

DEMOLITION DRAWING NOTES:

- ① EXISTING DUCTLESS SPLIT UNIT TO BE REMOVED AND RETURN TO OWNER.
- ② EXISTING CONDENSATE PIPING TO BE REMOVED AND OPENING IN WALL SEALED AIR TIGHT.
- ③ EXISTING ELECTRIC BASEBOARD HEATER TO REMAIN.
- ④ EXISTING HARD WIRED THERMOSTAT TO REMAIN.
- ⑤ EXISTING WIRELESS THERMOSTAT TO BE REMOVED AND RETURN TO OWNER.
- ⑥ EXISTING HEAT PUMP UNIT TO BE REMOVED AND RETURN TO OWNER.

PARTIAL FIRST FLOOR PLAN - HVAC DEMOLITION
SCALE: 1/4"=1'-0"

NEW WORK DRAWING NOTES:

- ① EXISTING ELECTRIC BASEBOARD HEATER.
- ② EXISTING HARD WIRED THERMOSTAT.
- ③ PROGRAMMABLE THERMOSTAT.
- ④ SASH SHALL BE SET TO A MAXIMUM HEIGHT OF 18". STOP SHALL BE INSTALLED AND A LABEL PLACE ON THE FACE OF THE SASH. HOOD DESIGN TO EXHAUST 533 CFM AT 80 FPM.
- ⑤ WHEN THE FUME HOOD SWITCH IS TURNED ON THE RTU-1 SHALL BE ACTIVATED TO KEEP THE DESIGN SPACE UNDER NEGATIVE PRESSURE.
- ⑥ BRACKETS SHALL BE INSTALLED ALONG THE EXTERIOR WALL TO MOUNT EXHAUST DUCTWORK FROM LOWER LEVEL TO ROOF LEVEL. DISTANCE FROM DUCT TO BUILDING SHALL BE DETERMINE IN FIELD AND SHOULD AVOID ROOF GUTTER SYSTEM. DUCTWORK SHALL ALSO AVOID CROSSING OVER EXISTING WINDOWS.
- ⑦ WHEN FUME HOOD IS ACTIVATED MOD SHALL CLOSE TO ONLY ALLOW 1225 CFM OF RETURN AIR BACK TO RTU-1.

PARTIAL FIRST FLOOR PLAN - HVAC NEW WORK
SCALE: 1/4"=1'-0"

DISCLAIMER

CLASSROOM SHALL NOT USED ANY HAZARDOUS MATERIALS OR CHEMICALS THAT WILL CAUSE A HEALTH HAZARD TO ANYONE, OUTSIDE OF THE FUME HOOD.

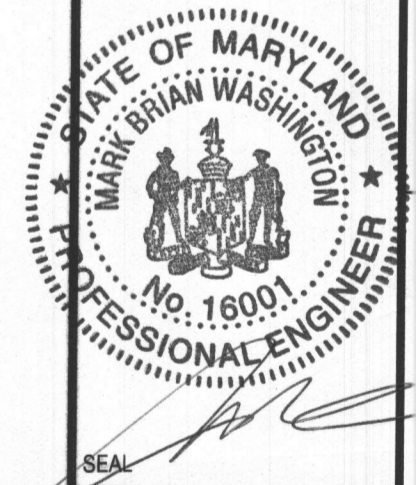
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DIVISION

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REV. NO.	DATE	DESCRIPTION
09-06-16		DESIGN DEV

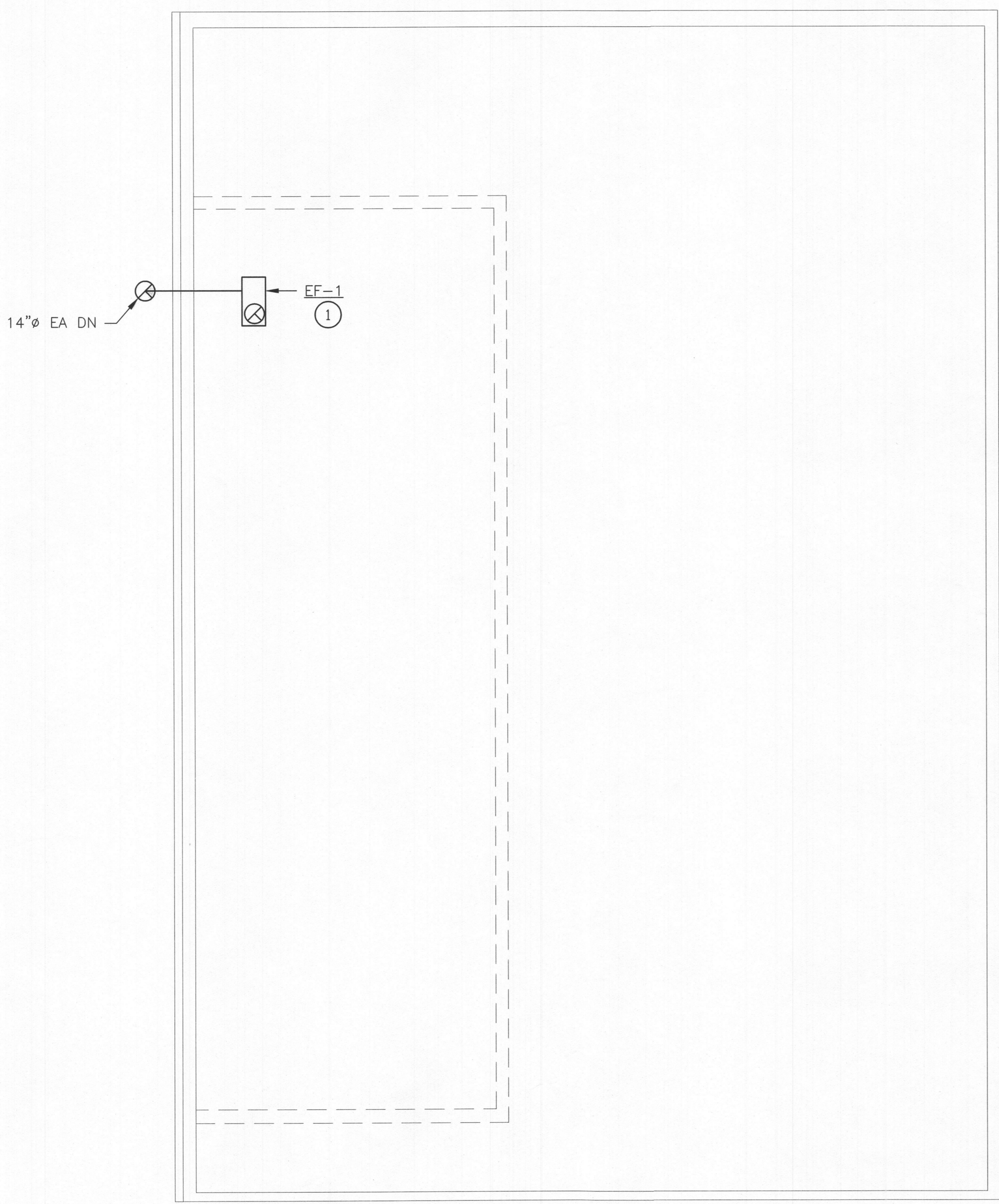
M.A.C.A. LABORATORY CLASSROOM
Mt. Airy, MD.
MT. AIRY CHRISTIAN ACADEMY



PARTIAL FIRST FLOOR HVAC DEMOLITION & NEW WORK FLOOR PLANS

PROJECT NUMBER: **19-123**
FIRST RELEASE DATE: 6-13-19
SHEET NUMBER: **M-1**

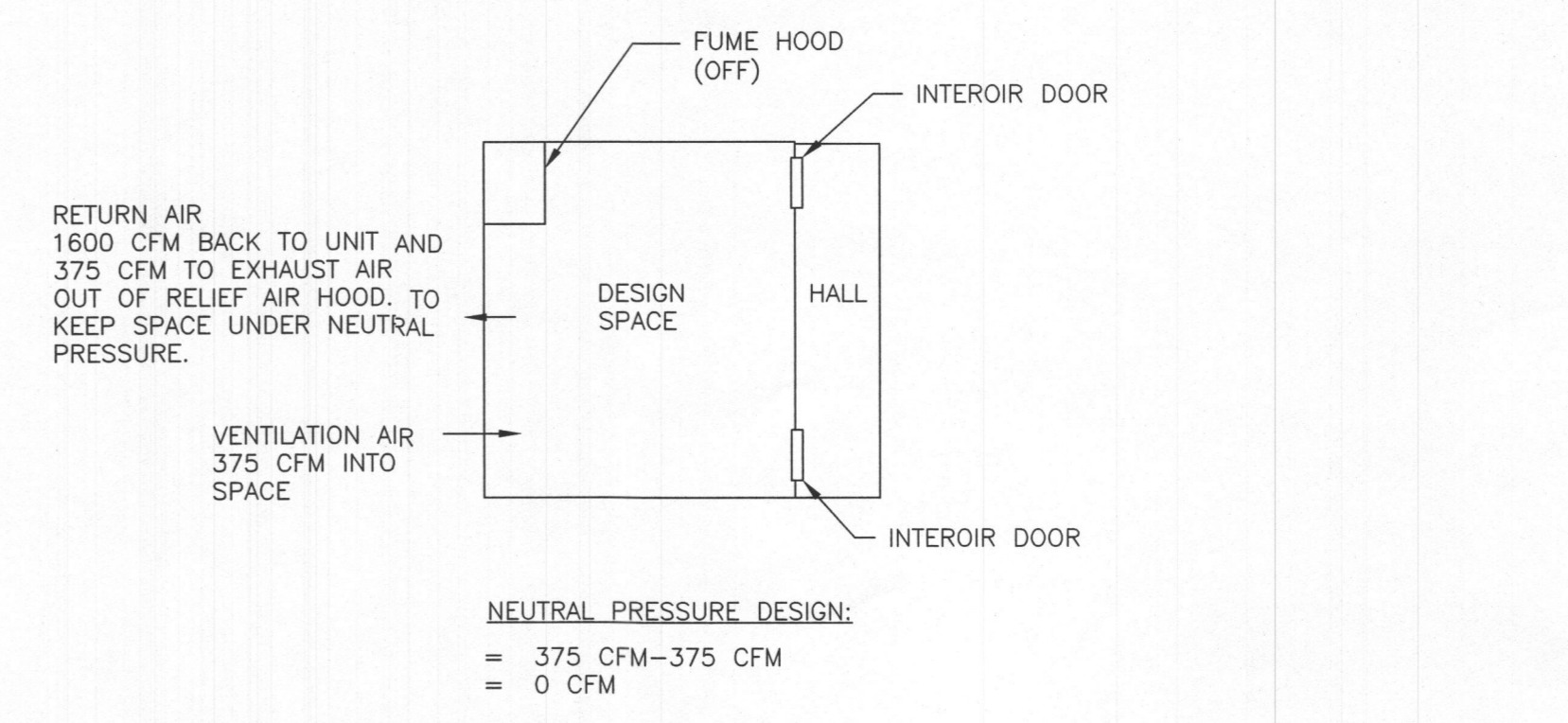
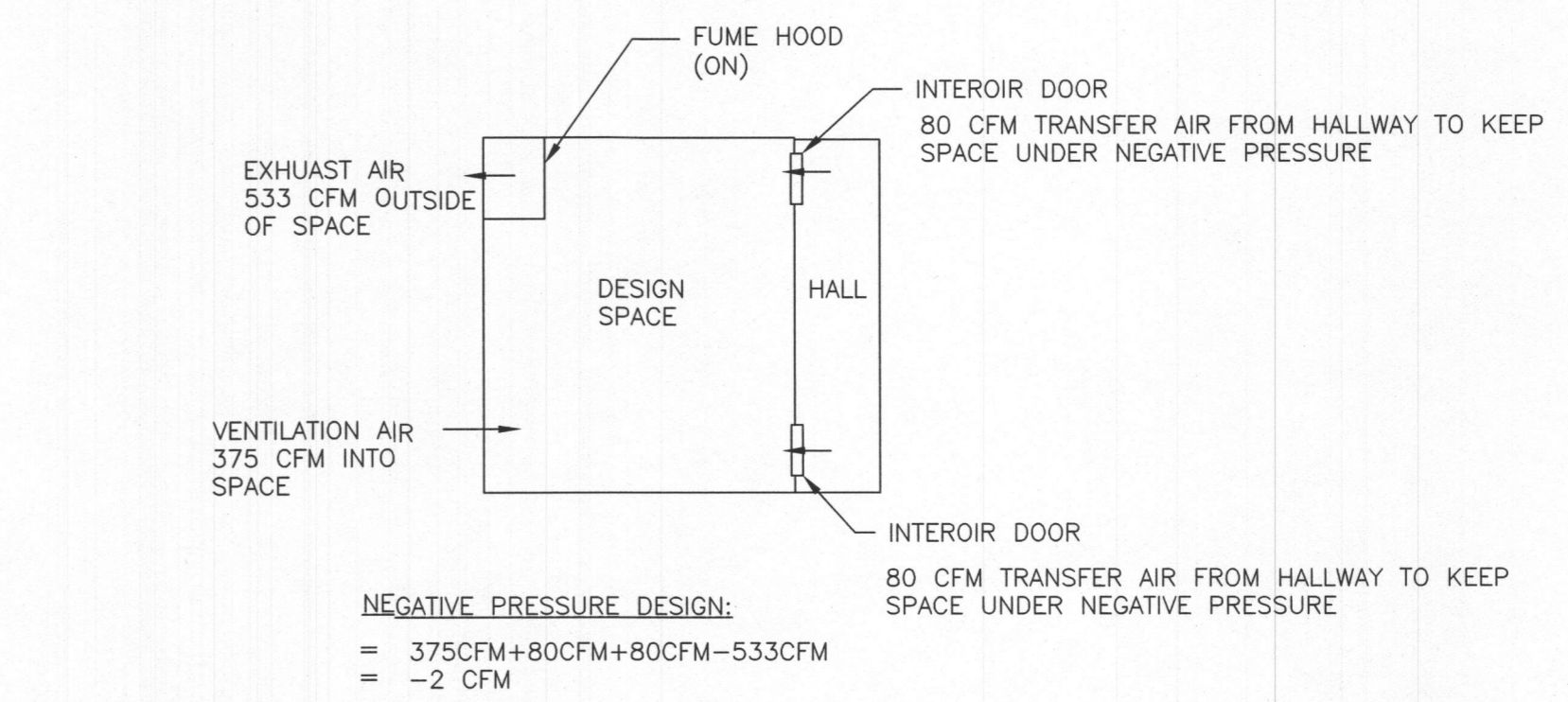
100% CD SET (6-13-19)



PARTIAL ROOF PLAN - HVAC NEW WORK
SCALE: 1/4"=1'-0"

DRAWING NOTE:

① WHEN THE FUME HOOD SWITCH IS TURNED ON THE RTU-1 SHALL BE ACTIVATED TO PROVIDE MAKEUP AIR AND THE DESIGN SPACE SHALL BE KEPT UNDER NEGATIVE PRESSURE.



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REV. NO.	DATE	DESCRIPTION
09-06-16		DESIGN DEV

PROJECT NAME
M.A.C.A. LABORATORY CLASSROOM
Mt. Airy, MD.
Mt. Airy Christian Academy



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PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 16001, Expiration Date: 4/26/20

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SHEET TITLE	MECHANICAL DETAILS
PROJECT NUMBER	19-123
FIRST RELEASE DATE	6-13-19
SHEET NUMBER	M-2

100% CD SET (6-13-19)

REV. NO.	DATE	DESCRIPTION
09-05-16		DESIGN DEV

M.A.C.A. LABORATORY CLASSROOM
 Mt. AIRY, MD.
 MT. AIRY CHRISTIAN ACADEMY

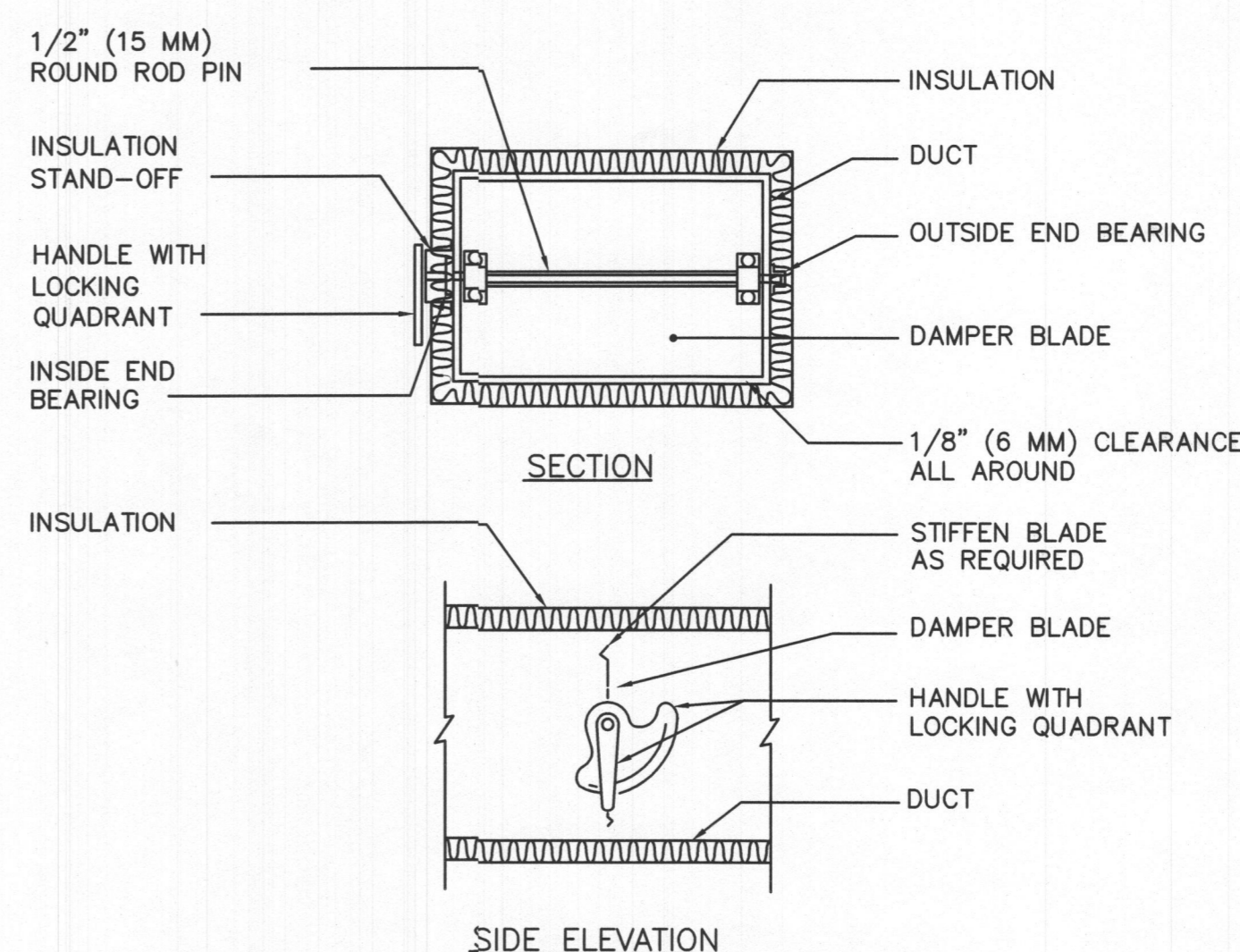


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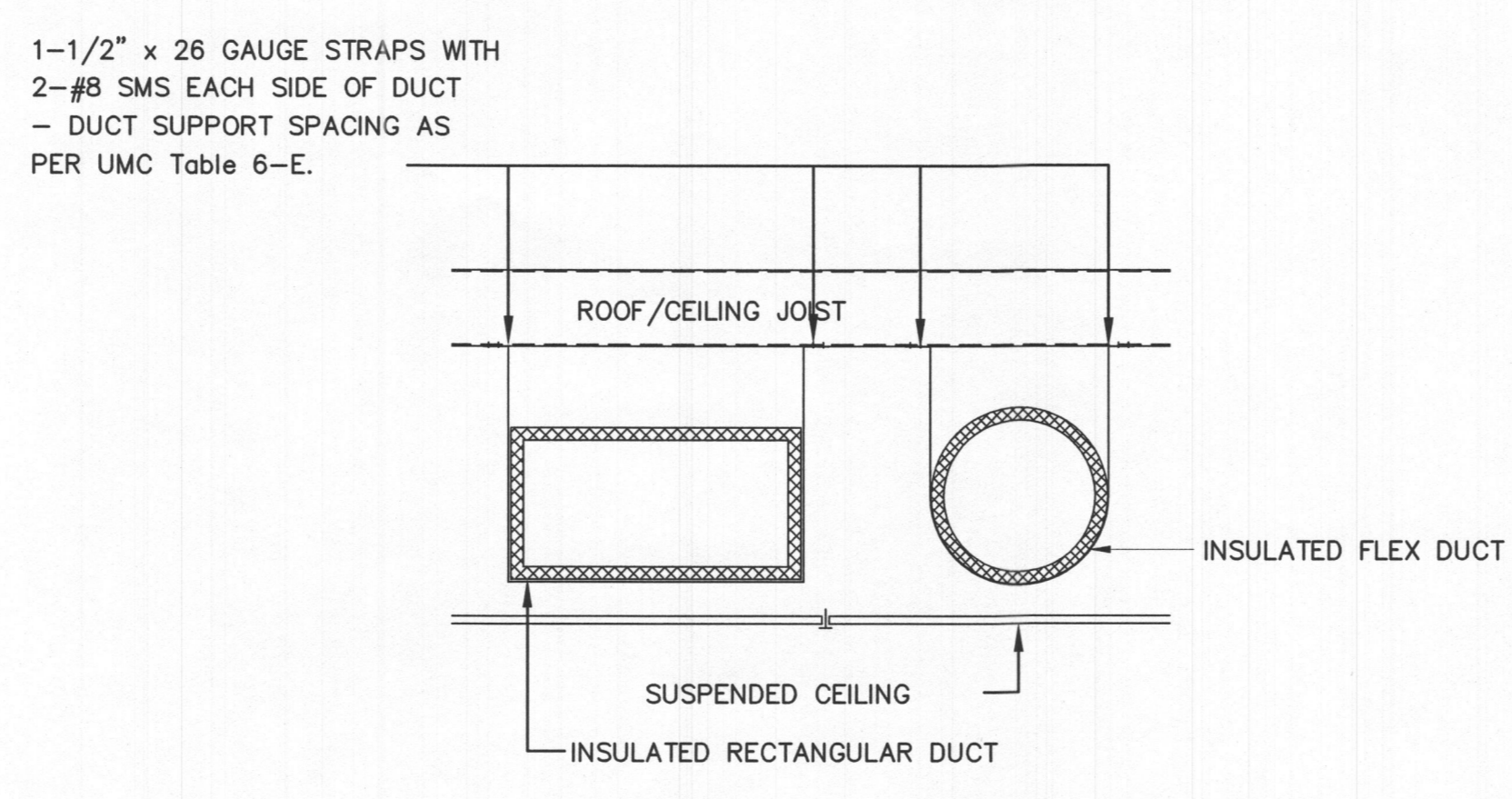
MECHANICAL DETAILS
 PROJECT NUMBER: 19-123
 FIRST RELEASE DATE: 6-13-19
 SHEET NUMBER: M-3

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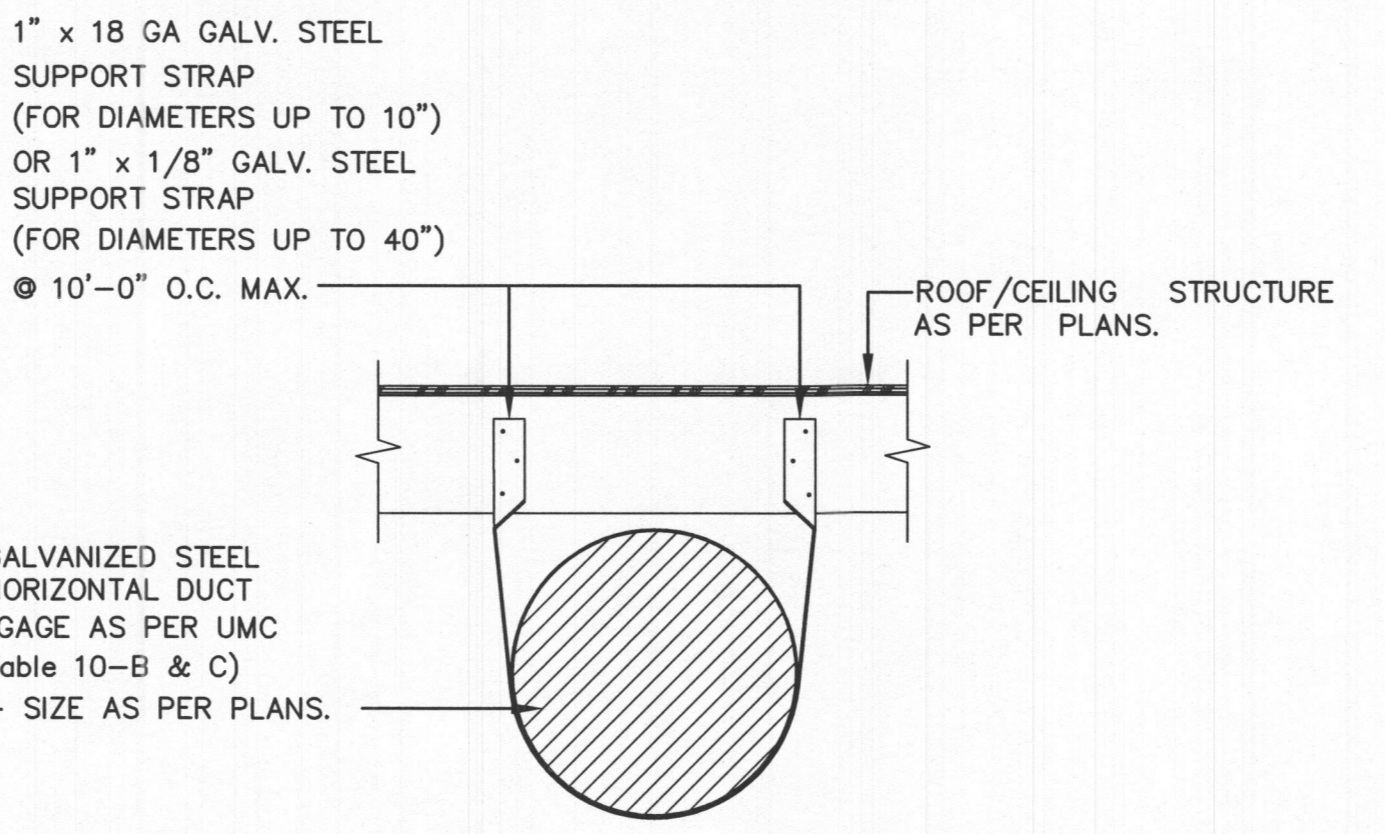
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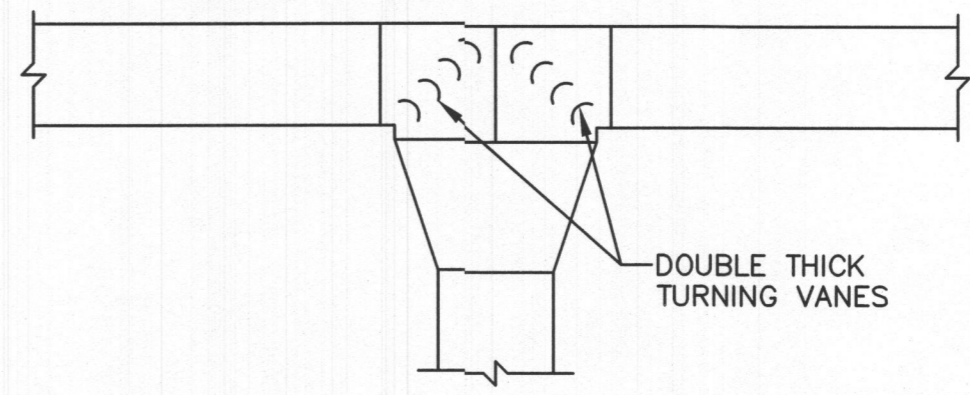
- NOTES:**
- DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
 - DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.



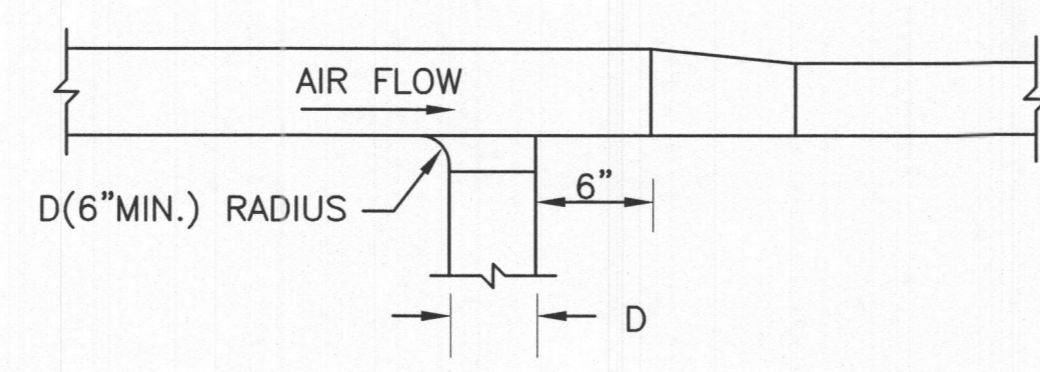
TYPICAL DUCT SUPPORT
 NO SCALE



TYPICAL ROUND DUCT SUPPORT
 NO SCALE

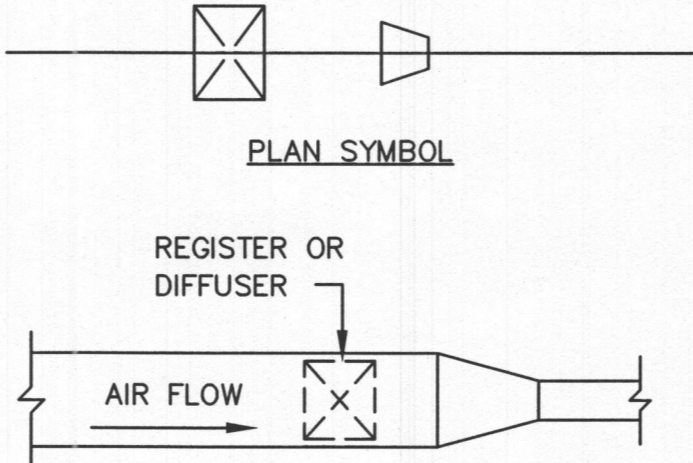


TYPICAL SPLITS
 NO SCALE

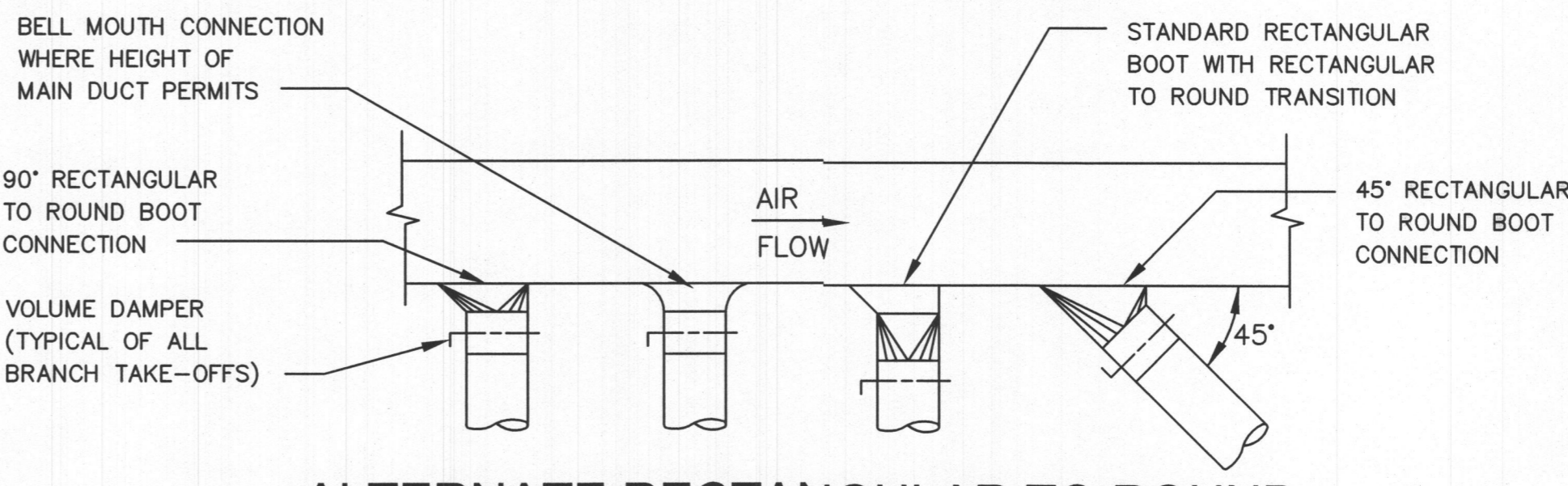


TYPICAL TAPOFF AND TRANSITION FROM SIDE OF DUCT

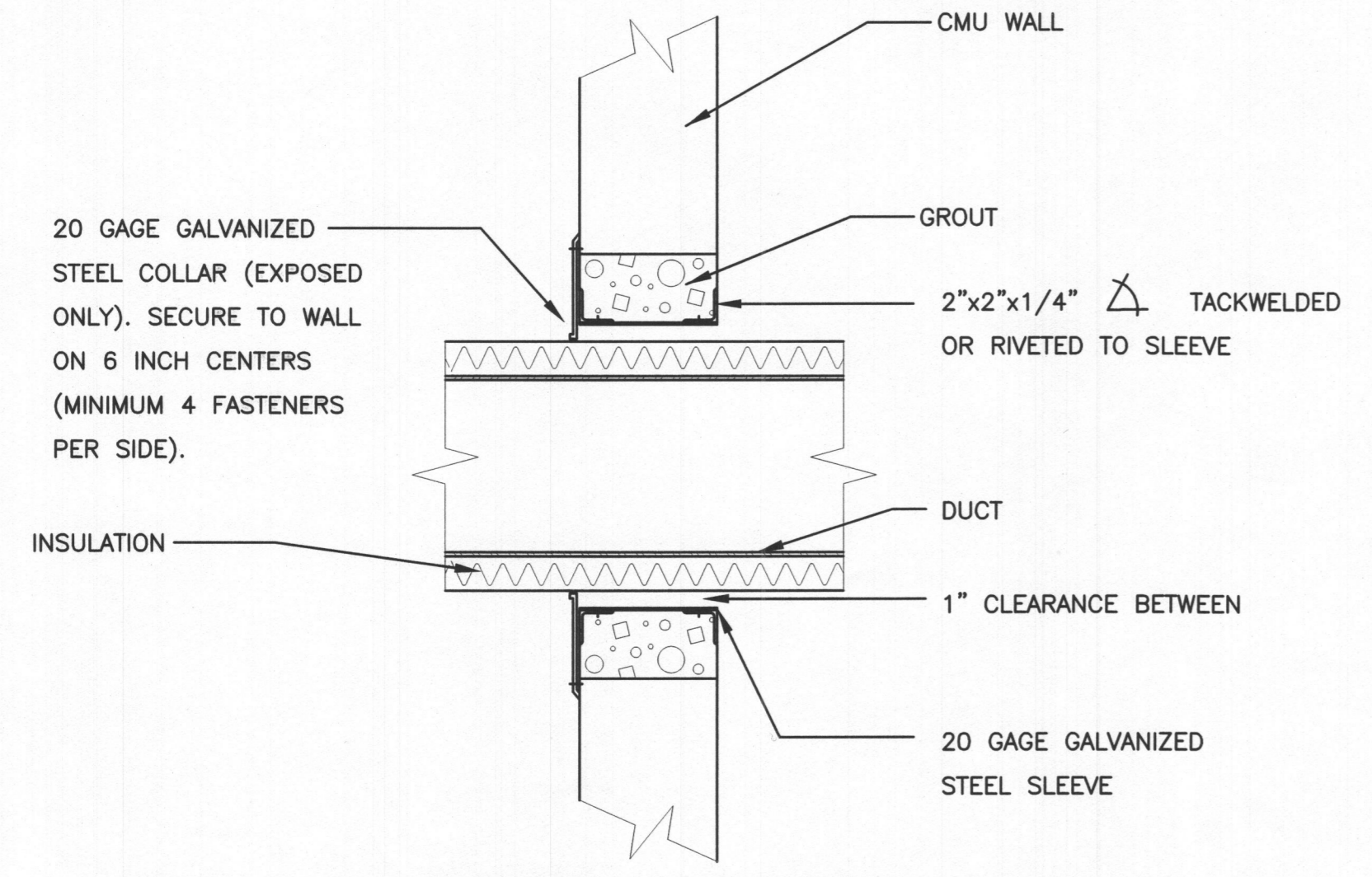
SEE SMACNA MANUAL FOR METHOD OF SECURING TAPOFF CONNECTION TO MAIN (SAME FOR EXHAUST DUCTS EXCEPT AIR FLOW IS REVERSED)



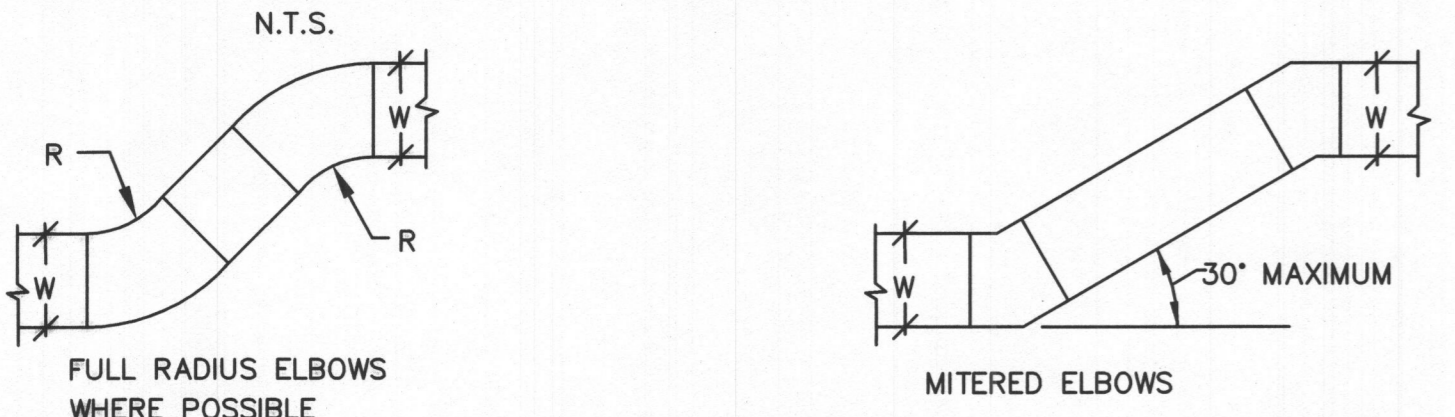
DIFFUSER OR REGISTER TAPOFF AND TRANSITION
 (SAME FOR EXHAUST DUCT EXCEPT FLOW IS REVERSED)



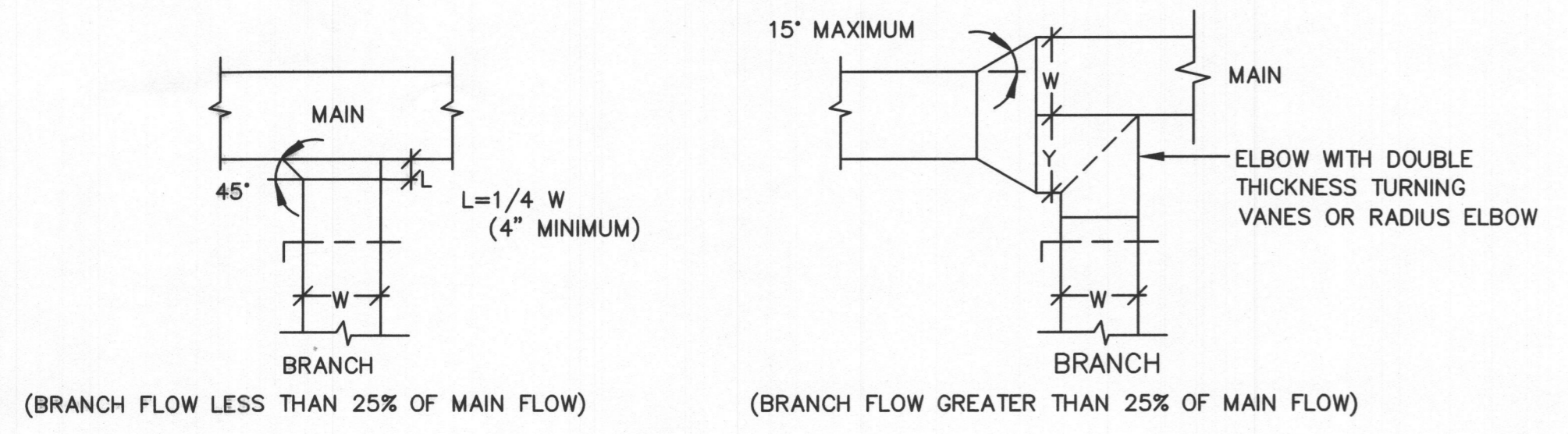
ALTERNATE RECTANGULAR TO ROUND DUCT BRANCH CONNECTIONS
 (BRANCH FLOW LESS THEN 25% OF MAIN FLOW)



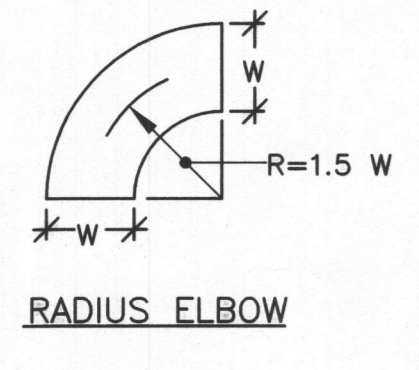
TYPICAL DUCT PENETRATION THROUGH WALL
 (NOT APPLICABLE TO FIRE-RATED WALLS)



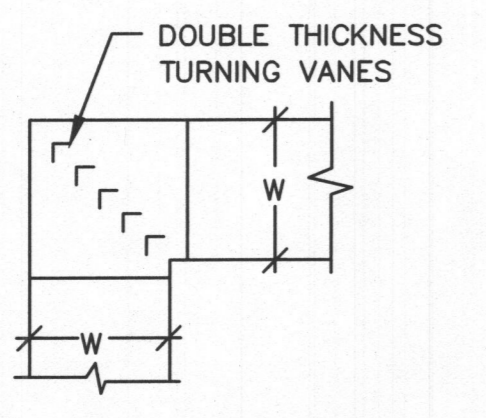
DUCT OFFSETS



BRANCH TAKE-OFFS

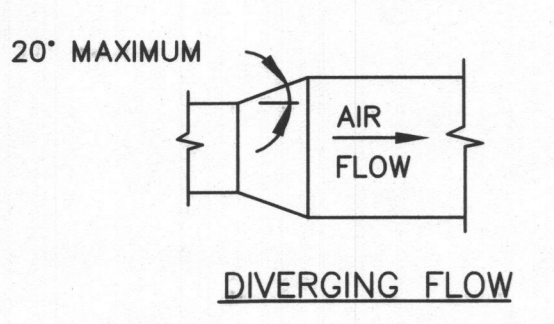


RADIUS ELBOW



RECTANGULAR ELBOW

LOW VELOCITY ELBOWS



RECTANGULAR TO RECTANGULAR TRANSITIONS

TYPICAL DETAILS - RECTANGULAR DUCT FITTINGS
 N.T.S.

ELECTRICAL LEGEND

X-1	HOMERUN TO DESIGNATED PANEL IN MINIMUM 3/4" CONDUIT WITH AN INSULATED GROUND WIRE. U.O.N. "X-1" INDICATES PANELBOARD AND CIRCUIT NO. RESPECTIVELY.
	CIRCUIT (IN MINIMUM 3/4" UON) CONCEALED IN WALL OR ABOVE CEILING WITH MINIMUM INSULATED GROUND WIRE (MINIMUM #12 AWG, UON) FOR EACH CONDUIT RUN #12 AWG WIRE. NO. OF HATCHES INDICATE NO. OF PHASE & NEUTRAL WIRES.
	20A, 125V, 2P, 3W GROUNDING TYPE DUPLEX RECEPTACLE IN SUITABLE CONCEALED WALL MOUNTED BOX, MH 18" AFF, UON.
	20A, 125V, 2P, 3W GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED 8" ABOVE THE COUNTERTOP.
	20A, 125V DUPLEX RECEPTACLE, MH 34" AFF.
	DOUBLE DUPLEX RECEPTACLE.
	20A, 125V, 2P, 3W GFCI TYPE RECEPTACLE MH=18" AFF, UON, OUTDOOR.
	PROVIDE DATA OUTLET IN CONCEALED WALL BOX, MH=18" AFF, U.O.N. PROVIDE EMPTY 3/4" C WITH NYLON PULL LINE, FROM OUTLET BOX UP TO MINIMUM 12" ABOVE CEILING.
	TELEPHONE OUTLET IN CONCEALED WALL BOX, MH=18" AFF, PROVIDE EMPTY 3/4" C WITH NYLON PULL LINE, FROM OUTLET BOX UP TO MINIMUM 12" ABOVE CEILING. INDICATES TWO VOICE OUTLETS AND ONE DATA OUTLET.
	DISCONNECT SWITCH IN NEMA TYPE-1 ENCLOSURE, NONFUSED, LOCKABLE HANDLE, AMP/VOLTAGE/POLE AS NOTED ON DRAWING. (2 POLE 60 SWITCH 40A FUSES)
	SINGLE SPECIAL RECEPTACLE, TYPE AS NOTED M.H.= 1'-6" AFF UNLESS NOTED OTHERWISE
	PANELBOARD 120/208V, WALL MOUNTED, TOP CB IN PANEL SHALL BE MAXIMUM 72" AFF.
	ELECTRICAL DRY TYPE TRANSFORMER
	20A, 120-277V, 1P TOGGLE SWITCH, MH = 48" AFF
	20A, 1P, 3WAY 120-277V TOGGLE SWITCH, MH = 48" AFF
	FRACTIONAL HORSE POWER MANUAL STARTER SWITCH MELTING ALLOY TYPE THERMAL OVERLOAD, 2 POLES, 125V WITH RED PILOT LIGHT IN NEMA 3R ENCLOSURE, WALL MOUNTED AT 48" AFF.
	20A, 1P, 3-WAY, 120-277V DIMMER SWITCH, 1500 W, MH = 48" AFF.
	COMBINATION MAGNETIC MOTOR STARTER, FURNISHED BY MECHANICAL, INSTALLED BY ELECTRICAL.
	DENOTES DRAWING NOTES.
	RECESSED LIGHTING FIXTURE, LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE. CROSS HATCHING IN FIXTURE INDICATES A FIXTURE ON AN EMERGENCY CIRCUIT.
	WALL MOUNTED LIGHTING FIXTURE, LETTER DESIGNATIONS CORRESPOND WITH LIGHTING FIXTURE SCHEDULE.
	UNIVERSAL MOUNTED EMERGENCY EXIT SIGN, CEILING MOUNTED, WALL MOUNTED.
	SELF CONTAINED EMERGENCY LIGHTING - SINGLE HEAD UNIT, DUAL HEAD UNIT
	2'X2' LED FIXTURE, LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
	2'X4' LED FIXTURE, LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
	JUNCTION BOX.
	LED FIXTURE, LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
	4' LED FIXTURE, DIAGONAL LINE INDICATED FIXTURE WITH INTEGRAL BATTERY PACK. UPPER CASE LETTER DESIGNATIONS CORRESPOND TO LIGHTING FIXTURE SCHEDULE.
	ELECTRICAL MOTOR
	EXHAUST FAN
	RESIDENTIAL SMOKE/CARBON MONOXIDE DETECTOR WITH DUAL VOLTAGE 120V, 1φ.
	SMOKE DETECTOR, CEILING MOUNTED.
	HEAT DETECTOR, CEILING MOUNTED.
	ELECTRIC COMPANY METER.
	FIRE ALARM AUDIO/VISUAL DEVICE WALL MOUNTED MH=72" AFF.
	COMBINATION FIRE ALARM PULL STATION WITH AUDIO/VISUAL DEVICE, PULL STATION MH=48" AFF, AUDIO/VISUAL DEVICE MH=72" AFF.
	FIRE ALARM PULL STATION, MOUNTING HEIGHT = 48" AFF.
	WATER FLOW SWITCH.
	WATER TAMPER SWITCH.
	FIRE ALARM GRAPHIC ANNUNCIATOR PANEL MH = 72" TO TOP OF PANEL.
	FIRE ALARM CONTROL PANEL, MH=72" TO TOP OF PANEL 8 ZONES, 120V, 1φ, (EXPANDABLE TO 32 ZONES), ALL WIRING ACCESSORIES SHALL BE PROVIDED PER MANUFACTURER'S INSTRUCTIONS, FACP SHALL BE SIMPLEX - MODEL #4005 OR EQUIVALENT. CONTRACTOR SHALL PROVIDE SHOP DRAWING WITH ALL WIRING & ACCESSORIES PER NFPA 72 FOR APPROVAL.
	DUCT SMOKE DETECTOR
	TELEPHONE BACKBOARD, 3/4" THK. X 48" W. X 48" H. U.O.N.

GENERAL ELECTRICAL NOTES

- ALL ELECTRICAL MATERIAL AND INSTALLATION SHALL BE IN CONFORMITY WITH THE APPLICABLE CURRENT STANDARDS, RULES, REGULATIONS, AND SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:
 - NFPA 70 (NATIONAL ELECTRICAL CODE)
 - NFPA 101 (LIFE SAFETY CODE)
 - NBFU (NATIONAL BOARD OF FIRE UNDERWRITERS)
 - ADA (AMERICANS WITH DISABILITIES ACT)
 - NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
 - IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS)
 - ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - ALL LOCAL AUTHORITIES HAVING JURISDICTION
- THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS AS REQUIRED TO MEET THE DESIGN INTENT OF THESE DOCUMENTS COORDINATING WITH FIELD CONDITIONS AT THE JOB SITE AND ALL OTHER TRADES TO DETERMINE ALL ELECTRICAL CONNECTIONS THAT MAY BE REQUIRED. ALL ELECTRICAL MATERIAL AND WORK SHALL HAVE A MINIMUM ONE YEAR GUARANTEE PERIOD TO BEGIN AT THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS AND INSPECTIONS FROM THE AUTHORITY HAVING JURISDICTION.
- ALL WIRING INSTALLED WITHIN A RETURN AIR PLENUM SHALL BE RATED FOR SUCH AN APPLICATION.
- INSTALL CONDUIT AND JUNCTION BOXES CONCEALED IN FINISHED SPACES.
- ALL EQUIPMENT SHALL BE UL LISTED AND LABELED.
- ALL CONDUCTORS SHALL BE IDENTIFIED, ALL CONDUCTORS SHALL BE COPPER WITH INSULATION. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID COPPER WITH TYPE THHN/THWN, 90°C INSULATION. ALL CONDUCTORS 8 AWG AND LARGER SHALL BE STRANDED COPPER WITH TYPE THHN/THWN INSULATION RATED AT 90°C. CAPACITY OF CONDUCTORS SHALL BE AT 75°C RATING OR RATING OF TERMINATION, WHICHEVER IS LESS.
- ELECTRICAL CONTRACTOR MAY UTILIZE TYPE MC CABLE IN LIEU OF CONDUIT AND WIRE IN INTERIOR, DRY, FURRED LOCATIONS WHEN PERMITTED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE "HACR" CIRCUIT BREAKERS FOR HVAC EQUIPMENT.
- CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING FOR CORRECT PHASING WITHIN THE PANELS THEMSELVES. DO NOT INSTALL MORE THAN (3) SINGLE PHASE CIRCUITS WITHIN ANY ONE CONDUIT. AT COMPLETION OF WORK, ALL PANELS SHALL BE LOAD BALANCED UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPED WRITTEN PANEL DIRECTORY FOR ALL PANELBOARDS. DIRECTORY SHALL INCLUDE TYPE OF LOAD SERVED AND ROOM NUMBERS OF CIRCUIT LOCATION.
- THE QUANTITY OF WIRES FOR CIRCUITS SHALL BE AS INDICATED AT THOSE AREAS WHERE CLARIFICATION IS REQUIRED IN ORDER TO INSURE THE PROPER OPERATION OF THE SYSTEM.
- WIRING SHALL BE #12 AWG MINIMUM UNLESS OTHERWISE INDICATED; CONDUIT SHALL BE EMT WITH COMPRESSION FITTINGS, 3/4" MINIMUM SIZE UNLESS OTHERWISE INDICATED.
- COORDINATE ALL LIGHT FIXTURE TYPES WITH THE ARCHITECTURAL DRAWINGS. SHOULD THERE BE A DISCREPANCY BETWEEN THE ARCHITECT AND THE CONTRACTOR PRIOR TO THE PURCHASE OF ANY FIXTURES, VERIFY COMPATIBILITY WITH FINISHES. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.
- THE ELECTRICAL PLANS ARE DIAGRAMMATIC IN NATURE; DIMENSIONS SHOWN ARE AT A MINIMUM. ALL WRITTEN DIMENSIONS ON THESE PLANS SHALL TAKE PRIORITY OVER SCALED DIMENSIONS. NOTIFY ARCHITECT SHOULD THERE BE ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. SHOULD EXACT DIMENSIONS BE REQUIRED, REFER TO THE ARCHITECTURAL PLANS.
- MOUNTING HEIGHTS OF DEVICES, UNLESS NOTED OTHERWISE, ARE TO THE CENTERLINE OF THE EQUIPMENT. THE EXCEPTION TO THIS IS LIGHTING FIXTURES; MOUNTING HEIGHTS INDICATED ARE TO THE BOTTOM OF THE FIXTURE. COORDINATE ALL MOUNTING HEIGHTS OF THE VARIOUS DEVICES IN ORDER TO PROVIDE FOR A FINAL INSTALLATION THAT IS CONSISTENT THROUGHOUT THE SPACE.
- ANY CUTTING AND PATCHING SHALL BE PERFORMED IN A MANNER THAT IS ACCEPTABLE TO THE ARCHITECT AND SHALL MATCH THE SURROUNDING SURFACES.
- VERIFY DOOR SWINGS PRIOR TO LIGHT SWITCH INSTALLATION. GENERALLY, INSTALL SWITCHES ON LATCH SIDE OF DOOR.
- GANG MULTIPLE SWITCHES UNDER ONE COVER PLATE.
- COORDINATE WITH THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL OUTLETS, SWITCHES, AND LIGHTING FIXTURES. DO NOT USE ENGINEERING PLANS FOR LOCATING DEVICES. SHOULD A CONTRACTOR PLACE A DEVICE BASED ON THE ENGINEER'S PLANS AND IT IS NOT LOCATED ON THE ARCHITECT'S PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS RELOCATION AT HER/HIS COST.
- OUTLET BOXES SHALL BE INSTALLED SUCH THAT THEY ARE NOT BACK-TO-BACK; PROVIDE AN 8" MINIMUM OFFSET. ALL ELECTRICAL OUTLETS SHALL HAVE A TAG BEHIND THE COVERPLATE INDICATING THE PANELBOARD AND CIRCUIT NUMBER FROM WHICH THEY ARE FEED.
- ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT. IF APPROVED SUBMITTALS ARE FOR EQUIPMENT THAT DIFFERS WITH WHAT WAS SPECIFIED BY THE DESIGN ENGINEER, THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR INSURING THAT THIS EQUIPMENT IS EQUIVALENT TO THE ORIGINAL SPECIFIED EQUIPMENT AND ANY ADDITIONAL WORK OR COST AS A RESULT OF USING DIFFERING EQUIPMENT SHALL BE ABSORBED BY THE CONTRACTOR.
- THE ELECTRICAL SYSTEM SHALL BE FULLY GROUNDED; PROVIDE SEPARATE GROUND WIRE IN FEEDER AND EACH BRANCH CIRCUIT WHETHER INDICATED ON THE PLANS OR NOT.

ELECTRICAL ABBREVIATIONS

(ETR)	EXISTING TO REMAIN	KVA	KILOVOLT AMPS
(N)	NEW	KW	KILOWATT
(RX)	REMOVE	LTG	LIGHTING
(TBR)	EXISTING TO BE RELOCATED	MAX	MAXIMUM
(E)	RELOCATION POINT	MCB	MAIN CIRCUIT BREAKER
A, AMP	AMPERE	MCC	MOTOR CONTROL CENTER
AC	ALTERNATING CURRENT	MECH	MECHANICAL
AF	AMP FRAME	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MLO	MAIN LUGS ONLY
AFG	ABOVE FINISHED GRADE	MOCIP	MAXIMUM OVERCURRENT PROTECTION
AT	AMP TRIP	N/A	NOT APPLICABLE
AWG	AMERICAN WIRE GAUGE	N	NEUTRAL
BKR	BREAKER	NC	NORMALLY CLOSED
BLDG	BUILDING	NEC	NATIONAL ELECTRICAL CODE
C, COND	CONDUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CKT	CIRCUIT	NL	NIGHT LIGHT
CLG	CEILING	NF	NON-FUSABLE
DIA	DIAMETER	NFSS	NON-FUSED SAFETY SWITCH
DISC	DISCONNECT	NO	NORMALLY OPEN
DN	DOWN	NTS	NOT TO SCALE
DWG	DRAWING	φ	PHASE
EC	EMPTY CONDUIT	P	POLE
ECB	ENCLOSED CIRCUIT BREAKER	PNL	PANELBOARD
EG	EQUIPMENT GROUND	PRI	PRIMARY
ELEC	ELECTRICAL	QTY	QUANTITY
EMERG	EMERGENCY	REC, RECEPT	RECEPTACLE
EQUIP	EQUIPMENT	REQ'D	REQUIRED
ESB	ENERGY SAVING BALLAST	RM	ROOM
ETR	EXISTING TO REMAIN	SCHED	SCHEDULE
EK	EXISTING	SD	SMOKE DETECTOR
EWC	ELECTRIC WATER COOLER	SP	SINGLE POLE SWITCH
F/A, FA	FIRE ALARM	SW	SWITCH
FAAP	FIRE ALARM ANNUNCIATOR PANEL	T, XFMR, T/F	TRANSFORMER
FACP	FIRE ALARM CONTROL PANEL	TEL	TELEPHONE
FLA	FULL LOAD AMPS	TYP	TYPICAL
F/N	FULL NEUTRAL	UNF	UNFUSED
FSS	FUSED SAFETY SWITCH	UON	UNLESS OTHERWISE NOTED
G, GND	GROUND	V	VOLT, VOLTAGE
GI	GROUND FAULT INTERRUPTER	VA	VOLT AMP
HP	HORSEPOWER	W	WATT, WIRE
HPF	HIGH POWER FACTOR	WP	WEATHERPROOF
IG	ISOLATOR GROUND	W/	WITH
INCAND	INCANDESCENT	#	NUMBER
JB	JUNCTION BOX		
KAIC	THOUSANDS OF AMPS INTERRUPTING CAPACITY		
KCMIL, MCM	THOUSANDS CIRCULAR MILS		
KV	KILOVOLT		

23. WIRING FOR 20A BRANCH CIRCUITS SHALL BE SIZED AS INDICATED BELOW.

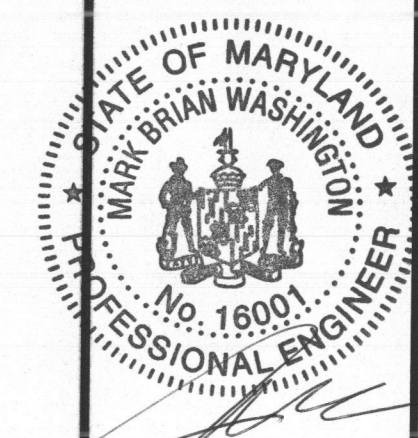
120V	277V
CIRCUIT LENGTH (FT.)	CIRCUIT LENGTH (FT.)
0-75	0-150
75-150	151-300
151-200	301-400
AWG #12	AWG #10
AWG #8	AWG #8

- WORK AREA SHALL BE LEFT CLEAN AT THE END OF EACH BUSINESS DAY.
- ALL PENETRATIONS OF FIRE RATED WALL ASSEMBLES SHALL BE PROTECTED WITH AN APPROVED FIRESTOP SYSTEM OR IN ACCORDANCE WITH IBC SECTION 712.3.1 WHERE APPLICABLE.
- ALL PANELBOARD BUSES AND GROUND BARS SHALL BE COPPER. BUS BAR SIZE SHALL BE BASED ON CURRENT DENSITY OF 1000A PER SQUARE INCH OF CROSS SECTIONAL AREA. PANELBOARDS SHALL BE FULLY RATED. CIRCUIT BREAKER SHALL BE BOLT ON TYPE. SUB-FEED CIRCUIT BREAKERS ARE NOT ACCEPTABLE.
- ALL DISCONNECT SWITCH CURRENT CARRYING COMPONENTS SHALL BE COPPER.
- THE CONTRACTOR SHALL VERIFY THAT ALL THE LIGHTING FIXTURES, RECEPTACLES, DEVICES, WIRING, EQUIPMENT, AND THEIR INSTALLATION COMPLY WITH ALL THE NEC AND LOCAL CODE REQUIREMENTS FOR THE TYPE OF CONSTRUCTION AND OCCUPANCY REQUIREMENTS FOR THIS PROJECT. PROVIDE HANGERS AS REQUIRED BY CODE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL THE LIGHTING FIXTURES AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLAN. IF THERE IS NO ARCHITECTURAL REFLECTED PLAN, CONTRACTOR SHALL COORDINATE LOCATION OF FIXTURES SHOWN ON THE ELECTRICAL PLANS WITH ARCHITECT AND OTHER TRADES AND FIELD CONDITIONS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LAMPS REQUIRED (ALL LAMPS FOR SIMILAR FIXTURES SHALL MATCH). VERIFY MANUFACTURER AND MODEL OF BASE BUILDING FIXTURES WITH THE BUILDING OWNER'S REPRESENTATIVE.
- THE FINAL LOCATION OF SWITCHES, OUTLETS AND OTHER DEVICES SHALL BE FIELD COORDINATED AND SHALL MEET ALL LOCAL CODE REQUIREMENTS (INCLUDING ALL HANDICAPPED CODES AND ADA REQUIREMENTS).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING ALL CIRCUITS, LIGHTING FIXTURES, OUTLETS AND ALL OTHER DEVICES FOR THEIR PROPER OPERATION (INCLUDING ALL GROUNDING).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND PERFORMING ALL TEST AND INSPECTIONS REQUIRED BY THE LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL LIGHTING FIXTURES, RECEPTACLES, DEVICES AND EQUIPMENT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL HARDWARE, PARTS, AND ACCESSORIES REQUIRED FOR THEIR PROPER INSTALLATION AND OPERATION (INCLUDING ALL PARTS, ACCESSORIES, AND SAFETY DEVICES REQUIRED BY CODE).
- THE CONTRACTOR SHALL REFER TO ALL DRAWINGS, DETAILS, AND SPECIFICATIONS RELATED TO THIS PROJECT FOR ADDITIONAL REQUIREMENTS.
- THE CONTRACTOR SHALL INSTALL ALL WIRING AND CONDUIT CONCEALED IN PARTITIONS AND ABOVE THE CEILING, UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH ALL FIELD CONDITIONS AT THE JOB-SITE AND ALL OTHER TRADES INVOLVED.
- ALL WIRING, CONDUIT, AND JUNCTION BOXES SHALL BE COLOR CODED, IDENTIFIED, AND LABELED. ALL WORK AND INSTALLATION SHOWN ON THESE DRAWINGS SHALL BE DONE BY A LICENSED CONTRACTOR WITH EXPERIENCE IN THE TYPE OF WORK REQUIRED FOR THIS PROJECT.
- THE CONTRACTOR SHALL COORDINATE THE MANUFACTURER, MODEL, COLOR AND FINISH FOR ALL NEW RECEPTACLES, OUTLETS AND COVERPLATES WITH THE ARCHITECT (UNLESS A SPECIFIC COLOR CODING IS REQUIRED BY CODE).
- ALL PANELS AND CIRCUIT BREAKER CAPACITY RATINGS AND THEIR CONSTRUCTION SHALL MEET ALL LOCAL CODE REQUIREMENTS.
- THE CONTRACTOR SHALL IDENTIFY AND LABEL ALL CIRCUITS.
- COORDINATE THE LOCATION AND INSTALLATION OF EXIT SIGN LIGHTING FIXTURES AT THE JOB-SITE AS REQUIRED TO INDICATE THE EXIT PATH AS REQUIRED BY CODE AND TO ASSURE PROPER VISIBILITY.
- PROVIDE CAST METAL JUNCTION BOXES AND CONDUIT FOR CIRCUITS BEING INSTALLED IN EXPOSED VISIBLE LOCATIONS.
- PROVIDE CAST METAL JUNCTION BOXES AND CONDUIT WITH PULL STRING FOR TELEPHONE AND DATA CIRCUITS BEING INSTALLED IN EXPOSED VISIBLE AREAS.

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REV. NO.	DATE	DESCRIPTION
09-05-16		DESIGN DEV

M.A.C.A. LABORATORY CLASSROOM
 MT. AIRY, MD.
 MT. AIRY CHRISTIAN ACADEMY



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 LICENSES & PERMITS DIVISION
ELECTRICAL COVER SHEET

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