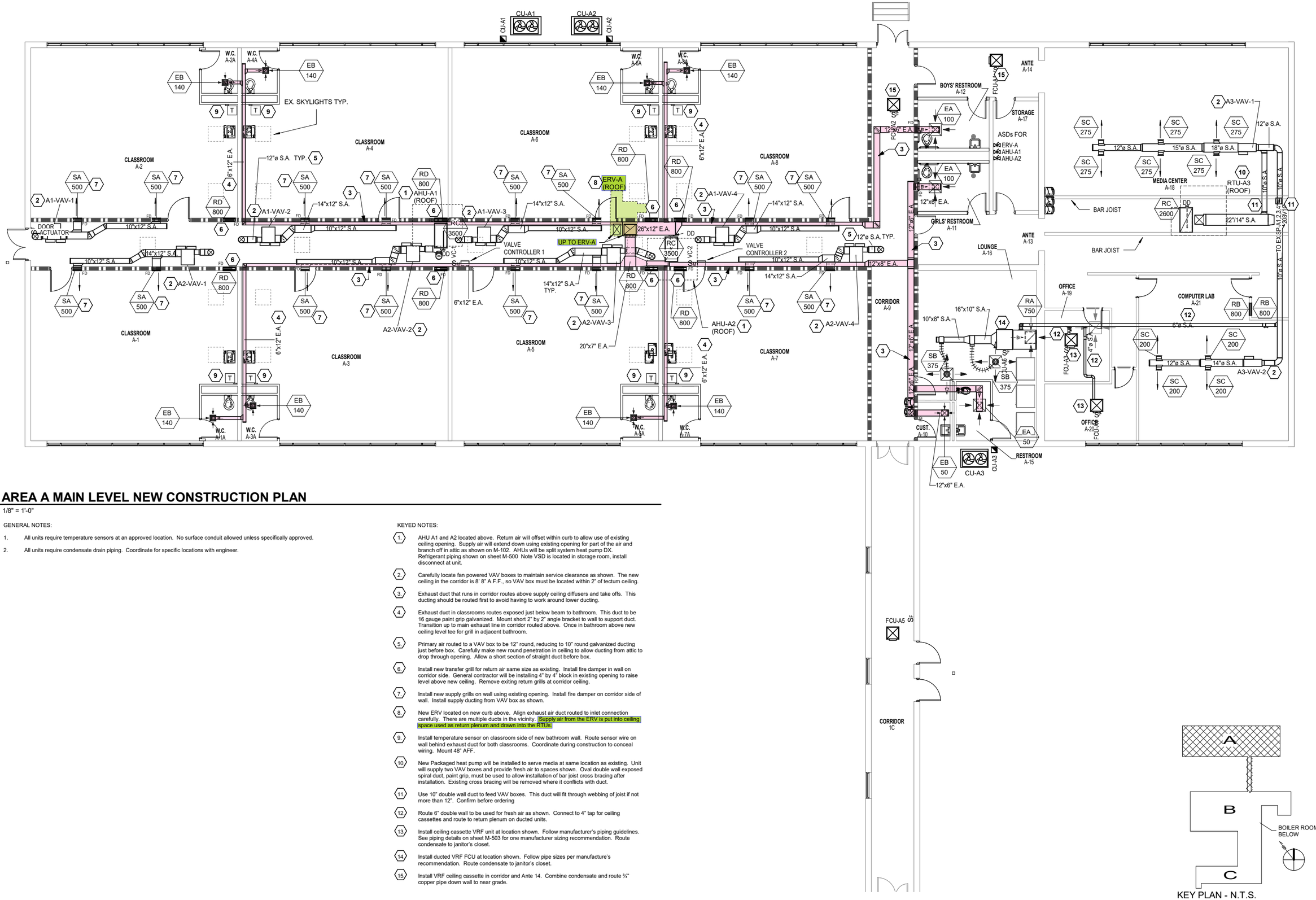


1 AREA A MAIN LEVEL NEW CONSTRUCTION PLAN

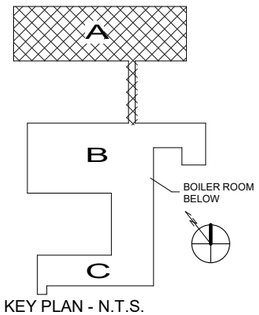
1/8" = 1'-0"

GENERAL NOTES:

1. All units require temperature sensors at an approved location. No surface conduit allowed unless specifically approved.
2. All units require condensate drain piping. Coordinate for specific locations with engineer.

KEYED NOTES:

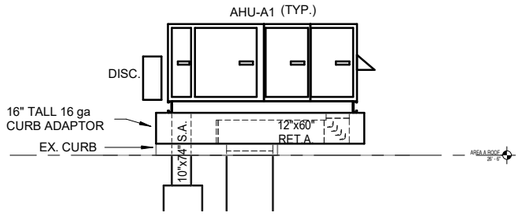
1. AHU A1 and A2 located above. Return air will offset within curb to allow use of existing ceiling opening. Supply air will extend down using existing opening for part of the air and branch off in attic as shown on M-102. AHUs will be split system heat pump DX. Refrigerant piping shown on sheet M-500 Note VSD is located in storage room, install disconnect at unit.
2. Carefully locate fan powered VAV boxes to maintain service clearance as shown. The new ceiling in the corridor is 8' 8" A.F.F., so VAV box must be located within 2" of tectum ceiling.
3. Exhaust duct that runs in corridor routes above supply ceiling diffusers and take offs. This ducting should be routed first to avoid having to work around lower ducting.
4. Exhaust duct in classrooms routes exposed just below beam to bathroom. This duct to be 16 gauge paint grip galvanized. Mount short 2" by 2" angle bracket to wall to support duct. Transition up to main exhaust line in corridor routed above. Once in bathroom above new ceiling level tee for grill in adjacent bathroom.
5. Primary air routed to a VAV box to be 12" round, reducing to 10" round galvanized ducting just before box. Carefully make new round penetration in ceiling to allow ducting from attic to drop through opening. Allow a short section of straight duct before box.
6. Install new transfer grill for return air same size as existing. Install fire damper in wall on corridor side. General contractor will be installing 4" by 4" block in existing opening to raise level above new ceiling. Remove exiting return grills at corridor ceiling.
7. Install new supply grills on wall using existing opening. Install fire damper on corridor side of wall. Install supply ducting from VAV box as shown.
8. New ERV located on new curb above. Align exhaust air duct routed to inlet connection carefully. There are multiple ducts in the vicinity. Supply air from the ERV is put into ceiling space used as return plenum and drawn into the RTUs.
9. Install temperature sensor on classroom side of new bathroom wall. Route sensor wire on wall behind exhaust duct for both classrooms. Coordinate during construction to conceal wiring. Mount 48" AFF.
10. New Packaged heat pump will be installed to serve media at same location as existing. Unit will supply two VAV boxes and provide fresh air to spaces shown. Oval double wall exposed spiral duct, paint grip, must be used to allow installation of bar joist cross bracing after installation. Existing cross bracing will be removed where it conflicts with duct.
11. Use 10" double wall duct to feed VAV boxes. This duct will fit through webbing of joist if not more than 12". Confirm before ordering
12. Route 6" double wall to be used for fresh air as shown. Connect to 4" tap for ceiling cassettes and route to return plenum on ducted units.
13. Install ceiling cassette VRF unit at location shown. Follow manufacturer's piping guidelines. See piping details on sheet M-503 for one manufacturer sizing recommendation. Route condensate to janitor's closet.
14. Install ducted VRF FCU at location shown. Follow pipe sizes per manufacture's recommendation. Route condensate to janitor's closet.
15. Install VRF ceiling cassette in corridor and Ante 14. Combine condensate and route ¾" copper pipe down wall to near grade.



KEY PLAN - N.T.S.

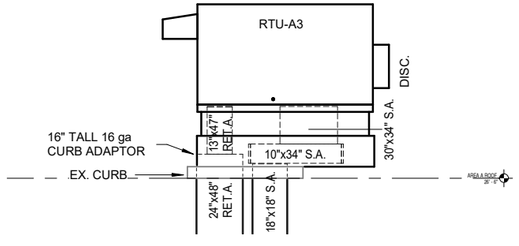
1 AREA A ATTIC LEVEL NEW CONSTRUCTION PLAN

1/8" = 1'-0"



2 AHU-A1 ELEVATION TYP.

1/4" = 1'-0"



3 RTU-A3 ELEVATION

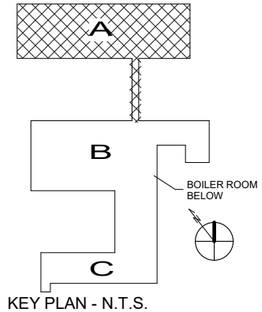
1/4" = 1'-0"

KEYED NOTES:

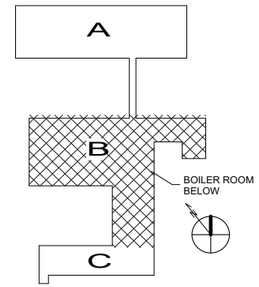
1. Return ducting down from offset in roof curb above. Align with existing opening that was used for return.
2. Supply duct feeding down from unit above will branch off to run in attic as shown and also continue on to supply VAV box in corridor. Adjust route to avoid structure, if necessary after consulting with engineer.
3. At location required turn down through original roof and ceiling to supply VAV boxes in corridor. Coordinate to carefully cut round holes correct diameter for 12" duct insulated with 1" Armaflex insulation.
4. Ducting for ERV to route down to corridor below. Supply will stop at ceiling, return is ducted as shown on M-101. Align ERV to avoid structure and have ducts go straight to corridor below. See structural drawings for curb details.

GENERAL NOTES:

1. All units require temperature sensors at an approved location. No surface conduit allowed unless specifically approved.
2. All units require condensate drain piping. Coordinate for specific locations with engineer.



KEY PLAN - N.T.S.



KEY PLAN - N.T.S.

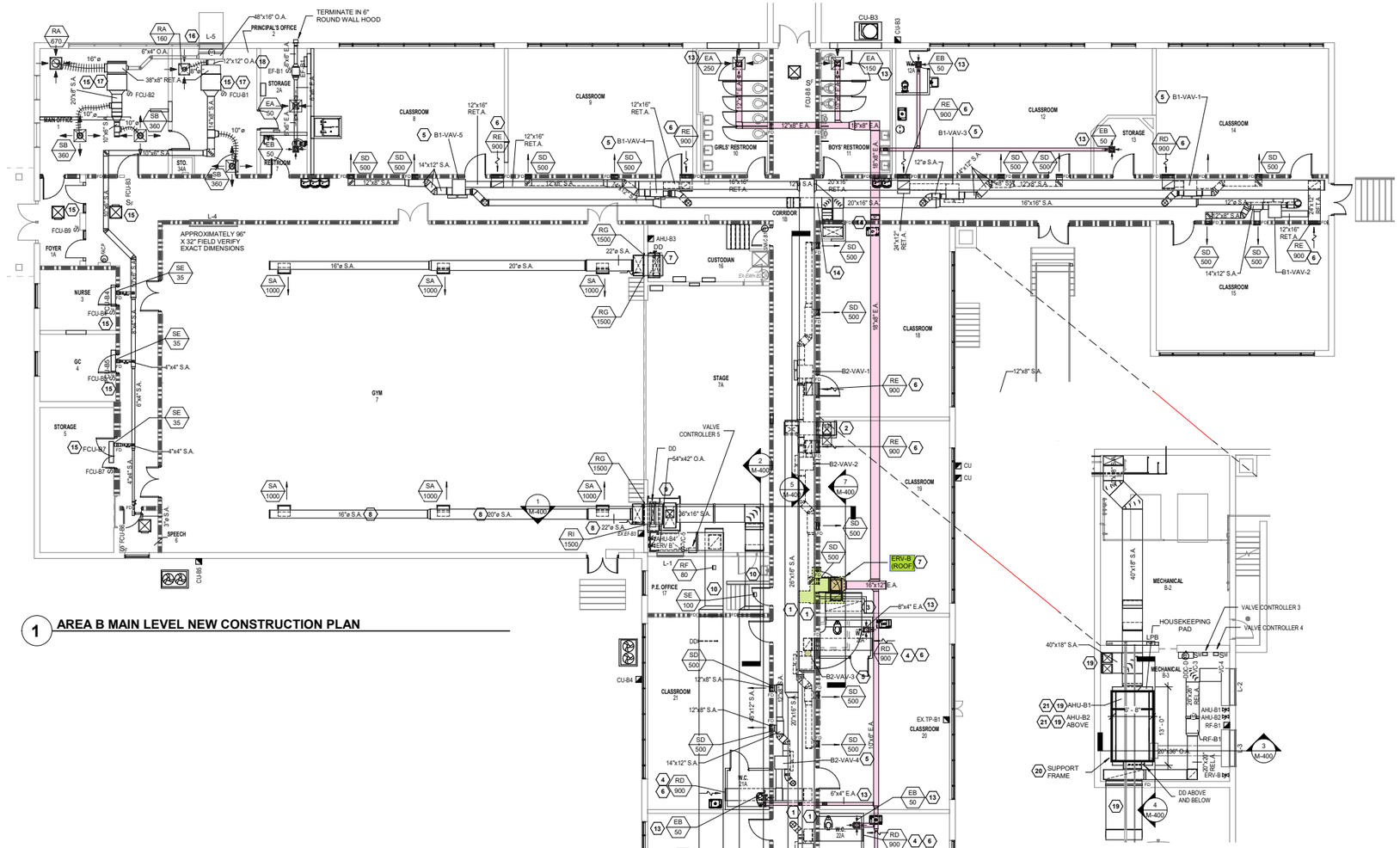
1 AREA B MAIN LEVEL NEW CONSTRUCTION PLAN

1/8" = 1'-0"

0 1' 2' 4'

KEYED NOTES:

1. Supply and return trunk lines routed in corridor as high as possible to make room for other ducting and VAV boxes. The top of the duct should be approximately at 12' 6". If there are any reasons it cannot be mounted this high up discuss with the engineer.
2. In classroom 19 supply ducts will come from below as two ducts to avoid the bar joist and combine above the floor to a single duct. Duct to route up to elevation to just go under return duct in corridor. Note duct is tapped for B2-VAV-2 before offsetting up to elevation of return duct.
3. Both AHUs in basement will share a common return duct installed behind door in classroom 19. Adjust location based on bar joist locations below. This return will duct over room 20 to connect to main trunk in corridor. The fresh air from the ERV above will connect in room 19.
4. Returns for rooms with bathrooms will route above the new bathroom ceiling but below main trunk lines in corridor.
5. VAV boxes mounted in corridor just under trunk lines above. Supply duct will tap main at 12" reduce to 10" to enter box. Air that enters for fan powered heating will come from return ducting.
6. Return air from room will be ducted to return trunk line and return connection on VAV box. Fire dampers required in wall.
7. Exhaust ducting up to ERV on roof and outdoor air from ERV to connect to return duct.
8. Gym supply duct to turn up to elevation to allow exposed double wall spiral paint grip duct to be tight to beams.
9. AHU-B4 serves the cafeteria but also acts as a peaking unit for the gym. Dampers will direct the air to supply and return either or both spaces. Outside air will be drawn in using a wall louver. See elevation on M-400 for additional views. The supply serving the gym will be installed similar to B3.
10. Supply and return duct to cafeteria will route across back stage with bottom elevation above 10' then drop down to elevation to be at old ceiling level as routing to cafeteria.
11. Supply duct over bathroom will transition to enter cafeteria as a 28" by 28" duct with fire damper. Install access door above bathroom ceiling.
12. Install a return grille 12" AFF. 48" by 12" return duct will drop down in classroom along wall to elevation of return grill in cafeteria. Install fire damper in wall.
13. Exhaust ducting will be routed to ERV.
14. The supply duct coming up in room 18 will split once through the fire damper in the corridor. The supply duct going to room 8 and 9 will 45 down to be under the return.
15. Offices will be supplied by VRF system with multiple indoor units. Consult manufacturer's recommended piping procedures and sizes. Install ceiling cassettes or wall units where shown. All units require condensate drain whether specifically shown or not.
16. The office unit serving the principal's office will also supply fresh air to the offices. Duct as shown.
17. Install ducted FCUs above both principal's office and main office. Install drain pan with float switch under units. Wire to shut down unit and alert operator. Install motorized OA damper in OA duct.
18. Top of window will have a louver full width of window by 16" in height. Install plenum box on back and connect 12" by 12" OA duct on back and connect to return plenum of FCU.
19. Locate AHU B1 and B2 stacked over each other at location shown. Return duct will come through wall from crawl space. Supply ducts for upper unit will split to avoid the bar joist and go up through floor. Supply duct for the lower unit will go into the boiler room, rise up to ceiling height cross room then up.
20. Upper unit of stacked AHUs requires a support frame. Do not block access to lower unit. Mount VRF control box and expansion valves to maintain access. Discuss locations. Must meet all manufacturer's guidelines. Consult manufacturer for refrigerant pipe sizes and routing requirements, est. to be 1-1/4" gas, ½" liquid.
21. Combine and route condensate to floor drain in boiler room.



1 AREA B MAIN LEVEL NEW CONSTRUCTION PLAN

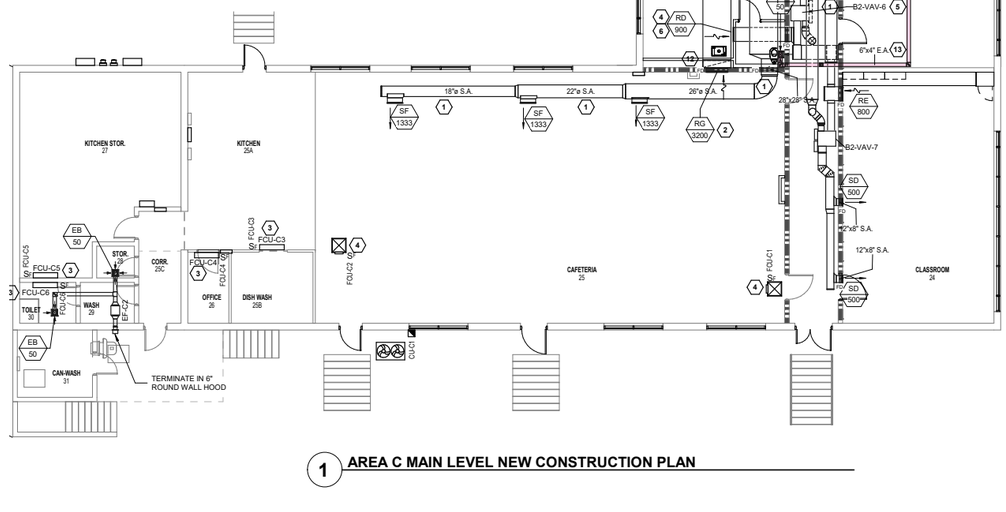
2 AREA D BASEMENT NEW CONSTRUCTION PLAN

KEYED NOTES:

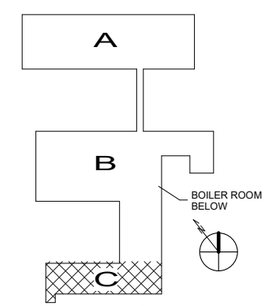
1. Install new double wall spiral paint grip ducting approximately 6" below ceiling. Offset up as required.
2. Install return grill approximately 12' AFF. Requires FD at wall.
3. Install wall mounted VRF units where shown pipe condensate to floor drain. Discuss routing.
4. Install ceiling mounted ceiling cassettes where shown. Coordinate for condensate drain.

GENERAL NOTES:

1. All units require temperature sensors at an approved location. No surface conduit allowed unless specifically approved.
2. All units require condensate drain piping. Coordinate for specific locations with engineer.



1 AREA C MAIN LEVEL NEW CONSTRUCTION PLAN



KEY PLAN - N.T.S.