

DISTRICT AC  
PROJECT SCOPE

01

# AC PROJECT SCHEDULE

## High School + Junior High

Design & Documentation 2023  
Construction Summer 2024

## Kreeger Elementary + Smith ECC

Design & Documentation 2024  
Construction Summer 2025

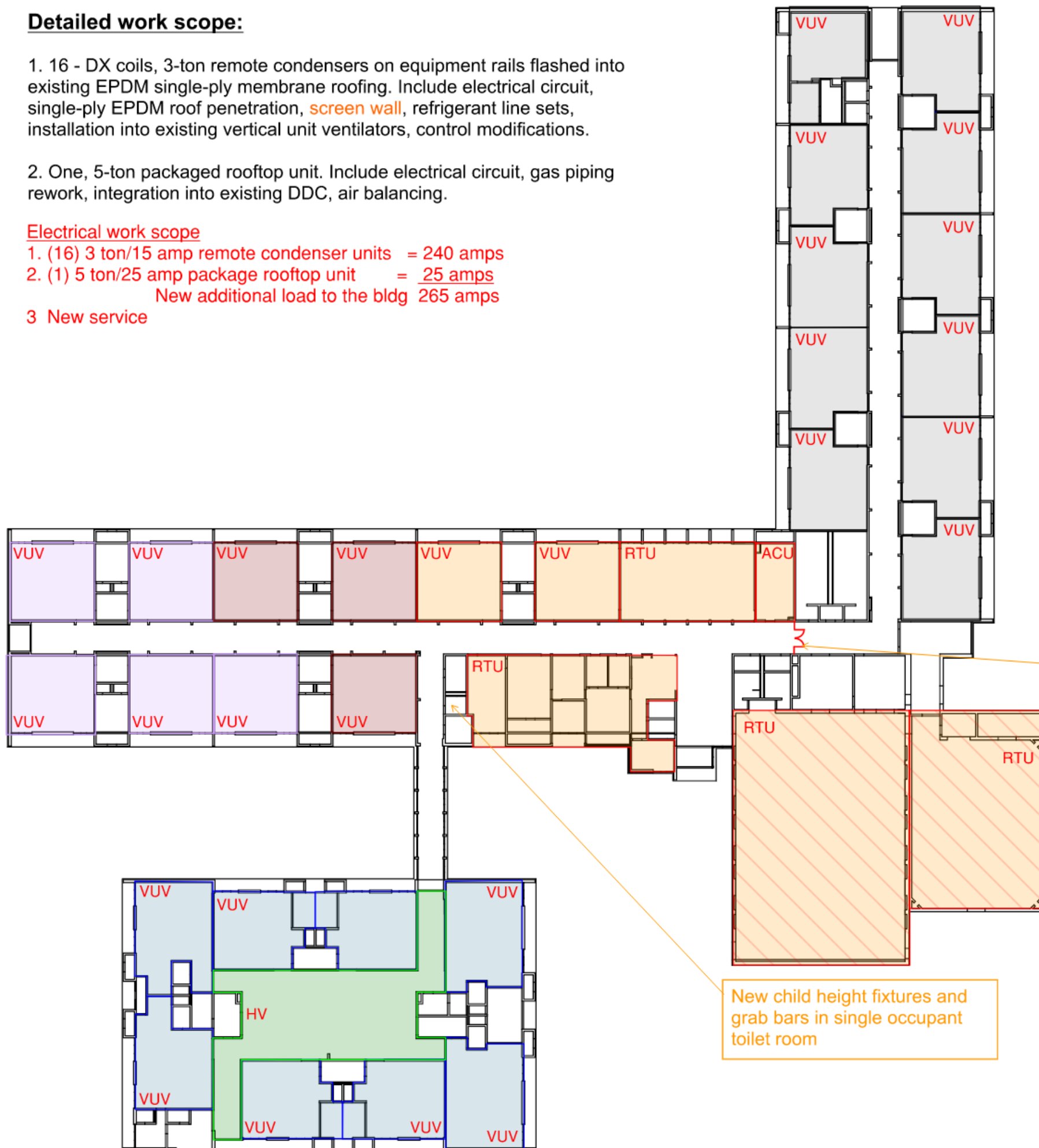
**Detailed work scope:**

1. 16 - DX coils, 3-ton remote condensers on equipment rails flashed into existing EPDM single-ply membrane roofing. Include electrical circuit, single-ply EPDM roof penetration, **screen wall**, refrigerant line sets, installation into existing vertical unit ventilators, control modifications.

2. One, 5-ton packaged rooftop unit. Include electrical circuit, gas piping rework, integration into existing DDC, air balancing.

**Electrical work scope**

- 1. (16) 3 ton/15 amp remote condenser units = 240 amps
- 2. (1) 5 ton/25 amp package rooftop unit = 25 amps
- New additional load to the bldg 265 amps
- 3 New service



- Existing areas served by cooling equipment - no work in bond.
- Add DX cooling coil, remote condensing unit located on roof, and refrigerant piping. Utilize existing exposed ductwork in classrooms. **Include adult height changing sink in classrooms and child height sink at toilet rooms as well as a new drinking fountain in the common area.**
- Add DX cooling coil, remote condensing unit located on roof, and refrigerant piping. Utilize existing exposed ductwork in classrooms. **Include adult height changing sink in classrooms and child height sink at toilet rooms as well as new exterior doors in all classrooms.**
- Add DX cooling coil, remote condensing unit located on roof, and refrigerant piping. Utilize existing exposed ductwork in classrooms. **Include a new exterior door in all spaces.**
- Remove existing heating only RTU and replace with 5-ton, packaged DX, gas-fired rooftop unit, utilizing existing sheet metal.
- Existing areas served by heating and ventilation equipment. No work in these areas.

New double doors and hardware


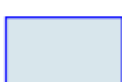
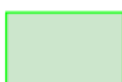

New child height fixtures and grab bars in single occupant toilet room

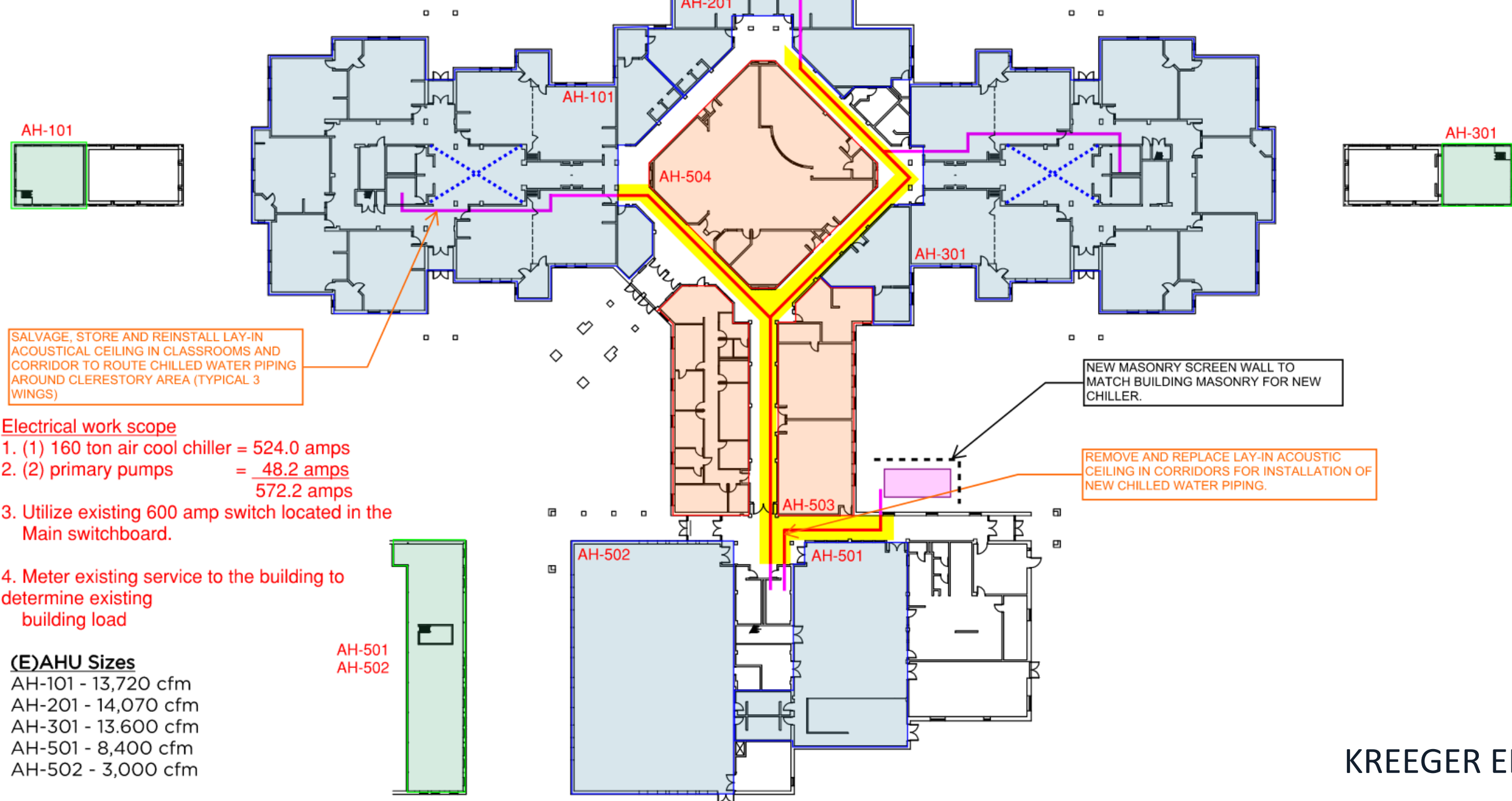
**Open Questions**

1. Existing exposed ductwork is not insulated. IDS recommends insulating all ductwork that provides cooling air to prevent condensation/drips on the floor. Has the district observed any issues? Bond does not include cost to replace duct work.
2. Confirm Multi-purpose room and Motor Skills have existing cooling rooftop units that will remain (no work in bond).
3. Is it acceptable to not replace cooling equipment (RTU for Multi-purpose and Motor Skills) that is past its service life.

**Detailed work scope:**

1. Remove/replace five modular air handling units. All equipment modules to fit through double doors and hoisted to mezzanine. New HW coil hookups. Disconnect/reconnect electrical. New VSDs for fans.
2. 62 - Remove tempering coil, replace with VAV terminal units. New coil hookups. **Salvage/store/reinstall approx. 64 sf of ceilings at terminal units.**
3. New 160-ton, air-cooled scroll chiller, two primary pumps, piping system and accessories. 30% propylene glycol. New 6" supply and return (grooved fittings/fiberglass insulation) mains routed throughout school to mezzanines. Remove/ save/replace ceilings to accommodate piping installation. New concrete pad/foundations for equipment.
4. New xxx amp, 480/3 phase, 4 wire electrical service.

-  Existing areas served by cooling equipment - no work in bond.
-  Remove tempering coils in classrooms (above ceilings) and replace with VAV terminal units - one for one replacement. All existing ductwork mains to be reused.
-  Remove/replace air handling equipment in mezzanines. New equipment will utilize HW/CHW coils for heating and cooling. Equipment will be broken down to fit through double doors and lifted into place
-  Provide new air-cooled, scroll chiller (160 tons) located on grade. Associated system pumps will be located in adjacent mechanical mezzanine. Route insulated chilled water piping to all other mechanical mezzanines.



**Electrical work scope**

1. (1) 160 ton air cool chiller = 524.0 amps
2. (2) primary pumps = 48.2 amps  
572.2 amps
3. Utilize existing 600 amp switch located in the Main switchboard.
4. Meter existing service to the building to determine existing building load

- (E)AHU Sizes**
- AH-101 - 13,720 cfm
  - AH-201 - 14,070 cfm
  - AH-301 - 13,600 cfm
  - AH-501 - 8,400 cfm
  - AH-502 - 3,000 cfm


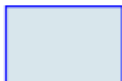
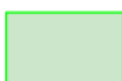

**Detailed work scope:**

1. Remove/replace five roof mounted air handling units. New HW coil hookups. New electrical circuits for each unit.

2. 61 - Remove tempering coil, replace with VAV terminal units. New coil hookups. **Salvage/store/reinstall approx. 64 sf ceilings at terminal units.**

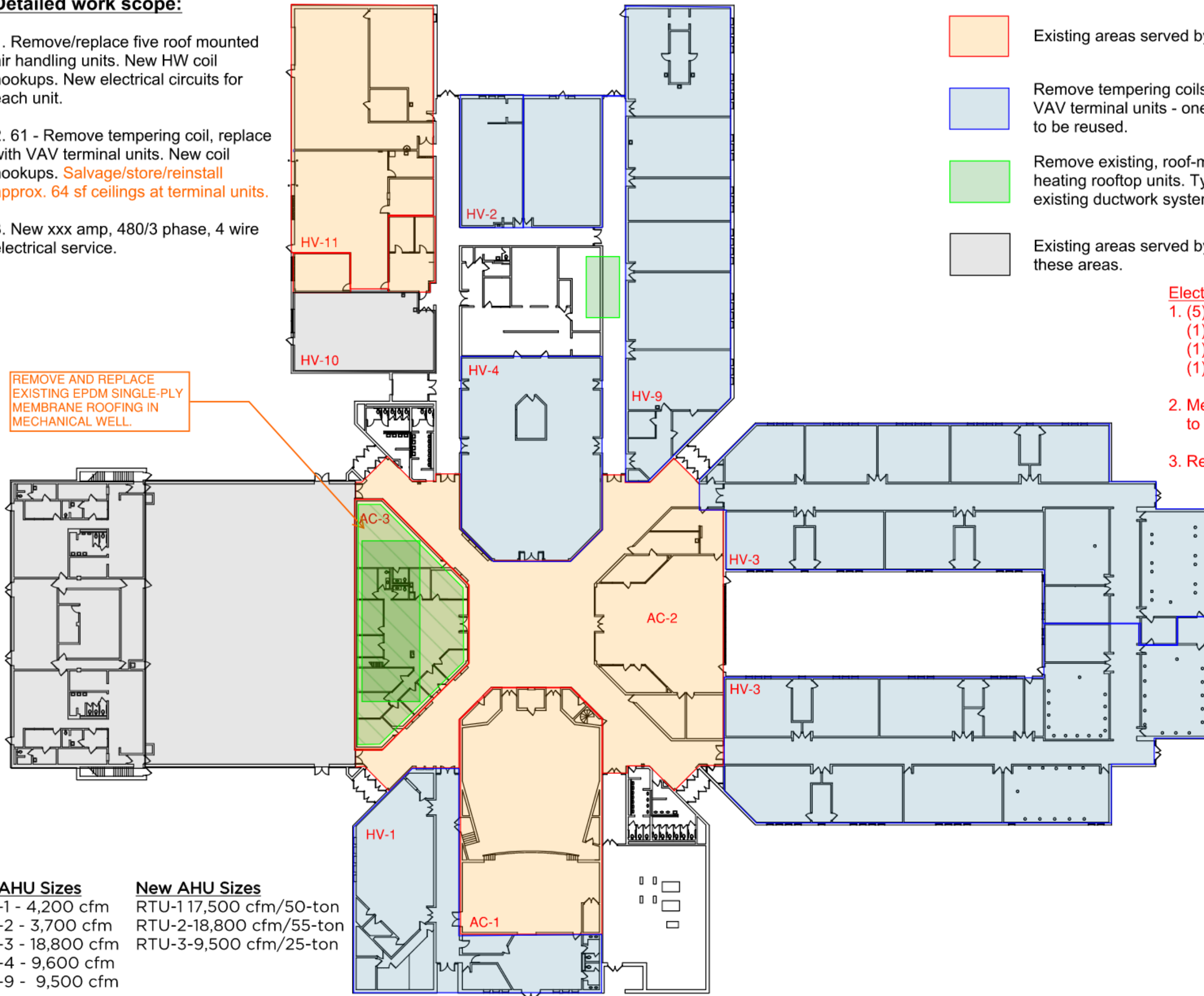
3. New xxx amp, 480/3 phase, 4 wire electrical service.

REMOVE AND REPLACE EXISTING EPDM SINGLE-PLY MEMBRANE ROOFING IN MECHANICAL WELL.

-  Existing areas served by cooling equipment - no work in bond.
-  Remove tempering coils in classrooms (above ceilings) and replace with VAV terminal units - one for one replacement. All existing ductwork mains to be reused.
-  Remove existing, roof-mounted HV units. Install new packaged DX, HW heating rooftop units. Typical HV-1, HV-2, HV-3, HV-4, HV-9. Connect to existing ductwork systems.
-  Existing areas served by heating and ventilation equipment. No work in these areas.

**Electrical work scope**

1. (5) replaced AHU's with
  - (1) 25 Ton = 82 Amp
  - (1) 80 Ton = 262 Amp
  - (1) 30 Ton = 98 Amp
  - 442 AMP
2. Meter existing service to the building to determine existing bldg load
3. Replace main switchboard to 3000 amp

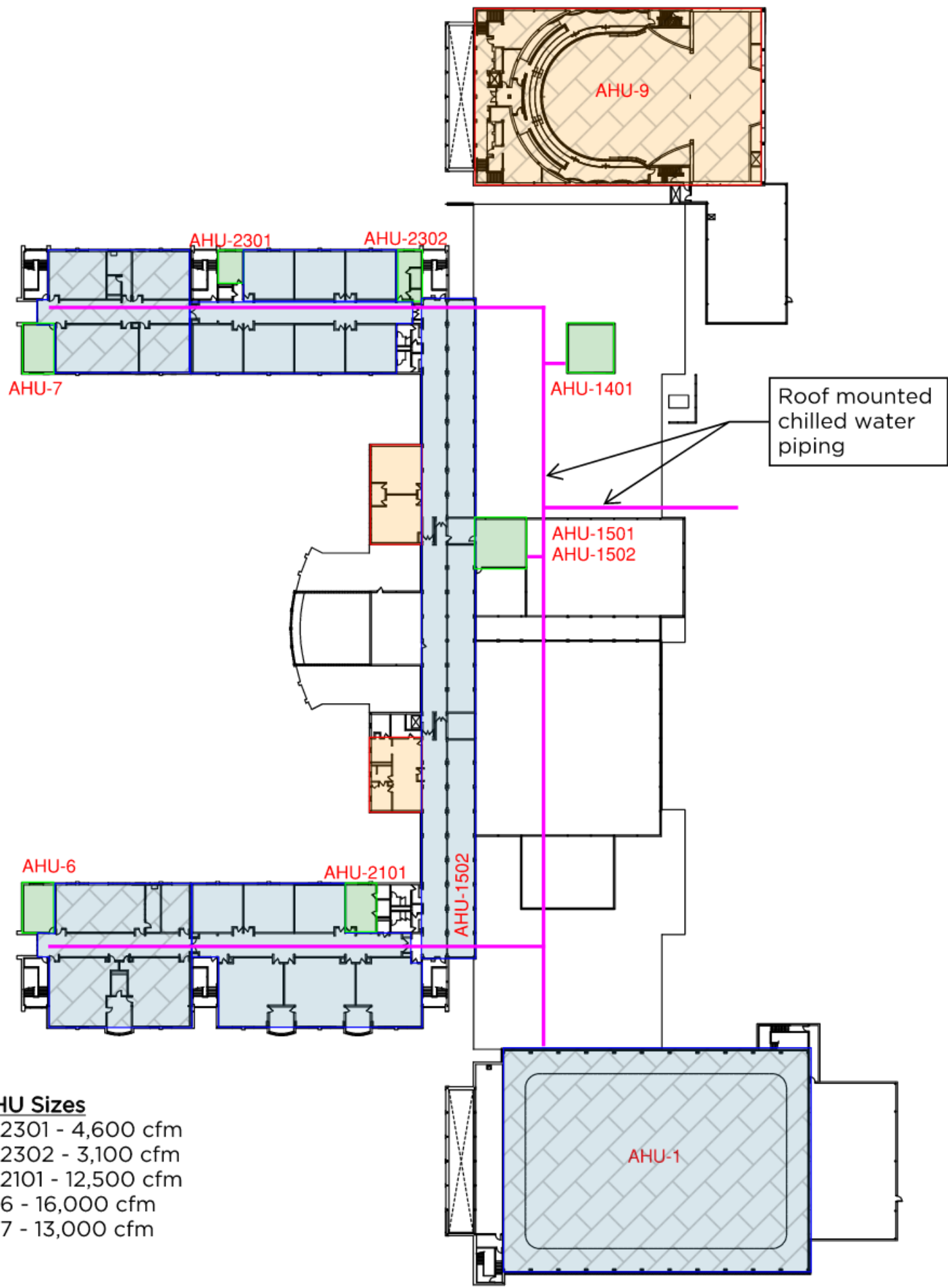


**(E)AHU Sizes**

- HV-1 - 4,200 cfm
- HV-2 - 3,700 cfm
- HV-3 - 18,800 cfm
- HV-4 - 9,600 cfm
- HV-9 - 9,500 cfm

**New AHU Sizes**

- RTU-1 17,500 cfm/50-ton
- RTU-2 18,800 cfm/55-ton
- RTU-3 9,500 cfm/25-ton



- (E)AHU Sizes**  
 AHU-2301 - 4,600 cfm  
 AHU-2302 - 3,100 cfm  
 AHU-2101 - 12,500 cfm  
 AHU-6 - 16,000 cfm  
 AHU-7 - 13,000 cfm

- Existing areas served by cooling equipment - no work in bond.
  - Remove tempering coils in classrooms (salvage/store/reinstall approx. 64 sf ceilings) and replace with VAV terminal units - one for one replacement. All existing ductwork mains to be reused.
  - Add cooling to existing air handling units. All equipment is equipped with space for cooling coil.
  - Existing areas served by heating and ventilation equipment. No work in these areas.
  - Areas with hatch need more information to finalize approach. Color is assumed work scope. IDS/FCS to confirm.
  - Provide two new air-cooled, scroll chiller (180 tons each) located on grade. Associated primary and secondary system pumps will be located in adjacent mechanical mezzanine. Route insulated chilled water piping to all other mechanical rooms.
- If chilled water route is across roof, install new equipment/ piping rails flashed into existing white and black single-ply membrane roof.
- If chilled water route is through building, remove and replace existing lay-in ceilings along path.

**Detailed work scope:**

1. Add chilled water coil to 13 existing air handling units. Modify controls to accommodate cooling at the unit.
2. xx - Remove tempering coils, replace with VAV terminal units. New coil hookups. Remove/save /replace ceilings at terminal units.
3. Provide 360-ton chiller plant. Plant shall consist of two 180-ton air-cooled screw chillers piped in a primary/secondary arrangement. Piping system will be equipped with expansion tank, end-suction pumps, and all typical hydronics accessories. Primary pumps will be 7.5 hp, secondary pumps will be 40 hp. Fluid will be 30% propylene glycol. Piping will be extended to all of the mechanical air handling rooms located throughout the building. Routing will be primarily on the roof.