

WHAT ARE WATER SOURCE HEAT PUMPS?

A WATER SOURCE HEAT PUMP **HEATS AND COOLS A BUILDING USING WATER INSTEAD OF AIR** AS A SOURCE OF ENERGY.

THE SPECIFIC SYSTEM WE PROPOSE WILL HAVE **A CLOSED CIRCUIT & GAS-FIRED BOILER, AS WELL AS A DEDICATED OUTDOOR AIR SYSTEM (DOAS) WITH ENERGY RECOVERY.**

WHY THIS SYSTEM?

LOW INITIAL & LIFETIME COST OVER 20 YEARS

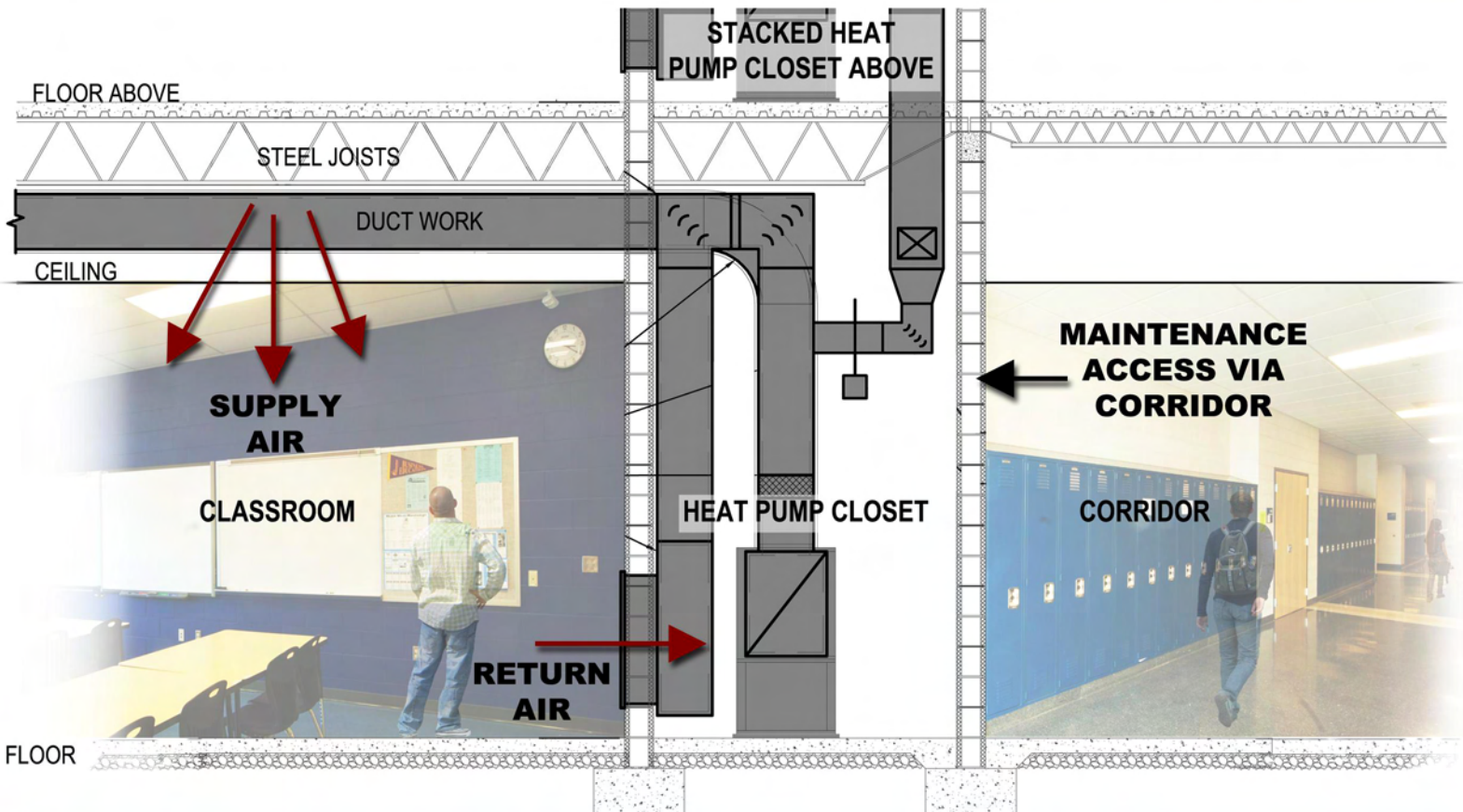
“EASY” ACCESS TO MAINTAIN EQUIPMENT

ONE UNIT PER “THERMAL ZONE” (I.E. EACH CLASSROOM)

WILL GROUP SIMILAR OCCUPANCIES TOGETHER

DOAS W/ ENERGY RECOVERY WHEELS, CO2 CONTROL

BASE- MOUNTED PUMPS FOR WATER CIRCULATION



STATE HIGH INFORMATION FAIR
MECHANICAL SYSTEMS



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DESIGN INTENT

ALL NEW PLUMBING FIXTURES

VITREOUS CHINA FIXTURES IN BATHROOMS

S/S SINKS IN VARIOUS AREAS

MANUAL FLUSH VALVES ON WATER CLOSETS

URINALS (LOW FLOW VS WATERLESS)

BATTERY OPERATED SENSOR FAUCETS

SOLIDS INTERCEPTORS IN ART SINKS

BI-LEVEL WATER COOLERS

ALL NEW PIPING

DOMESTIC, WASTE, VENT, GAS, ETC.

GAS-FIRED HOT WATER GENERATOR

HIGH EFFICIENCY STORAGE TYPE

DISTRIBUTE 140°F WATER

MIXED DOWN AT POINT OF USE

FULLY SPRINKLERED BUILDING

STANDPIPE SYSTEM IN 2 PODS

FIRE PUMP REQUIRED

ACID NEUTRALIZATION SYSTEM

OUTDOOR CONCRETE VAULT TYPE

LIMITED RAINWATER HARVESTING SYSTEM

10,000 GALLON STORAGE TANK

GREY-WATER USE FOR PLUMBING

FIXTURES OR HVAC MAKEUP WATER

SKID-MOUNTED PROCESSING EQUIPMENT



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DESIGN INTENT

NEW POWER DISTRIBUTION

ELECTRICAL SWITCHBOARD FOR EACH UTILITY SERVICE

NEW PANELBOARDS THROUGHOUT THE BUILDING

POWER WIRING & DISCONNECTING PROVIDED FOR HVAC, PLUMBING, & OWNER FURNISHED EQUIPMENT

LED LIGHTING INTERIOR

2 X 2 RECESSED FIXTURES FOR CLASSROOMS (AVG 35 - 50 FOOTCANDLES)

2 X 4 RECESSED FIXTURES FOR CORRIDORS (AVG 10 - 20 FOOTCANDLES)

DECORATIVE FIXTURES SELECTED FOR SPACES LIKE MAIN ENTRY, LIBRARY, ETC.

ILLUMINATING ENGINEERING SOCIETY (IES) RECOMMENDATIONS SHALL BE MET FOR LIGHTING LEVELS

DIGITAL LIGHTING MANAGEMENT SYSTEM

FOUR-BUTTON LOW VOLTAGE WALL STATION FOR LIGHTING CONTROLS

VACANCY SENSORS TO PROVIDE AUTOMATIC 'SHUT-OFF'

PHOTOSENSORS IN SELECT ROOMS FOR DAYLIGHT HARVESTING

INTEGRATED CONTROL SETBACK FOR HVAC IN EACH SPACE WHEN ROOM IS UNOCCUPIED

INTEGRATED PLUG LOAD REDUCTION DESIGNED TO SHUT OFF POWER TO SPECIFIC RECEPTACLES IN CLASSROOMS & OFFICES WHEN SPACE IS UNOCCUPIED.

DATA CENTER RELOCATION TO SOUTH BUILDING

EMERGENCY GENERATOR SETS

EACH SERVICE TO HAVE DEDICATED GENERATOR

EMERGENCY GENERATOR SETS (CONT.)

EACH EMERGENCY SYSTEM WILL BE PROVIDED WITH (2) NEW AUTOMATIC TRANSFER SWITCHES, A CONTRACTOR FOR EMERGENCY ONLY LOAD, AND AN AREA PROTECTION PANEL FOR EMERGENCY LIGHTING CONTROL.

GENERATORS WILL POWER EGRESS LIGHTING, EXIT SIGNS, SYSTEM HEAD END EQUIPMENT.

BUILDING SYSTEMS

VOICE OVER INTERNET PROTOCOL (VOIP) PROVIDED BASED ON SCHOOL DISTRICT'S CURRENT SYSTEM.

INTERCOM SYSTEM WITH THE ABILITY TO MAKE PROGRAM CHANGES VIA A NETWORK WEB PORTAL

ENTIRE BUILDING PROVIDED WITH WIRELESS ACCESS POINT CONNECTIONS

FIRE ALARM SYSTEMS

THE FIRE ALARM SYSTEM WILL BE A DIGITAL ADDRESSABLE SYSTEM.

VISUAL/AUDIBLE AND VISUAL NOTIFICATION DEVICES SHALL BE PROVIDED AS REQUIRED BY CODE.

CARBON MONOXIDE DETECTORS SHALL BE PROVIDED AT ALL ROOM WITH A NATURAL GAS CONNECTION.

SECURITY & ACCESS CONTROL SYSTEMS

ACCESS CONTROL SYSTEM WILL BE BASED UPON THE DISTRICT WIDE SYSTEM.

ACCESS CONTROL CARD READERS WILL BE LOCATED AT AREAS AS DIRECTED BY THE SCHOOL DISTRICT.

SECURITY SYSTEM SHALL HAVE PANIC BUTTONS LOCATED IN THE MAIN OFFICE FOR EMERGENCY SITUATIONS.

INTERNET PROTOCOL CLOSED CIRCUIT TELEVISION (IP CCTV) COVER SHALL BE THROUGHOUT ALL GENERAL AREAS OF THE BUILDING.



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ELECTRICAL SYSTEMS



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