

HVAC GENERAL NOTES

- DESIGN AND INSTALLATION OF ALL HEATING, VENTLATION AND AIR CONDITIONING SYSTEMS SHALL BE IN ACCORDANCE WITH THE "2012 INTERNATIONAL MECHANICAL CODE, AND CITY OF CITY OR LOCAL AMENDMENTS OF THE 2012 IMC AND 2012 IECC.
- THE INSTALLATION OF THE MECHANICAL APPLIANCES AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONTRACTOR SHALL KEEP ALL INSTALLATION INSTRUCTIONS AT THE JOBSITE AT THE TIME OF INSPECTION.
- ALL REFRIGERANT CONTAINING EQUIPMENT AND APPLIANCES SHALL MEET UL-1995 STANDARDS.
- ALL OUTSIDE AIR INTAKE OPENINGS SHALL BE A MINIMUM OF 10 FEET FROM ANY PLUMBING VENT, FUEL FIRED APPLIANCE VENT OR EXHAUST FAN DISCHARGE.
- ALL HVAC DUCTS SHALL MEET THE SECTION 603 OF INTERNATIONAL MECHANICAL CODE REQUIREMENTS. ALL METALIC DUCTS SHALL BE CONSTRUCTED AS SPECIFIED IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. FLEXIBLE AIR DUCTS SHALL BE TESTED AND INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- ALL SUPPLY AIR DUCTS SHALL BE INSULATED WITH A MINIMUM R-8 INSULATION. THE INSULATION, DUCT LININGS INCLUDING ADHESIVES SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E-84, USING THE SPECIMEN PREPARATION AND MOUNTING PROCEDURES OF ASTM 2231 DUCT COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM C411 AT THE
- ALL DUCTS JOINTS, SEAMS, AND CONNECTIONS SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, MASTIC-PLUS-EMBEDED-FABRIC SYSTEMS OR TAPES. TAPES AND MASTICS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A.
- ALL AIR HANDLING UNITS SHALL BE FURNISHED WITH RETURN AIR FILTERS, LIQUID ADHESIVE COATINGS USED ON FILTERS SHALL HAVE A FLASH POINT NOT LOWER THAN 326 F MEDIA TYPE AIR FILTERS SHALL COMPLY WITH UL 900. HIGH EFFICIENCY PARTICULATE AIR FILTERS COMPLY WITH UL 586. ELECTROSTATIC TYPE SHALL COMPLY WITH UL 867.
- PROVIDE AIR TURNING VANES IN ALL SQUARE AND 45° ELBOWS.
- EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING. DISCHARGE DAMPERS SHALL NOT BE USED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP AND LARGER. AIR SYSTEM SHALL BE BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES THEN, FOR FANS WITH SYSTEM POWER OF GREATER THAN 1 HP, FAN SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS.
- ALL EXHAUST DUCTS SHALL BE RIGID AND SHALL TERMINATE OUTSIDE THE BUILDING.
- ALL FIRE/SMOKE DAMPERS IF SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS. EXPANDING (INSTURNSCENT TYPE) FIRE CAULK SHALL NOT BE USED.
- THE KITCHEN EXHAUST HOOD DUCT SHALL BE WRAPPED WITH "PYROSCAT DUCT RRAP XL" MEETING ASTM E2336 REQUIREMENTS AND LISTED AND LABELLED UL 1978.

KITCHEN EXHAUST HOOD

- INSTALL TYPE I CANOPY EXHAUST HOOD AS SHOWN ON DRAWING M01, OF DIMENSIONS AS SHOWN THE EXHAUST FAN AND MAKE UP AIR FANS SHALL BE OF CAPACITY AS SHOWN ON THIS DRAWING OR OF SIZE AND CAPACITY MANUFACTURED BY A CLASS I EXHAUST HOOD MANUFACTURER, MEETING UL 710 AND LABELED AS SUCH.
- EXHAUST FAN HOUSING AND THE GREASE DUCTS SERVING TYPE I HOODS SHALL BE OF STEEL OF MINIMUM 16 GAGE OR STAINLESS MINIMUM GAGE 18.
- DUCT JOINTS SHALL BE BUTT JOINTS, WELDED FLANGE JOINTS WITH A MINIMUM FLANGE DEPTH OF 1/2 INCH. OR OVERLAPPING DUCT JOINTS OF EITHER THE TELESCOPING OR BELL TYPE. JOINTS SHALL BE SMOOTH AND SHALL BE SO CONSTRUCTED THAT GRAVITY FLOW OF GREASE SHALL NOT BE OBSTRUCTED.
- DUCT TO HOOD JOINTS SHALL BE MADE WITH CONTINUOUS INTERNAL OR EXTERNAL LIQUID TIGHT WELDED OR BRAZED JOINTS. JOINTS SHALL BE SMOOTH, ACCESSIBLE FOR INSPECTION AND WITHOUT GREASE TRAPS.
- DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED AND GASKETED AT THE BASE OF THE FAN FOR VERTICAL DISCHARGE FANS; SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF FAN FOR THE SIDE INLET FANS, AND FLANGED, GASKETED AND BOLTED ON BOTH ENDS TO AN IN-LINE FANS.
- A LEAKAGE TEST SHALL BE DONE TO ALL FIELD ASSEMBLED DUCTS. FOR FACTORY BUILT DUCTS ONLY FILED JOINTS SHALL BE REQUIRED TO BE LEAK TESTED. THE LEAK TEST SHALL BE A LIGHT TEST AS PER SECTION 506.3.2.5 OF 2009 INTERNATIONAL MECHANICAL CODE.
- GREASE DUCTS BRACING AND SUPPORTS SHALL BE OF NON COMBUTIBLE MATERIAL THE DUCTS SHALL BE SECURELY ATTACHED TO THE STRUCTURE, ANALYZED FOR PROPER LOAD CARRYING CAPACITY. BOLTS, SCREWS, RIVETS AND OTHER FASTNERS SHALL NOT PENETRATE DUCT WALLS.
- GREASE DUCS SYSTEM SERVING A TYPE I HOOD SYSTEM SHALL BE DESIGNED FOR A MINIMUM OR 500 FT. PER MIN.
- GREASE DUCTS SYSTEMS AND EXHAUST EQUIPMENT SERVING TYPE I HOODS SHALL HAVE A CLEARANCE TO COMBUSTIBLE MATERIALS OF NOT LESS THAN 18 INCHES AND SHALL HAVE A CLEARANCE TO NON-COMBUSTIBLE MATERIAL AND GYPSUM BOARD OF NOT LESS THAN 3 INCHES.
- GREASE DUCTS SYSTEMS SHALL BE SO DESIGNED THAT GREASE SHALL NON ACCUMULATE IN ANY PART OF THE DUCTS. HORIZONTAL DUCTS SHALL BE SLOPED 1/4" PER FOOT TOWARD THE HOOD.
- CLEAN OUT OPENINGS SHALL BE PROVIDED IN PARTS OF THE DUCTWORK THAT ARE NOT ACCESSIBLE FROM ENDS FOR MAINTENANCE. THESE OPENINGS SHALL BE LEAK TIGHT ACCESS DOORS AS PER SECTION 506.3.8 OF IMC.
- DUCTS PENETRATING CEILINGS WALLS OR FLOORS SHALL BE ENCLOSED WITH FIRE RATED ENCLOSURES AS PER SECTION 506.3.10 OF IMC.
- EXHAUST FANS SHALL BE POSITIONED SO THAT THE DISCHARGE WILL NOT IMPINGE ON THE ROOF, OTHER EQUIPMENT OR ANY APPLIANCE OR PARTS OF THE STRUCTURE. VERTICAL DISCHARGE FANS SHALL HAVE AN APPROVED DRAINAGE OF GREASE OUTLET AT THE LOWEST PART OF THE HOUSING.
- EXHAUST HOODS SHALL HAVE FIRE SUPPRESSION SYSTEM INSTALLED IN ACCORDANCE WITH NFPA 17, 17A AND NFPA 96 REQUIREMENTS. INSTALLATION SHALL BE AS PER MANUFACTURER'S INSTRUCTION AND LOCAL CODES.

15. ALL AIR CONDITIONING DUCTWORK SHALL REQUIRE 6" SOLID METAL SADDLES AND 1" SOLID METAL STRAPS TO SECURE DUCTWORK TO FRAMING.

16. SMOKE DETECTORS SHALL BE INSTALLED IN RETURN AIR SYSTEMS WITH DESIGN CAPACITY GREATER THAN 2,000 CFM IN THE RETURN AIR DUCT UPSTREAM OF ANY FILTERS, EXHAUST AIR CONNECTIONS, OUTDOOR AIR CONNECTIONS OR DECONTAMINATIONS EQUIPMENT APPLIANCES.

17. INSTALL RESIDENTIAL TYPE CANOPY EXHAUST HOOD IN THE PRIEST BREAK ROOM AS SHOWN ON DRAWING M01, DIMENSIONS AS SHOWN THE EXHAUST FAN AND MAKE UP AIR FANS SHALL BE OF CAPACITY AS SHOWN ON THIS DRAWING OR OF SIZE AND CAPACITY MANUFACTURED BY GUARDIAN HOOD SUPPRESSION SYSTEMS. RESIDENTIAL HOOD SHALL MEET ALL APPLICABLE UL CODES AND MECHANICAL CODE AND SHALL BE LABELED AS SUCH.

ELECTRIC UNIT HEATER SCHEDULE (FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR)

MARK	MANUF.	MODEL #	TYPE	AREA SERVED	K.W	BTU/HR	C.F.M	STEPS	AMPS.	VOLTAGE	REMARKS
EUH-1	QMARK	QPH4A	PORTABLE UNIT HEATER	RISER ROOM	4.0/2.66	13,652/9,102	210	-	16.7/11.1	240/1ϕ/60	APPROVED OR EQUAL

MAKE UP AIR FAN

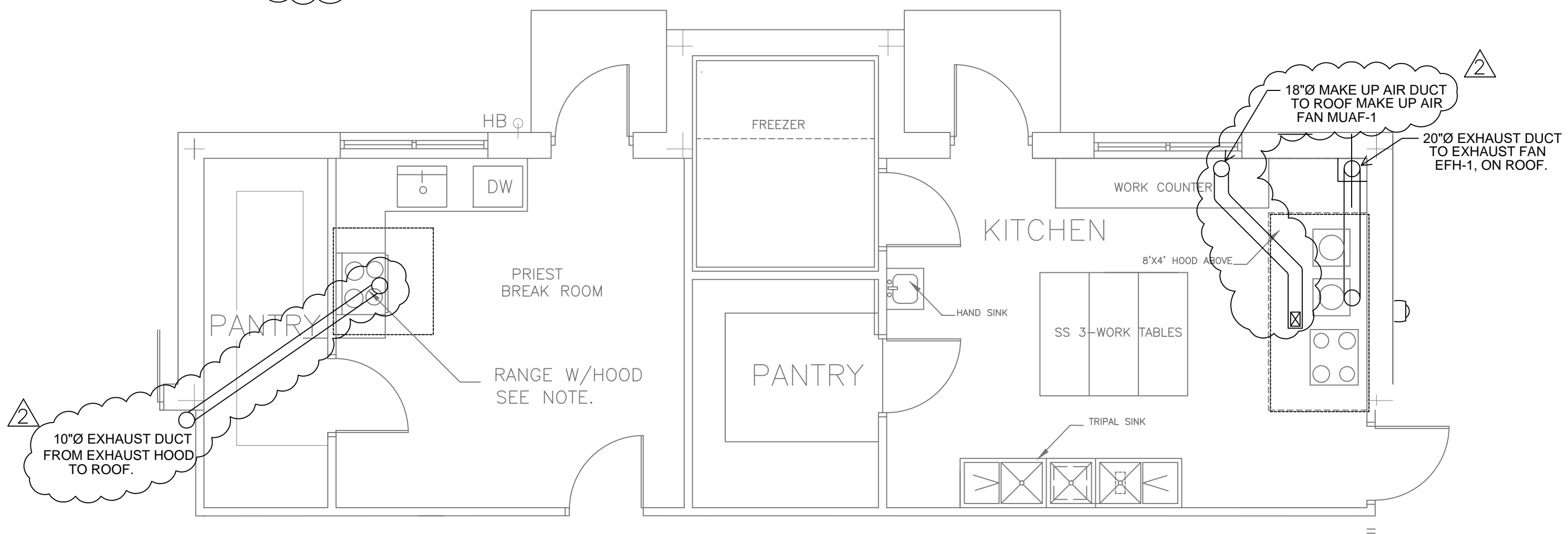
MARK	COMMENTS	CFM	EX. S.P.	BHP	ELECTRIC	MAKE & MODEL
MUAF-1	IN LINE FAN	2,000	3/4"	3/4	208/60/1	KSF-110-H15

EXHAUST HOOD II

MARK	MANUF.	MODEL #	TYPE	AREA SERVED	C.F.M	AMPS.	VOLTAGE	REMARKS
EH-2	BROAN	PM500 SS	WALL CANOPY	PRIEST KITCHEN	100	2.4	110/1ϕ/60	APPROVED OR EQUAL

EXHAUST FANS

MARK	SERVES	TYPE	CFM	S.P., " WG	ELECTRIC	FAN H.P.	FAN WATTS	MAKE & MODEL
EF-1	HOOD EH-1	ROOF	3,200	1.75	208/3/60	2.0		GREEN HECK CUBE 220 HP-20
EF-2	TOILETS	ROOF	250	1/4"	110/1/60	1/30		GREEN HECK CUE-070D
EF-3	TOILETS	ROOF	150	1/8"	110/1/60	1/60		GREEN HECK CUE-060D
EF-4	TOILETS	ROOF	150	1/8"	110/1/60	1/60		GREEN HECK CUE-060D

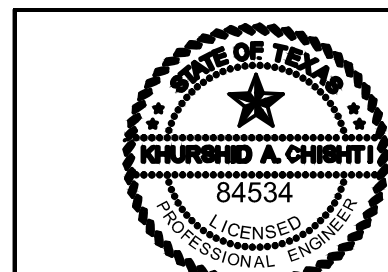


KITCHEN EXHAUST PLAN

SCALE : 1/4" = 1' - 0"

AIR DISTRIBUTION DEVICES SCHEDULE

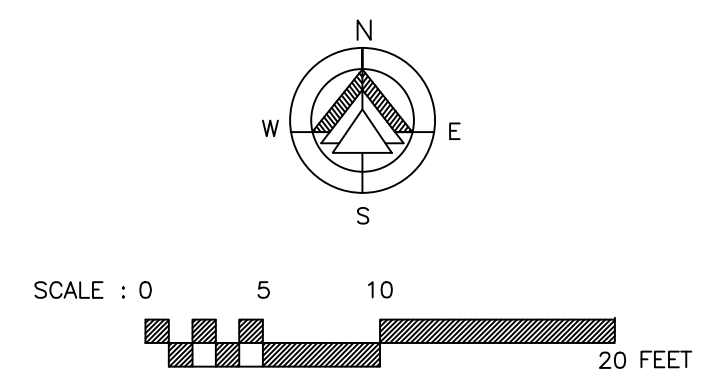
MARK	DUTY	DESCRIPTION	MFR./MODEL No.
A	SUPPLY	24"x 24" LOUVERED FACE, LAY-IN ROUND NECK SIZE AS SHON	TITUS TMSAA-10-24x24-3-26-D75
SD1	SUPPLY	96" SLOT DIFFUSER W/1, 2" SLOTS NECK SIZE AS NOTED.	TITUS ML39 OR KRUEGER DFL FRAME TYPE 'AA'
R1	RETURN	36"x 30" DUCT MOUNTED	
R2	RETURN	36"x 24" CEILING MOUNTED	



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rev	△ 10-20-2016	Revised as noted
rev	△ 11-05-15	City Comments
scale	AS NOTED	
drawn by	CADD-NV	
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CONSTRUCTION DOCUMENT PHASE	
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ALLEN TEXAS	
dwg. no.	07162013
	M3