

PIPING SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	PIPING TO RISE UP
	PIPING TO DROP DOWN
	PIPING ANCHOR
	PIPING GUIDE
	COLD WATER SUPPLY PIPING
	HEATING SYSTEM SUPPLY PIPING
	HEATING SYSTEM RETURN PIPING
	CHILLED WATER SUPPLY PIPING
	CHILLED WATER RETURN PIPING
	CONDENSER WATER SUPPLY PIPING
	CONDENSER WATER RETURN PIPING
	CONDENSATE DRAINAGE PIPING
	FUEL OIL SUPPLY PIPING
	FUEL OIL RETURN PIPING
	LOW PRESSURE NATURAL GAS PIPING
	ELEVATED PRESSURE NATURAL GAS PIPING
	GAS COCK
	DIRT LEG IN PIPING
	LIQUEFIED PETROLEUM GAS PIPING
	VENT PIPING
	LINEAR EXPANSION COMPENSATOR
	EXPANSION LOOP IN PIPING
	UNION IN PIPING
	PIPING STRAINER (w/ BLOWDOWN VALVE)
	REDUCER / INCREASER FITTINGS IN PIPING
	ECCENTRIC REDUCER IN PIPING
	THERMOMETER
	PRESSURE GAUGE
	FULL PORT BALL VALVE
	GATE VALVE
	SWING CHECK VALVE
	BALANCING VALVE
	3-WAY VALVE (w/ OPERATOR)
	CIRCUIT CETTER
	TRIPLE DUTY VALVE
	WAFER VALVE
	PLUG / CAP IN PIPING
	PNEUMATIC CONTROL VALVE OPERATOR
	ELECTRIC CONTROL VALVE OPERATOR
	AUTOMATIC AIR VENT
	EXISTING PIPING

MECHANICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	RECTANGULAR GALVANIZED DUCTWORK - DIMENSIONS W x H
	NEW EXHAUST DUCTWORK TO RISE UP
	NEW EXHAUST DUCTWORK TO DROP DOWN
	TRANSITION IN DUCTWORK
	ELBOW IN DUCTWORK w/ TURNING VANES
	ELBOW IN DUCTWORK (RADIUS + 1.5 x D)
	45 DEG. TAKEOFF FITTING
	90 DEG. TAKEOFF w/ BELLMOUTH FITTING
	CEILING RETURN AIR REGISTER
	ROOF MOUNTED EXHAUST FAN

#### DUCTWORK NOTES:

- PROVIDE ALL NEW DUCTWORK AS SHOWN AND SPECIFIED UNDER SPECIFICATION SECTION 015891, AND IN CONFORMANCE WITH "SMACNA" SPECIFICATIONS.
- IF A DUCT ELBOW IS SHOWN TO BE RADIUS, THEN RADIUS ELBOWS SHALL BE INSTALLED. SQUARE ELBOWS MAY NOT BE SUBSTITUTED WHERE RADIUS ELBOWS ARE SHOWN. WHERE SQUARE ELBOWS ARE SHOWN, TURNING VANES SHALL BE INSTALLED UPON APPROVAL BY THE ENGINEER.
- WHERE FLEXIBLE DUCTWORK IS USED, LENGTHS MAY NOT EXCEED 4 FEET TOTAL IN ANY ONE RUN OF FLEXIBLE DUCTWORK. FLEXIBLE DUCTWORK SHALL BE RATED IN ACCORDANCE WITH UL 181, CLASS 1. REFER TO SPECIFICATION SECTION 15891 FOR FURTHER INFORMATION.
- MECHANICAL CONTRACTOR SHALL PROVIDE A BUTTERFLY TYPE VOLUME DAMPER WITH LOCKING QUADRANT HANDLE PRIOR TO EACH AIR OUTLET SHOWN. INSTALL DAMPER AT LEAST 5 FEET AWAY FROM AIR OUTLET WHEREVER POSSIBLE.
- MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE DUCT CONNECTIONS WHERE DUCT SYSTEMS CONNECT TO EQUIPMENT. REFER TO SPECIFICATION SECTION 15891 FOR FURTHER INFORMATION.

#### GENERAL NOTES

- REMOVAL & RELOCATION OF CERTAIN EXISTING WORK SHALL BE NECESSARY FOR THE PERFORMANCE OF THE NEW WORK SHOWN HEREIN. ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE & MAKE ALL NECESSARY CHANGES BASED ON EXISTING CONDITIONS AS REQUIRED FOR PROPER DEMOLITION OF EXISTING WORK & SHALL INCLUDE ALL MATERIALS & LABOR FOR SAME IN HIS BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO.
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE PREMISES OF THE PROPOSED WORK & SHALL CAREFULLY EXAMINE THE ENGINEERING DRAWINGS, EXISTING CONDITIONS & LIMITATIONS THEREOF. VERIFY ACTUAL LOCATIONS WHERE THE NEW PIPING WILL BE ROUTED. COORDINATE WITH NEW & EXISTING WORK & PROVIDE CLARITY, OTHER SERVICES, ETC. THE CONTRACTOR SHALL INCLUDE ALL COSTS WHATSOEVER WHICH ARE INCURRED AS A RESULT OF LIMITATIONS OF THE EXISTING & NEW CONDITIONS. LATER CLAIMS FOR EXTRA LABOR, EQUIPMENT, MATERIALS, ETC. REQUIRED DUE TO DIFFICULTIES WHICH COULD HAVE BEEN FORESEEN WILL NOT BE CONSIDERED AS EXTRA WORK.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATING, MAINTENANCE & REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES OF MAGNITUDE WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHEN NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN CRATED SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AREAS AVAILABLE. ASCERTAIN FROM BUILDING OWNER AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH THE BUILDING.
- COORDINATE THE EXACT SIZE & LOCATION OF NEW OPENINGS WITH EXISTING STRUCTURE. PATCH / INSULATE AS REQUIRED. CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS FROM NEW PIPING, CONDUIT, DUCTWORK, ETC. THROUGH EXISTING OR NEW FIRE / SMOKE BARRIERS. REFER TO SPECIFICATION SECTION 15511 FOR FURTHER DETAILS.
- IT IS THE INTENT OF THIS CONTRACT FOR REMAINING SYSTEMS TO BE LEFT IN GOOD WORKING ORDER, READY FOR OPERATION. COORDINATE ANY REQUIRED SYSTEM SHUTDOWNS WITH OWNER 48 HOURS IN ADVANCE. EXISTING SYSTEM SHUTDOWNS WILL NOT BE PERMITTED IF THEY INTERFERE WITH THE DAILY OPERATIONS OF THE BUILDING. CONTRACTOR WILL BE REQUIRED TO TAKE PROPER PRECAUTIONS AGAINST DAMAGING OR DISRUPTING BUILDING SYSTEMS, WIRING, PIPING OR CONTROL TUBING. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S COST AS A PART OF THIS CONTRACT.
- THE CONTRACTOR SHALL REPAIR / RESTORE TO ORIGINAL CONDITION ANY EXISTING EQUIPMENT OR MATERIALS DAMAGED IN THE PROCESS OF INSTALLATION, OR DEMOLITION TO THE SATISFACTION OF THE OWNERS REPRESENTATIVE. CONTRACTOR SHALL MAKE REPAIRS USING THE SAME OR EQUIVALENT MATERIALS. WORK WILL BE PERFORMED AT THE CONTRACTOR'S COST.
- CONTRACTOR SHALL INCUR ANY COSTS OR BURDENS ASSOCIATED WITH LOST OR STOLEN EQUIPMENT / MATERIALS.
- DURING THE LIFE OF THE CONTRACT PERIOD, CONTRACTOR SHALL REMOVE ALL RUBBISH / EXCESS MATERIAL ACCUMULATED AS A RESULT OF HIS OPERATIONS ON A DAILY BASIS. ALL AREAS / EQUIPMENT AFFECTED UNDER THIS CONTRACT SHALL BE KEPT CLEAN OF DUST / DEBRIS. ALL AREAS SHALL RECEIVE A FINAL CLEANING PRIOR TO FINAL ACCEPTANCE BY THE OWNER.
- PROVIDE FOR LEGAL REMOVAL / DISPOSAL OF ALL RUBBISH / DEBRIS FROM THE BUILDING & SITE. PROTECT ALL WORK NOT SLATED FOR DEMOLITION.
- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO SCHEDULING THE WORK. WORK SHALL BE PERFORMED IN PROPER SEQUENCE, AS AGREED TO BY ALL TRADES. ANY COSTS INCURRED BY THE OWNER DUE TO IMPROPER SEQUENCING OF WORK WILL BE PAID FOR BY THIS CONTRACTOR.
- CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES, CONNECTION CHARGES, ETC. ASSOCIATED WITH THE WORK UNDER THEIR CONTRACT.
- PAINT / TOUCH UP ALL SURFACES MARKED AS A RESULT OF THE PERFORMANCE OF THE CONTRACT WORK.
- THE MECHANICAL CONTRACTOR SHALL REFER TO / REVIEW ALL OTHER TRADE DRAWINGS IN THE BID PACKAGE & SHALL BE RESPONSIBLE FOR / PERFORM ALL WORK INDICATED AS (M.C.) MECHANICAL WORK, AS A PART OF THE BASE BID UNLESS SPECIFICALLY NOTED OTHERWISE.
- SUBSTITUTED EQUIPMENT OF GREATER OR LARGER POWER, DIMENSIONS, CAPACITIES & RATINGS MAY BE FURNISHED PROVIDED THAT SAID EQUIPMENT IS APPROVED IN WRITING PRIOR TO ORDER. ANY CONNECTING MECHANICAL SERVICES, ELECTRICAL SERVICES, BASES, STRUCTURAL APPURTENANCES, ETC. REQUIRED TO BE INCREASED DUE TO THE USE OF SAID EQUIPMENT WILL BE PAID FOR IN FULL BY THE MECHANICAL CONTRACTOR, INCLUDING ANY ADDITIONAL REQUIRED ENGINEERING FEES.
- EACH PIECE OF EQUIPMENT SHALL BE PROVIDED WITH A PERMANENT TYPE LAMINATED, BLACK FINISH, WHITE CORE, PHENOLIC NAMEPLATE. NAMEPLATES SHOULD INDICATE THE NAME & NUMBER OF THE UNIT, UNIT VOLTAGE, & ANY INTERLOCK REFERENCE. STARTERS / DISCONNECT SWITCHES SHOULD ALSO BE EQUIPPED WITH AN IDENTICAL NAMEPLATE WITH THE SAME INFORMATION.
- "ATTIC STOCK" - UPON COMPLETION OF THE PROJECT, MECHANICAL CONTRACTOR SHALL COMPLETELY REMOVE / DISPOSE OF FILTERS USED DURING CONSTRUCTION & START-UP PROCEDURES. INSTALL NEW FILTERS IN ALL EQUIPMENT, MERV10 OR BETTER UPON TURN OVER OF THE PROJECT TO THE OWNER. IN ADDITION, PROVIDE (2) COMPLETE SETS OF FILTERS FOR EACH PIECE OF EQUIPMENT & TURN OVER TO OWNER.
- MECHANICAL CONTRACTOR SHALL PROVIDE (1) SPARE MOTOR FOR EACH SIZE MOTOR USED ON THE PROJECT. IN INSTANCES WHERE MORE THAN TEN OF THE SAME MOTOR ARE USED, MECHANICAL CONTRACTOR SHALL PROVIDE (1) SPARE MOTOR FOR EVERY TEN MOTORS OF A GIVEN SIZE USED ON THE PROJECT.
- MAINTENANCE MANUAL - UPON COMPLETION OF THE PROJECT, THE MECHANICAL CONTRACTOR SHALL PROVIDE A BINDER CONTAINING THE OPERATIONS & MAINTENANCE MANUALS FOR EACH NEW PIECE OF EQUIPMENT INSTALLED UNDER THIS PROJECT. THE FIRST SECTION OF THE MAINTENANCE MANUAL SHALL CONTAIN A LIST OF EACH PIECE OF EQUIPMENT, COMPLETE WITH INFORMATION SHOWING APPROPRIATE REPLACEMENT FILTER SIZES / TYPES, APPROPRIATE REPLACEMENT BELT SPECIFICATIONS, REPLACEMENT MOTOR SPECIFICATIONS, REPLACEMENT BEARING SPECIFICATIONS, VOLTAGES OF UNIT, ETC. THIS SHALL SERVE AS A WRITTEN DATABASE DESCRIBING ALL MAINTENANCE INFORMATION FOR EACH NEW PIECE OF EQUIPMENT USED.

#### ROOFING CONSTRUCTION NOTES:

- ALL EXISTING DIMENSIONS AND CONDITIONS ARE APPROXIMATE. MECHANICAL CONTRACTORS MUST FIELD VERIFY ALL CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BIDDING. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS REQUIRED FOR BIDDING AND ESTIMATING. PRE-BID SITE INSPECTION IS STRONGLY RECOMMENDED. ALL CONTRACTORS SHALL CONTACT THE SCHOOL TO MAKE AN APPOINTMENT FOR SITE VISIT. UNDER NO CIRCUMSTANCES WILL ANY CONTRACTOR BE ALLOWED TO SHOW UP WITHOUT AN APPOINTMENT.
- IN ACCORDANCE WITH STATE AND LOCAL CODES, THE REQUIRED EXITS IN THE EXISTING BUILDING MUST BE MAINTAINED AS CLEAR, AND PROTECTED DURING THE ENTIRE CONSTRUCTION PERIOD.
- ALL WORK AND MATERIAL OF THIS PROJECT AND ADJACENT SURFACES SHALL BE PROTECTED FROM DAMAGE. IN THE EVENT OF DAMAGE, THE MECHANICAL CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE OWNER, AND MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE ARCHITECT AND OWNER AND AT NO ADDITIONAL COST TO THE OWNER.
- THE MECHANICAL CONTRACTOR IS TO PROTECT AND MAKE WATER TIGHT ALL AREAS OF HIS WORK FROM INCLEMENT WEATHER DURING AND AT THE END OF EVERY DAY OF WORK OPERATIONS.
- ALL PROJECT WASTE MATERIAL AND RUBBISH GENERATED BY THE MECHANICAL CONTRACTOR AND / OR HIS SUB-CONTRACTORS SHALL BE DISPOSED IN CONTAINERS FOR SUBSEQUENT LEGAL OFF-SITE DISPOSAL. CONTAINER LOCATION TO BE COORDINATED WITH BUILDINGS AND GROUNDING. OFF-SITE DISPOSAL TO BE ON A REGULAR BASIS.
- ALL FLASHING ON MECHANICALS MUST BE INSTALLED AT A DISTANCE ABOVE THE FINISHED ROOF SURFACE TO INSURE CONFORMANCE WITH ROOFING MANUFACTURER'S WARRANTY REQUIREMENTS. INCLUSIVE OF ALL CONDITIONS, NO EXCEPTIONS WILL BE MADE.
- THE ROOFING CONTRACTOR SHALL BE SURE TO MAINTAIN ANY ALL EXISTING ROOFING WARRANTY IN PLACE AT THOSE ROOFS WHICH CUTTING, PATCHING AND RE-FLASHING IS REQUIRED. THE ROOFING CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY & ALL REPAIRS TO EXISTING ROOFING SYSTEM AS REQUIRED TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND SHALL MAINTAIN ALL EXISTING WARRANTIES.
- THE ROOFING CONTRACTOR (R.C.) SHALL BE RESPONSIBLE FOR ALL NEW ROOF PENETRATIONS FOR NEW MECHANICAL UNITS ON EXISTING ROOF. R.C. SHALL COORDINATE SETTING OF CURBS WITH THE MECHANICAL CONTRACTOR (M.C.) AND R.C. SHALL BE RESPONSIBLE FOR ALL PATCHING / FLASHING OF EXISTING ROOF. THE MECHANICAL CONTRACTOR SHALL USE CERTIFIED ROOF INSTALLER AS APPROVED BY MANUFACTURER OF EXISTING ROOF AS TO NOT VOID EXISTING ROOF WARRANTY. COORDINATE WITH OWNER.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE INSTALLATION OF ALL MECHANICAL UNITS / EQUIPMENT WITH ALL OTHER TRADES.
- ALL WALL & FLOOR PENETRATIONS SHALL BE DONE BY ROOFING CONTRACTOR WITH MECHANICAL CONTRACTOR PRESENT.

#### GENERAL NOTES FOR ALL ROOFTOP EQUIPMENT:

- PROVIDE DISCONNECT SWITCH FOR EACH NEW EQUIPMENT.
- R.C. SHALL MAKE ALL ROOF PENETRATIONS IN THE PRESENCE OF THE MECHANICAL CONTRACTOR.
- MECHANICAL CONTRACTOR SHALL FURNISH NEW ROOF CURBS TO R.C. R.C. SHALL CUT HOLES IN ROOF IN PRESENCE OF M.C. AND R.C. SHALL INSTALL NEW ROOF CURBS IN THE PRESENCE OF THE CERTIFIED M.C. R.C. SHALL BE RESPONSIBLE FOR FLASHING ALL NEW ROOF CURBS. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS OF FLASHING ROOF CURBS.

#### GENERAL MECHANICAL NOTES:

- PROVIDE AND INSTALL 2" ACOUSTIC FIBERGLASS 3-LBS. DENSITY WITHIN ROOF CURBS AND ADAPTER ROOF CURBS.
- ALL DISCONNECT SWITCHES AND STARTERS TO BE FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED AND WIRED BY THE ELECTRICIAN.
- DUCT SIZE DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- CONTROLS CONTRACTOR SHALL FURNISH ALL CONTROLS EQUIPMENT AND PROVIDE TO MECHANICAL CONTRACTOR TO INSTALL. CONTROLS CONTRACTOR SHALL WIRE ALL CONTROLS EQUIPMENT.
- UNLESS OTHERWISE NOTED, THE GENERAL CONTRACTOR (G.C.) SHALL MAKE ALL INTERIOR WALL, CEILING, & FLOOR PENETRATIONS FOR PIPING & DUCTWORK. M.C. SHALL BE RESPONSIBLE TO COORDINATE WITH ALL TRADES. M.C. SHALL BE PRESENT WHEN G.C. MAKES PENETRATIONS FOR ALL MECHANICAL PIPING & DUCTWORK.

#### GENERAL EXHAUST FAN NOTES:

- E.C. SHALL DISCONNECT & REMOVE EXISTING STARTERS FOR ALL EXHAUST FANS SHOWN TO BE REPLACED. THEN M.C. SHALL PROVIDE NEW STARTERS & DISCONNECTS FOR THOSE EXHAUST FANS BEING REPLACED. E.C. SHALL INSTALL NEW STARTERS / DISCONNECTS, VERIFY EXISTING LOCATIONS OF ALL EXISTING EXHAUST FAN STARTERS.
- M.C. SHALL PROVIDE AND INSTALL NEW ADAPTER CURB ASSEMBLIES AS REQ'D. TO MOUNT NEW EXHAUST FANS IN EXIST. EXHAUST FAN LOCATIONS.
- M.C. SHALL MODIFY AS NECESSARY ALL EXIST. EXHAUST FAN EQUIPMENT TO COMPLETELY INSTALL THE NEW REPLACEMENT EXHAUST FAN ASSEMBLIES.
- FOR FURTHER DETAILS ON ALL MECHANICAL EXHAUST FAN EQUIPMENT REFER TO MECHANICAL DRAWINGS.

#### ABBREVIATIONS

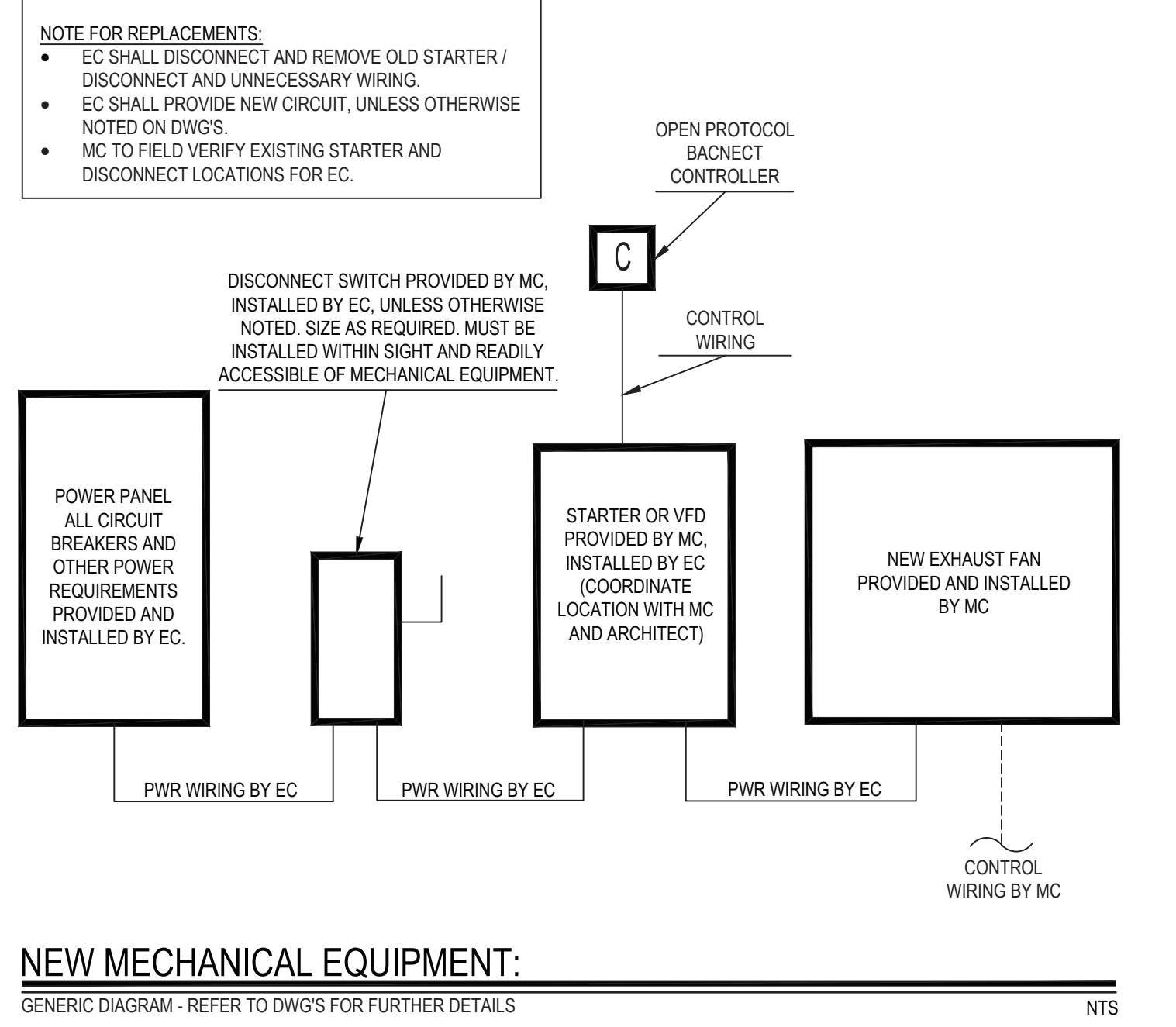
A.E.F.	ABOVE FINISHED FLOOR	N.O. / #	NUMBER
B.D.	BACKDRAFT DAMPER	NOM.	NOMINAL
C.W.S.	COLD WATER SUPPLY	N.T.S.	NOT TO SCALE
CEM	CUBIC FEET OF AIR PER MINUTE	O.A.	OUTSIDE AIR
D.	DEEP / DEPTH	O.C.	ON CENTER
DIA. / c	DIAMETER	O.D.	OUTSIDE DIAMETER
E&T	FLOAT & THERMOSTAT	O.S. & Y	OUTSIDE SCREW & YOKE
EPM	FEET PER MINUTE	O.C.	ON CENTER
ESD	FIRE DAMPER - DUCT MOUNTED	PE	PNEUMATIC / ELECTRIC
FLEX	FLEXIBLE	PREFAB.	PREFABRICATED
EQ	FLAT OVAL DUCTWORK	PRV	PRESSURE REDUCING VALVE
GAL	GALLONS	PSI	POUNDS PER SQUARE INCH
GPH	GALLONS PER HOUR	R.A.	RETURN AIR
GPM	GALLONS PER MINUTE	REQ'D	REQUIRED
H.	HIGH	RPM	REVOLUTIONS PER MINUTE
H.C.	HANDICAPPED	S.A.	SUPPLY AIR
HWS	HEATING SYSTEM HOT WATER SUPPLY	SCH.	SCHEDULE
HWR	HEATING SYSTEM HOT WATER RETURN	S.P.	STATIC PRESSURE
HP	HORSEPOWER	STD.	STANDARD
ID.	INSIDE DIAMETER	T.	TEMPERATURE
KW	KILOWATT	TVV	THERMAL EXPANSION VALVE
L.	LONG	TYP.	TYPICAL
LAT	LEAVING AIR TEMPERATURE	VOL.	VOLUME
LWT	LEAVING WATER TEMPERATURE	V.D.	VOLUME DAMPER
MAX	MAXIMUM	VEL.	VELOCITY
MIN	MINIMUM	VFD	VARIABLE FREQUENCY DRIVE
MBH	BTU x 1,000	W	WIDE
MR	MANUFACTURER	W	WITH
M.H.	MANHOLE	WO	WITHOUT
MISC.	MISCELLANEOUS	WB	WET BULB TEMPERATURE
MTD	MOUNTED	WTD	WATER TEMPERATURE DROP
G	NATURAL GAS	WTR	WATER TEMPERATURE RISE
N.L.C.	NOT IN CONTRACT	WPD	WATER PRESSURE DROP

#### FIRESTOPPING NOTES:

- ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR OTHER STRUCTURES SHALL BE FIRE STOPPED BY MECHANICAL CONTRACTOR.
- THE FIRE STOP MATERIALS SHALL BE HILTI TYPE FS-657 FIRE BLOCK, FS-ONE SEALANT, CP-672 JOINT SPRAY, CP-601S ELASTOMERIC SEALANT, 6P-606 FLEXIBLE SEALANT, CP-643 OR CP-642 COLLAR, CP-618 PUTTY STICK, OR FS-635 TROWEL APPLIED COMPOUND, AS SUITABLE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS TO BE USED.
- FIRESTOP MATERIALS OTHER THAN HILTI SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO DEMONSTRATE EQUALITY WITH THE SPECIFIED FIRE STOPS.

#### ROOFTOP MECHANICAL EQUIPMENT DEMOLITION PLAN GENERAL NOTES:

- MECHANICAL CONTRACTOR SHALL VERIFY IN THE FIELD THE EXACT LOCATION OF ALL EXISTING MECHANICAL RELATED EQUIPMENT, DUCTWORK, PIPING, LOUVERS, AND ROOFTOP EQUIPMENT PRIOR TO START OF ANY WORK.
- MECHANICAL CONTRACTOR SHALL COORDINATE ALL ROOF DEMOLITION PLAN WORK AND WALL DEMOLITION PLAN WORK WITH GENERAL CONTRACTOR.
- REMOVE EXISTING EQUIPMENT AS SHOWN ON PLANS. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL MECHANICAL EQUIPMENT AND ASSOCIATED DUCTWORK AND ASSOCIATED ROOF CURBS, ASSOCIATED DUCTWORK, WALL LOUVERS, WHERE CALLED OUT IN KEY PLAN NOTES. MECHANICAL CONTRACTOR SHALL COORDINATE REMOVAL OF ALL ROOF MECHANICAL EQUIPMENT WITH ROOFING CONTRACTOR.
- ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY ROOF PENETRATION THAT SHALL NOT BE RE-USED. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS ON ROOF PATCHING.
- GENERAL CONTRACTOR (G.C.) SHALL BE RESPONSIBLE FOR PATCHING ALL WALL PENETRATIONS. ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL ROOF PENETRATIONS AND FLASHING ALL NEW ROOF CURBS. MECHANICAL CONTRACTOR (M.C.) SHALL BE RESPONSIBLE FOR MAKING ALL WALL PENETRATIONS IN THE PRESENCE OF THE GENERAL CONTRACTOR. ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ROOF PENETRATIONS AND INSTALLING ROOF CURBS.



#### TESTING and BALANCING NOTES

- MECHANICAL CONTRACTOR WILL BE REQUIRED TO PERFORM ALL EQUIPMENT & SYSTEM TESTING / BALANCING REQUIRED UNDER THIS CONTRACT. PROVIDE A FULL REPORT DETAILING ALL DESIGN & ACTUAL CONDITIONS FOR ALL AIR & HYDRONIC SYSTEMS SHOWN ON THE DRAWINGS. REFER TO SPECIFICATION SECTIONS 15990 & 15991 FOR FURTHER DETAILS.
- UPON NOTICE OF COMPLETION OF WORK BY THE CONTRACTOR, OWNER WILL OBTAIN THE SERVICES OF AN INDEPENDENT TESTING & BALANCING CONTRACTOR TO VERIFY THE RESULTS OF THE TESTING & BALANCING REPORT SUBMISSION. INDEPENDENT TESTING AGENCY SHALL SELECT A RANDOM NUMBER OF MEASUREMENTS TO BE CHECKED. MEASUREMENTS WILL BE CHECKED IN THE SAME MANNER AS THE ORIGINALLY MEASURED. NUMBER OF VERIFICATION MEASUREMENTS SHALL BE APPROXIMATELY 25% OF THE TOTAL MEASUREMENTS FOR THE PROJECT.
- IF MORE THAN 10% OF THE VERIFICATION TESTING SHOWS DEVIATIONS OF 10% OR MORE / SOUND LEVEL OF 2dB DIFFERENT THAN THAT ORIGINALLY MEASURED, THE ORIGINAL REPORT WILL BE REJECTED. ALL SYSTEMS WILL THEN BE REQUIRED TO BE COMPLETELY RE-TESTED, WITH A SECOND REPORT SUBMITTED. IN THE EVENT THAT THE ORIGINAL REPORT IS REJECTED, ALL SYSTEMS SHALL BE READJUSTED & TESTED. NEW CERTIFIED REPORTS SUBMITTED, AND NEW VERIFICATION TESTS MADE, AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INVOLVED WITH THE VERIFICATION TESTS.

#### ELECTRICAL WORK UNDER MECHANICAL CONTRACT

- MECHANICAL CONTRACTOR SHALL PROVIDE ALL STARTERS & DISCONNECT SWITCHES REQUIRED FOR ALL NEW MECHANICAL EQUIPMENT. STARTER / DISCONNECT SWITCH INSTALLATION TO BE PERFORMED UNDER THE ELECTRICAL CONTRACT. COORDINATE WORK W/ ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.
- POWER WIRING REQUIRED FOR CONTROLS SHALL BE PERFORMED UNDER THE MECHANICAL CONTRACT UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL DRAWINGS. MECHANICAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED ELECTRICIAN (PER NEC REQUIREMENTS) TO PERFORM ALL ELECTRICAL WORK.

#### LOCK OUT-TAG OUT NOTIFICATION:

- IN ACCORDANCE WITH OSHA REGULATIONS - ALL CONTRACTORS MUST PROPERLY LOCK-OUT & TAG OUT ALL ELECTRICAL EQUIPMENT THEY ARE WORKING ON, PRIOR TO DISMANTLING FOR SERVICE OR CLEANING.

#### CONTRACTOR ABBREVIATIONS:

M.C. = MECHANICAL CONTRACTOR	P.C. = PLUMBING CONTRACTOR
C.C. = CONTROLS CONTRACTOR	E.C. = ELECTRICAL CONTRACTOR
G.C. = GENERAL CONTRACTOR	C.W.C. = CASEWORK CONTRACTOR
R.C. = ROOFING CONTRACTOR	

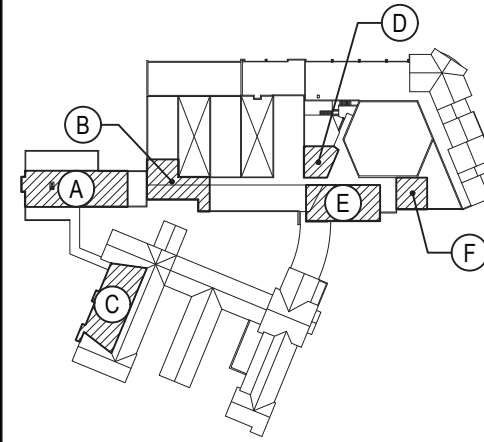
#### MECHANICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	RECTANGULAR GALVANIZED DUCTWORK - DIMENSIONS W x H
	NEW SUPPLY DUCTWORK TO RISE UP
	NEW SUPPLY DUCTWORK TO DROP DOWN
	NEW RETURN DUCTWORK TO RISE UP
	NEW RETURN DUCTWORK TO DROP DOWN
	TRANSITION IN DUCTWORK
	FIRE DAMPER INSTALLED IN DUCTWORK
	VOLUME DAMPER IN DUCT (w/ LOCKING QUADRANT HANDLE)
	ROUND DUCT WORK TO RISE UP
	ROUND DUCTWORK TO DROP DOWN
	FLAT OVAL DUCT WORK
	RECTANGULAR TO ROUND DUCT TRANSITION
	ELBOW IN DUCTWORK w/ TURNING VANES
	ELBOW IN DUCTWORK (RADIUS + 1.5 x D)
	45 DEG. TAKEOFF FITTING
	90 DEG. TAKEOFF w/ BELLMOUTH FITTING
	CEILING RETURN AIR REGISTER
	ROOF MOUNTED EXHAUST FAN

REV.	DATE	ITEM
1	1/14/2022	ISSUED FOR BID

NOTICE

THESE DRAWINGS ARE BASED ON CONSTRUCTION DRAWINGS NOT PROVIDED BY BBS ARCHITECTS. LANDSCAPE ARCHITECTS AND ENGINEERS, P.C. AND THEREFORE, MAY NOT REPRESENT THE CONDITIONS AS CONSTRUCTED AT THE TIME. ALL EXISTING CONDITIONS SHOWN ARE REPRESENTED AS SUGGESTIVE INFORMATION AS THEY HAVE NOT BEEN BUILT AND DETAIL PER THE ORIGINAL DOCUMENTS OR PER THE OWNERS INFORMATION.



KEY PLAN

NOT TO SCALE

BRIARCLIFF MANOR UFSO  
BOND IMPROVEMENTS - PHASE 1  
TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR WEST CHESTER

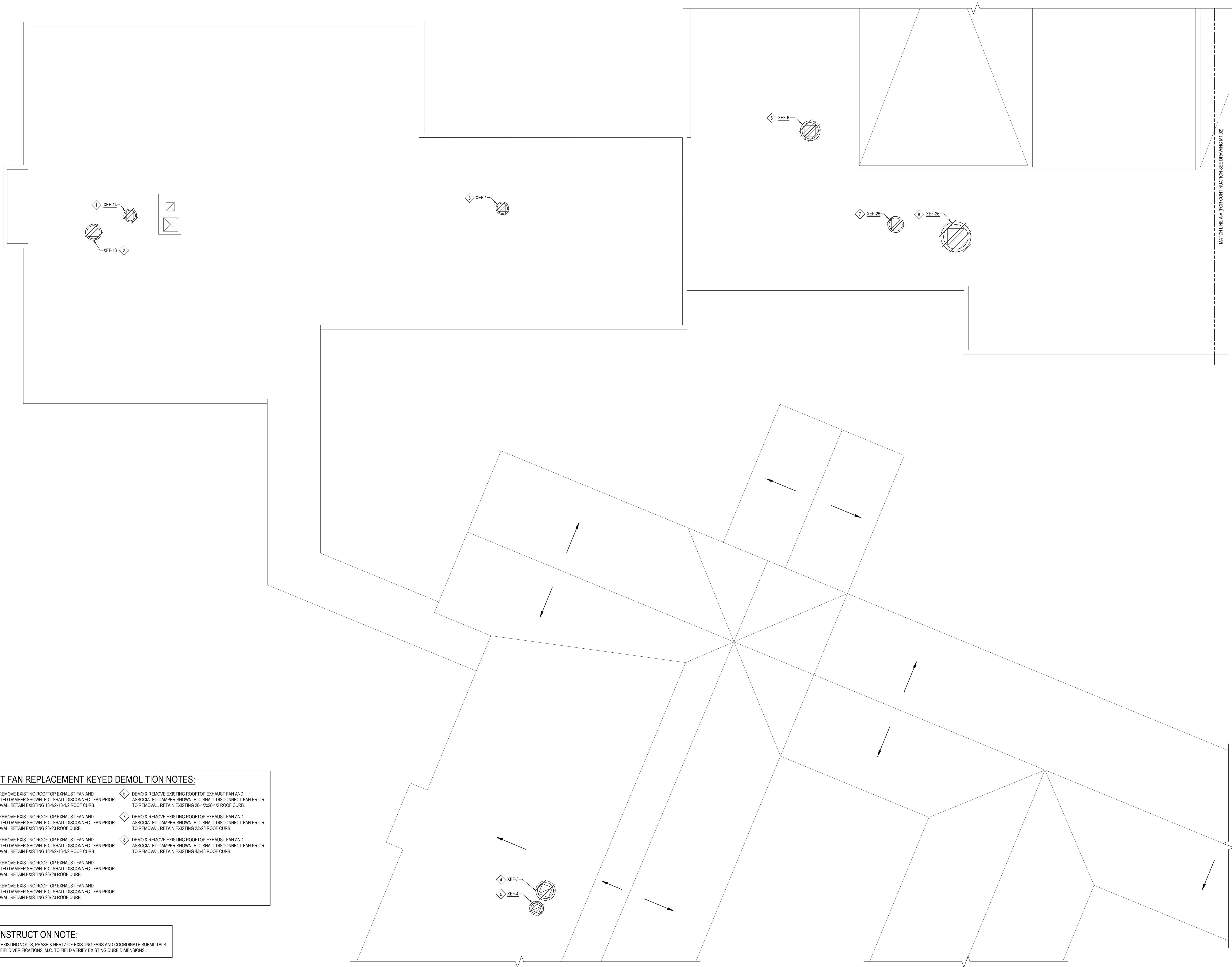
GENERAL NOTES, LEGENDS AND SYMBOLS

PROJECT

DRAWING BY: RDP  
CHECK BY: FS

NOTICE

THIS DRAWING, PREPARED FOR THE SPECIFIC PROJECT INDICATED IS AN INSTRUMENT OF SERVICE, AND THE PROPERTY OF



- EXHAUST FAN REPLACEMENT KEYED DEMOLITION NOTES:**
- 1 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 18-1/2x18-1/2 ROOF CURB.
  - 2 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 23x23 ROOF CURB.
  - 3 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 18-1/2x18-1/2 ROOF CURB.
  - 4 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 28x28 ROOF CURB.
  - 5 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 20x20 ROOF CURB.
  - 6 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 25-1/2x25-1/2 ROOF CURB.
  - 7 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 23x23 ROOF CURB.
  - 8 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 43x43 ROOF CURB.

**PRE-CONSTRUCTION NOTE:**  
M.C. TO VERIFY EXISTING VOLTS, PHASE & HERTZ OF EXISTING FANS AND COORDINATE SUBMITTALS WITH EXISTING FIELD VERIFICATIONS. M.C. TO FIELD VERIFY EXISTING CURB DIMENSIONS.

**ROOF DEMOLITION PART PLAN - AREAS "A", "B" & "C"**

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

REV.	DATE	ITEM
1	1/14/2022	ISSUED FOR BID

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**KEY PLAN**  
NOT TO SCALE

**PROJECT**  
BRIARCLIFF MANOR UFSD  
BOND IMPROVEMENTS - PHASE 1  
TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR WESTCHESTER

**DWG TITLE**  
ROOF DEMOLITION PART PLAN  
AREAS "A", "B" & "C"

DRAWING BY:	RDP
CHECK BY:	FS

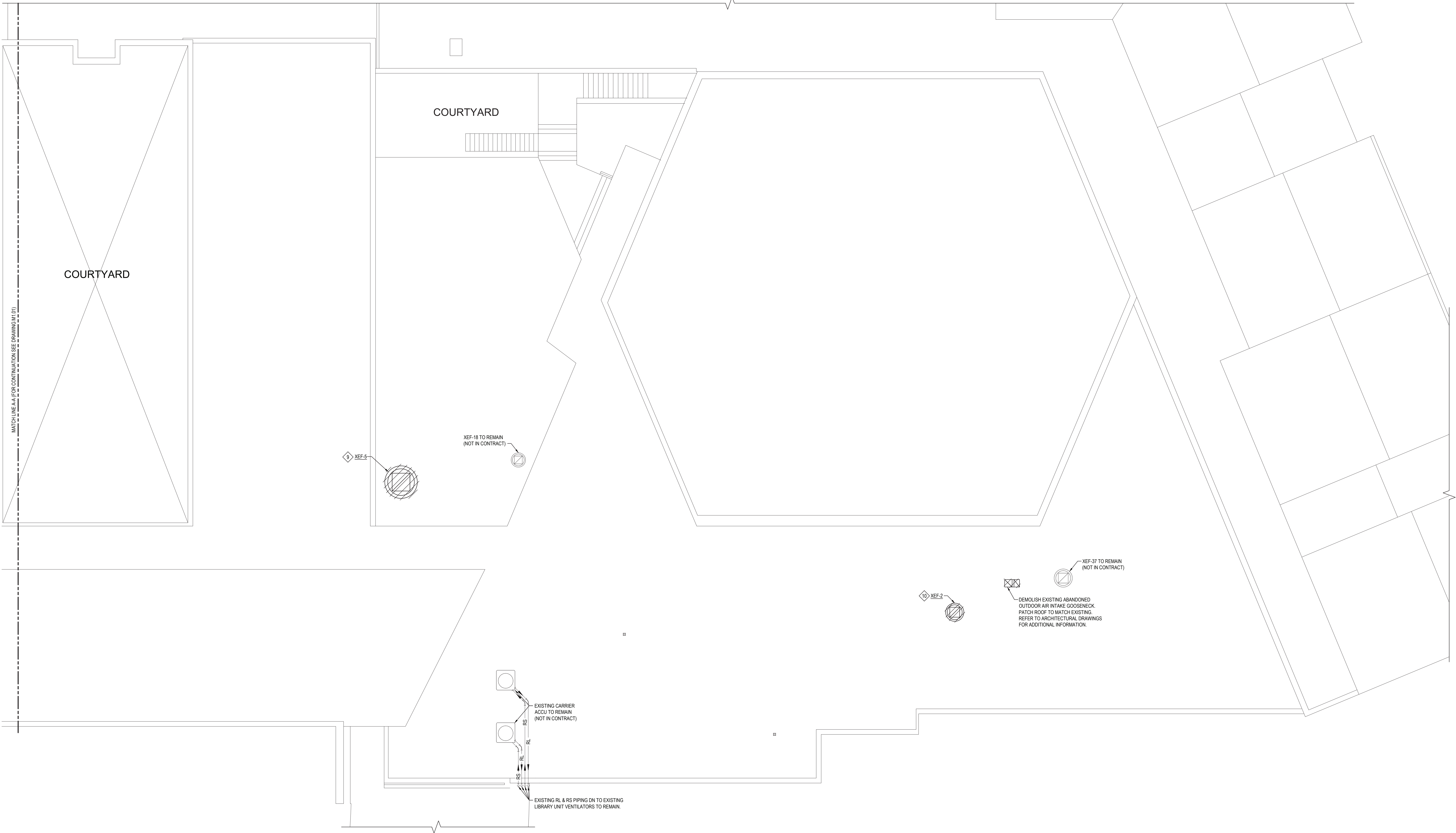
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SED No:	66-14-02-02-0-002-020
DISTRICT	BRIARCLIFF MANOR UFSD
PROJECT	BOND IMPROVEMENTS PHASE 1
DWG TITLE	ROOF DEMOLITION PART PLAN AREAS "A", "B" & "C"
SCALE:	AS NOTED
DATE:	10/08/21
BID PICK-UP:	BID PIJ DATE
FILE No:	21-274B

**M1.01**



ROOF DEMOLITION PART PLAN - AREAS "D", "E" & "F"

NOTE:

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

**EXHAUST FAN REPLACEMENT KEYED DEMOLITION NOTES:**

9 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN, ROOF CURB AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL.

10 DEMO & REMOVE EXISTING ROOFTOP EXHAUST FAN AND ASSOCIATED DAMPER SHOWN. E.C. SHALL DISCONNECT FAN PRIOR TO REMOVAL. RETAIN EXISTING 24x24 ROOF CURB.

**PRE-CONSTRUCTION NOTE:**

M.C. TO VERIFY EXISTING VOLTS, PHASE & HERTZ OF EXISTING FANS AND COORDINATE SUBMITTALS WITH EXISTING FIELD VERIFICATIONS. M.C. TO FIELD VERIFY EXISTING CURB DIMENSIONS.

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**KEY PLAN**

NOT TO SCALE

**PROJECT**

BRIARCLIFF MANOR UFSD  
BOND IMPROVEMENTS - PHASE 1  
TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR WEST CHESTER

**DWG TITLE**

ROOF DEMOLITION PART PLAN  
AREAS "D", "E" & "F"

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SED No: 66-14-02-0-002-020

DISTRICT: BRIARCLIFF MANOR UFSD

PROJECT: BOND IMPROVEMENTS  
PHASE 1

DWG TITLE: ROOF DEMOLITION PART PLAN  
AREAS "D", "E" & "F"

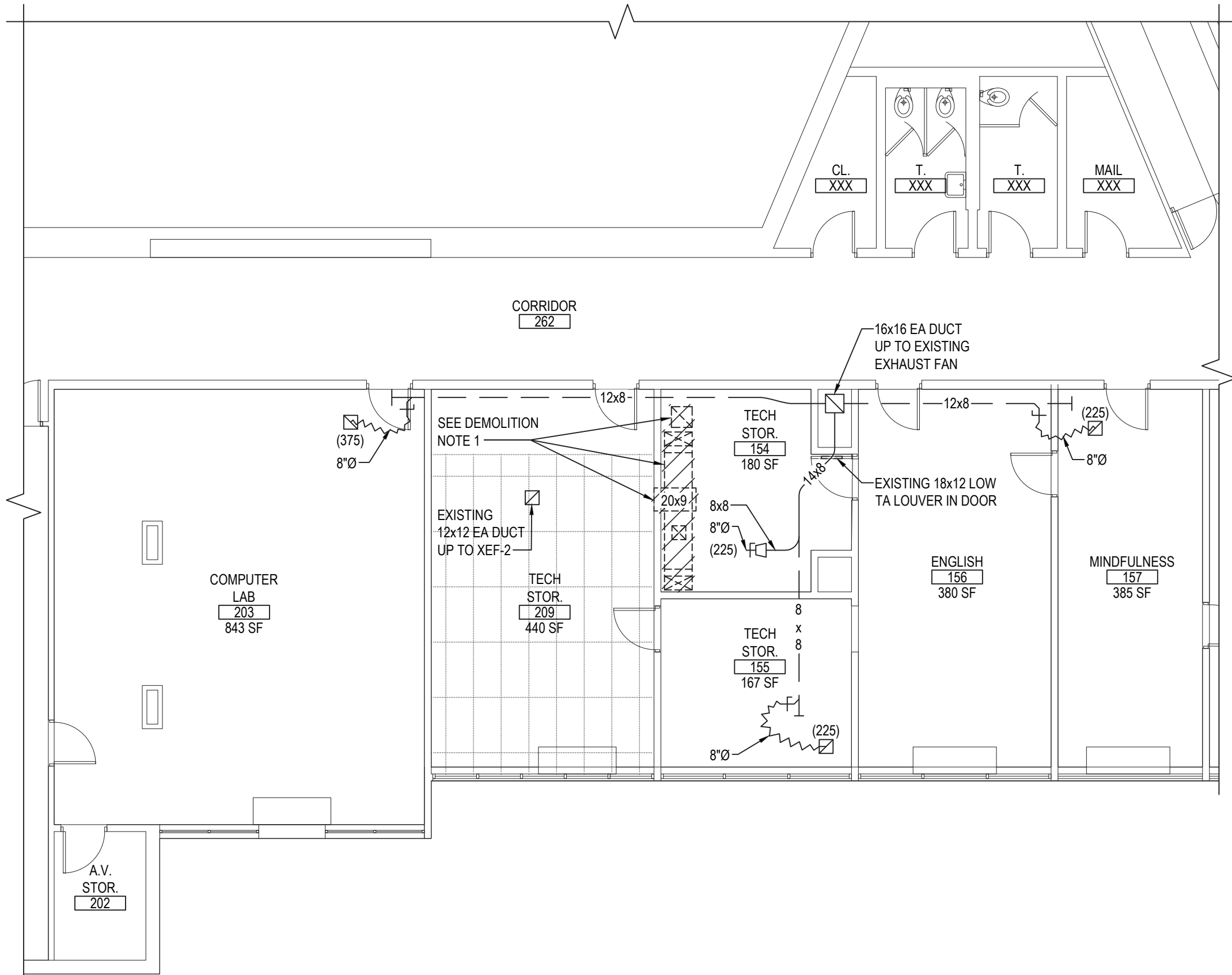
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FILE No: 21-274B

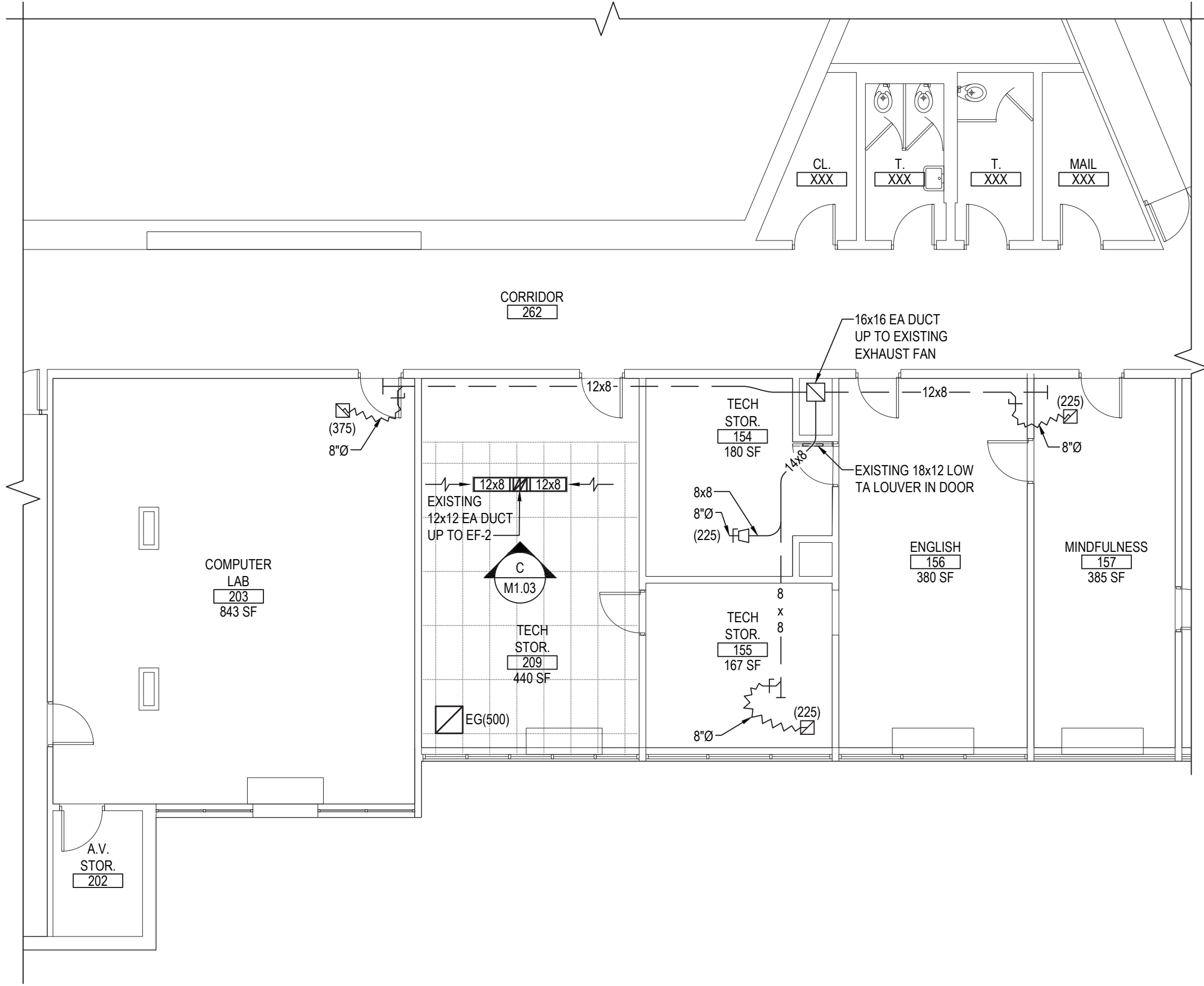
**M1.02**



FIRST FLOOR DEMOLITION PART PLAN - AREA "F"

DEMOLITION NOTE:  
1. DEMOLISH ABANDONED DUCTWORK. M.C. SHALL PATCH WALL OPENING TO MATCH EXISTING CONDITIONS. R.C. SHALL PATCH ROOF OPENING TO MATCH EXISTING CONDITIONS. M.C. SHALL REMOVE AND REINSTALL CEILING AS REQUIRED.

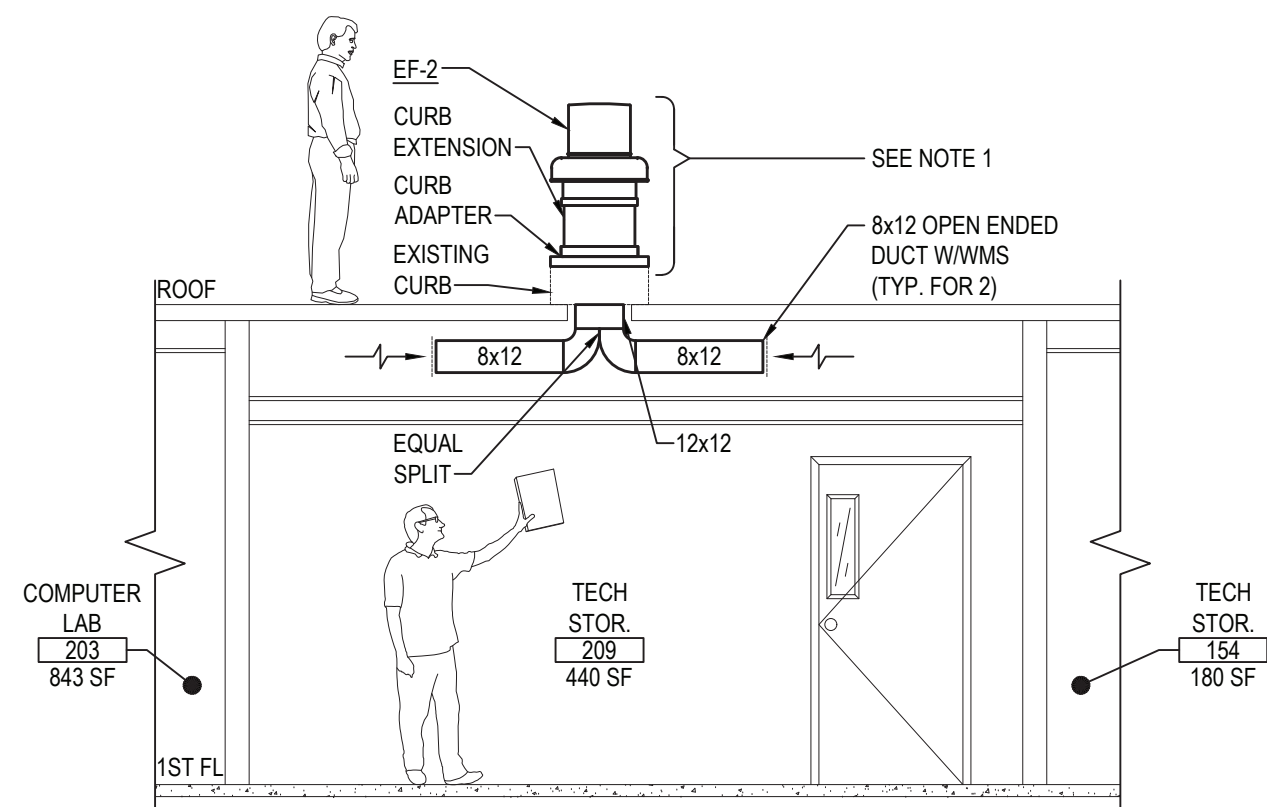
SCALE: 1/8" = 1'-0"



FIRST FLOOR NEW WORK PART PLAN - AREA "F"

NEW WORK NOTE:  
1. M.C. SHALL REMOVE AND REINSTALL CEILING AS REQUIRED.

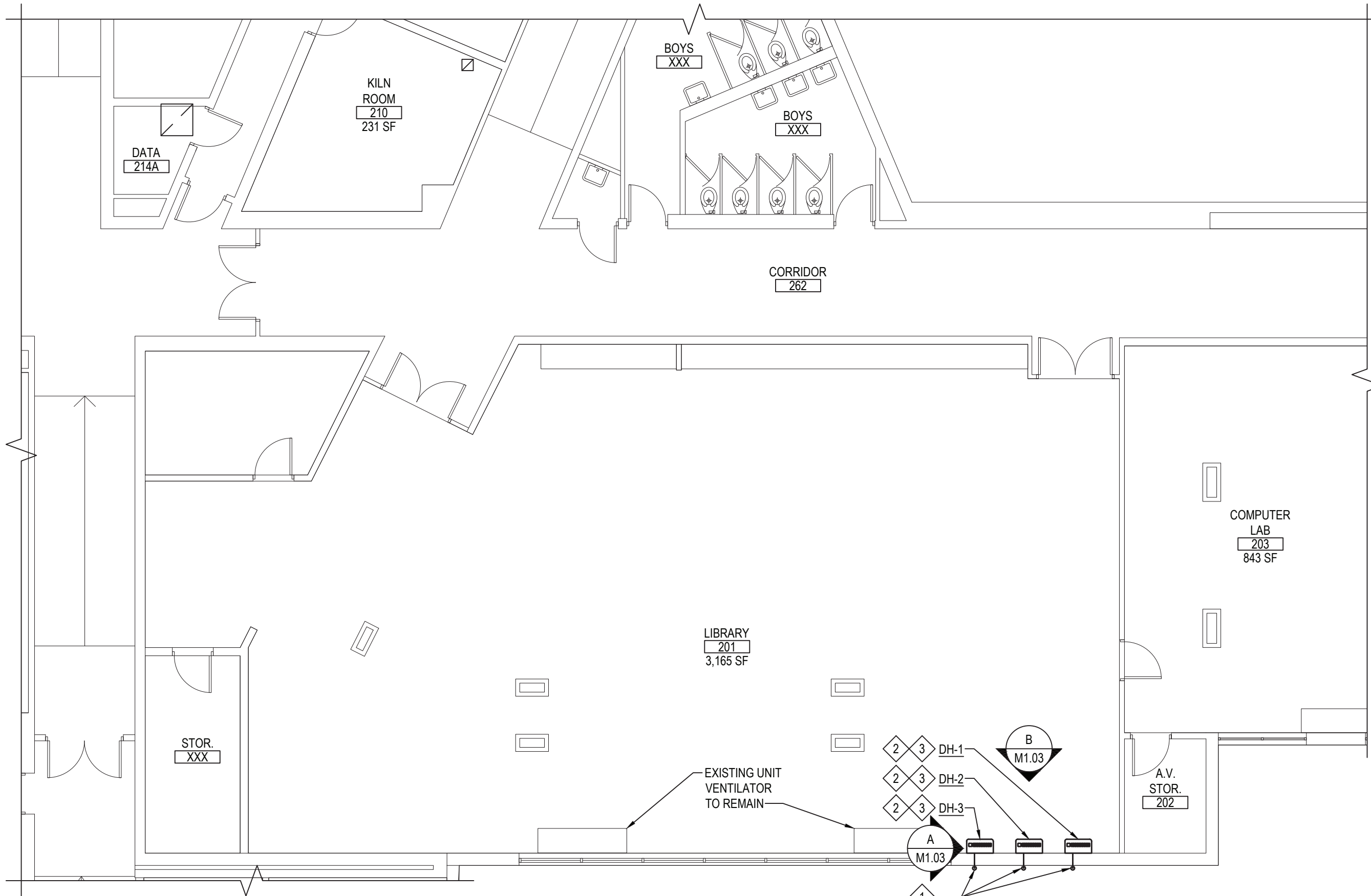
SCALE: 1/8" = 1'-0"



ELEVATION - "C"

NOTE:  
1. REPRESENTS TYPICAL FAN REPLACEMENT SCENARIO THROUGHOUT THIS PROJECT. REFER TO EXHAUST FAN SCHEDULE ON DRAWING M5.01 AND MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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



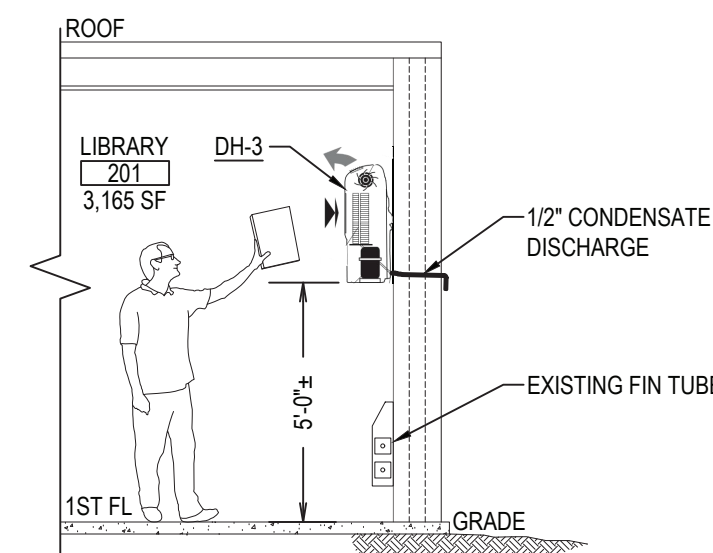
FIRST FLOOR NEW WORK PART PLAN - AREA "E"

NOTE:

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

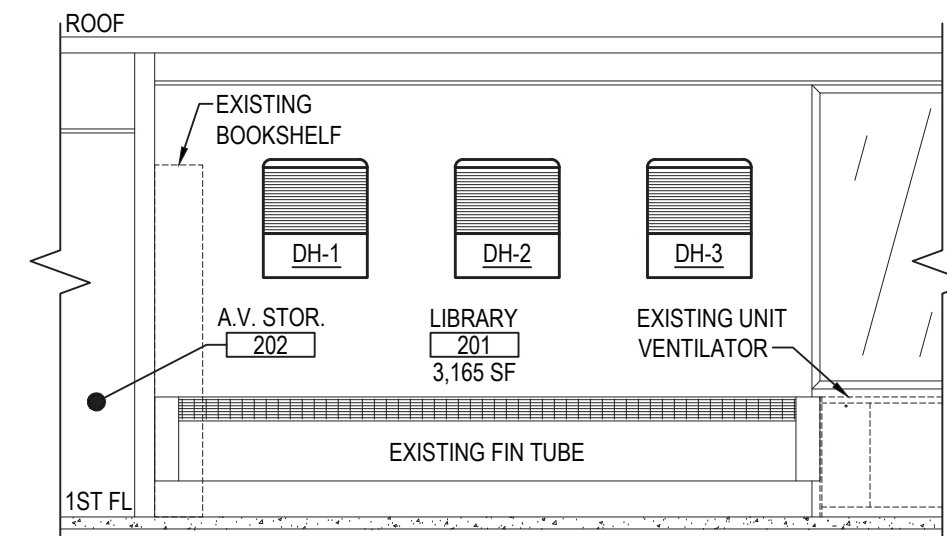
#### LIBRARY NEW WORK KEYED NOTES:

- ROUTE CONDENSATE PIPE THROUGH EXTERIOR WALL AND TURN DOWN WITH ELBOW. NEW CONDENSATE PIPING SHALL BE COPPER TUBING TYPE K HARD.
- M.C. TO SECURE NEW DEHUMIDIFICATION UNITS TO WALL USING MANUFACTURER PROVIDED WALL MOUNTING BRACKET AND HARDWARE.
- REMOVAL OF TACKBOARD AND PAINTING OF WALL BY M.C.



ELEVATION - "A"

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



ELEVATION - "B"

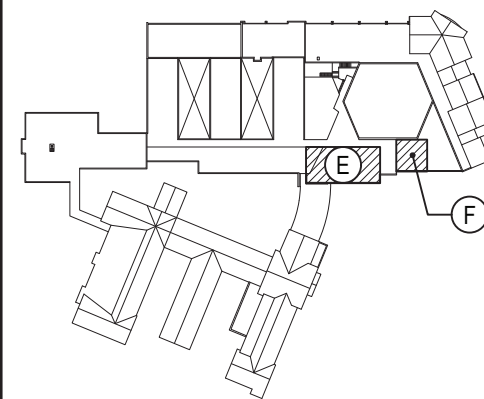
NOTE:

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

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KEY PLAN

NOT TO SCALE

PROJECT  
BRIARCLIFF MANOR UFSD  
BOND IMPROVEMENTS - PHASE 1  
TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR WEST CHESTER  
DWG TITLE  
FIRST FLOOR DEMOLITION AND NEW WORK PART PLANS  
AREAS "E" & "F"

DRAWING BY: RDP  
CHECK BY: FS

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SED No: 66-14-02-02-0-002-020

DISTRICT: BRIARCLIFF MANOR UFSD

PROJECT: BOND IMPROVEMENTS  
PHASE 1

DWG TITLE: FIRST FLOOR DEMO & NEW  
WORK PART PLANS - AREAS E&F

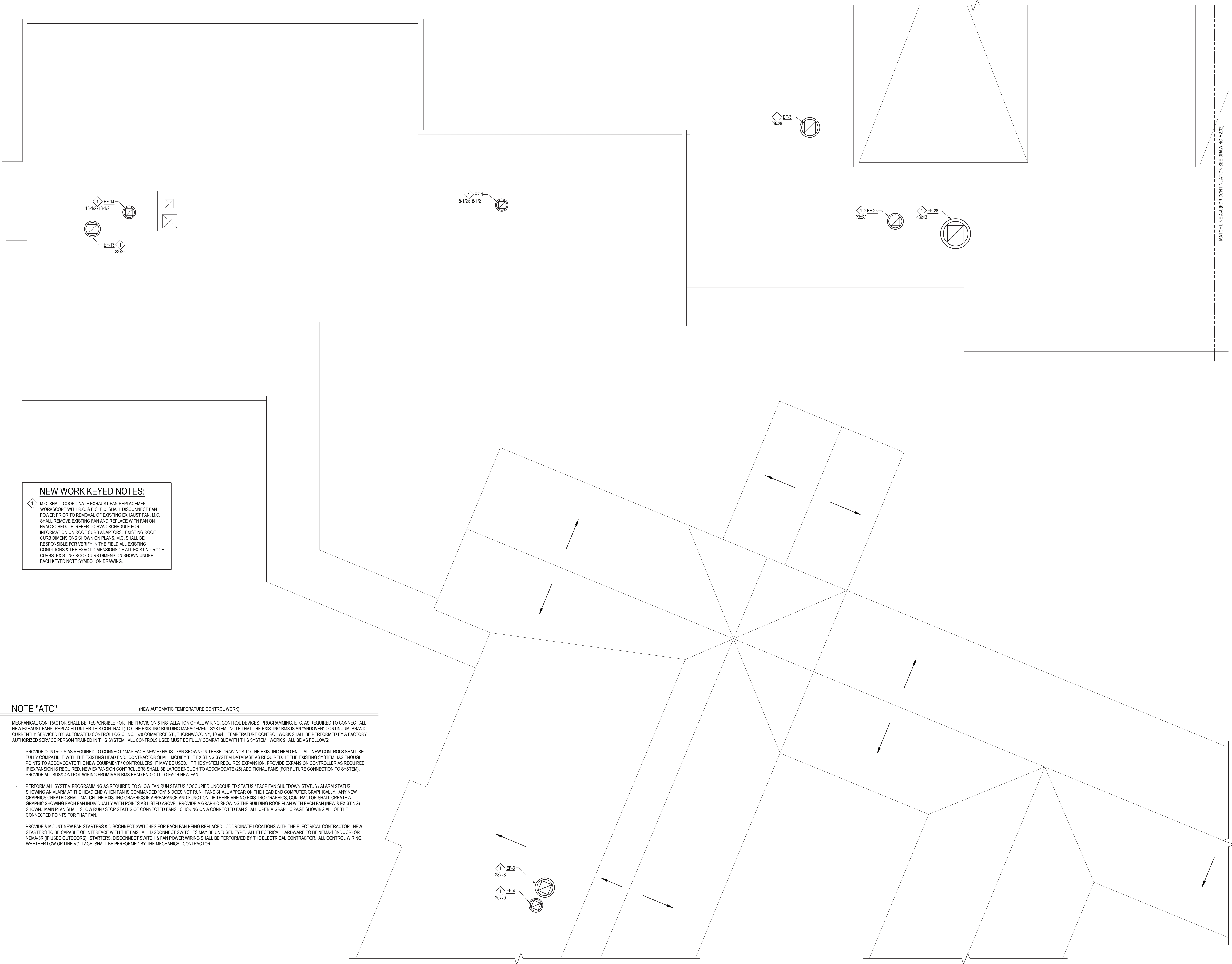
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DATE: 10/08/21

BID PICK-UP: 1/17/2022

FILE No: 21-274B

M1.03



NEW WORK KEYED NOTES:

1. M.C. SHALL COORDINATE EXHAUST FAN REPLACEMENT WORKSCOPE WITH R.C. & E.C. E.C. SHALL DISCONNECT FAN POWER PRIOR TO REMOVAL OF EXISTING EXHAUST FAN. M.C. SHALL REMOVE EXISTING FAN AND REPLACE WITH FAN ON HVAC SCHEDULE. REFER TO HVAC SCHEDULE FOR INFORMATION ON ROOF CURB ADAPTORS. EXISTING ROOF CURB DIMENSIONS SHOWN ON PLANS. M.C. SHALL BE RESPONSIBLE FOR VERIFY IN THE FIELD ALL EXISTING CONDITIONS & THE EXACT DIMENSIONS OF ALL EXISTING ROOF CURBS. EXISTING ROOF CURB DIMENSION SHOWN UNDER EACH KEYED NOTE SYMBOL ON DRAWING.

NOTE "ATC"

(NEW AUTOMATIC TEMPERATURE CONTROL WORK)

MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION & INSTALLATION OF ALL WIRING, CONTROL DEVICES, PROGRAMMING, ETC. AS REQUIRED TO CONNECT ALL NEW EXHAUST FANS (REPLACED UNDER THIS CONTRACT) TO THE EXISTING BUILDING MANAGEMENT SYSTEM. NOTE THAT THE EXISTING BMS IS AN "ANDOVER" CONTINUUM BRAND, CURRENTLY SERVICED BY "AUTOMATED CONTROL LOGIC, INC., 578 COMMERCE ST., THORNWOOD NY, 10984. TEMPERATURE CONTROL WORK SHALL BE PERFORMED BY A FACTORY AUTHORIZED SERVICE PERSON TRAINED IN THIS SYSTEM. ALL CONTROLS USED MUST BE FULLY COMPATIBLE WITH THIS SYSTEM. WORK SHALL BE AS FOLLOWS:

- PROVIDE CONTROLS AS REQUIRED TO CONNECT / MAP EACH NEW EXHAUST FAN SHOWN ON THESE DRAWINGS TO THE EXISTING HEAD END. ALL NEW CONTROLS SHALL BE FULLY COMPATIBLE WITH THE EXISTING HEAD END. CONTRACTOR SHALL MODIFY THE EXISTING SYSTEM DATABASE AS REQUIRED. IF THE EXISTING SYSTEM HAS ENOUGH POINTS TO ACCOMMODATE THE NEW EQUIPMENT / CONTROLLERS, IT MAY BE USED. IF THE SYSTEM REQUIRES EXPANSION, PROVIDE EXPANSION CONTROLLER AS REQUIRED. IF EXPANSION IS REQUIRED, NEW EXPANSION CONTROLLERS SHALL BE LARGE ENOUGH TO ACCOMMODATE (25) ADDITIONAL FANS (FOR FUTURE CONNECTION TO SYSTEM). PROVIDE ALL BUS/CONTROL WIRING FROM MAIN BMS HEAD END OUT TO EACH NEW FAN.
- PERFORM ALL SYSTEM PROGRAMMING AS REQUIRED TO SHOW FAN RUN STATUS / OCCUPIED UNOCCUPIED STATUS / FAOP FAN SHUTDOWN STATUS / ALARM STATUS. SHOWING AN ALARM AT THE HEAD END WHEN FAN IS COMMANDED "ON" & DOES NOT RUN. FANS SHALL APPEAR ON THE HEAD END COMPUTER GRAPHICALLY. ANY NEW GRAPHICS CREATED SHALL MATCH THE EXISTING GRAPHICS IN APPEARANCE AND FUNCTION. IF THERE ARE NO EXISTING GRAPHICS, CONTRACTOR SHALL CREATE A GRAPHIC SHOWING EACH FAN INDIVIDUALLY WITH POINTS AS LISTED ABOVE. PROVIDE A GRAPHIC SHOWING THE BUILDING ROOF PLAN WITH EACH FAN (NEW & EXISTING) SHOWN. MAIN PLAN SHALL SHOW RUN / STOP STATUS OF CONNECTED FANS. CLICKING ON A CONNECTED FAN SHALL OPEN A GRAPHIC PAGE SHOWING ALL OF THE CONNECTED POINTS FOR THAT FAN.
- PROVIDE & MOUNT NEW FAN STARTERS / DISCONNECT SWITCHES FOR EACH FAN BEING REPLACED. COORDINATE LOCATIONS WITH THE ELECTRICAL CONTRACTOR. NEW STARTERS TO BE CAPABLE OF INTERFACE WITH THE BMS. ALL DISCONNECT SWITCHES MAY BE UNFUSED TYPE. ALL ELECTRICAL HARDWARE TO BE NEMA-1 (INDOOR) OR NEMA-3R (IF USED OUTDOORS). STARTERS, DISCONNECT SWITCH & FAN POWER WIRING SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR. ALL CONTROL WIRING, WHETHER LOW OR LINE VOLTAGE, SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.

ROOF NEW HVAC PART PLAN - AREAS "A", "B" & "C"

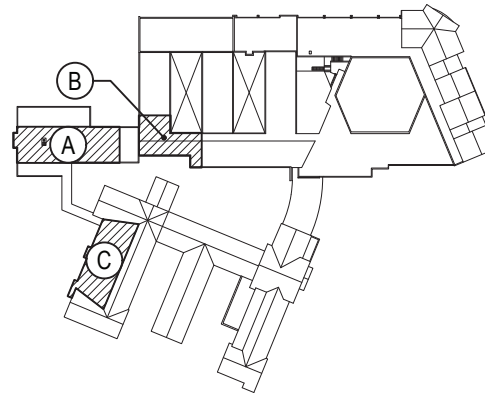
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KEY PLAN

NOT TO SCALE

BRIARCLIFF MANOR UFSD  
BOND IMPROVEMENTS - PHASE 1

TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR/WESTCHESTER

ROOF NEW HVAC PART PLAN

AREAS "A", "B" & "C"

PROJECT

DWG TITLE

DRAWING BY: RDP  
CHECK BY: FS

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SED No: 66-14-02-02-0-002-020

DISTRICT: BRIARCLIFF MANOR UFSD

PROJECT: BOND IMPROVEMENTS  
PHASE 1

DWG TITLE: ROOF NEW HVAC PART PLAN  
AREAS "A", "B" & "C"

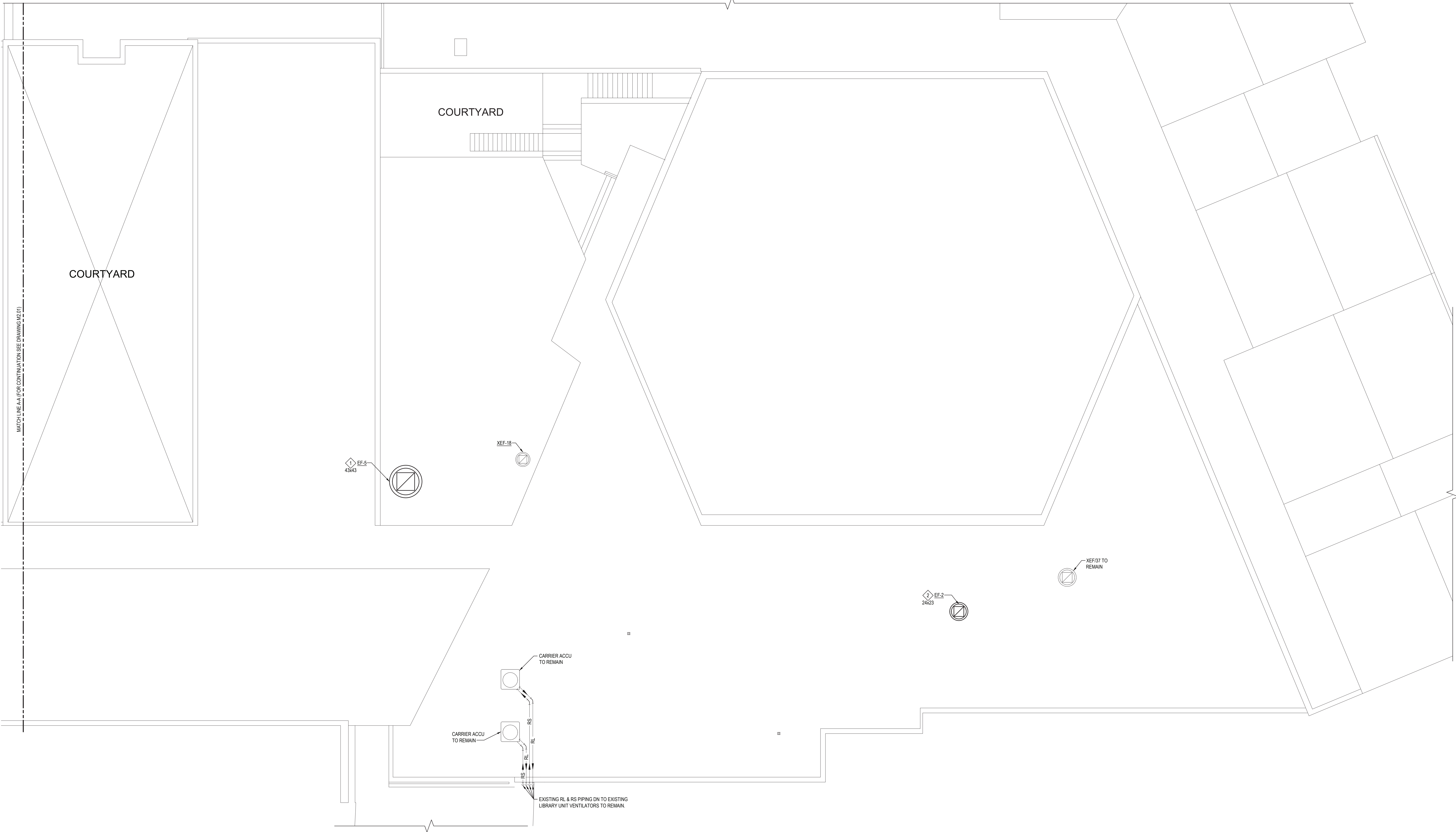
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DATE: 10/08/21

BID PICK-UP: 1/17/2022

FILE No: 21-274B

M2.01



ROOF NEW HVAC PART PLAN - AREAS "D", "E" & "F"

NOTE:

NEW WORK KEYED NOTES:

1. M.C. SHALL COORDINATE EXHAUST FAN REPLACEMENT WORKSCOPE WITH R.C. & E.C. E.C. SHALL DISCONNECT FAN POWER PRIOR TO REMOVAL OF EXISTING EXHAUST FAN. M.C. SHALL REMOVE EXISTING FAN AND REPLACE WITH FAN ON HVAC SCHEDULE. EXISTING ROOF CURB SHALL BE REPLACED IN KIND. REFER TO HVAC SCHEDULE FOR INFORMATION ON NEW ROOF CURB AND ADAPTER. M.C. SHALL BE RESPONSIBLE FOR VERIFYING IN THE FIELD ALL EXISTING CONDITIONS & THE EXACT DIMENSIONS OF ROOF CURB. EXISTING ROOF CURB DIMENSION SHOWN UNDER EACH KEYED NOTE SYMBOL ON DRAWING.
2. M.C. SHALL COORDINATE EXHAUST FAN REPLACEMENT WORKSCOPE WITH R.C. & E.C. E.C. SHALL DISCONNECT FAN POWER PRIOR TO REMOVAL OF EXISTING EXHAUST FAN. M.C. SHALL REMOVE EXISTING FAN AND REPLACE WITH FAN ON HVAC SCHEDULE. REFER TO HVAC SCHEDULE FOR INFORMATION ON ROOF CURB ADAPTER. M.C. SHALL BE RESPONSIBLE FOR VERIFYING IN THE FIELD ALL EXISTING CONDITIONS & THE EXACT DIMENSIONS OF EXISTING ROOF CURB. EXISTING ROOF CURB DIMENSION SHOWN UNDER EACH KEYED NOTE SYMBOL ON DRAWING.

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KEY PLAN

NOT TO SCALE

PROJECT

BRIARCLIFF MANOR UFSD  
BOND IMPROVEMENTS - PHASE 1  
TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR WEST CHESTER

DWG TITLE

ROOF NEW HVAC PART PLAN  
AREAS "D", "E" & "F"

DRAWING BY: RDP  
CHECK BY: FS

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DISTRICT: BRIARCLIFF MANOR UFSD

PROJECT: BOND IMPROVEMENTS  
PHASE 1

DWG TITLE: ROOF NEW HVAC PART PLAN  
AREAS "D", "E" & "F"

SCALE: AS NOTED  
DATE: 10/08/21  
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M2.02

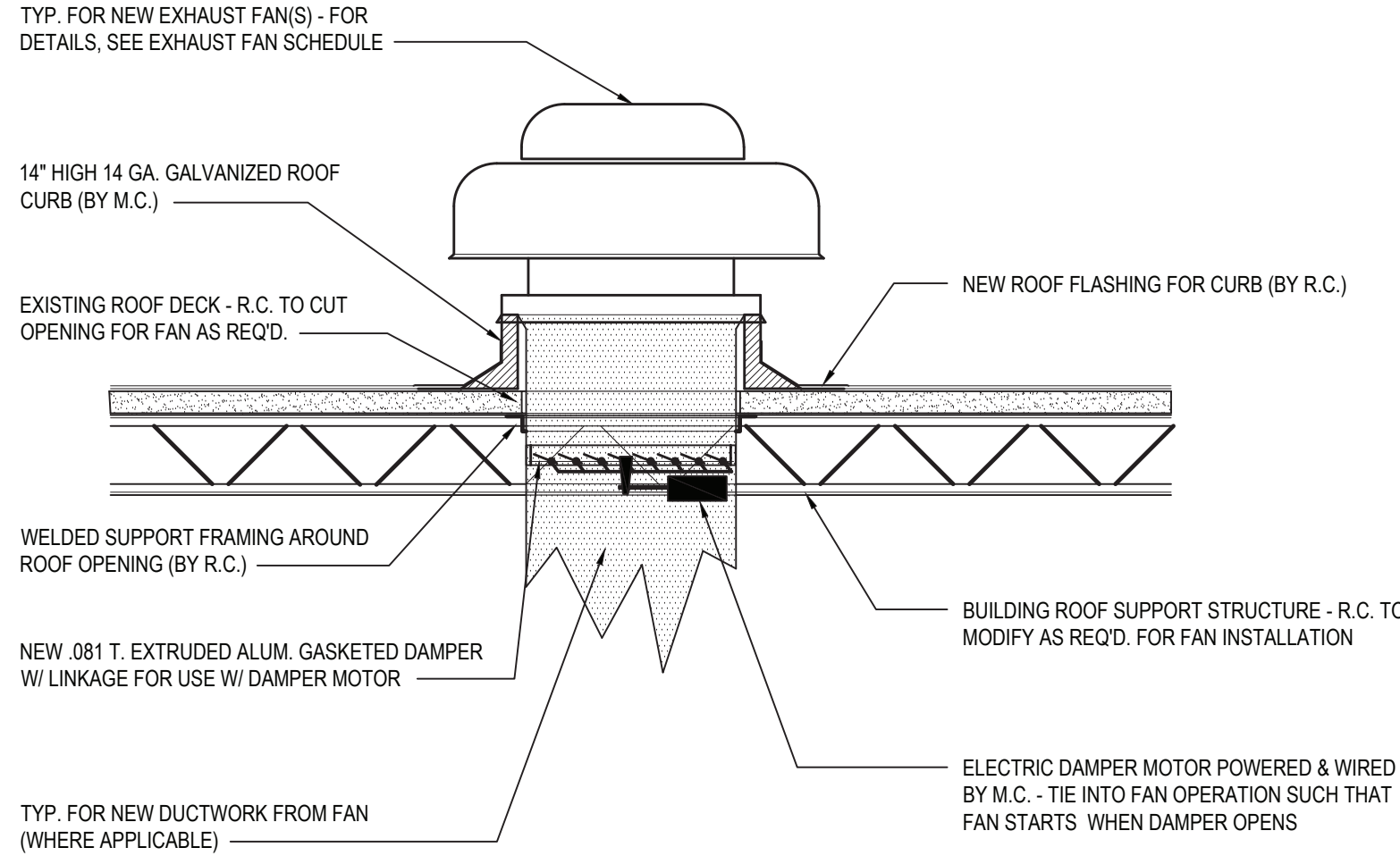
EXHAUST FAN SCHEDULE											GREENHECK AS STD.
TAG	SERVICE	MODEL	CFM	ESP	FAN RPM	MOTOR (HP)	INLET SONES	VOLT/PH	WEIGHT (LBS)	OPTIONS AND ACCESSORIES	NOTES
EF-1	2 CLASSROOM 231, 232 & ASSOC. TOILETS (BG)	G-097-VG	100	0.375	1000	1/4	3.6	115/1	61.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-2	TECH. STOR. 209	G-098-VG	500	0.75	1535	1/4	8.9	115/1	96.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-3	CLASSROOM 118 & 119	G-095-VG	600	0.375	1400	1/6	7.2	115/1	84.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-4	CLASSROOM 118 & 119 TOILETS	G-097-VG	150	0.5	1236	1/4	5.7	115/1	96.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-5	ART CLASSROOM 212, OFFICE 213, ART STOR. 211 & 214	GB-180-VGD-7	2500	0.75	924	3/4	10.1	208/3	138.0	1,2,3,5,6,7	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-6	READING 225, MATH/YMCA 226 & YMCA 227 (BG)	G-100-VG	800	0.5	1308	1/4	6.7	115/1	96.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-13	INNOVATION CLASSROOM 230	G-080-VG	225	0.5	1534	1/10	7.5	115/1	80.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-14	INNOVATION CLASSROOM TOILET	G-097-VG	75	0.375	954	1/4	3.2	115/1	61.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-25	TOILETS BETWEEN READING CLASSROOM 232A & 3 CLASSROOM 233 (BG)	G-095-VG	300	0.5	1333	1/6	7.0	115/1	84.0	1,2,3,4,6	PROVIDE W/VCD-43 MOTORIZED DAMPER
EF-26	3 CLASSROOMS 233, 234, 235(CT) & FACULTY 236 (BG)	GB-180-VGD-5	1500	0.75	904	1/2	9.4	208/3	183.0	1,2,3,5,6	PROVIDE W/VCD-43 MOTORIZED DAMPER

- Options / Accessories:**
- Aluminum roof curb adapter (factory mounted), contractor to field verify existing curb dimensions prior to fabrication
  - UL-705 Listing
  - Disconnect Switch
  - Varigreen motor w/balancing dial, soft start and thermal overload protection
  - Varigreen drive (factory mounted, wired and programmed) w/fan mounted speed adjustment dial. Field mounted VFDs will not be accepted
  - Roof curb extension (aluminum construction) w/damper tray and access panel
  - 24" High Roof Curb w/damper tray

- ADDITIONAL SCHEDULE NOTES:**
- REFER TO SPECIFICATIONS FOR SEQUENCE OF OPERATIONS FOR NEW UNIT.
  - PROVIDE FACTORY-AUTHORIZED REPRESENTATIVE TO BE PRESENT FOR START-UP, COMMISSIONING, AND TRAINING OF EQUIPMENT TO OWNER'S PERSONNEL.
  - FACTORY-AUTHORIZED MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT FOR RIGGING OF EQUIPMENT.
  - PROVIDE BIRDSCREEN WITH FAN
  - PROVIDE ALL SINGLE PHASE FANS WITH A GREENHECK VARIGREEN H.O.A. CONTROLLER.

DEHUMIDIFIER SCHEDULE												
TAG	SERVICE	MANUFACTURER	MODEL	CFM	WATER EXTRACTION (GPH)	MCA	MOCP	VOLT/PH	WEIGHT (LBS)	DIMS. W X H X D (IN.)	DBA	OPTIONS/ACCESSORIES
DH-1	LIBRARY	EIPL	AD850E	294	0.5	10	20	115/1	86.0	26x29.5x13.6	50.0	1, 2, 3
DH-2	LIBRARY	EIPL	AD850E	294	0.5	10	20	115/1	86.0	26x29.5x13.6	50.0	1, 2, 3
DH-3	LIBRARY	EIPL	AD850E	294	0.5	10	20	115/1	86.0	26x29.5x13.6	50.0	1, 2, 3

- OPTIONS/ACCESSORIES:**
- Wall mount kit
  - UL-474 Listing
  - Disconnect Switch

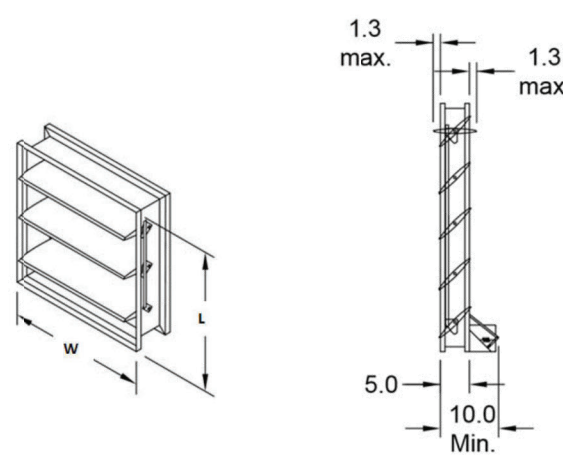


### 1 NEW ROOF MOUNTED EXHAUST FAN INSTALLATION

SCALE: N.T.S.

### CONTROL DAMPER - (BASIS: GREENHECK)

Control Damper  
Model: VCD-43



#### Standard Construction Features:

- Model VCD-43 is an extremely low leakage control damper for commercial control dampers - Aluminum channel frame - Heavy gauge extruded aluminum blades, airfoil shape - Side mounted steel linkage is out of airstream, concealed in frame - Extruded silicone rubber blade seals - Axes are steel and 0.5 in. dia. - Synthetic axle bearings - Width and height furnished approximately 0.25 in. undersized - Field wiring is required to individual components

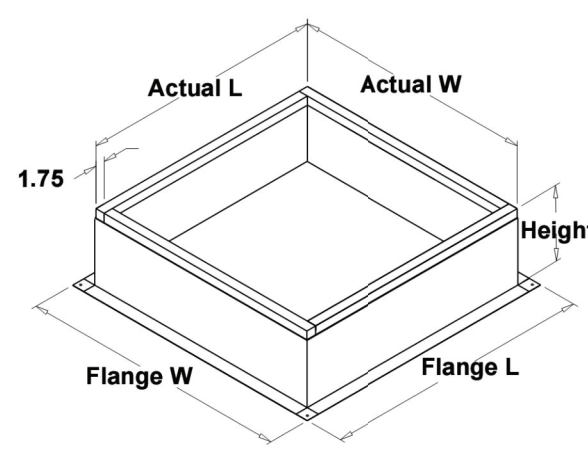
#### Damper Configuration:

ID #	Type	Quantity	W (in.)	H (in.)	Act Qty	Actuator Model
2	EF-4	1	12	12	1	MS4106F1210
3	EF-6	1	18	18	1	TFB24-S
4	EF-6	1	12	12	1	MS4106F1210
5	EF-13	1	10	10	1	TFB24-S
6	EF-14	1	12	12	1	TFB24-S
7	EF-25	1	10	10	1	TFB24-S
8	EF-26	1	18	18	1	TFB24-S
9	EF-1	1	12	12	1	TFB24-S
10	EF-2	1	12	12	1	TFB24-S
11	EF-3	1	10	10	1	TFB24-S

Notes: All dimensions shown are in units of in.  
Width And height furnished approximately 0.25 in. undersize

### ROOF CURB - (BASIS: GREENHECK)

Roof Curb  
Model: GPI



#### Standard Construction Features:

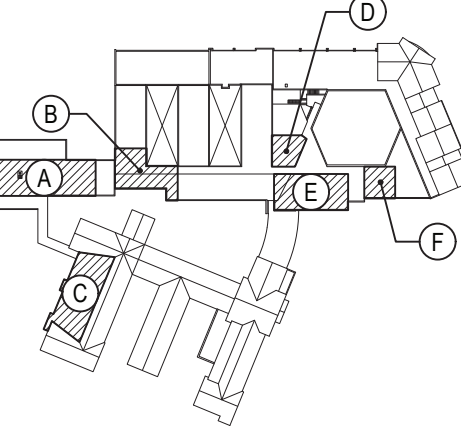
- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments.

- Notes:
- The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in.
  - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size.
  - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension.
  - Damper Tray is optional and must be specified. Tray size is same as damper size.
  - Security bars are optional and must be specified. Frames and girdwork are all 12 ga steel. Gridwork is welded to the frame and the frame is welded to the curb.

REV.	DATE	ITEM
1	1/14/2022	ISSUED FOR BID

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KEY PLAN

NOT TO SCALE

PROJECT

BRIARCLIFF MANOR UFSD  
BOND IMPROVEMENTS - PHASE 1  
TODD ELEMENTARY SCHOOL  
BRIARCLIFF MANOR WEST CHESTER

DWG TITLE

DRAWING BY: RDP  
CHECK BY: FS

**NOTICE**

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**BBS**  
ARCHITECTS  
LANDSCAPE ARCHITECTS  
ENGINEERS

244 EAST MAIN STREET  
PATCHOGUE  
NEW YORK 11772  
T: 631.475.0349  
F: 631.475.0361

187 WOLF ROAD, STE. 205  
ALBANY  
NEW YORK 12205  
T: 518.621.7650  
F: 518.621.7655

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SED No: 66-14-02-02-0-002-020

DISTRICT: BRIARCLIFF MANOR UFSD

PROJECT: BOND IMPROVEMENTS  
PHASE 1

DWG TITLE: SCHEDULES, EQUIPMENT NOTES AND DETAILS

SCALE: AS NOTED

DATE: 10/08/21

BID PICK-UP: 1/17/2022

FILE No: 21-274B

M6.01