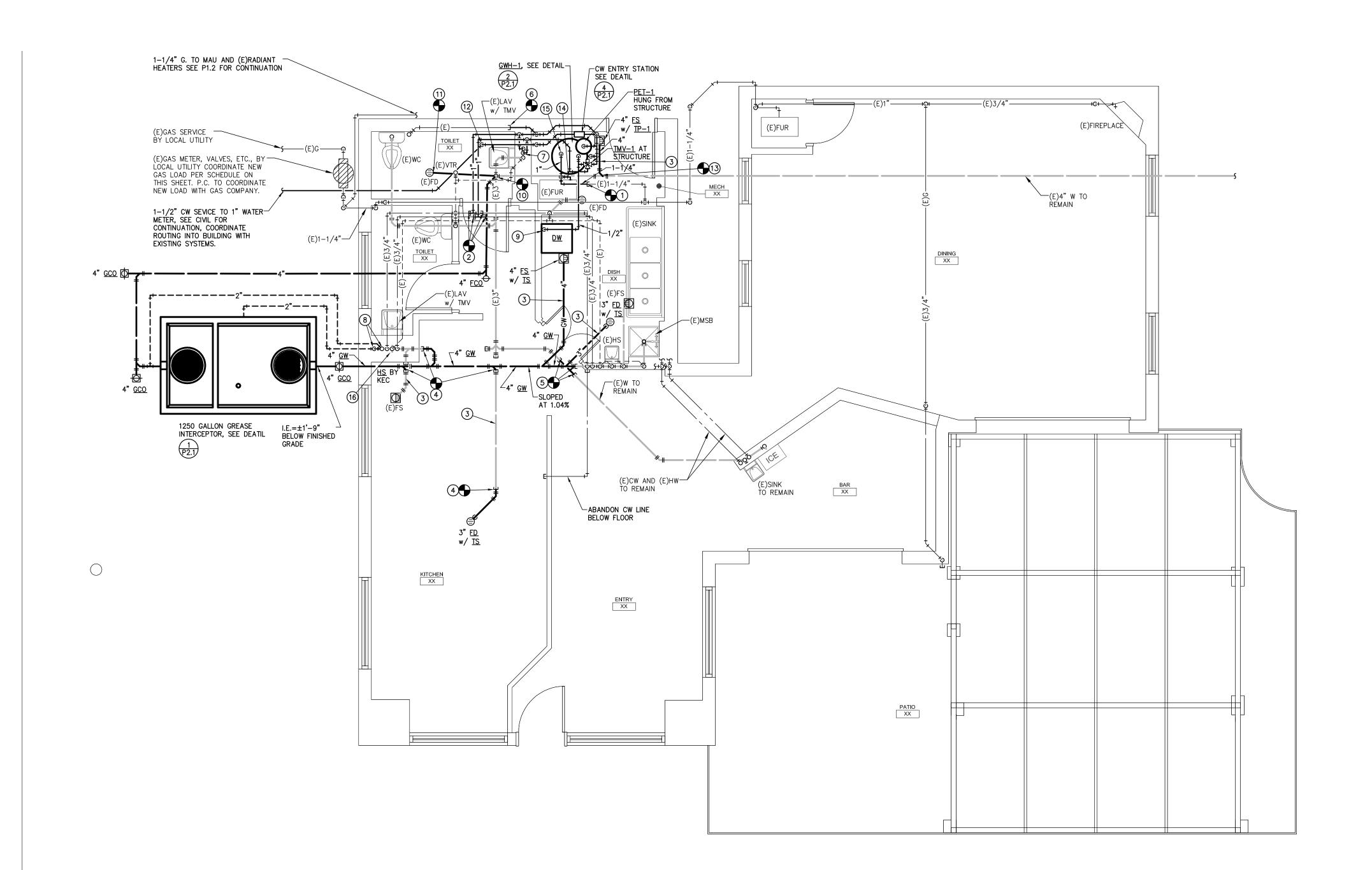
Contents

MAIN LEVEL PLUMBING DEMOLITION PLAN



PLUMBING DEMOLITON KEYNOTES:

- 1 REMOVE (E)PLUMBING PIPING.
- $\langle 2 \rangle$ CAP WASTE PIPING BELOW FLOOR.
- (3) REMOVE (E)WATER HEATER AND (E)PET.
- REMOVE (E)WATER ENTRY REDUCED PRESSURE BACKFLOW PREVENTER.
- FREMOVE (E)CW STUB AND CAP (E)CW AT WALL BELOW FLOOR. IF POSSIBLE DEMOLISH BACK TO DROP AND CAP.
- 6 CAP WATER PIPING ABOVE CEILING.
- 7 CAP GAS PIPING ON WALL.
- 8 REMOVE FS.
- 9 (E)PLUMBING TO REMAIN.



PLUMBING KEYNOTES:

- 1) CONNECT 1-1/4" GAS TO (E)1-1/4" GAS.
- ② CONNECT 1" CW AND 1" HW TO (E)3/4" CW AND (E)3/4" HW.
- 3 COMBINATION WASTE AND VENT SYSTEM.
- (4) CONNECT (E)WASTE TO 4" GW BELOW FLOOR.
- 5 CONNECT 2" WASTE TO (E)WASTE BELOW FLOOR.
- 6 CONNECT 3/4" CW TO (E)3/4" CW IN CRAWL SPACE.
- 7) 1/2" CW AND 1/2" HW DOWN TO (E)LAV.
- (2)2" VENT FROM GREASE INTERCEPTOR, RISE AND CONNECT IN WALL TO 2" VENT TO 3" VTR.
- 9 1/2" HW(140°F) AND 2" INDIRECT WASTE TO DISHWASHER TO AIRGAP PER CODE TO FS, SEE DETAIL.
- (10) CONNECT 3" WASTE FROM GREASE INTERCEPTOR AND 2" WASTE FROM FD TO (E)3" WASTE ON DROP IN CRAWL SPACE.
- (11) CONNECT 2" WASTE TO (E)FD.
- 12 1-1/2" CW TO ENTER CRAWL SPACE.
- (3) CONNECT 4" WASTE TO (E)WASTE BELOW FLOOR.
- (14) CONNECT 3/4" GAS TO (E)FUR WITH GAS COCK AND 6" DIRT LEG.
- (15) CONNECT 1" GAS TO GWH WITH GAS COCK AND 6" DIRT LEG.
- (16) CONNECT 2" WASTE, 1/2" CW AND 1/2" HW TO EXISTING ROUGH INS.

GAS LOAD SCHEDULE

EXISTING	APPLIANCES:	L	OAD:
EXISTING	GWH	76.0	MBH
EXISTING	FUR	75.0	MBH
EXISTING	FUR	75.0	MBH
EXISTING	FIREPLACE	14.0	MBH
EXISTING	RADIANT HEATER	50.0	MBH
EXISTING	RADIANT HEATER	50.0	MBH
EXISTING	BBQ	50.0	MBH

TOTAL EXISTING GAS LOAD:

390.0 MBH INPUT © S.L.,
14" WC REQUIRED. M.C. TO
COORDINATE GAS LOAD
WITH LOCAL GAS COMPANY

NEW GAS LOAD:

GWH-1

MAU-1

EXISTING FUR

EXISTING FREPLACE

EXISTING RADIANT HEATER

EXISTING RADIANT HEATER

EXISTING RADIANT HEATER

EXISTING BBQ

50.0 MBH

TOTAL NEW GAS LOAD:

863.9 MBH INPUT © S.L.,

14" WC REQUIRED. M.C. TO
COORDINATE GAS LOAD
WITH LOCAL GAS COMPANY



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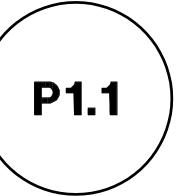
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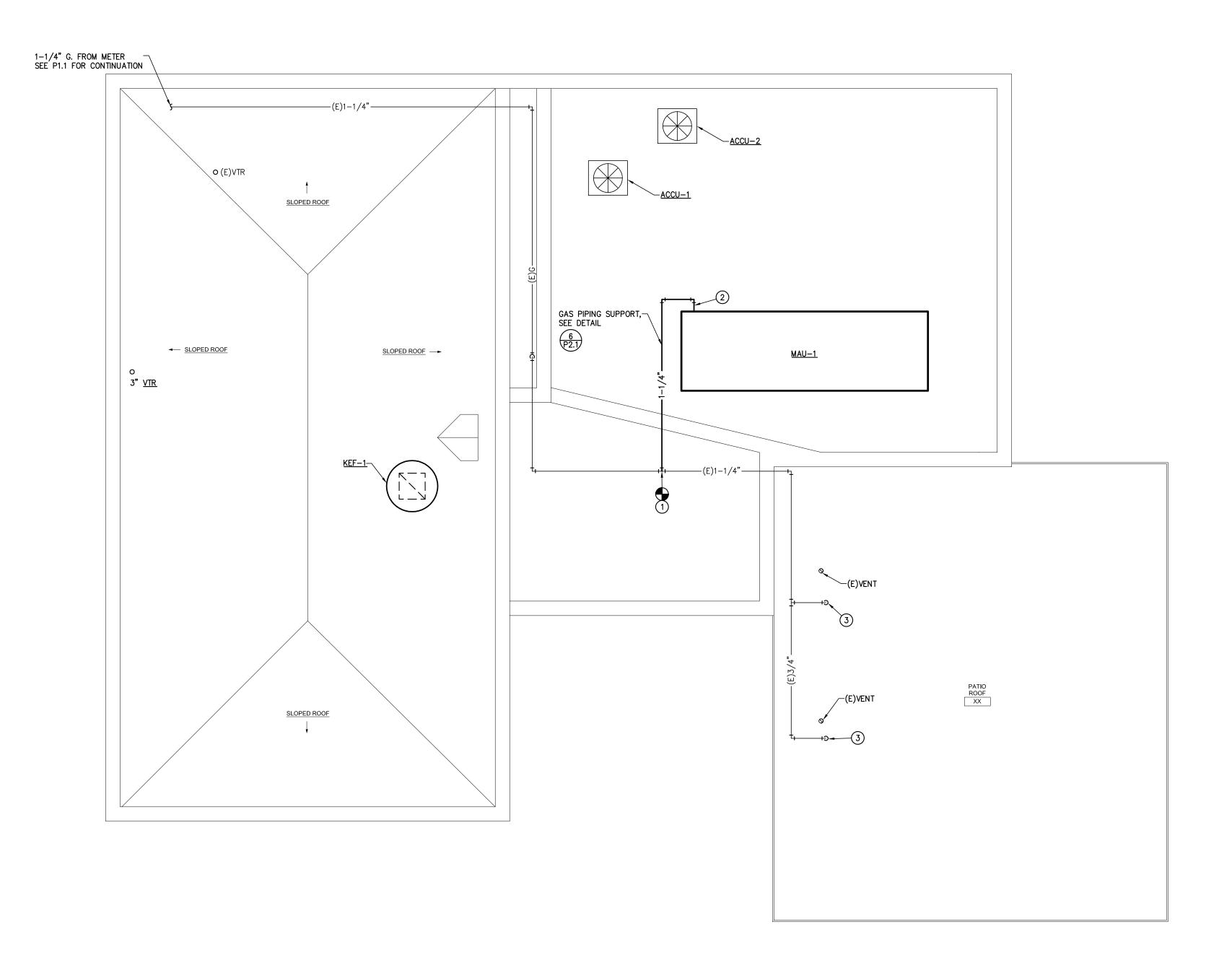
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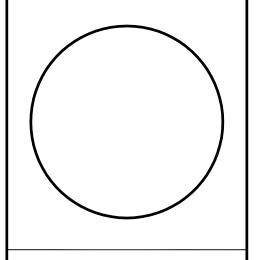
Contents

MAIN LEVEL PLUMBING PLAN











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PLUMBING KEYNOTES:

- 1) CONNECT 1" GAS TO (E)1-1/4" GAS.
- 2 CONNECT 1-1/4" GAS TO MAU WITH GAS COCK AND 6" DIRT LEG.
- (E)3/4" DOWN THROUGH ROOF TO (E)RADIANT HEATER.

COLUMBINE ON MAIN 2299 WEST MAIN STREET LITTLETON, CO 80120

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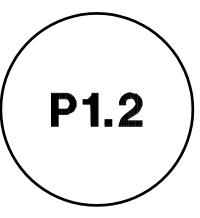
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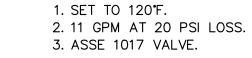
ROOF LEVEL PLUMBING PLAN

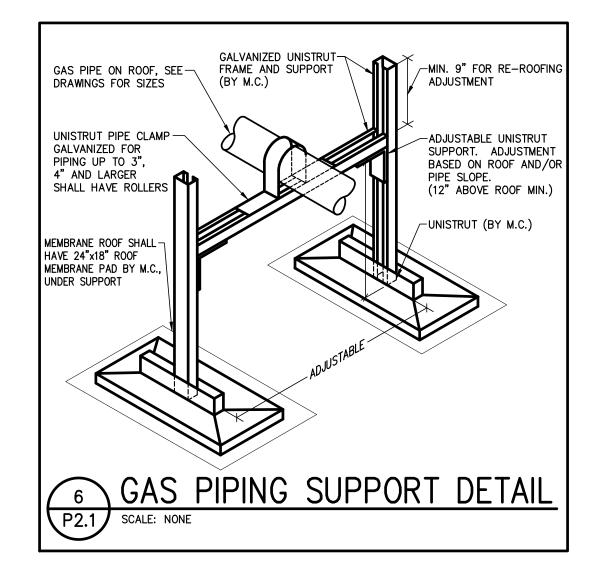


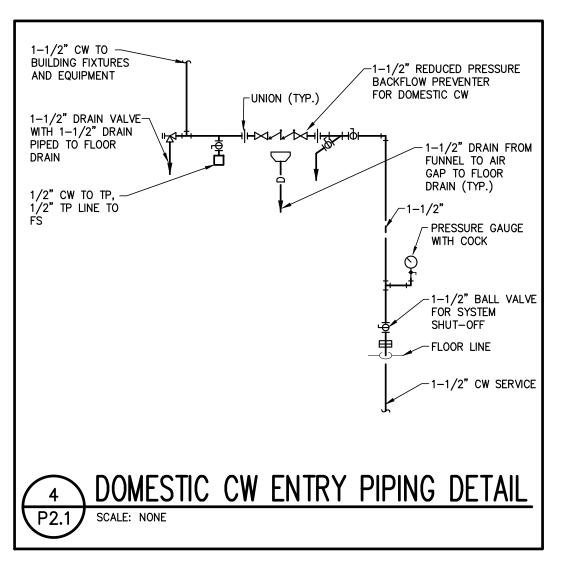


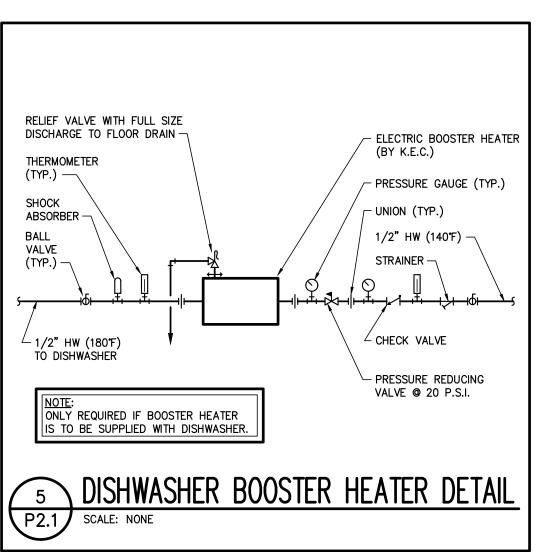
	WATER HEATER SCHEDULE (GAS-FIRED)										
PLAN	MANUFACTURER	STORAGE	G.P.H. RECOVERY	BTUH INPUT	EFF.	FLUE	TANK	SIZE	OPER.	REMARKS	
CODE	& MODEL NO.	GALLONS	@ 100' RISE	@ SEA LEVEL	FACTOR	SIZE	DIA.	HT.	WEIGHT		
GWH-1	STATE SUF100-150NE	100	178	150	98.0	SEE HVAC	28	76	1387 LBS	-	
NOTES:	NOTES:										

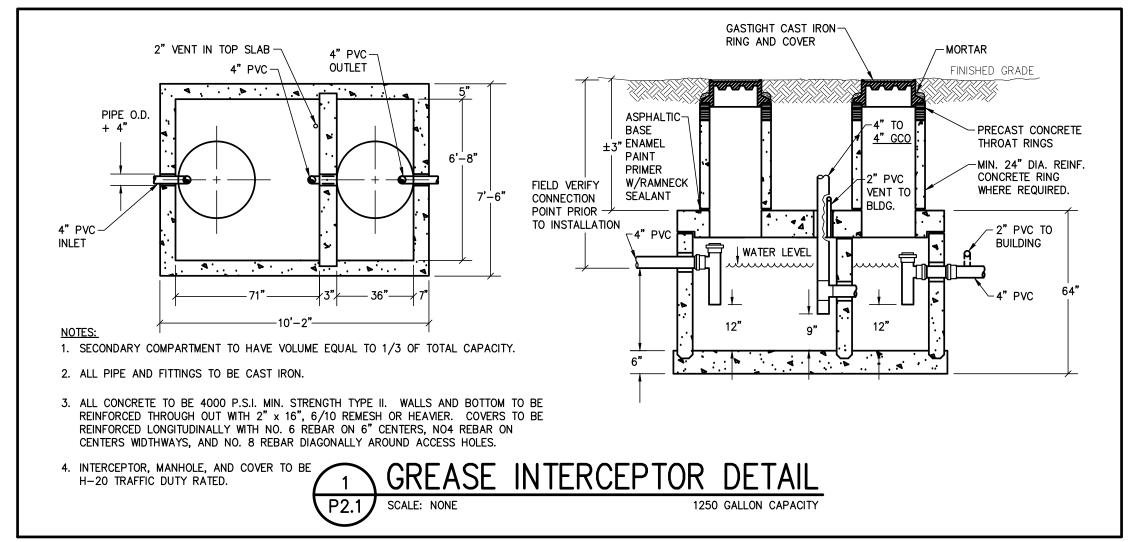
	N	MISCELLANEOU	S PLUMBING	FIXTURF	
		MISSELL/ (INESS	3 I LOWDING	TIXTOIL	
PLAN	DESCRIPTION	MANUFACTURER	MODEL	FINISH	REMARKS
CODE					
PET-1	PLUMBING EXPANSION TANK	AMTROL	ST-12	STEEL	_
TMV-1	THERMOSTATIC MIXING VALVE	LEONARD	TM-20-LF-E	ROUGH BRASS	NOTES: 1,2,3
NOTES:	057 70 400%				

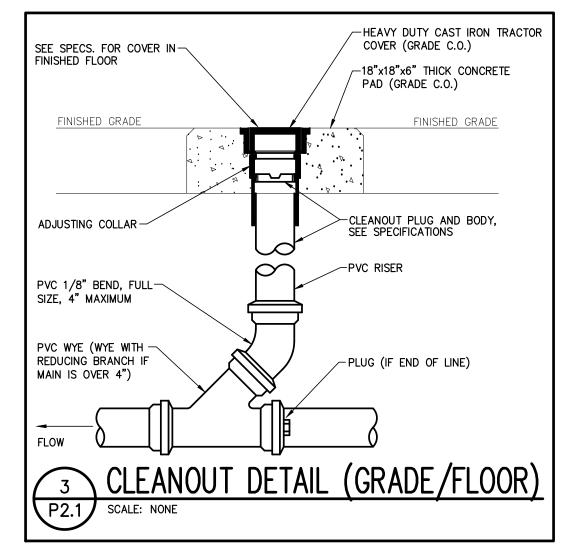


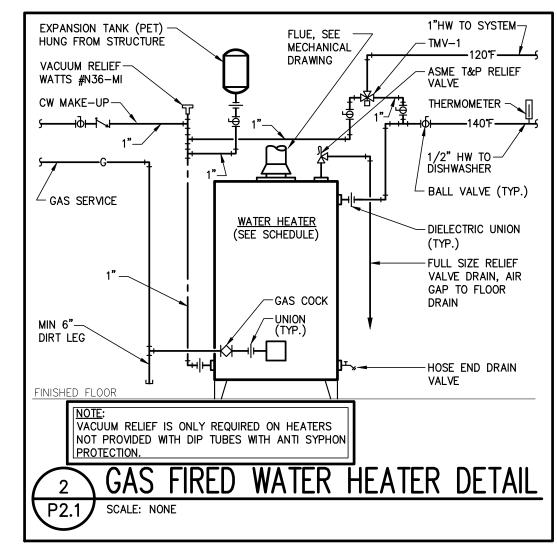


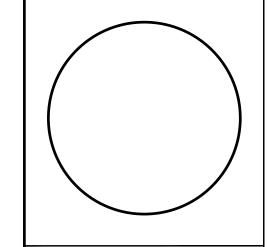














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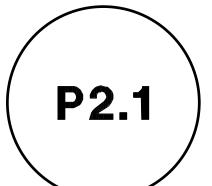
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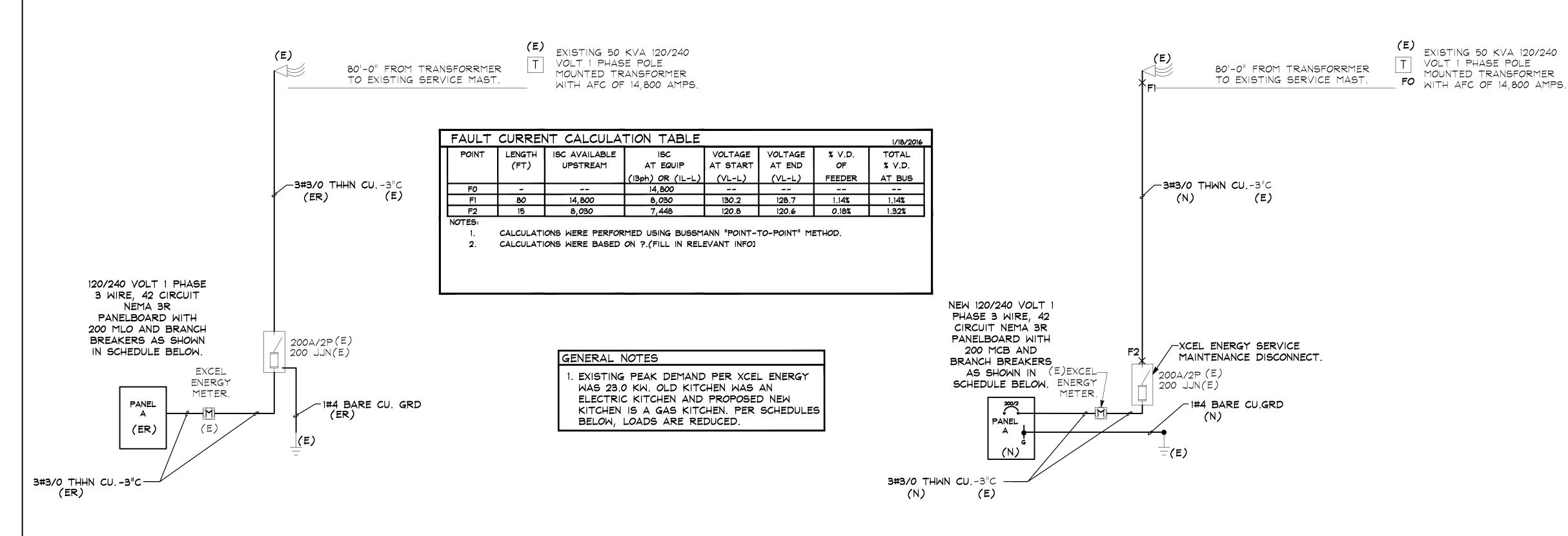
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PLUMBING SCHEDULES AND DETAILS





EXISTING ONE LINE DIAGRAM

SCALE: NONE

2 NEW ONE LINE DIAGRAM
EI.O SCALE: NONE

	PROJECT:	A	(EXIST	11197			OB NUMBER:				6	<u>Jan</u>
	LOCATION: FED FROM		HALL TRANS				OMMENTS:	REPLACE	WITH NE	W MCB P	ANEL	
	VOLTAGE	L-L:	240	V		В	SUS RATING:		200	AMPS		
	VO LTAGE	L-G:	120	V		C	C. PROTECTION:		200	M.L.O.		
	TYPE:		1PH/3W			S	CRMS RATING:		10,000	A.I.C. Fl	JLLY RAT	ED
	MOUNTING	;	SURFACE						,			
IR	CIRCUIT B	REAKER	LOAD	LOAD	L <i>O</i> AD	BUS	LOAD	LOAD	LOAD			
0.	RATING	POLES	T VA	TYPE	SERVED		SERVED	TYPE	VA	POLES	RATING	1
1	20	1	1800	L	EXISTING LIGHTS	A	MOBILE TRUCK	KE	4800	2	50	Ť
3	20	1	1800	L	EXISTING LIGHTS	В	FOOD WAGON		4800			
5	20	2	1500	KE	EXISTING REFRIG/	А	RECEPT	R	540	1	2-20	T
7	1		1500	KE	FREEZER	В	KITCHEN RECEPT	R	1440	1	15	
9	20	1	1080	R	KITCHEN RECEPT	A	KITCHEN RECEPT	E	800	1	15	
11	20	1	1200	KE	COOLER	В	GALATO	KE	1600	2	20	T
3	20	1	1440	M	FURNACE	A	SHOWCASE	KE	1600			
5	20	1	180	R	PHONE	В	UPPER TURBO	KE	2000	2	30	
7	20	1	1440	M	FURNACE	А	CHEF	KE	2000			Г
9	20	2	1622	М	CU-1	В	RECEPT	KE	1900	2	20	
21			1622	M		А		KE	1900			
23	20	2	1622	M	CU-2	В	POS	R	180	1	20	
25			1622	M		A	BATHROOM RECEPT	R	360	1	20	
27	50	2	3000	KE	DISH WASHER	В	RECEPT	R	900	1	20	
29			3000	KE		А	RECEPT	R	720	1	2-20	
31	2-20	1	1200	KE	PATIO HEATERS	В	CREPE TABLE	KE	1200	2	30	
33	20	1	900	R	RECEPTS	A		KE	1200			
35	20	1	900	R	RECEPTS	В	PANNI	KE	800	2	20	L
37	20	1	900	R	RECEPTS	A	GRILLE	KE	800			
9	30	2	2000	KE	BOTTOM	В	CREPE MAKER	KE	1500	1	20	
41			2000	KE	TURB0	А	U.C. REFRIGERATOR	KE	1200	1	20	
		TOTAL (CONNECTED		CLE, LM - LARGEST MOTO		PANEL (FEEDER)	DEMAND LO	DAD CALC	CULATION	5	ΞE
	PANEL VA		PHASE B		PANEL 59,768	CONTU	LOAD TYPE Nuous (L or H)	3,600 F	1ULTIPLIE 1.25	4,500		
			 ' 		<u> </u>		TACLE	5,600	1.25	4,500	V A	
	PANEL A		(BASED 0)	L CONNECT	249 ED LOADS ABOVE)	RECEP		A 8 100	1.00	9 100	\/ \	
	THASE BA		(DASED OF	N CONNECT	ED LOADS ABOVE)		FIRST 10,000 V		1.00	8,100		
		A - B					ADDITIONAL V		0.50		VA	
		80%	5541115	0.00			ST MOTOR	0	1.25	0	VA	
			DEMAND	LOADS		MOTOR		9,368	1.00	9,368		
			PHASE B		PANEL	EQUIP		800	1.00	800		
	PANEL VA	26,674	20,729			KITCH	EN EQUIPMENT	37,900	0.65	24,635	VA	
	THRU VA				/ <u></u>		PIECES OF EQUIPMEN					
	TOTAL VA		20,729		47,403	SUBFE	ED	0	1.00	0	VA	
	TOTAL A	222	173	1	198							

	PROJECT: LOCATION: FED FROM	:	HALL 200A/2P	DISC. SW.			JOB NUMBER: COMMENTS:	NEMA 3R		_		
	VOLTAGE I VOLTAGE I TYPE: MOUNTING:	G:	240 120 1PH/3W SURFACE	V		•	BUS RATING: O.C. PROTECTION: B.C.RMS RATING:		200) AMPS) A/2P	1.C.B. JLLY RAT	ED
SIR	CIRCUIT BI	REAKER	LOAD	LOAD	LOAD	BUS	LOAD	LOAD	LOAD			CI
10.	RATING	POLES	VA	TYPE	SERVED		SERVED	TYPE	VA	POLES	RATING	\rceil Nc
1	20	1	1800	L	EXISTING LIGHTS	A	GAS SOLENOID VALVES	E	10	1	20	2
3	20	1	1800	L	EXISTING LIGHTS	В	SHUNT TRIP					4
5	20	1	708	KE	SOUTHBEND GRILLE	A	RECEPT	R	720	1	20	6
7					SHUNT TRIP	В	KITCHEN RECEPT	R	1440	1	15	8
9	20	1	180	R	KITCHEN RECEPT	Α	SUPERA COOLER	KE	800	1	15	10
11	20	1			SPARE	В	TRUE LOW COOLER	KE	348	2	20	1;
3	20	1	1440	М	FURNACE	A		KE	348			14
5	20	1	170	R	PHONE	В	GFI					16
7	20	1	1440	M	FURNACE	A	SPARE			1	20	18
9	20	2	1622	M	CU-1	В	2 HP	M	1440	2	20	2
21			1622	M		Α	SUPPLY FAN	M	1440			2
23	20	2	1622	М	CU-2	В	RECEPT	R	900	1	20	2
25			1622	M		Α	BATHROOM RECEPT	R	360	1	20	2
27	20	1	1500	KE	DISHWASHER	В	RECEPT	R	900	1	20	2
29	20	1	1440	M	WATER HEATER	A	RECEPT	R	720	1	20	3
31	20	1	1176	KE	SUPERA FREEZER	В	3 HP	LM	2040	2	30	3
3	20	1	900	R	RECEPTS	A	EXHAUST FAN	LM	2040			3
5	20	1	900	R	RECEPTS	В	SOUTHBEND FLAT TOP	KE	1176	1	20	3
37	20	1	900	R	RECEPTS	A	SHUNT TRIP					3
39	20(1)	1	1800	KE	TRUE LOW DOUBLE	В	DELFIELD COOLER	KE	600	1	20	4
41	20(1)	1	25	KE	FIRE SUPRESSION PNL	A	TRUE HIGH COOLER	KE	1140	1	20	4
	-	TOTAL (CONNECTE	D LOADS	CLE, LM - LARGEST MOTO		PANEL (FEEDER)	DEMAND L	OAD CAL	CULATION	S	EEC
			PHASE B		PANEL		LOAD TYPE			RDEMAND		
	PANEL VA		19,434		39,089	_	INUOUS (L OR H)	3,600	1.25	4,500	VA	
	PANEL A		162		163	RECE	PTACLE					
	PHASE BA	LANCING	(BASED O	N CONNEC	TED LOADS ABOVE)		FIRST 10,000 VA	•	1.00	8,090		
		A - B					ADDITIONAL VA		0.50	0		
		99%				LARG	EST MOTOR	4,080	1.25	5,100	VA	
			DEMAND	LOADS		MOTO	R	13,688	1.00	13,688	VA	
		<u>TO</u> TAL	DELIAND		DANE	FOLUE	PMENT	10	1.00	10		
			PHASE B		PANEL	LGOII						
	PANEL VA	PHASE A			PANEL	_=	EN EQUIPMENT	9,621	0.65	6,254	VA	
		PHASE A	PHASE B		PANEL	_=	HEN EQUIPMENT PIECES OF EQUIPMENT		0.65	6,254	VA	
ED	PANEL VA	PHASE A 19,7 <i>0</i> 9	PHASE B		37,642	_=	PIECES OF EQUIPMENT		1.00	6,254		

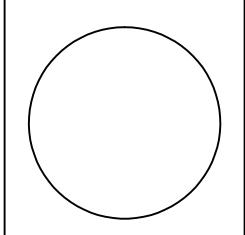
ELECTRICAL SPECIFICATION

- 1. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM.
- 2. MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING
- 3. MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL OR
- 4. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK.
- 5. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS, WHICH ARE REQUIRED BY THESE AGENCIES, FOR THEIR APPROVAL.
- 6. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES

RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.

- 7. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT
- 8. ALL MATERIALS, AND EQUIPMENT SHALL BE ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
- 9. ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT THEIR WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
- 10. SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUT SHEETS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, FOR EXAMPLE, ALL LIGHTING FIXTURES, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
- 11. ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO REMAIN (E) OR EXISTING TO BE RELOCATED (R).
- 12. EXCEPT AS NOTED OTHERWISE, ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE BUILDING STANDARDS.
- 13. PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL LINE-VOLTAGE WIRING THROUGHOUT.
- 14. ELECTRICAL METALLIC TUBING (EMT) SHALL BE UTILIZED FOR ALL DRY, ABOVE GRADE OR ABOVE FLOOR APPLICATIONS UNLESS OTHERWISE NOTED. EMT FITTINGS SHALL BE OF THE STEEL COMPRESSION TYPE OR STEEL SET SCREW FITTINGS.
- 15. FLEXIBLE METAL CONDUIT (FMC) SHALL BE UTILIZED FOR ALL DRY LOCATION CONNECTIONS TO RECESSED LUMINAIRES OR VIBRATING EQUIPMENT SUCH AS MOTORS OR TRANSFORMERS (MINIMUM 2'-0", MAXIMUM 6'-0").
- 16. LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC) SHALL BE UTILIZED IN AREAS SUBJECT TO MOISTURE WHERE FMC IS UNACCEPTABLE.
- 17. RIGID NONMETALLIC CONDUIT (RNC) SHALL BE UTILIZED FOR ALL BELOW GRADE APPLICATIONS. VERTICAL RISERS AND ELBOWS SHALL BE GALVANIZED RIGID METAL CONDUIT (RMC).
- 18. GALVANIZED RIGID METAL CONDUIT (RMC) OR INTERMEDIATE METAL CONDUIT (IMC) SHALL BE UTILIZED FOR ALL ABOVE GRADE APPLICATIONS WHERE EXPOSED TO MOISTURE, MECHANICAL DAMAGE, IN HAZARDOUS LOCATIONS, AND WHERE REQUIRED BY CODES.
- 19 .MINIMUM CONDUIT SIZE SHALL BE 1/2" UNLESS OTHERWISE INDICATED.
- 20. ALL EXPOSED CONDUIT SHALL BE CONCEALED TO THE EXTENT POSSIBLE, AND SHALL BE INSTALLED PARALLEL AND AS CLOSE TO STRUCTURAL MEMBERS AS POSSIBLE. PAINT CONDUIT TO MATCH ADJACENT FINISHES.
- 21. WIRE INSTALLED IN INTERIOR DRY LOCATIONS SHALL BE TYPE THHN
 THERMOPLASTIC 600 VOLT INSULATED COPPER CONDUCTORS. WIRE INSTALLED IN
 RACEWAYS IN WET LOCATIONS SHALL BE TYPE THWN THERMOPLASTIC 600 VOLT
 INSULATED COPPER CONDUCTORS. NO WIRE SMALLER THAN NO. 12 AWG SHALL BE
 USED FOR LIGHTING OR POWER WIRING. WIRE NO. 10 AWG AND SMALLER SHALL
 BE SOLID. WIRE NO. 8 AWG AND LARGER SHALL BE STRANDED.
- 22.ALL NEW BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED IN THE SAME RACEWAY AS THE BRANCH CIRCUIT CONDUCTORS.
- 23.PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL LOW-VOLTAGE WIRING IN WALLS AND NON-ACCESSIBLE LOCATIONS. ALL LOW-VOLTAGE WIRING NOT INSTALLED IN CONDUIT AND INSTALLED IN THE CEILING SPACE SHALL BE PLENUM RATED.
- 24.ALL NEW CIRCUIT BREAKERS FOR NEW OR EXISTING PANELBOARDS SHALL BE COMPATIBLE WITH EXISTING BUILDING PANELBOARD MANUFACTURER AND BREAKER TYPE. THE CONTRACTOR SHALL PROVIDE NEW TYPEWRITTEN PANEL DIRECTORIES FOR ALL NEW PANELS AND EXISTING PANELS WHICH HAVE CHANGED.
- 25.THE CONTRACTOR SHALL VERIFY THE CEILING TYPE(S) BEFORE ORDERING LIGHTING FIXTURES.
- 26.EACH SWITCH, LIGHT, RECEPTACLE AND OTHER MISCELLANEOUS DEVICE SHALL BE PROVIDED WITH A GALVANIZED OR PRESSED STEEL OUTLET BOX OF THE KNOCKOUT TYPE, OF NOT LESS THAN NO. 14 U.S. GAUGE STEEL. CONDUITS SHALL BE FASTENED WITH LOCKNUTS AND BUSHINGS AND ALL UNUSED KNOCKOUTS MUST BE LEFT SEALED. OUTLET BOXES SHALL BE SIZED PER THE NATIONAL ELECTRICAL CODE TO PROVIDE SUFFICIENT ROOM FOR WIRES AND BUSHINGS. PROVIDE DEEP BOXES WHERE NEEDED. BOXES SHALL BE SECURELY AND ADEQUATELY SUPPORTED AS DEFINED BY THE NATIONAL ELECTRICAL CODE.
- 27.ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET BOXES THAT MAY BE REQUIRED TO ENCLOSE SPECIAL RECEPTACLES.
- 28. TWO CIRCUIT MULTI-WIRE BRANCH CIRCUITS ARE PROHIBITTED.
- 29. PROVIDE DUCT DETECTION FOR AIR SUPPLY SYSTEMS OF GREATER THAN 2000 CFM CAPACITY.

 MECHANICAL CONTRACTOR SHALL INSTALL DETECTOR AND PROVIDE CONTROL CONNECTION(S) TO MECHANICAL EQUIPMENT.





The Ballard Group, Inc.

Mechanical Consulting Engineers 2525 S. Wadsworth Blvd. Lakewood, Colorado 80227 303 988-4514 FAX 303 988-4517



OLUMBINE-ON-MAIN 299 WEST MAIN STREE ITTLETON, CO 80120

Issue R	ecord

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Job No. 2015028

Date 01-15-16

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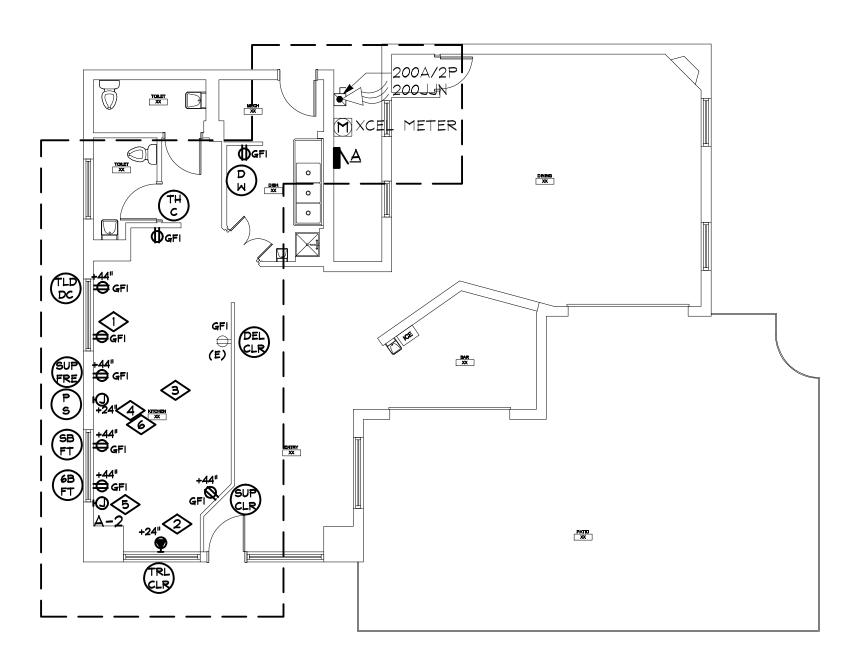
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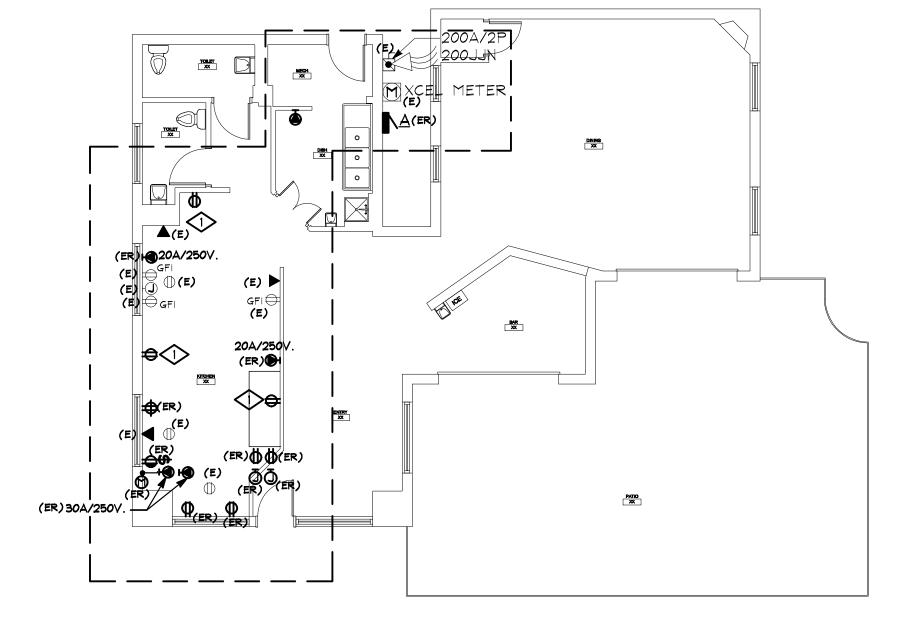
Contents

ELECTRICAL

ONE-LINE SCHEDULES

E1.0







1	2	PARTIAL	DEMOLITION	POWER	PLAN	
-	E2.0	SCALE:1/8"=1'-0"				

EQU	IPMENT SCHEDULE										15-Jan-16
KEY	EQUIPMENT	LOAD	VOLTS	PH	BRANCH CIRCUIT	COND.	DISCONN	IECT	CIRCUIT	CIRCUIT	NOTES
		(VA)			CONDUCTORS				BREAKER		
TH C	TRUE HIGH COOLER	1140	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-42	
TLD DC	TRUE LOW COOLER	1800	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-39	
SUP FRZ	SUPERA FREEZER	1176	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-31	
SB FT	SOUTHBEND FLAT TOP	1176	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P SHUNT TRIP	A-36	
SB 6B	SOUTHBEND 6 BURNER W/ SALAMANDEER	708	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P SHUNT TRIP	A-31	
TRL CLR	TRUE LOW COOLER	696	240	1	2#12, 1#12G.	1/2"	RECEPT	NEMA L6-20R	20A2P	A-12,14	
SUP CLR	SUPERA COOLER	800	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-10	
DEL CLR	DELFIELD COOLER	600	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-40	
SP	SUPRESSION PANEL	200	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-41	
DW	DISHWASHER	1500	120	1	2#12, 1#12G.	1/2"	RECEPT	NEMA 5-15R	20A1P	A-27	

GENERAL NOTES (FOR ALL SCHEDULED EQUIPMENT):

- A. FIELD VERIFY ALL EQUIPMENT LOADS, VOLTAGES, AND RECOMMENDED OCP SIZING PRIOR TO ENERGIZING CIRCUIT.
- PROVIDE 120V CONTROL WIRING AS REQUIRED BY THE MECHANICAL CONTRACT DOCUMENTS. COORDINATION BETWEEN THE ELECTRICAL CONTRACTOR AND MECHANICAL CONTROLS CONTRACTOR SHOULD BE COMPLETED PRIOR TO BIDDING. 120V CONTROL CIRCUITS SHALL BE INCLUDED IN BID.
- FURNISH DISCONNECT SWITCHES LOCATED EXTERIOR TO THE STRUCTURE WITH NEMA 3R ENCLOSURES UNLESS
- OTHERWISE SPECIFIED.
- PROVIDE 120V, WEATHER-PROOF, GFCI SERVICE RECEPTACLE WITHIN 25'-0" OF ALL HEATING, AIR-CONDITIONING, AND REFRIGERATION (HACR) EQUIPMENT. EXHAUST FANS ARE NOT CONSIDERED HACR EQUIPMENT BY THE NEC. CIRCUIT TO 20AIP SPARE BREAKER IN NEAREST PANELBOARD, OR AS INDICATED ON THE PLANS.
- (MAXIMUM OF 10 RECEPTACLES PER BRANCH CIRCUIT)
- PROVIDE DUCT DETECTION FOR ALL RETURN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2000 CFM, AND FOR ALL
- RETURN AIR RISERS THAT SERVE TWO OR MORE STORIES AND SERVE ANY PORTION OF A RETURN AIR SYSTEM HAVING A
- DESIGN CAPACITY GREATHER THAN 15,000 CFM, AND ADDITIONALLY AS REQUIRED BY LOCAL CODES AND AMENDMENTS.

 REFER TO MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND ASSOCIATED CONTROLS.

NOTES SPECIFIC TO SCHEDULED EQUIPMENT (REFER TO NOTES COLUMN WITHIN SCHEDULE):

GENERAL NOTES

1. THESE STAMPED DRAWINGS COVER AREAS COVERED INSIDE THE DASHED BOX. ALL OTHER AREAS WILL BE SUBMITTED UNDER A SEPERATE PERMIT.

DETAIL NOTES

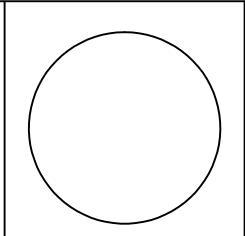
- REPLACE EXISTING RECEPTACLE WITH A GFI 20 AMP DUPLEX. MAINTAIN CIRCUIT.
- WIRE TO A GFI BREAKER IN PANEL A.
- REMOVE ALL EXISTING RECEPTACLES,
 JUNCTION BOXES THAT WERE INSTALLED
 WITH FLEXABLE CONDUIT WITHIN THE
 KITCHEN AREA.
- 4) 120 VOLT POWER TO HOOD FIRE SUPRESSION PANEL. INCLUDE CONNECTION TO ALL GAS SOLENOIDS LOCATED UNDER THE HOOD AND SHUNT TRIP BREAKER.
- 5 FIELD VERIFY W/ MECHANICAL CONTRACTOR MTG. HT. AND LOCATIONS OF GAS SOLENOID VALVES.
- © E.C. TO MAKE ALL ELECTRICAL CONNECTIONS AS DESCRIBED ON THE KITCHEN HOOD DETAILS ON THE MECHANICAL PLANS.

ELECTRICAL DEMOLITION NOTES

- 1. THE BASIS OF THESE DRAWINGS WERE SITE OBSERVATIONS, ORIGINAL BUILDING DRAWINGS AND VARIOUS OTHER SOURCES. EVERY ATTEMPT HAS BEEN MADE TO DOCUMENT THE ACTUAL CONDITIONS. HOWEVER, THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS, THE BUILDING'S EXISTING CONDITION AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
- 2. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
- 3. THE GENERAL CONTRACTOR SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT. DISCARD ALL EQUIPMENT AS REQUIRED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING ELECTRICAL SERVICE TO DEVICES AND EQUIPMENT AND PROVIDING TEMPORARY POWER.
- 4. EXISTING DEVICES SHOWN ON THE DEMOLITION PLAN(S), AND NOT NOTED AS EXISTING TO REMAIN (E) OR EXISTING TO BE RELOCATED (R), SHALL BE REMOVED. FOR DEMOLITIONED DEVICES IN WALLS WHICH ARE TO REMAIN, THE ELECTRICAL CONTRACTOR SHALL INSTALL A BLANK FACE PLATE ON THE BACKBOX. FOR DEMOLITIONED DEVICES INSTALLED IN THE FLOOR, THE ELECTRICAL CONTRACTOR SHALL REMOVE BACKBOXES, CUT THE CONDUIT FLUSH WITH FLOOR, FILL THE CONDUIT AND MATCH EXISTING FLOOR COVERING OR MATERIAL; COORDINATE WITH THE GENERAL CONTRACTOR.
- 5. THE DEMOLITION OF SOME DEVICES MAY INTERRUPT POWER TO DEVICES DOWN STREAM. THE ELECTRICAL CONTRACTOR SHALL REWORK THESE CIRCUITS TO MAINTAIN POWER TO THE DOWN STREAM DEVICES WHICH WILL REMAIN.
- 6. ALL DE-ENERGIZED/DEMOLITIONED CIRCUITRY SHALL HAVE THE CONDUCTORS REMOVED FROM THE CONDUIT AND THE CONDUIT SHALL BE MARKED "EMPTY" WITH INDELIBLE MARKER.

GENERAL NOTES

1. THIS PE STAMPED DRAWING COVERS ONLY THAT PART OF THE BUILDING ENCLOSED WITHIN THE BOX. ALL OTHER AREAS WILL BE COVERED UNDER A SEPERATE PERMIT.





The Ballard Group, Inc.

Mechanical Consulting Engineers 2525 S. Wadsworth Blvd. Lakewood, Colorado 80227 303 988-4514 FAX 303 988-4517



-ON-MAIN MAIN STREET CO 80120

COLUMBINE-ON-N 2299 WEST MAIN LITTLETON, CO 8

Issue Record

Job No. 2015028

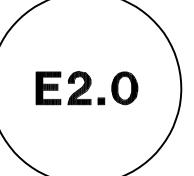
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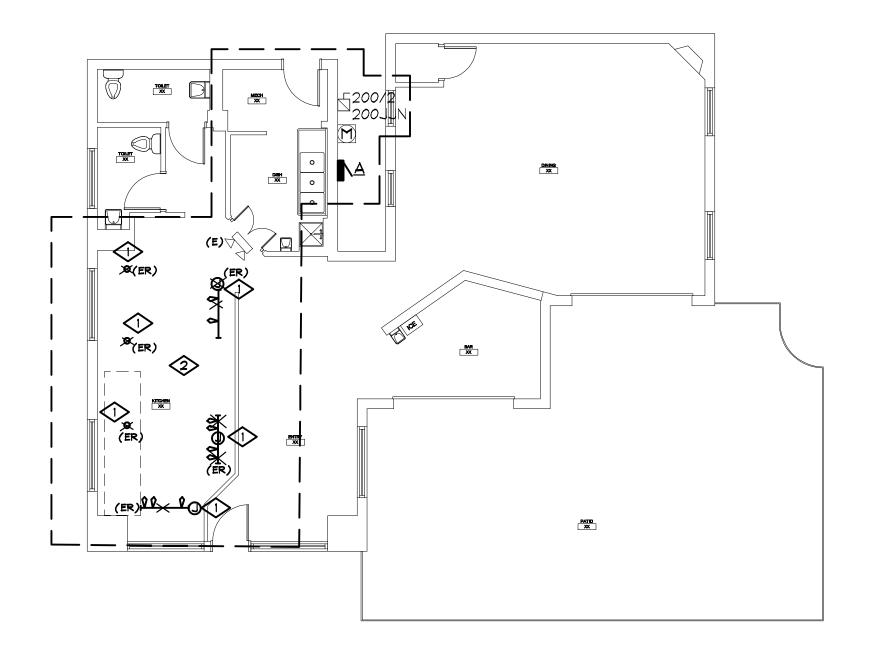
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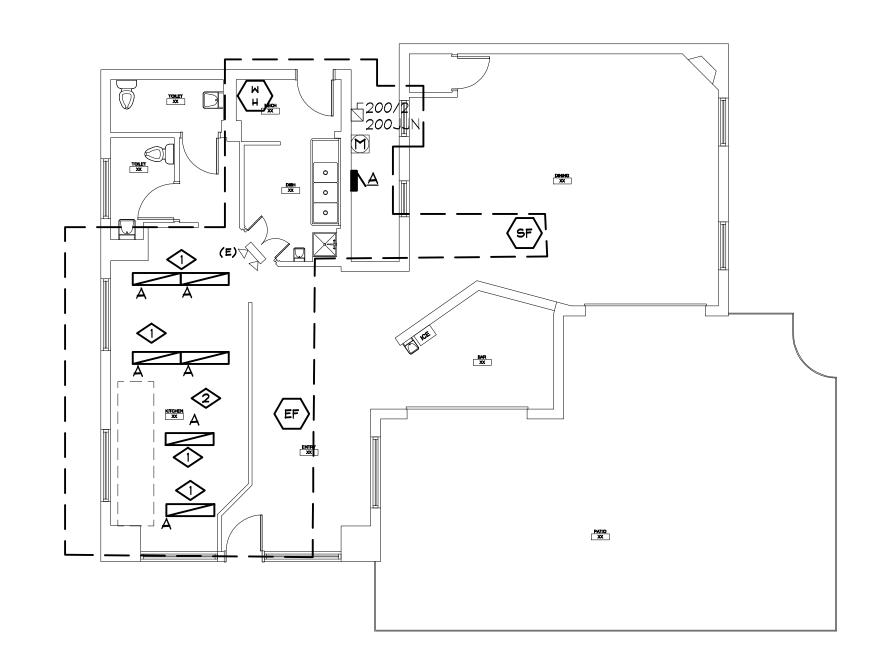
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Contents

ELECTRICAL POWER&SYSTEMS PLAN







PARTIAL DEMOLITION LIGHTING PLAN

E3.0 SCALE:1/8"=1'-0"

PARTIAL MECH & LIGHTING PLAN

E3.0 SCALE:1/8"=1'-0"

KEY	EQUIPMENT	LOAD	VOLTS	PH	BRANCH CIRCUIT	COND.	DISCON	NECT	CIRCUIT	CIRCUIT	NOTES
		(VA)			CONDUCTORS		SWITCH	FUSE	BREAKER		
SF	KITCHEN SUPPLY FAN 2 HP	2880	240	1	2#12, 1#12G	1/2"	30A/2P		20A/2P	A-20,22	
EF	KITCHEN HOOD EXHAUST FAN 3 HP	4080	240	1	2#10, 1#10G	1/2"	30A/2P		30A/2P	A-32,34	
WH	WATER HEATER	1440	120	1	2#12, 1#12G	1/2"	Sto		20A/IP	A-29	

GENERAL NOTES (FOR ALL SCHEDULED EQUIPMENT):

- GENERAL NOTES (FOR ALL SCHEDULED EQUIPMENT):

 A. FIELD VERIFY ALL EQUIPMENT LOADS, VOLTAGES, AND RECOMMENDED OCP SIZING PRIOR TO ENERGIZING CIRCUIT.
- B. PROVIDE 120V CONTROL WIRING AS REQUIRED BY THE MECHANICAL CONTRACT DOCUMENTS. COORDINATION BETWEEN THE ELECTRICAL CONTRACTOR AND
- MECHANICAL CONTROLS CONTRACTOR SHOULD BE COMPLETED PRIOR TO BIDDING. 120V CONTROL CIRCUITS SHALL BE INCLUDED IN BID.

 C. FURNISH DISCONNECT SWITCHES LOCATED EXTERIOR TO THE STRUCTURE WITH NEMA 3R ENCLOSURES UNLESS
- OTHERWISE SPECIFIED.
- D. PROVIDE 120V, WEATHER-PROOF, GFCI SERVICE RECEPTACLE WITHIN 25'-0" OF ALL HEATING, AIR-CONDITIONING, AND REFRIGERATION (HACR) EQUIPMENT. EXHAUST FANS ARE NOT CONSIDERED HACR EQUIPMENT BY THE NEC. CIRCUIT TO 20A1P SPARE BREAKER IN NEAREST PANELBOARD, OR AS INDICATED ON THE PLANS.
- (MAXIMUM OF 10 RECEPTACLES PER BRANCH CIRCUIT)
- PROVIDE DUCT DETECTION FOR ALL RETURN AIR SYSTEMS WITH A DESIGN CAPACITY GREATER THAN 2000 CFM, AND FOR ALL RETURN AIR RISERS THAT SERVE TWO OR MORE STORIES AND SERVE ANY PORTION OF A RETURN AIR SYSTEM HAVING A
- DESIGN CAPACITY GREATHER THAN 15,000 CFM, AND ADDITIONALLY AS REQUIRED BY LOCAL CODES AND AMENDMENTS.

 F. REFER TO MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND ASSOCIATED CONTROLS.

NOTES SPECIFIC TO SCHEDULED EQUIPMENT (REFER TO NOTES COLUMN WITHIN SCHEDULE):

LUMINAIRES

OA LUMINAIRE TYPE, REFERENCING LUMINAIRE

SURFACE-MOUNTED LUMINAIRE

DOWNLIGHT

SURFACE OR PENDANT LIGHTING TRACK

EMERGENCY LIGHTING UNIT W/ BATTERY

POWER

- DUPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE
- JUNCTION BOX
- FUSED DISCONNECT SWITCH
- MOTOR CONNECTION

DISTRIBUTION AND RACEWAY

SURFACE-MOUNTED PANELBOARD
TRANSFORMER

BRANCH CIRCUIT HOMERUN

--- RACEWAY (CONDUIT) CONCEALED IN FLOOR OR UNDERGROUND

RACEWAY (CONDUIT) EXPOSED OR CONCEALED IN WALL OR CEILING

- CAPPED RACEWAY (CONDUIT)RACEWAY UP
- BACELLAY DOL
- RACEWAY DOWN

ABBREVIATIONS AND NOTATIONS

- ABOVE COUNTER VERIFY HEIGHT
- F ABOVE FINISHED FLOOR
 C AMPS INTERRUPTING CAPACITY
- CCT CIRCUIT
- CU COPPER
- ELECTRICAL CONTRACTOR
- F EXHAUST FAN NC ELECTRIC WATER COOLER
- FLA FULL LOAD AMPS G GROUND
- GROUND FALL T INTERPLIET
- FI GROUND FAULT INTERRUPTER
- HORSEPOWER
- CA MINIMUM CIRCUIT AMPACITY
- N NEUTRAL
- TS NOT TO SCALE
- C UNDER COUNTER
- UON UNLESS OTHERWISE NOTED

MAIN LUGS ONLY

- WP WEATHERPROOF
- (FMR TRANSFORMER
 (E) EXISTING TO REMAIN
- (ER) EXISTING TO BE REMOVED
- RL) EXISTING TO BE RELOCATED
- (N) NEW
- X KITCHEN EQUIPMENT SCHEDULE NOTATION
- $\stackrel{\times}{\times}$ MECHANICAL EQUIPMENT SCHEDULE NOTATION
- DETAIL NOTE
- DELTA REVISION NOTE

SCHEMATIC WIRING SYMBOLS

II GROUND

CURRENT TRANSFORMER

CIRCUIT BREAKER, MOLDED-CASE,

THERMAL-MAGNETIC

- FUSED DISCONNECT SWITCH

ENCLOSED FUSED DISCONNECT SWITCH

HP/ MOTO

METER

FIXTURE SCHEDULE

TYPE A. 1'-0" x 4'-0" LED TROFFER LITHONIA # GTL-4-F-48L-EZI-LP835

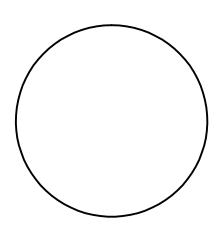
GENERAL NOTES

1. THIS PE STAMPED DRAWING COVERS ONLY THAT PART OF THE BUILDING ENCLOSED WITHIN THE BOX. ALL OTHER AREAS WILL BE COVERED UNDER A SEPERATE PERMIT.

DETAIL NOTES

REMOVE EXISTING LIGHTS, REMOVE WIRING FROM BOXES NOT BEING UTILIZED FOR NEW RECESSED TYPE A LIGHTS.

MAINTAIN EXISTING LIGHTING CONTROL.





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JMBINE-ON-MAIN WEST MAIN STREE ETON, CO 80120

COLUMBINA 2299 WES ITTLETO

Job No. 2015028

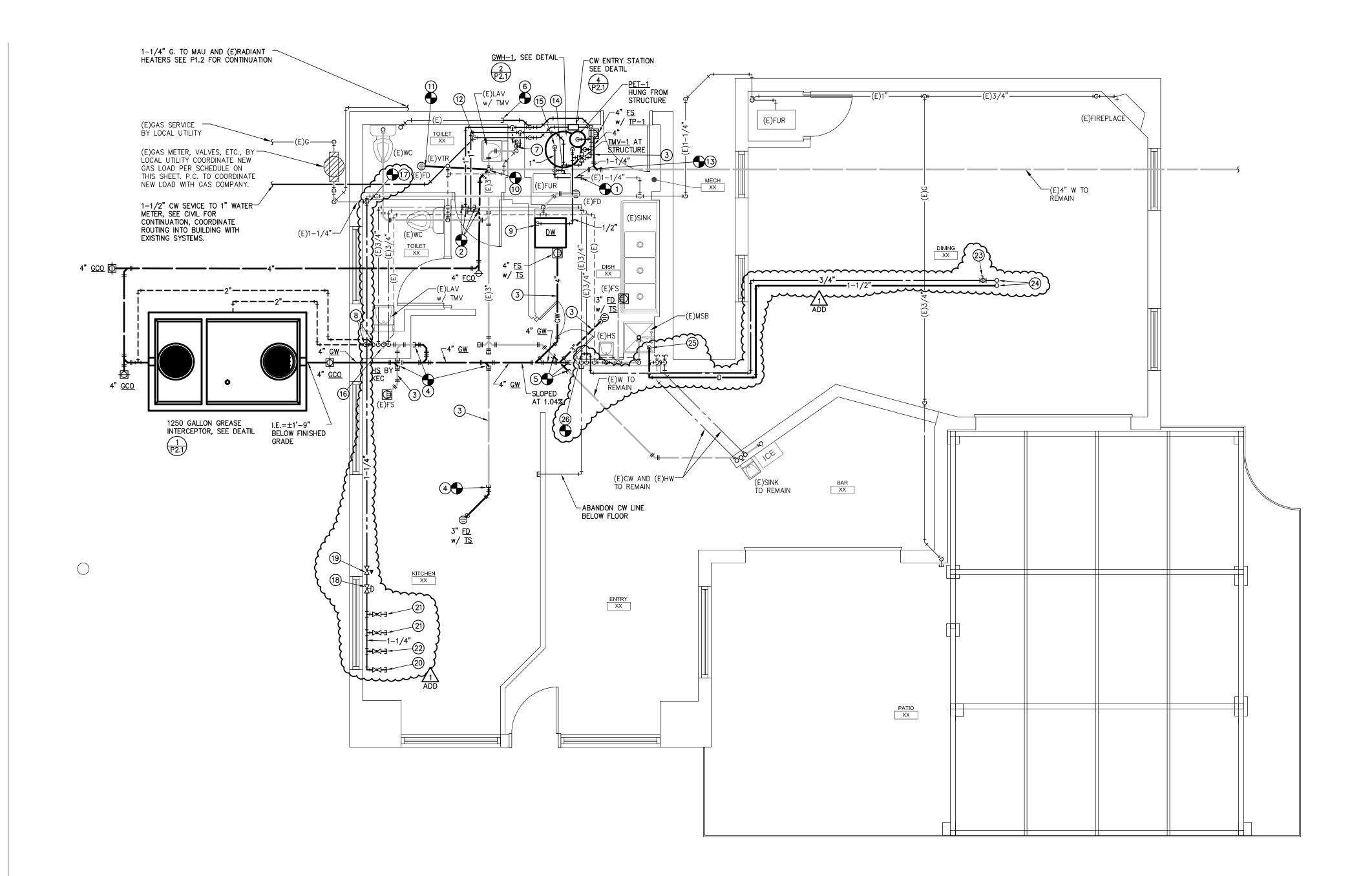
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Contents
ELECTRICAL
MECHANICAL&
LIGHTING
PLAN







- 1) CONNECT 1-1/4" GAS TO (E)1-1/4" GAS.
- ② CONNECT 1" CW AND 1" HW TO (E)3/4" CW AND (E)3/4" HW.
- 3 COMBINATION WASTE AND VENT SYSTEM.
- 4) CONNECT (E)WASTE TO 4" GW BELOW FLOOR.
- (5) CONNECT 2" WASTE TO (E)WASTE BELOW FLOOR.
- 6 CONNECT 3/4" CW TO (E)3/4" CW IN CRAWL SPACE.
- 7) 1/2" CW AND 1/2" HW DOWN TO (E)LAV.
- (2)2" VENT FROM GREASE INTERCEPTOR, RISE AND CONNECT IN WALL TO 2" VENT TO 3" VTR.
- 9 1/2" HW(140°F) AND 2" INDIRECT WASTE TO DISHWASHER TO AIRGAP PER CODE TO FS, SEE DETAIL.
- (10) CONNECT 3" WASTE FROM GREASE INTERCEPTOR AND 2" WASTE FROM FD TO (E)3" WASTE ON DROP IN CRAWL SPACE.
- 11) CONNECT 2" WASTE TO (E)FD.
- 12) 1-1/2" CW TO ENTER CRAWL SPACE.
- (13) CONNECT 4" WASTE TO (E)WASTE BELOW FLOOR.
- (14) CONNECT 3/4" GAS TO (E)FUR WITH GAS COCK AND 6" DIRT LEG.
- (15) CONNECT 1" GAS TO GWH WITH GAS COCK AND 6" DIRT LEG.
- (16) CONNECT 2" WASTE, 1/2" CW AND 1/2" HW TO EXISTING ROUGH INS. (17) CONNECT 1-1/4" GAS TO (E)1-1/4" GAS ABOVE
- HOOD FIRE PROTECTION GAS SHUT-OFF VALVE, PROVIDED BY HOOD FIRE PROTECTION SUPPLIER AND INSTALL BY P.C.
- (19) GAS PRESSURE REGULATING VALVE (PRV), 657.0 MBH INPUT AT SEA LEVEL, 14" WC TO 7" WC, ROUTE RELIEF THROUGH EXTERIOR WALL WITH 45° FITTING (DOWN).
- 20 CONNECT 3/4" GAS TO FLAT TOP PER DETAIL 7/P2.1.
- (21) CONNECT 1" GAS TO FRYER/GRILL PER DETAIL 7/P2.1.
- (22) CONNECT 1-1/4" GAS TO RANGE/SALAMANDER PER DETAIL 7/P2.1.
- 23 BALL VALVE, FULL SIZE WITH SERVICE ACCESS.
- 24) 1-1/2" DRAIN DOWN AND 3/4" CW RISE TO MAU. SEE DETAIL 8/P2.1.
- 25) 1-1/2" DRAIN DOWN ON WALL AND AIRGAP TO MSB WITH BALL VALVE.
- 26) CONNECT 3/4" CW TO (E)CW ABOVE CEILING.

GAS LOAD SCHEDULE

EXISTING APPLIANCES: EXISTING GWH EXISTING FUR

LOAD:
76.0 MBH
75.0 MBH
75.0 MBH
14.0 MBH
50.0 MBH
50.0 MBH EXISTING FUR EXISTING FIREPLACE EXISTING RADIANT HEATER
EXISTING RADIANT HEATER EXISTING BBQ

TOTAL EXISTING GAS LOAD: 390.0 MBH INPUT @ S.L.,

14" WC REQUIRED. M.C. TO COORDINATE GAS LOAD WITH LOCAL GAS COMPANY _____ NEW GAS LOAD: 150.0 MBH 350.0 MBH 160.0 MBH 283.0 MBH 64.0 MBH GWH-1 MAU-1

GRILL
RANGE AND SALAMANDER
FLAT TOP FRYER EXISTING FUR EXISTING FUR EXISTING FIREPLACE EXISTING RADIANT HEATER
EXISTING RADIANT HEATER

EXISTING BBQ TOTAL NEW GAS LOAD:

75.0 MBH 14.0 MBH 50.0 MBH 50.0 MBH 50.0 MBH 1471.0 MBH INPUT @ S.L., 14" WC REQUIRED. M.C. TO COORDINATE GAS LOAD WITH LOCAL GAS COMPANY

150.0 MBH 75.0 MBH



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01/20/2016 Date

Job No. **15137**

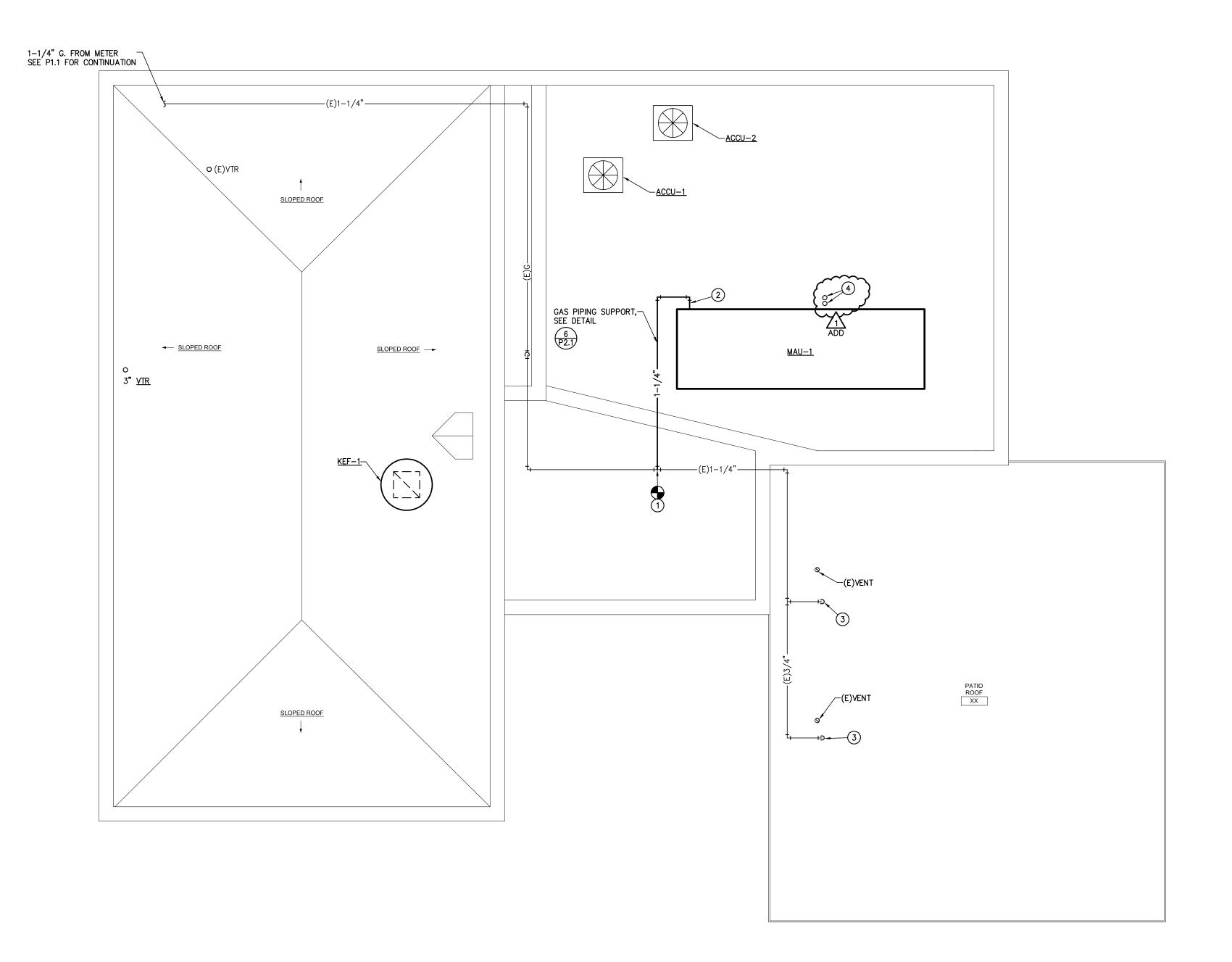
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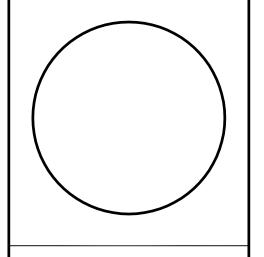
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MAIN LEVEL PLUMBING

P1.1









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PLUMBING KEYNOTES:

1) CONNECT 1" GAS TO (E)1-1/4" GAS.

CONNECT 1-1/4" GAS TO MAU WITH GAS COCK AND 6" DIRT LEG.

(E)3/4" DOWN THROUGH ROOF TO (E)RADIANT HEATER.

(4) 1-1/2" DRAIN OUTLET DOWN AND 3/4" CW RISE TO MAU FROM BELOW.

COLUMBINE ON MAIN 2299 WEST MAIN STREET LITTLETON, CO 80120

Issue Record	
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Job No. **15137**

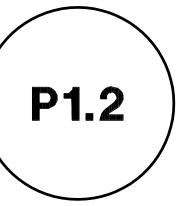
Date 01/20/2016

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Contents

ROOF LEVEL PLUMBING PLAN

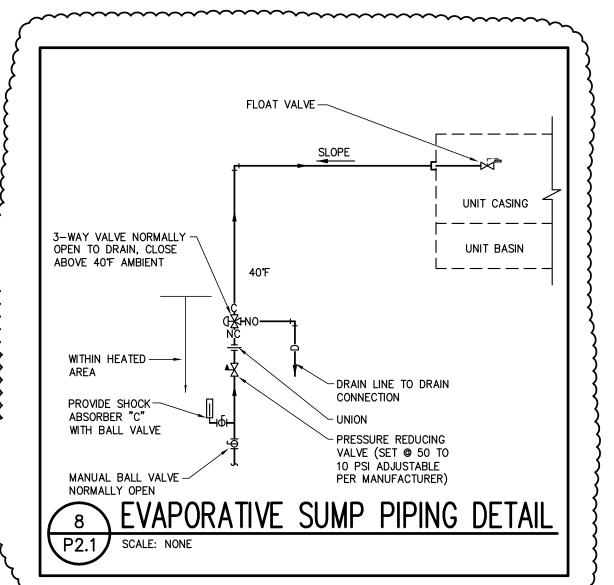


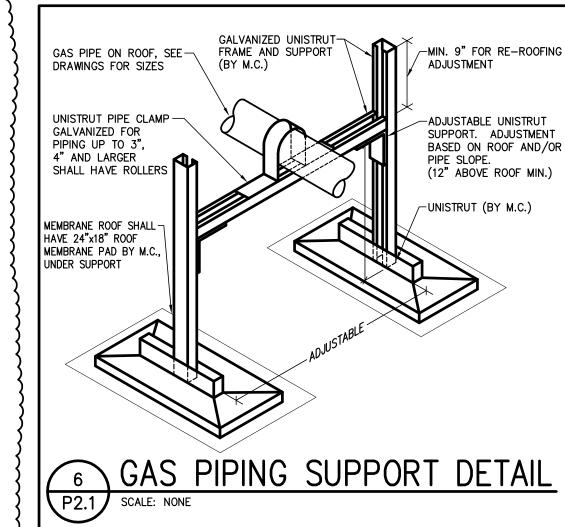


	WATER HEATER SCHEDULE (GAS-FIRED)										
PLAN	MANUFACTURER	STORAGE	G.P.H. RECOVERY	BTUH INPUT	EFF.	FLUE	TANK	SIZE	OPER.	REMARKS	
CODE	& MODEL NO.	GALLONS	@ 100' RISE	<pre> SEA LEVEL </pre>	FACTOR	SIZE	DIA.	HT.	WEIGHT		
GWH-1	STATE SUF100-150NE	100	178	150	98.0	SEE HVAC	28	76	1387 LBS	-	
NOTES:											

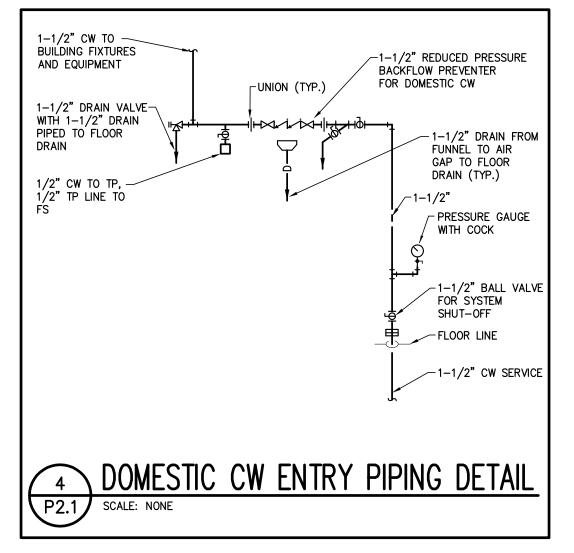
MISCELLANEOUS PLUMBING FIXTURE					
MISCELEANEOUS I EUMDINO IIXTURE					
PLAN	DESCRIPTION	MANUFACTURER	MODEL	FINISH	REMARKS
CODE					
PET-1	PLUMBING EXPANSION TANK	AMTROL	ST-12	STEEL	_
TMV-1	THERMOSTATIC MIXING VALVE	LEONARD	TM-20-LF-E	ROUGH BRASS	NOTES: 1,2,3
NOTES:					

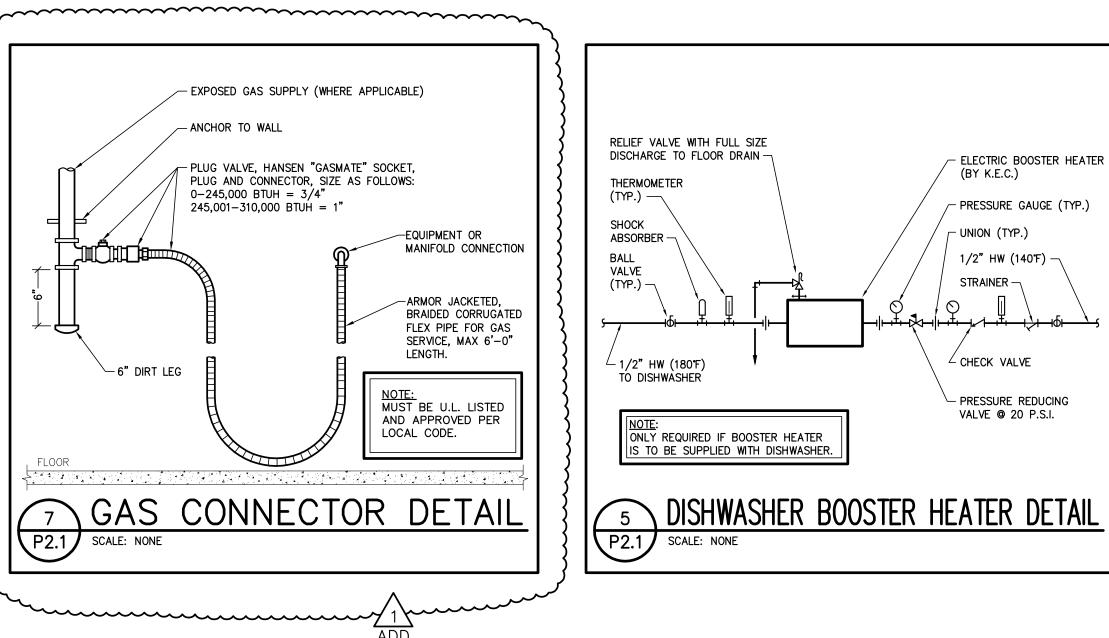
1. SET TO 120°F. 2. 11 GPM AT 20 PSI LOSS. 3. ASSE 1017 VALVE.

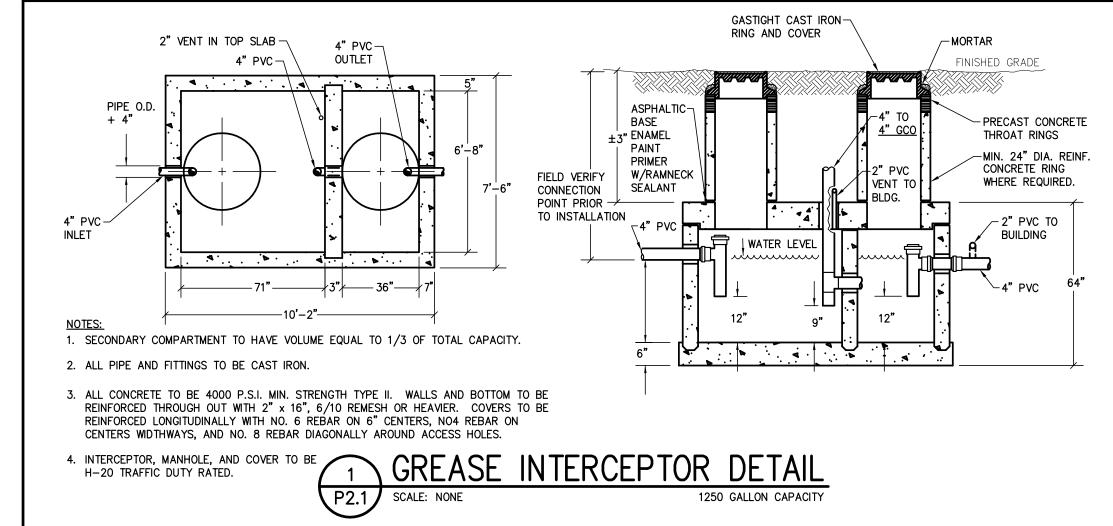


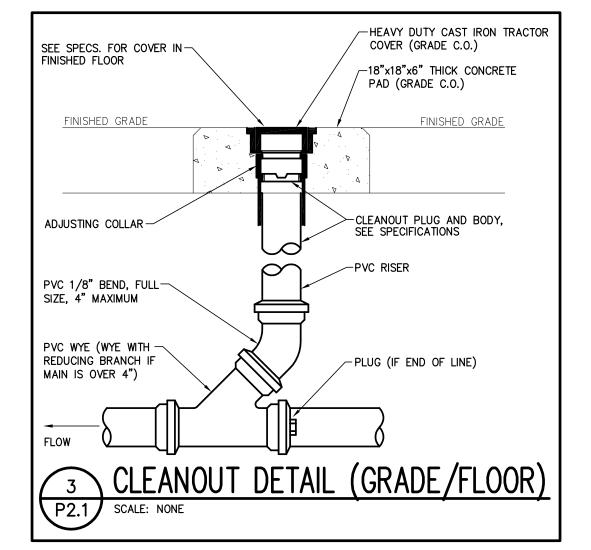


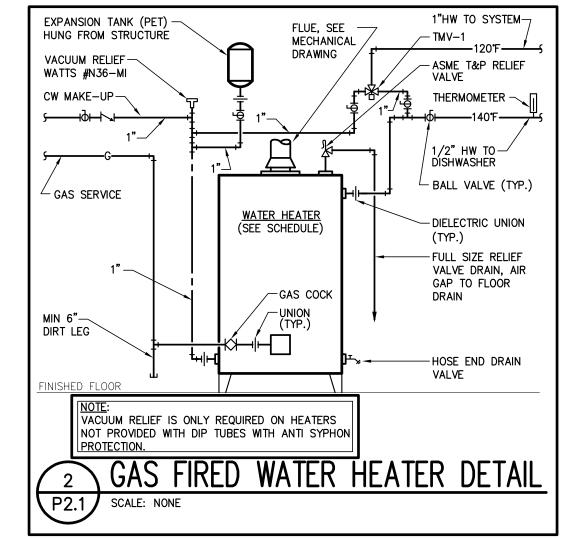
P2.1 SCALE: NONE

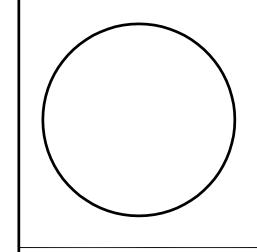














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Contents

PLUMBING SCHEDULES AND DETAILS

