

HORACE MANN SCHOOL

NEWTON EARLY CHILDHOOD PROGRAM
687 WATERTOWN STREET

DPW_TRANSPORTATION DIVISION
March 13,2019

DESIGN REVIEW COMMITTEE
March 13,2019

Newton Public Schools
Newton, Massachusetts

ARROWSTREET
10 POST OFFICE SQUARE
SUITE 700N
BOSTON, MA 02109
617.623.5555

www.arrowstreet.com

Hill International
75 SECOND AVENUE
SUITE 300
NEEDHAM, MA 02494
617.778.0900

www.hillintl.com

Design Review Committee Agenda

- » Preliminary Site Plan Concept
- » NECP Fit Plan
- » HVAC Systems/ Building Insulation

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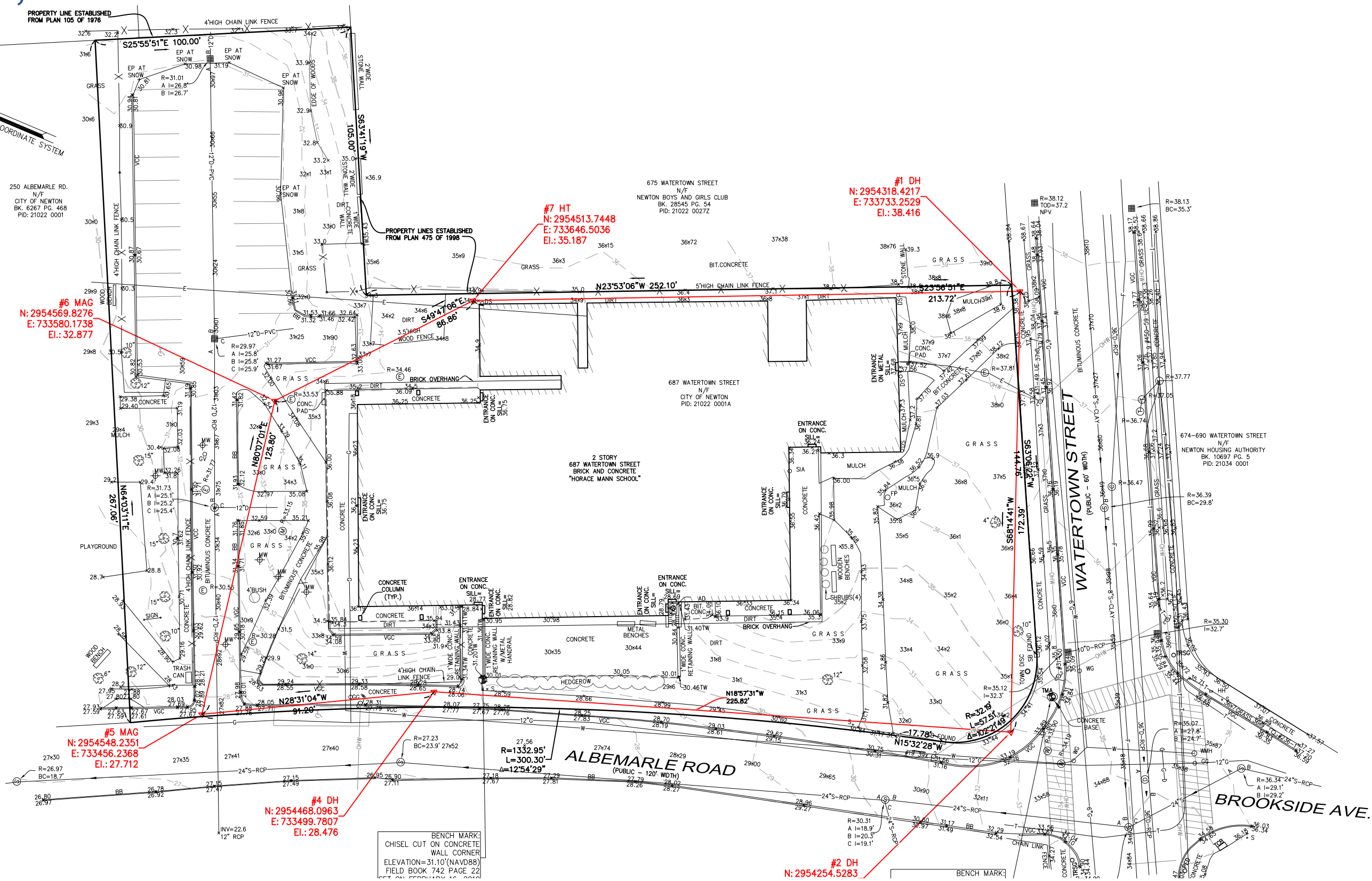
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687 Watertown Street



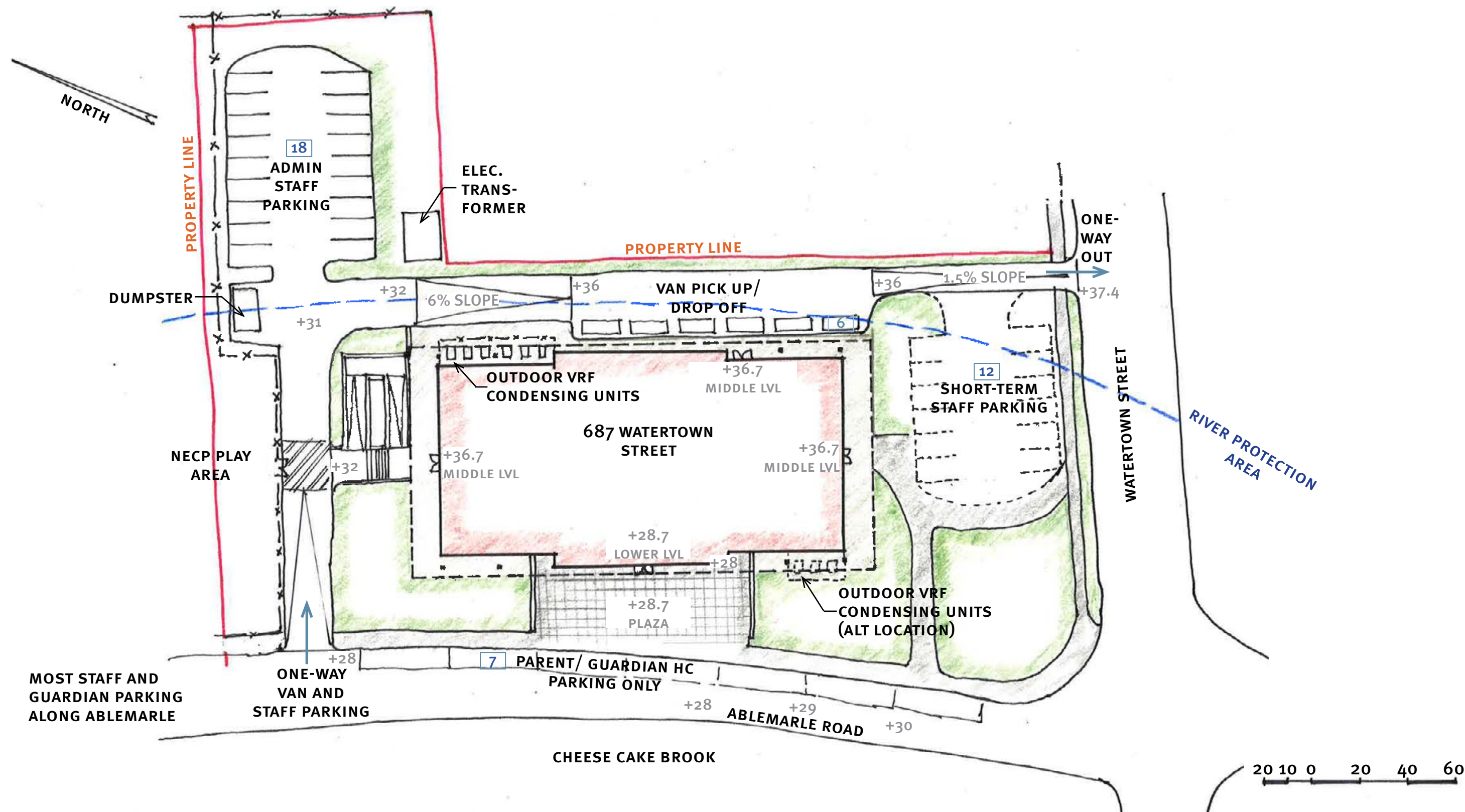
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Site Survey



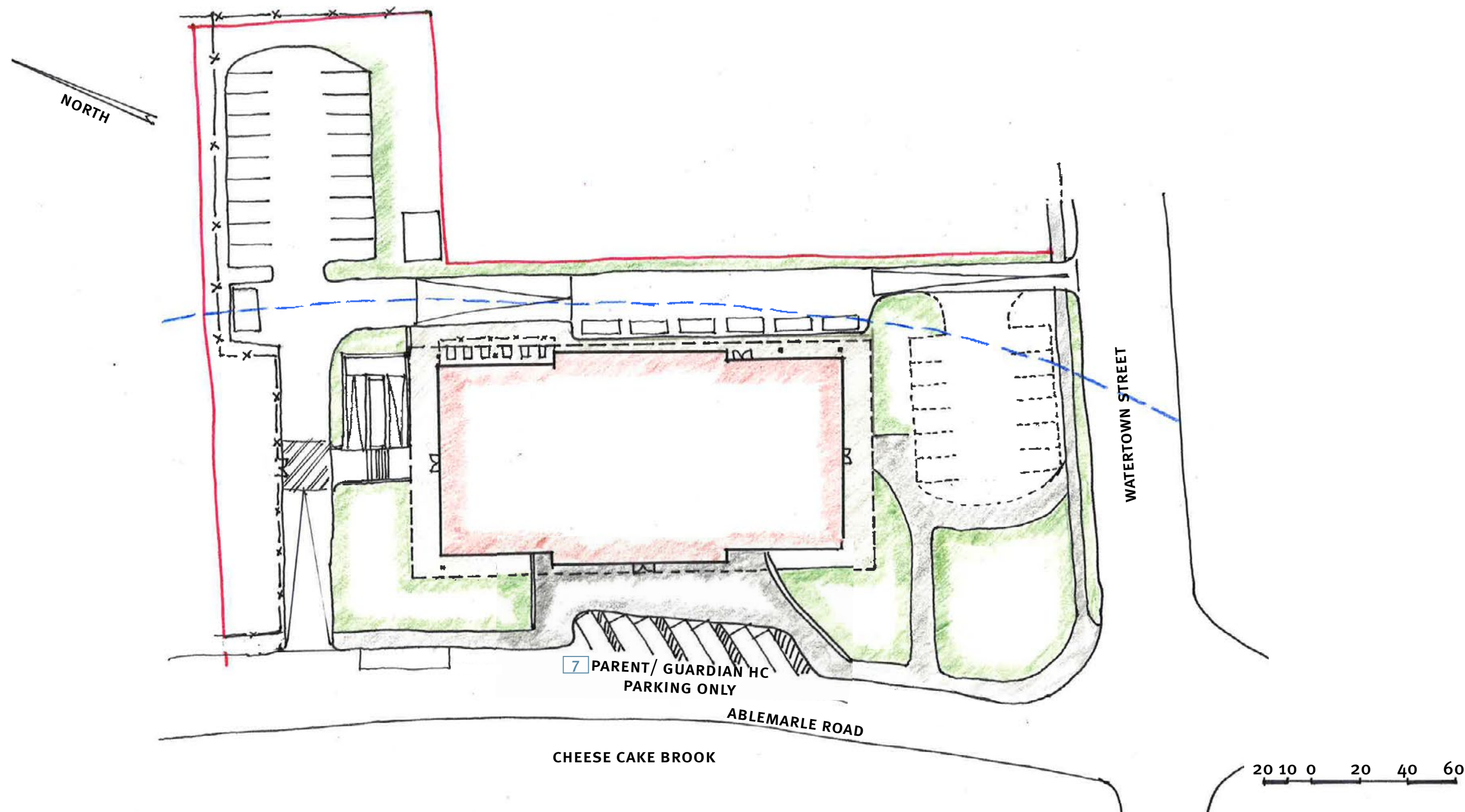
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Developed Option



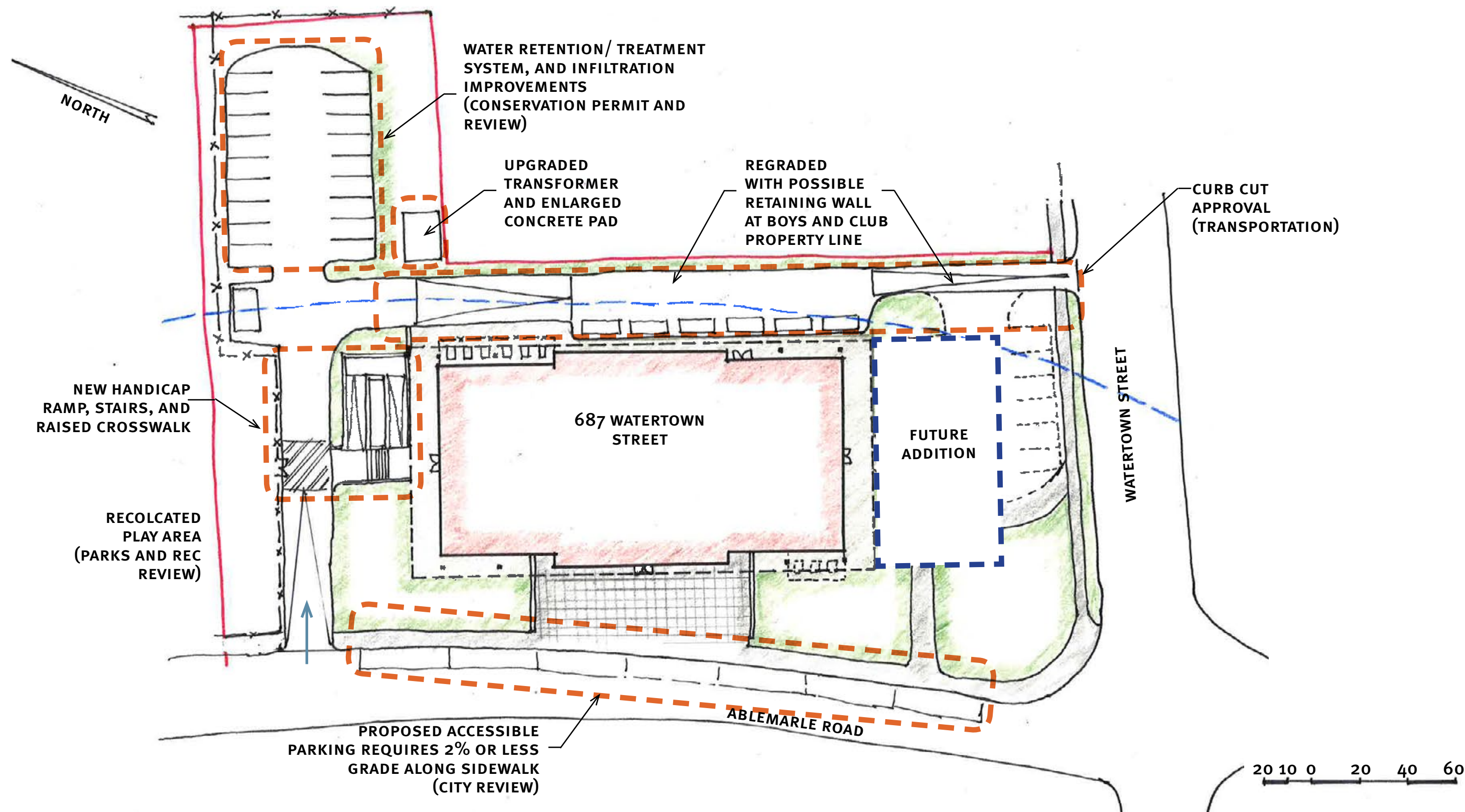
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Alternate HC Parking



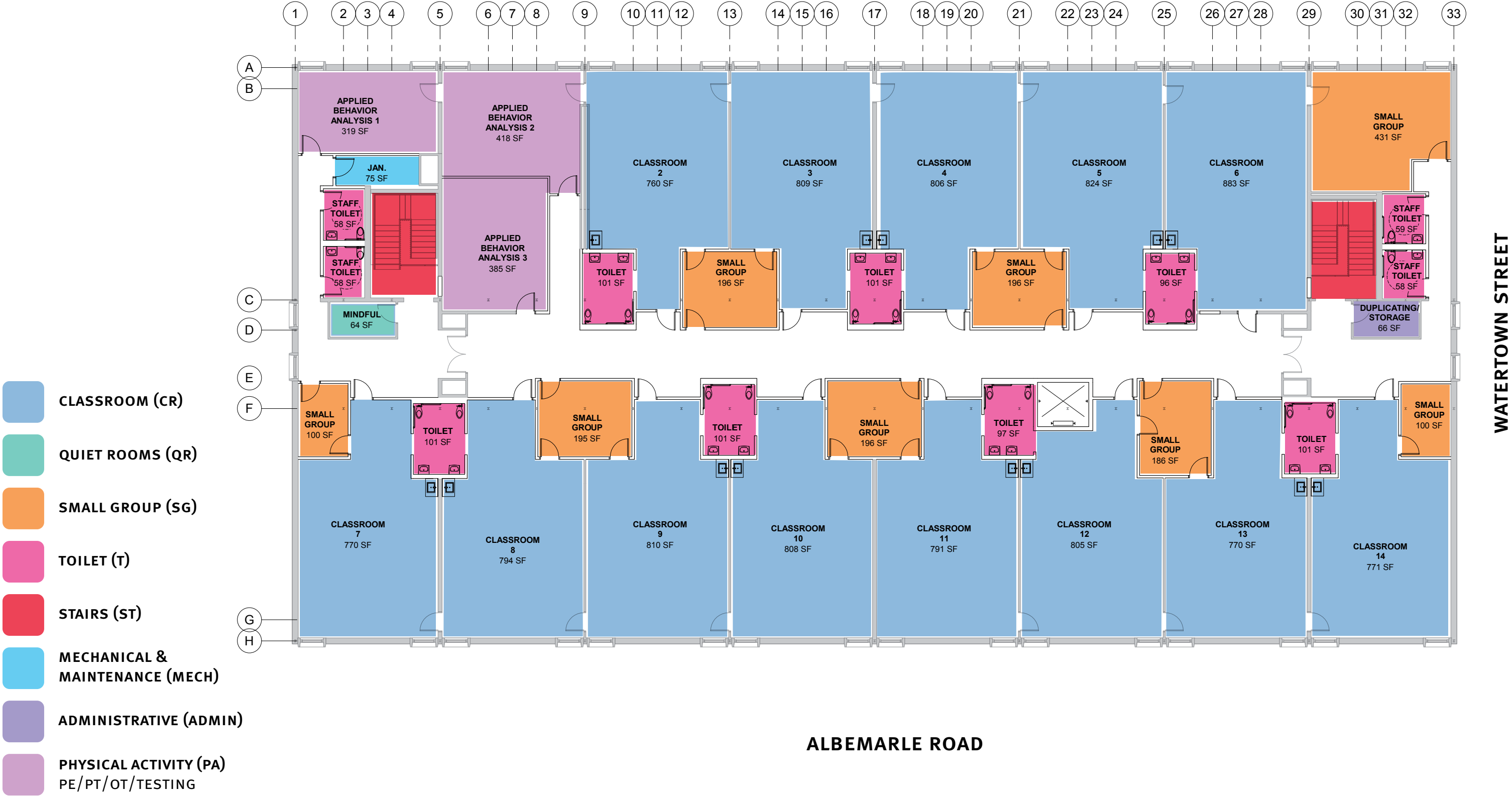
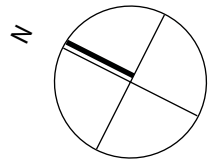
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Site Improvements



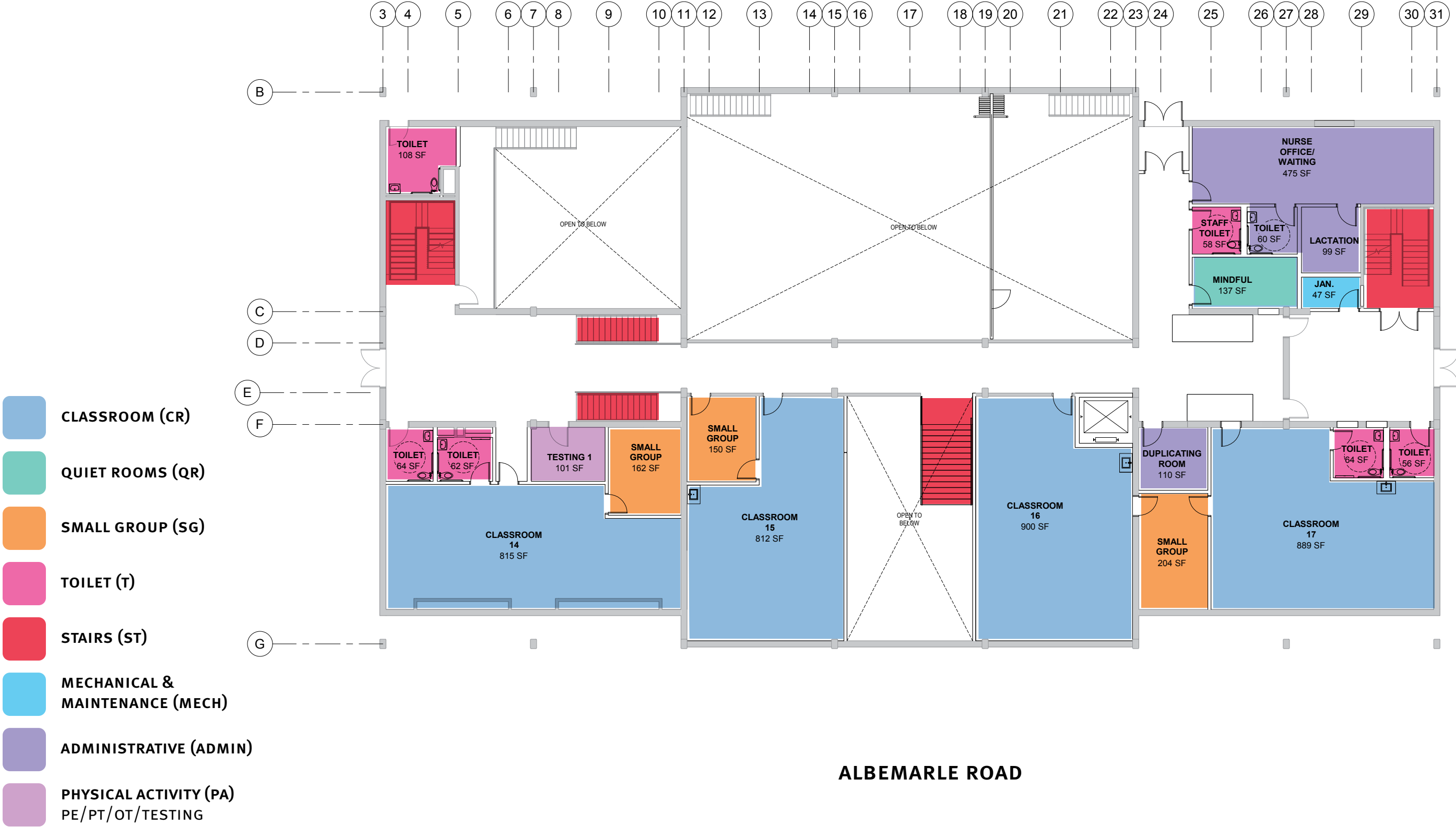
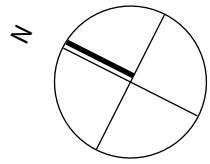
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Upper Level – Developed Option



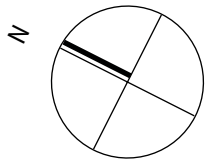
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Middle Level – Developed Option



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Lower Level – Developed Option



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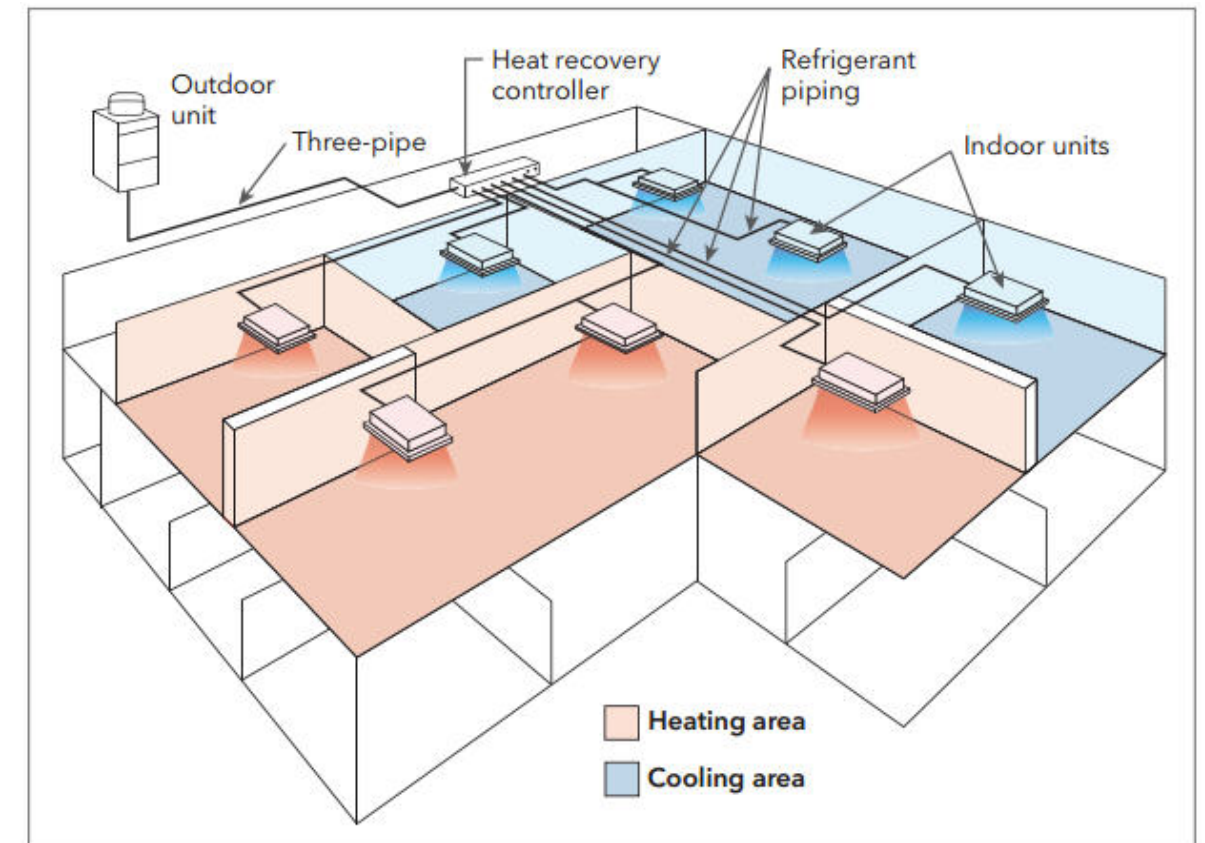
HVAC Systems Option 1

VARIABLE REFRIGERANT FLOW (VRF) SYSTEM - HEATING AND COOLING SYSTEM

- INDOOR VRF SYSTEM UNITS IN EVERY ROOM
- ON GRADE VRF CONDENSING UNITS- 6 UNITS REQUIRED
- DEDICATED OUTDOOR AIR ROOFTOP AIR HANDLING UNITS- 4 UNITS REQUIRED
- DUCTWORK SYSTEM FOR SUPPLY AND RETURN DISTRIBUTION

ARCHITECTURAL IMPACTS AND COST

- NEW DUNNAGE ON ROOF TO ACCOMMODATE 4 ROOF TOP UNITS
- PENETRATIONS THROUGH EXISTING SLABS FOR DUCTWORK SYSTEM
- ON GRADE AREA NEEDED FOR GROUND CONDENSERS
- ZERO COMBUSTION
- APPROX \$48/SF



Variable refrigerant flow systems can deliver cooling to some zones and heating to others, with no reheat needed (an air-source system is shown here).

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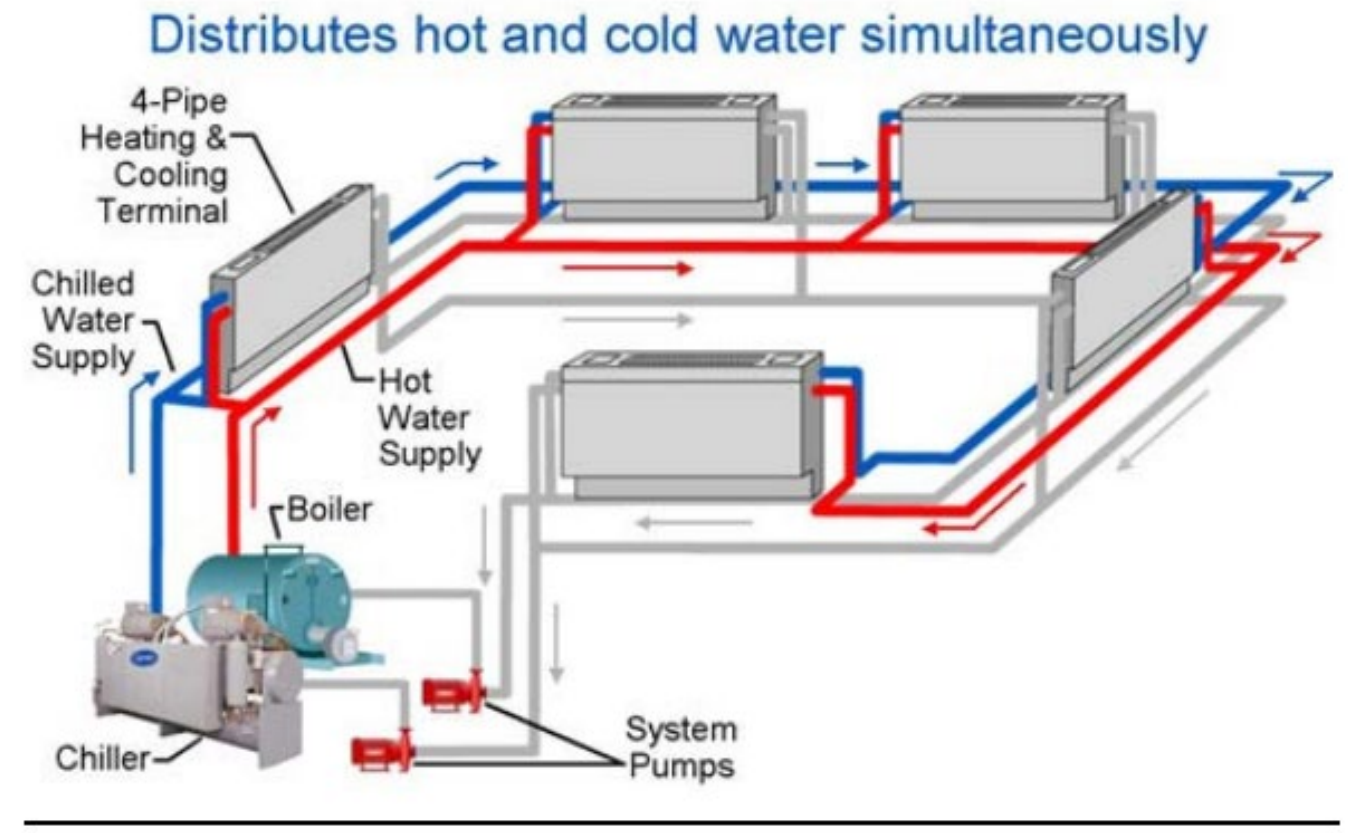
HVAC Systems Option 2

HOT WATER/ CHILLED WATER FAN COIL UNIT SYSTEM - HEATING AND COOLING SYSTEM

- INDOOR FAN COIL UNITS IN EVERY ROOM
- AIR COOLED CHILLER
- TWO NEW HOT WATER BOILERS
- HOT WATER PUMPS LOCATED THROUGHOUT THE BUILDING
- DEDICATED OUTDOOR AIR ROOFTOP AIR HANDLING UNITS- 4 UNITS REQUIRED
- DUCTWORK SYSTEM FOR SUPPLY AND RETURN DISTRIBUTION

ARCHITECTURAL IMPACTS AND COST

- NEW DUNNAGE ON ROOF TO ACCOMMODATE ROOF TOP UNITS
- PENETRATIONS THROUGH EXISTING SLABS FOR DUCTWORK SYSTEM
- INDOOR MECHANICAL SPACE NEEDED FOR BOILERS
- ON GRADE AREA NEEDED FOR CHILLER
- USES FOSSIL FUELS
- APPROX \$51/SF

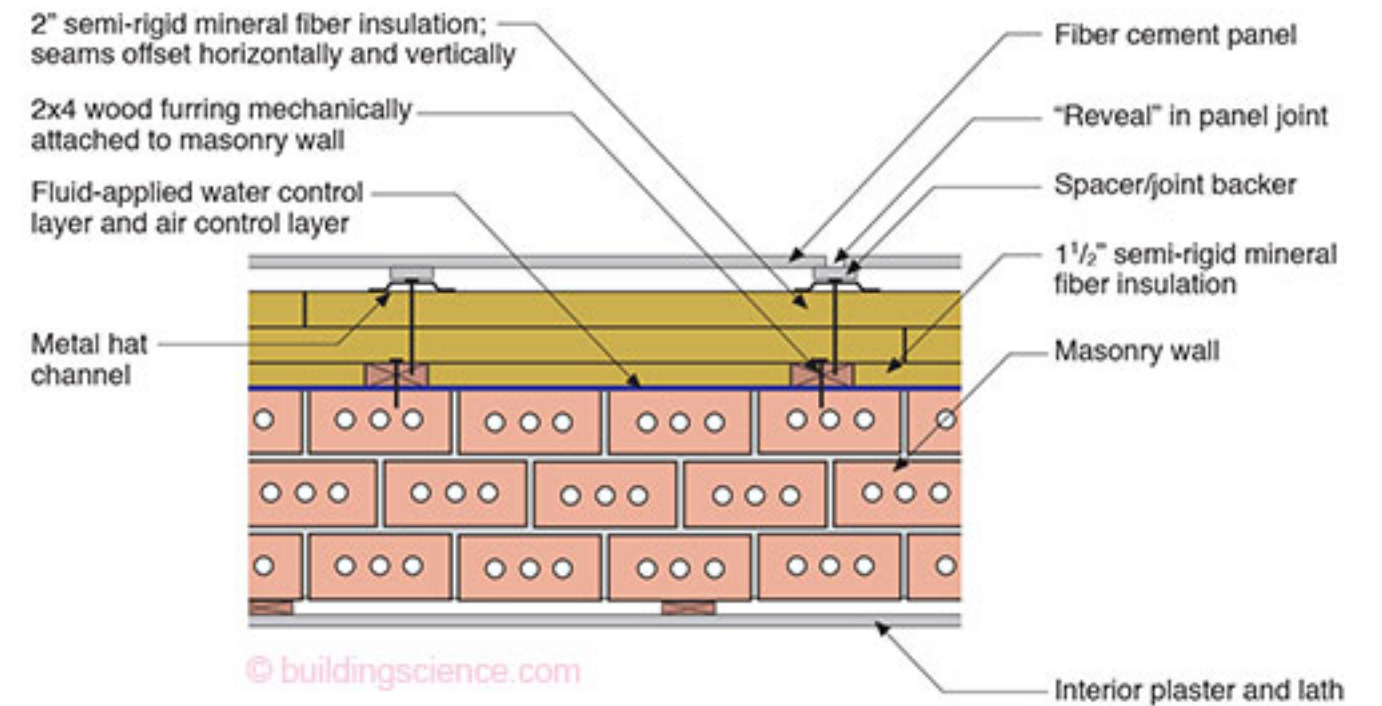


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Building Insulation Systems

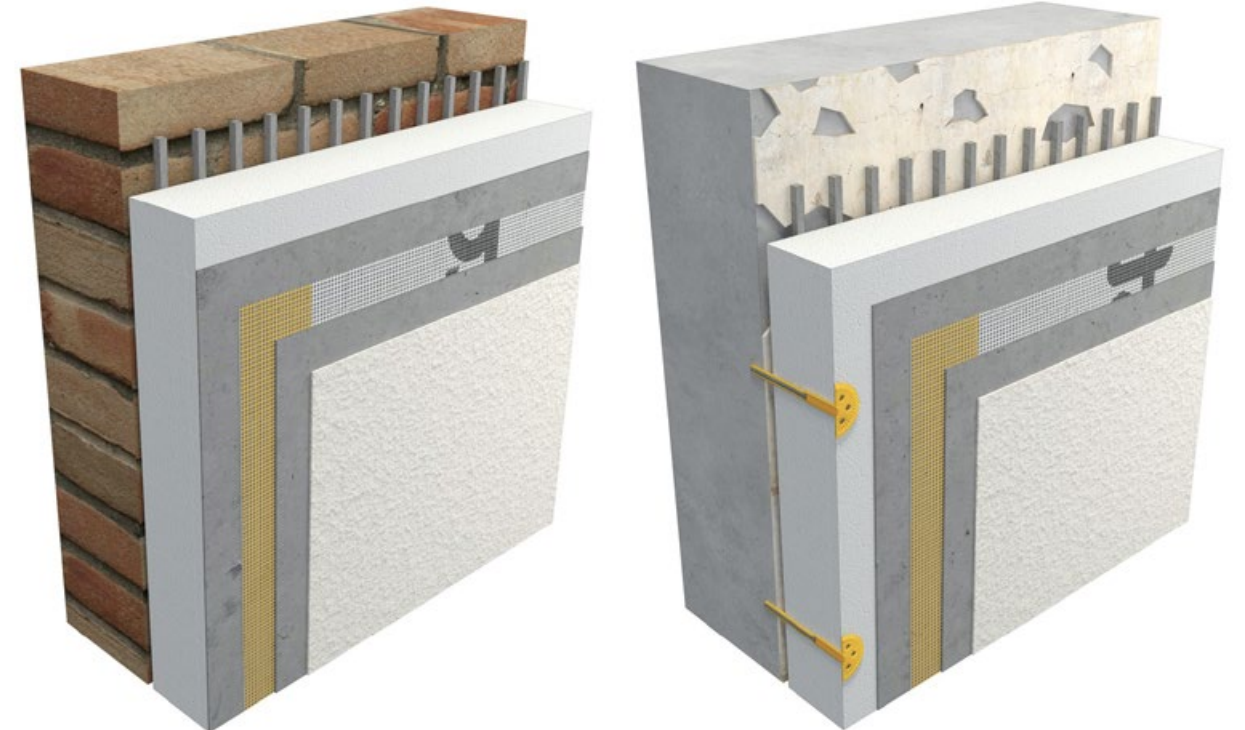
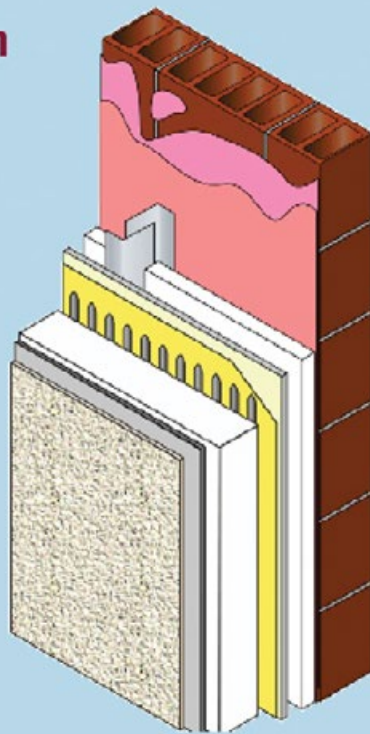
EXTERIOR APPLIED INSULATION SYSTEM

- VARIOUS APPROACHES
- EXTERIOR INSULATION FINISHING SYSTEM (EIFS)
- INTERIOR FURRING AND FINISHING
- APPROX \$700,000- \$800,000



Wall Assembly Renovation

- Repair of existing
- Angle at 16" on center
- Alignment angle
- 1" EPS
- Sheathing
- Moisture barrier
- 3" EIFS



Discussion

www.newtonma.gov/gov/building/capital_projects

www.lincolneliot-necp-projects.com

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