

**SKOKIE SCHOOL
DISTRICT 73.5**

SKOKIE SCHOOL DISTRICT 73.5
800 EAST PRAIRIE ROAD
SKOKIE, ILLINOIS 60076

MASTER FACILITY PLAN

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Enlightened Design Practical Solutions



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SKOKIE SCHOOL DISTRICT 73.5

MASTER FACILITY PLAN

JANUARY 7, 2020

INTRODUCTION

A school district is the anchor of the community in which it is located and which it serves. It reflects the population's commitment to education. This new 2020 Facilities Master Plan document, formulated by GreenAssociates Architects and 2010 Engineering Group, provides the District with information about the current condition of its school buildings, recommendations for facility improvements specific to each school, and other long-term recommendations for implementation. This focus on planning helps the district maintain the educational environment to support its programs and curriculum.

RECOMMENDATIONS

Maintenance needs and aging buildings exemplify most of the reasons for the recommendations. Other national educational trends for facility improvements - including flexible learning spaces and furniture, energy and sustainable initiatives, and small group learning have also been included. Ideally, all of these considerations should be incorporated as any improvement program moves forward.

Each recommendation in the report should fulfill at least one of the following criteria:

1. Educational effectiveness. Does it support the educational programs today and in the future? Does it provide a better learning environment?
2. Strategic Plan. Does it implement goals of the District?
3. Flexibility. Does it provide flexible usable space? Does it hinder future decisions?
4. Equity. Does it provide equity across the district facilities?
5. System evaluation or building component. Has equipment reached its useful life? Does it improve user comfort, connection to local/global community, or safety and security?
6. Green. Does it consider use of sustainable or energy saving practices and materials.
7. Cost effectiveness. Is it fiscally responsible?

The recommendations are categorized into the following areas for ease of tracking, with costs and schedule information provided:

1. Building Interior
2. Building Exterior and Site
3. Heating, Ventilating and Air Conditioning
4. Plumbing
5. Power
6. Lighting
7. Systems

This Master Facility Plan serves as a working plan for the educators, architects and engineers, parents and community members to understand the improvements needed to realize District 73.5's vision and care of its facilities.

SKOKIE SCHOOL DISTRICT 73.5
ELIZABETH MEYER SCHOOL

**2020 FACILITIES ASSESSMENT AND
NARRATIVE OF OBSERVATIONS**



BACKGROUND

Located at 8100 Tripp Avenue, Skokie, the building has a total of 44,176 square feet. The original building was built in 1994 with an addition in 2017 that added classrooms, offices, Art & Music, Library Resource Center and Gymnasium. The facility currently functions as a Pre-School and Kindergarten with approximately 198 students.

METHODOLOGY

The purpose of the study is to give the District knowledge of the current facility and a look towards future work for planning purposes. The study consists of infrastructure (building envelope, mechanical and electrical systems, site) and program concerns (instructional, aesthetic, and general). Recommendations are summarized following the narratives and can be categorized by priority and assigned a target year for implementation.

1. BUILDING INTERIOR

In general the original building is in very good condition for its age. The addition in 2017 doubled the size of the building and serves as a nice compliment. Along with the addition was a major increase in parking, underground stormwater storage, and a new updated playground. A storm shelter was also included in the design of the 2017 project.

The building walls are constructed of painted concrete block walls along with interior walls of painted gypsum board and vinyl wall covering on gypsum board. Ceilings consist of acoustical lay-in panels. Floors are concrete slab on grade with VCT and carpet floor finishes.

The following is a list of minor carpentry issues and concerns that were observed: The Multi-Purpose Room has two wood sills at the windows on east elevation that have warped and need to be replaced. Classroom #23 desk/countertop is sagging and needs adjustment. Conference Room #43 and Classrooms #39 and 40 have casework issues in regard to broken/missing plastic laminate along the exterior wall. The desk/countertops are sagging and need adjustment.

2. BUILDING EXTERIOR

The exterior wall construction is brick face cavity wall with concrete block backup – 14" wall thickness. The following is a list of site items that were noted: A portion of the raised ADA warning grid is missing and needs replacement at the north drive. The exterior drinking fountain on the wall at the south end of the playground is rusting out at the bottom and replacement should be considered. The asphalt at apron and driveway at the dumpster area on the south end of the building needs repair. GA was informed that the far end of the field is often under water.

Roofing:

Condition: All flat roof areas throughout the entire building are a modified bitumen roof membrane system and remain under warranty. There are two sections of pre-finished standing seam metal roofing located over the main entrance and over the library resource center and are in good serviceable condition. Pre-finished steel counterflashings, roof expansion joints, copings, and edge flashings at applicable roofing areas, were found to be in good condition and intact. Internal roof drains within each flat roof area were found to be clean and free flowing. Gutters and downspouts at the standing seam roofing systems are in good serviceable condition. Located at the northeast corner of the gymnasium, one vertical seam was found open. Located above Kindergarten 070, one small air blister was discovered. Within the area of the 2008 roof replacement, surface blistering has occurred throughout the area averaging in size of approximately 2-3 square feet up to 12 square feet in size.

Recommended repairs: All areas remain under roofing manufacturer's warranty. It is recommended to contact system manufacturer to make a claim and determine appropriate corrective work for blistered surfaces. Patch and repair one open joint at base flashing located at northeast corner of gymnasium. Upon completion of blister repairs, apply urethane roof coating throughout 2008 roofing replacement to prolong the life of the roof system after 2023. The aluminum roof access ladder should be brought to 5" minimum from the interior face of the access roof hatch allowing enough room for the toe of a shoe. There appears to be a component missing from the ladder safety post allowing a smoothing operation to retract post when standing on ladder. These items should be corrected or the use of the ladder discontinued. (there is another ladder in the addition).

Maintenance and monitoring: Roofing membrane and flashings should be inspected twice a year. Sealants at metal flashing should be inspected twice a year. Debris should be removed from all roof areas and gutter/downspouts in the spring and fall.

3. HEATING, VENTILATING, AND AIR CONDITIONING

The 2017 addition is served by a geothermal heating/cooling system consisting of a wellfield with pumps circulating condenser water throughout the building to indoor heat pump units. The entire system is in excellent condition and shouldn't need any equipment replacements for around 20 years.

The original 1994 area of the building has a central hot water plant consisting of a single Bryan HECL-150 boiler with output capacity of 1,200MBH along with hot water circulation pumps, air separator, expansion tank, etc. Hot water is pumped throughout the 1994 area to serve perimeter finned tube radiation, cabinet unit heaters, convectors, hot water coils at Fan Powered boxes, and the hot water coil in the main air handling unit. The boiler has approximately 10 years of useful life left. We recommend that the refractory be inspected and repaired to extend the life of the boilers. We also recommend that consideration be given to replacing the single boiler with 2 boilers to provide some redundancy which currently does not exist.

The original 1994 area of the building has a central cooling plant consisting of a single aircooled water chillers, chilled water pump, air separator, expansion tank, etc. Chilled water is utilized to serve the chilled water coil in the main air handling unit. The chiller is a Carrier model with 80 tons nominal capacity. It was installed in 2013 and has approximately 15 years of remaining life.

Ventilation for the 1994 classrooms and gymnasium is provided by the main air handling unit and associated fan powered boxes installed in 1994. The main air handling unit should have another 10 years of life left, but we recommend that it be refurbished with new motor, bearings, dampers, etc. There is no redundancy with this unit, so if it fails, it affects most of the 1994 building area. The fan powered boxes should be scheduled for replacement in the next 5 years.

The administrative office area is served by a packaged rooftop unit that was installed in 2013. This unit should be scheduled for replacement in the next 10-15 years.

The pneumatic temperature controls remaining in the building are failing with constant system leaks. We recommend that all pneumatic temperature controls be removed and replaced with direct digital controls with electronic valve/damper operators.

Given the amount of work recommended to the original 1994 HVAC system in the next 5-10 years, consideration should be given to changing the system to a geothermal heating/cooling system to match the rest of the building. This would result in operational and maintenance cost savings going forward.

4. PLUMBING

The building is served by a single 6" water main. This water main supplies city water to the fire protection sprinkler system and the domestic water system. The domestic water service has a 3" water meter and 3" Reduced Pressure Zone (RPZ) backflow preventer. The domestic water is distributed throughout with copper piping. There is a separate 2" water main supplying domestic water to the storm shelter area. This service is complete with a water meter and RPZ backflow preventer.

Domestic hot water is supplied by three water heaters. There is a gas fired water heater, Bock model EZ-75, 67 gallon, 135,000 btuh, located in the original boiler room supplying the south end of the building. There is an electric water heater, AO Smith model DRE-52, 18KW, located in the north mechanical room supplying hot water to the north end of the building. There is an electric water heater, AO Smith model DEN-30, 4.5KW, located in the storm shelter supplying hot water only to the sinks in the storm shelter.

A majority of the plumbing fixtures in the original building are old and antiquated. The remaining plumbing fixtures in the 2017 addition are all in good condition.

The kitchen has large triple compartment sink, hand washing sink and a grease separator. The triple compartment sink is lacking the required side drain boards. The existing cast iron grease separator should be replaced with a HDPE type separator for longevity.

5. POWER

The electrical service is fed from a pad mounted utility transformer located at the south end of the building. The service entrance conductors are routed underground to a CT/Meter cabinet mounted on the exterior wall before going underground again to the main electrical room. The main switchboard is rated 1600 amperes at 480/277V-3Ph-4W. It is manufactured by Square D and original to the 1994 building. It contains (2) service disconnect switches; one serving the chiller, the other serving the distribution section feeding loads throughout the building. The switchboard and electrical panels in the building are in good condition and the

service capacity is adequate for a building of this size. Thermal imaging scan is recommended at the switchboard and panelboards as a preventative measure to ensure all connections are secure and properly terminated.

Grounding electrode conductor was observed at the main domestic water service, however, the bonding jumper across the water meter is undersized. It is recommended to replace the bonding jumper to be same size as the grounding electrode conductor.

Lighting/receptacle panels vary in age with panels original to time of construction. A distribution panel in the main electrical room and a mechanical panel in the boiler room contain fusible switches but all other electrical panels contain circuit breakers. The panels are in good condition with majority of panels containing spaces for additional loads.

Receptacles are located throughout the building and appears to be adequate. Since the building primarily serves children under the age of 7, it is recommended to replace receptacles in classrooms of the 1994 building to be tamper-resistant type to match current code and industry standards.

The building has no back-up generator in the event of power outage. It is recommended to add a natural gas generator to provide back-up power to network equipment, refrigerators/freezers, card access & burglar alarm systems.

6. LIGHTING

Lighting inside the building is of varying style and age. Majority of lighting in the 1994 building are fluorescent with some fixtures observed to be retrofitted with LED tubes. All the lighting in the 2017 addition are LED type with occupancy sensors located throughout. It is recommended to replace lighting in the 1994 building to energy efficient LED lighting with occupancy sensors to save energy and meet current energy code.

Lighting outside the building is also of varying style and age. Lighting in the 1994 building appear to be HID type and are recommended to be replaced with new LED type. Lighting in the 2017 addition as well as the staff parking lot are LED and are in excellent condition.

Exit signs and emergency lighting appear to be adequately provided throughout the building except the gender-neutral restrooms, which are lacking emergency lighting. The exit signs and emergency lighting contain battery back-up and appear to be in fair condition in the 1994 building and excellent condition in the 2017 addition.

7. SYSTEMS

Fire Alarm System

The existing fire alarm control panel is manufactured by Simplex #4002 and located in the main electrical room. The system is a conventional zoned system with initiating and notification devices located throughout the building. Since the building is fully sprinklered, there are minimal initiating devices located in the building. Although the system is in fair condition, the existing panel has been discontinued and parts and service will be limited with time. It is recommended to upgrade the existing system with new addressable type fire alarm system with voice evacuation to match current code requirements.

Intercom System

The existing intercom system is manufactured by Dukane Carehawk. It is located in the MDF room and is in good condition. Speakers are located throughout the building and appear to be adequate.

Clock System

The existing clock system is a combination wired/wireless clock system manufactured by Dukane. It is located in the MDF room and is in good condition. Clocks are located throughout the building and appear to be adequate.

Fire Protection System

The building is fully sprinklered. The sprinkler system is protected by a 4" Reduced Pressure Zone Detector (RPDA) type backflow preventer.

SKOKIE SCHOOL DISTRICT 73.5
JOHN MIDDLETON ELEMENTARY SCHOOL

**2020 FACILITIES ASSESSMENT AND
NARRATIVE OF OBSERVATIONS**



BACKGROUND

Located at 8300 St. Louis Avenue, Skokie, the building has a total of 71,684 square feet. The original building was built in 1954 with the following additions: South Classroom Addition – 1956; West Classroom Addition – 1961 and Multi-Purpose Room Addition in 2017. The facility is currently an Elementary School with grades 1-5 and approximately 370 students.

METHODOLOGY

The purpose of the study is to give the District knowledge of the current facility and a look towards future work for planning purposes. The study consists of infrastructure (building envelope, mechanical and electrical systems, site) and program concerns (instructional, aesthetic, and general). Recommendations are summarized following the narratives and can be categorized by priority and assigned a target year for implementation.

1. BUILDING INTERIOR

In general the building is in good condition for its age and classroom furniture has been updated. The Multi-Purpose Room Addition in 2017 was a significant benefit to the student programming. Outdoor learning areas also exist in the form of a greenhouse in the courtyard and a garden at the southeast corner of the building. An update is needed to both the Learning Center and cafeteria learning environments.

Typical of the 1950/1960 construction, the interior consists of painted concrete block walls. Ceilings are acoustical panel ceilings, with carpet and VCT floor finishes.

Numerous restrooms in the facility are not handicapped accessible and should be corrected as renovations take place, and classroom sinks reviewed for height and paper towel heights.

Updated finishes are recommended in the Cafeteria, Learning Center, Drama, Art, as well as the Gym floor refinishing. Acoustical sound absorbing panels are also recommended in the Cafeteria. Providing more flexible moveable furniture in the Learning Center is also encouraged.

2. BUILDING EXTERIOR

The exterior wall construction of the original building and the two additions (1956 and 1961) are face brick with concrete block backup. The following items were noted: masonry tuck pointing needed at north elevation of gym, replacement of metal siding above window at stairway of west end (two story addition), (6) window screens, and replacement of fence at mechanical enclosure south of Boiler Room.

Recommended repairs to hard surfaces include concrete walk at east side of building near garden as well as asphalt paving at circle drive near alley, staff parking along alley, and parking along south end of building. The Village North alley concrete is in very poor condition.

Roof:

Condition:

All low sloped roof areas throughout the building are a modified bitumen roof membrane system with an applied coating. One steep slope roof area over the multipurpose room is a prefinished steel standing seam roof which was completed in 2017. Pre-finished steel counterflashings, roof expansion joints, copings, and edge flashings at applicable roofing areas, were found to be in good condition and intact. Internal roof drains within each flat roof area were found to be clean and free flowing. Gutters and downspouts at the standing seam systems and low sloped roof above the gymnasium are in good serviceable condition. Surfaces throughout the east classroom wing, music rooms, north lobby and mechanical space retain water and does not flow to internal roof drains and shows signs of previous repairs. Roof surfaces above the furthestmost east classrooms appear to be soft under foot and presents an audible crystallized sound periodically when walking across the surface. There is no visible evidence of air pockets and it has been reported there are not leaks in the spaces below. Exact conditions are unknown at this time. This area also has signs of multiple surface repairs. Minor blistering is apparent on the 2-story wing along the south edge of the roof along the roof saddles adjacent to two of the internal downspouts. Where trees have been cut back from the north and west classroom wings, moss is apparent on the surface. The trees in this area have been cut back to allow air circulation and exposure to sunlight to help dry surfaces. It has been reported the southwest roof area between classroom 161 and stairs 260 holds water and does not drain with great efficiency through the existing 2" in diameter. This has caused the applied surface coating to present surface cracks, surface peeling, and wear.

Recommended repairs: All areas remain under roofing manufacturer's warranty. It is recommended to contact system manufacturer to make a claim and determine appropriate corrective work for defective areas. It is also recommended to perform an IR (infrared) scan of the surfaces that are soft and suspect to unknown conditions to the existing substrate. Upon completion of blister repairs, apply urethane roof coating throughout roofing surfaces to prolong the life of the roof system after 2025. Lightly power wash all organic materials from roof surface to prevent vegetation growth.

Maintenance and monitoring: Roofing membrane and flashings should be inspected twice a year. Sealants at metal flashing should be inspected twice a year. Debris should be removed from all roof areas and gutter/downspouts in the spring and fall. Manage tree overgrowth to allow roof surfaces to dry and prevent surface damage.

3. HEATING, VENTILATING, AND AIR CONDITIONING

The building has a central hot water plant consisting of 2 Bryan RV-450 boilers with output capacity of 3,600MBH each along with hot water circulation pumps, air separator, expansion tank, etc. Hot water is pumped throughout the building to serve unit ventilators, perimeter finned tube radiation, cabinet unit heaters, convectors, and the hot water coil in the gym air handling unit. The boilers were installed in 1996 and have approximately 10 years of useful life left. We recommend that the refractory be inspected and repaired to extend the life of the boilers.

The building has a central cooling plant consisting of 2 air cooled water chillers, chilled water pumps, air separator, expansion tank, etc. Chilled water is pumped throughout the building to serve unit ventilators, and chilled water coils in air handling units. Both chillers were manufactured by Carrier and are 160 tons nominal capacity. They were installed in successive years, 2013 and 2014, and have approximately 15 years of remaining life.

Ventilation for the classrooms is largely provided by under-the-window unit ventilators installed in 1996. The unit ventilators should be scheduled for replacement in the next 10 years.

The unit ventilators in the classroom wings currently utilize the egress corridors for relieving air introduced by the unit ventilators. This is against current code and should be corrected when the unit ventilators are replaced.

Reznor gas fired make-up air units are provided to serve classroom corridors. These units are 23 years old, at the end of their useful life, and should be replaced.

Ventilation for the gymnasium is provided by an indoor air handling unit which was installed in 1996 and is fair condition. This unit should be scheduled for replacement within the next 10 years.

The administrative office area is served by a packaged rooftop unit that was installed in 2010. This unit should be scheduled for replacement in the next 10 years.

The 2017 gymnasium addition is served by a packaged heating/cooling rooftop unit. The unit is in excellent condition and won't need replacing for 15-20 years.

The kitchen has no mechanical ventilation – there are grilles in the wall to the cafeteria which allow transfer air only whenever the kitchen hood is on. There isn't sufficient openable windows/door area to comply with current ventilation code by "natural" ventilation. We recommend providing a ceiling suspended unit ventilator to provide code required outside air ventilation to the space.

There are some original exhaust fans remaining on the roof which should be replaced in the next 5 years.

The server area is served by an exhaust fan which is insufficient to keep the room cool. We recommend a duct free split system be installed to air condition this room.

The pneumatic temperature controls remaining in the building are failing with constant system leaks. We recommend that all pneumatic temperature controls be removed and replaced with direct digital controls with electronic valve/damper operators.

4. PLUMBING

The building is served by two separate water mains. A 6" water main supplies city water to the fire protection sprinkler system and a separate 4" water main supplies city water to the domestic water system. The domestic water service has a 2" water meter and does not have backflow preventer. The water service

should be updated to utilize only the 6" water main. The 4" domestic water service should be capped at the street and domestic water should utilize the existing 6" water main. The domestic water service should be updated to include a Reduced Pressure Zone (RPZ) backflow preventer. The additional pressure drop at the backflow preventer may require the addition of a pressure booster system to maintain proper pressure in the building.

The domestic water is distributed throughout with original galvanized piping. The building is lacking sufficient shut-off valves to isolate toilet rooms and remaining plumbing fixtures for servicing. The existing galvanized piping should be replaced with copper piping. Shut-off valves should be replaced or added to provide proper shut-off to toilet rooms and all remaining plumbing fixtures.

Domestic hot water is supplied by two water heaters. The main water heater located in the boiler room is a gas fired AO Smith model BTR-120, 67 gallon, 120,000 btuh. This water heater serves a majority of the building. There is also a gas fired water heater, Rheem model PRO=G75, 75 gallon, 75,000 btuh, located in the kitchen and supplying hot water to the kitchen sinks.

A majority of the plumbing fixtures in the original building are old and antiquated. (2) large toilet rooms have been recently modeled. The remaining toilet rooms should be updated as well. Thermostatic mixing valves should be added to all lavatories and sinks used for hand washing. There are (9) classroom sinks that have cold water only, hot water should be added to these sinks.

The kitchen has large triple compartment sink, hand washing sink and a grease separator. The existing hand sink is located far from the dishwashing and food serving area. Additional hand sinks should be provided. The existing cast iron grease separator should be replaced with a HDPE type separator for longevity.

5. POWER

The main electrical service is fed from a pad mounted utility transformer located at the west end of the building. The service entrance conductors are routed underground to the main switchboard located in mechanical room 108B. The main switchboard is rated 2000 amperes at 480/277V-3Ph-4W. It is manufactured by Cutler-Hammer and installed as part of the 1996 renovation work. It is a sequence style switchboard with no single main disconnect switch. All (5) fusible switches in the switchboard are considered as service disconnects. Although this is code compliant, it does limit the quantity of switches in the switchboard to a maximum of six. It is recommended to replace the switchboard with one containing a main disconnect switch for ability to feed more than six loads. The switchboard and electrical panels in the building are currently in good condition and the service capacity is adequate for a building of this size. Thermal imaging scan is recommended at the switchboard and panelboards as a preventative measure to ensure all connections are secure and properly terminated.

The pad mounted utility transformer also provides a separate electrical service to the 480V-3Ph fire pump located in the mechanical room. The electrical meter is located adjacent to the fire pump controller.

Grounding electrode conductor was observed at the main domestic water service, however, the bonding jumper across the water meter is missing. It is recommended to add the bonding jumper such that the continuity of the grounding path is maintained without relying on the presence of a water meter.

Lighting/receptacle panels are located throughout the building. They all appear to be installed/retrofitted as part of the 1996 renovation work and are in good condition with majority of panels containing spaces for additional loads. The distribution panels in the mechanical room contain fusible switches but all other electrical panels contain circuit breakers.

Receptacles are located throughout the building and appears to be adequate except for the classrooms. The classrooms appear to only have a single receptacle on opposite walls that is typical for the time at which those classrooms were built. It is recommended to add additional receptacles in each classroom to support power needs of modern classrooms.

The building has no back-up generator in the event of power outage. It is recommended to add a natural gas generator to provide back-up power to network equipment, refrigerators/freezers, card access & burglar alarm systems.

6. LIGHTING

Lighting inside the building is of varying style and age. Majority of lighting in the building are fluorescent with some fixtures observed to be retrofitted with LED tubes. All the lighting in the 2017 multipurpose room addition are LED type with occupancy sensors. It is recommended to replace lighting in the rest of the building to energy efficient LED lighting with occupancy sensors to save energy and meet current energy code.

Lighting outside the building is also of varying style and age. Lighting in the older portion of the building appear to be HID type and are recommended to be replaced with new LED type. Lighting in the 2017 multipurpose room addition are LED and are in excellent condition.

Exit signs and emergency lighting appear to be adequately provided throughout the building except the gender-neutral restrooms, which are lacking emergency lighting. The exit signs and emergency lighting contain battery back-up and appear to be in fair condition in the older portions of the building and excellent condition in the 2017 multipurpose room addition.

7. SYSTEMS

Fire Alarm System

The existing fire alarm control panel is manufactured by Fire-Lite #MS-9200 and located in the boiler room. The system is an addressable system with initiating and notification devices located throughout the building. Since the building is fully sprinklered, there are minimal initiating devices located in the building. Although the system is in fair condition, the existing panel has been discontinued and parts and service will be limited with time. It is recommended to upgrade the existing system with new addressable type fire alarm system with voice evacuation to match current code requirements.

Intercom System

The existing intercom system is manufactured by Dukane Carehawk. It is located in Office J2 and is in good condition. Speakers are located throughout the building and appear to be adequate.

Clock System

The existing clock system is a combination wired/wireless clock system manufactured by Dukane. It is located in Office J2 and is in good condition. Clocks are located throughout the building and appear to be adequate.

Fire Protection System

The building is fully sprinklered. The sprinkler system includes a 300 GPM fire pump rated at 30 HP. The fire pump appears to be poor condition and should be replaced. The sprinkler system is protected by a 4" Reduced Pressure Zone Detector (RPDA) type backflow preventer.

SKOKIE SCHOOL DISTRICT 73.5
OLIVER McCracken Middle School

**2020 FACILITIES ASSESSMENT AND
NARRATIVE OF OBSERVATIONS**



BACKGROUND

Located at 8000 East Prairie Road, Skokie, the building has a total of 85,300 square feet. The original building was built in 1958 with the following additions: Library Addition – 1962, Electrical/Laundry Addition – 1970's, Kiln Room Addition – 1980's, Elevator Addition – 1993, and Classroom/MPR Addition – 2008. The facility is currently a Middle School with grades 6-8 and approximately 370 students.

METHODOLOGY

The purpose of the study is to give the District knowledge of the current facility and a look towards future work for planning purposes. The study consists of infrastructure (building envelope, mechanical and electrical systems, site) and program concerns (instructional, aesthetic, and general). Recommendations are summarized following the narratives and can be categorized by priority and assigned a target year for implementation.

1. BUILDING INTERIOR

In general the building is in good condition for its age. A Classroom/MPR addition to the building in 2008 was a benefit to the student programs. An outdoor learning environment can be found at the green roof on the second floor. Renovation updates are needed for the learning center, locker rooms, and restrooms.

Typical of the 1950/1960's construction, the interior consists of primarily painted concrete block wall construction with classroom corridor wall at lockers of wood studs with $\frac{3}{4}$ " sheathing. Walls of glazed block also exist and have been painted. Ceilings consist of acoustical lay-in panels. Floors are concrete slab on grade (ground floor) and concrete slab on metal deck on steel bar joists (second floor). The classroom addition features precast concrete planks. Floor finishes are carpet and VCT.

The following is a list of issues and concerns that were observed:

Numerous aspects of the facility are not handicapped accessible and should be corrected as renovations take place. Examples include the Locker room restrooms, the staff lounge, nurse's restroom, kitchen restroom, main office coffee station, staff restrooms, student restrooms. The Corridor 150 drinking fountain is mounted too high.

Storage issues include the Band risers stored in the corridor and the condition of the Art storage cabinets. New furniture should be considered for the Learning Center and Art room improvements.

Room finishes in need of upgrades include the kitchen ceiling panels and stage flooring. The wood flooring in the gym is scheduled for refinishing in 2020. The Main Office existing corridor glass and wood frame partition needs replacement and should be reviewed for security level. New carpet is also suggested.

2. BUILDING EXTERIOR

The exterior construction of the original building and the additions consisted of brick and limestone face with concrete block backup.

The following items were noticed: Entry Canopies soffits are in need of painting on the underside. Masonry tuckpointing is needed on the East wall of Faculty Lounge. Cleaning of the brick and limestone at Room #304 and the wing walls at north and south end of Main Office is needed. Repair/replace screens at windows in rooms #126 and #127.

Roof:

Condition: All roof areas are a modified bitumen roof membrane system and have been coated with a white protective coating- with exception of the gymnasium, library, and north 2-story classroom wing. Pre-finished steel counterflashings, copings, and edge flashing at each roof's perimeter were found to be in good condition and intact. Internal roof drains within each roof area were found to be clean and free flowing. The far north 2-story roof area has one internal roof drain and was reported to be blocked with ice during the winter months. Exterior canopies over the main entrance and classrooms 120/121 drain to gutter and downspout systems which appear to be in good condition. The 1- and 2-story 2008 addition roof areas are beginning to present surface blistering along the transition of the drainage saddles adjacent to the north and south roof drains. The single-story roof area over the school office, cafeteria, and locker rooms is a near-flat roof and allowing standing water. It is apparent the roof surface has multiple layers of roof coating over the main surface and is present surface cracks within the coating; and, in some case is beginning to delaminate and flake off.

Recommended repairs: Install a thermostatically controlled heat trace cable in the far north internal downspout and extend cable to below grade. Repair and patch blistered areas on the 2008 classroom addition located above the science labs and band room; and above stair S1-2. Patch and repair one surface crack located north of the area divider at the 2-story classroom wing. Light pressure wash all roof areas to remove dirt and debris and any loose material from previous coating applications and recoat surfaces with a urethane based coating. For those areas under warranty, it is recommended to contact system manufacturer to make a claim and determine appropriate corrective work.

Maintenance and monitoring: Roofing membrane and flashings should be inspected twice a year. Sealants at metal flashing should be inspected twice a year. Debris should be removed from all roof areas and gutter/downspouts in the spring and fall. Roof edges where previously repaired/replaced at east side of 1-story building should be monitored and maintained. Where roof areas are subjected to collection of air-borne dirt and debris, surfaces should be lightly power-washed to prevent growth of vegetation.

3. HEATING, VENTILATING, AND AIR CONDITIONING

The building has a central hot water plant consisting of 2 Bryan RV-400 boilers with output capacity of 3,200MBH each along with hot water circulation pumps, air separator, expansion tank, etc. Hot water is pumped throughout the building to serve unit ventilators, perimeter finned tube radiation, cabinet unit heaters, convectors, and hot water coils in VAV boxes and air handling units. The boilers were installed in 1996 and have approximately 10 years of useful life left. We recommend that the refractory be inspected and repaired to extend the life of the boilers.

The building has a central cooling plant consisting of 2 air cooled water chillers, chilled water pumps, air separator, expansion tank, etc. Chilled water is pumped throughout the building to serve unit ventilators, and chilled water coils in air handling units. One of the chillers is a York chiller that is approximately 25 years old, not currently operating, and in need of replacement. The other chiller is a Carrier model with nominal 160 tons capacity installed in 2014 with approximately 15 years of remaining life.

Ventilation for the classrooms is largely provided by under the window unit ventilators installed in 1996. The unit ventilators should be scheduled for replacement in the next 10 years.

The unit ventilators in the classroom wings currently utilize the egress corridors for relieving air introduced by the unit ventilators. This is against current code and should be corrected when the unit ventilators are replaced.

Reznor gas fired make-up air units are provided to serve classroom corridors. These units are 23 years old, at the end of their useful life, and should be replaced.

The main entry vestibule has no heat. We recommend providing a cabinet unit heater for this space.

Ventilation for the cafeteria and gymnasium is provided by York roof mounted air handling units which were installed in 1996 and are in poor condition. These units should be scheduled for replacement within the next 5 years, or whenever the surrounding roof is scheduled for replacement. The air handling unit serving the gymnasium utilizes supply and return ductwork routed across the roof. The ductwork and its insulation are in very poor condition and should be replaced when the air handling unit is replaced.

The administrative office area is served by a packaged rooftop unit that was installed in 1996. This unit is well past its useful life and should be replaced within the next few years.

The 2007 addition areas are served by indoor air handling units. These units are in good condition and won't need to be replaced for another 20 years.

There are some original exhaust fans remaining on the roof which should be replaced in the next 5 years.

The server area is served by an exhaust fan which is insufficient to keep the room cool. We recommend a duct free split system be installed to air condition this room.

The pneumatic temperature controls remaining in the building are failing with constant system leaks. We recommend that all pneumatic temperature controls be removed and replaced with direct digital controls with electronic valve/damper operators.

4. PLUMBING

The building is served by two separate water mains. A 6" supplies city water to the fire protection sprinkler system and a separate 4" water main supplies city water to the domestic water system. The domestic water

service has (2) 2" water meters and does not have backflow preventer. The water service should be updated to utilize only the 6" water main. The 4" domestic water service should be capped at the street and domestic water should utilize the existing 6" water main. The domestic water service should be updated to include a Reduced Pressure Zone backflow preventer. The additional pressure drop at the backflow preventer may require the addition of a pressure booster system to maintain proper pressure in the building.

The domestic water is distributed throughout with original galvanized piping sized for tank type water closets in the original building. The 2007 addition has copper piping. The building is lacking sufficient shut-off valves to isolate toilet rooms and plumbing fixtures for servicing. The existing galvanized piping should be replaced with copper piping. All new piping should be resized based on flush valves at the water closets. Shut-off valves should be replaced or added to provide proper shut-off to toilet rooms and all remaining plumbing fixtures.

Domestic hot water is supplied by three water heaters. Two of the water heaters are located in the boiler room. These include an AO Smith model BTR-199, 100 gallon, 199,900 btuh water heater supplying hot water to a majority of the building and an AO Smith model BTR-250, 100 gallon, 250,000 btuh water heater supplying hot water to the kitchen. There is a third water heater, Lochinvar, 100 gallon 199,900 btuh, located in the 2007 addition that supplies hot water to the science room area. There is a solar hot water system in the boiler room that preheats the make-up water to the water heaters in the boiler room. The water heaters in the boiler room are old and should be replaced and reconfigured to a single system supplying both the building and the kitchen.

A majority of the plumbing fixtures in the original building are old and antiquated. Water closets are flush tank type and do not perform well. The toilet rooms should be updated to accommodate ADA and utilize commercial quality flush valve operated fixtures. Thermostatic mixing valves should be added to all lavatories and sinks used for hand washing.

The kitchen has large double bowl sink however lacks a proper triple compartment sink, hand washing sinks and a grease separator.

5. POWER

The main electrical service is fed from a pad mounted utility transformer located at the south end of the building. The service entrance conductors are routed underground to the main switchboard located in main electrical room. The main switchboard is rated 2000 amperes at 480/277V-3Ph-4W. It is manufactured by Chicago Switchboard and installed as part of the 1996 renovation work. It is a sequence style switchboard with no single main disconnect switch. All fusible switches in the switchboard are considered as service disconnects. Thermal imaging scan is recommended at the switchboard and panelboards as a preventative measure to ensure all connections are secure and properly terminated.

The pad mounted utility transformer also provides a separate electrical service to the 480V-3Ph fire pump located in the boiler room. The electrical meter is located outside on the other side of the exterior wall.

Lighting/receptacle panels are located throughout the building. They all appear to be installed/retrofitted as part of the 1996 renovation work and are in good condition with majority of panels containing spaces for additional loads. The distribution panels in the boiler room contain fusible switches but all other electrical panels contain circuit breakers.

Receptacles are located throughout the building and appears to be adequate except for Storage 111C which is being used as an office space. It is recommended to add additional receptacles in the room to support any power needs. Additionally, there are locations where live conductors are not concealed in a complete raceway system. It is recommended that the hazard of live conductors are corrected in Classroom 124, JC 270, & Tech Office 272.

The building has no back-up generator in the event of power outage. It is recommended to add a natural gas generator to provide back-up power to network equipment, refrigerators/freezers, card access & burglar alarm systems.

6. LIGHTING

Lighting inside the building is of varying style and age. Majority of lighting in the building are fluorescent with some fixtures observed to be retrofitted with LED tubes. It is recommended to replace lighting in the rest of the building to energy efficient LED lighting with occupancy sensors to save energy and meet current energy code. Additionally, it was observed that the IT closet in Faculty Lounge does not have permanent lighting. It is recommended to install permanent lighting in the space.

Lighting outside the building is also of varying style and age. Lighting appear to be HID type with only the floodlights for staff parking lot being LED. It is recommended to replace all exterior HID lights with new LED type.

Exit signs and emergency lighting appear to be adequately provided throughout the building except the gender-neutral restrooms, which are lacking emergency lighting. The exit signs and emergency lighting contain battery back-up and appear to be in fair to poor condition. It is recommended to replace all old exit signs with new LED type.

7. SYSTEMS

Fire Alarm System

The existing fire alarm control panel is manufactured by Siemens and located in the boiler room. The system was installed within the past five years and in good condition. Initiating and notification devices appear to be adequately provided throughout the building. Since the building is fully sprinklered, there are minimal initiating devices located in the building.

Intercom System

The existing intercom system is manufactured by Dukane Carehawk. It is located in Tech Closet 140 and is in good condition. Speakers are located throughout the building and appear to be adequate.

Clock System

The existing clock system is manufactured by Illinois Time Recorder. It is located in Main Office 100 and is in fair condition. Clocks are located throughout the building and appear to be adequate. It is recommended to replace the clock system with new to add the capability of using wireless clocks.

Fire Protection System

The building is fully sprinklered. The sprinkler system includes a 300 GPM fire pump rated at 30 HP. The fire pump was recently replaced. The sprinkler system is protected by a 4" Double Check Detector (DDC) backflow preventer. The backflow preventer should be replaced with a 4" Reduced Pressure Zone Detector (RPDA) type backflow preventer.

DISTRICT SUMMARY OF RECOMMENDATIONS

DESCRIPTION	Priority				
	A 2 Years 2020 - 2021	B 2 Years 2022 - 2023	C 2 Years 2024 - 2025	Long Range Planning	Total
1.0 BUILDING INTERIOR					
Elizabeth Meyer School	\$0	\$3,800	\$0	\$0	
John Middleton Elmentary School	\$0	\$726,000	\$230,000	\$117,900	
Oliver McCracken Middle School	\$542,000	\$630,000	\$0	\$263,000	
Subtotal:	\$542,000	\$1,359,800	\$230,000	\$380,900	
2.0 BUILDING EXTERIOR AND SITE					
Elizabeth Meyer School	\$50,000	\$16,400	\$0	\$500,000	
John Middleton Elmentary School	\$37,000	\$463,000	\$8,100	\$20,000	
Oliver McCracken Middle School	\$0	\$35,830	\$530,000	\$0	
Subtotal:	\$87,000	\$515,230	\$538,100	\$520,000	
3.0 HEATING, VENTILATION AND AIR CONDITIONING					
Elizabeth Meyer School	\$205,000	\$60,000	\$200,000	\$0	
John Middleton Elmentary School	\$25,000	\$259,000	\$0	\$1,465,000	
Oliver McCracken Middle School	\$161,000	\$248,000	\$275,000	\$1,265,000	
Subtotal:	\$391,000	\$567,000	\$475,000	\$2,730,000	
4.0 PLUMBING					
Elizabeth Meyer School	\$30,000	\$0	\$0	\$60,000	
John Middleton Elmentary School	\$25,000	\$0	\$430,000	\$105,000	
Oliver McCracken Middle School	\$26,500	\$350,000	\$90,000	\$49,000	
Subtotal:	\$81,500	\$350,000	\$520,000	\$214,000	
5.0 POWER					
Elizabeth Meyer School	\$1,500	\$0	\$0	\$15,000	
John Middleton Elmentary School	\$1,500	\$0	\$0	\$205,000	
Oliver McCracken Middle School	\$5,250	\$0	\$0	\$0	
Subtotal:	\$8,250	\$0	\$0	\$220,000	
6.0 LIGHTING					
Elizabeth Meyer School	\$6,000	\$0	\$0	\$165,000	
John Middleton Elmentary School	\$3,000	\$0	\$0	\$525,000	
Oliver McCracken Middle School	\$5,000	\$0	\$0	\$757,000	
Subtotal:	\$14,000	\$0	\$0	\$1,447,000	
7.0 SYSTEMS					
Elizabeth Meyer School	\$3,000	\$0	\$0	\$230,000	
John Middleton Elmentary School	\$3,000	\$250,000	\$0	\$80,000	
Oliver McCracken Middle School	\$10,500	\$0	\$25,000	\$80,000	
Subtotal:	\$16,500	\$250,000	\$25,000	\$390,000	
Costs in 2019 Dollars:	\$1,140,250	\$3,042,030	\$1,788,100	\$5,901,900	\$11,872,280
130% for Soft Costs Fees & Contingencies:	\$1,482,325	\$3,954,639	\$2,324,530	\$7,672,470	\$15,433,964
Total including 6% escalation per each 2 year increment	\$1,482,325	\$4,191,917	\$2,611,842	\$9,820,762	\$18,106,846

Security and Technology upgrades not included

Elizabeth Meyer School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
			\$800			1.0 BUILDING INTERIOR
			\$3,000			1.1 Replace warped wood window sills in MPR - east elevation
						1.2 Allowance to repair casework in rooms: #23, 39, 40 & 43
						1.3
						1.4
\$0	\$0	\$0	\$3,800	\$0	\$0	Subtotal**
			\$400			2.0 BUILDING EXTERIOR AND SITE
			\$15,000			2.1 Replace missing ADA warning pad in sidewalk
			TBD			2.2 Repair asphalt at apron, driveway @ dumpster area.
			\$1,000			2.3 Correct water ponding west of playground if not corrected yet
						2.4 Replace exterior drinking fountain @ playground.
					\$500,000	2.5 Roof replacement over original southern half of building. OR
		\$50,000				2.6 Repair and Recoat roof surfaces over original building.
		\$0				2.7 Discontinue use of old roof hatch due to ladder position and pole mechanism.
						2.8
						2.9
\$0	\$0	\$50,000	\$16,400	\$0	\$500,000	Subtotal**
						3.0 HEATING, VENTILATION, AND AIR CONDITIONING
				\$15,000		3.1 Add air conditioning to MDF room
		X				3.2 Review option to convert original building to Geothermal heating and cooling OR items 3.3-3.6
		\$170,000				3.3 Replace single Bryan hot water boiler installed in 1994 with 2 boilers each sized at 2/3 capacity to provide back-up.
			\$60,000			3.4 Remove remaining pneumatic temperature controls and replace with direct digital controls. Allowance.
				\$185,000		3.5 Replace 18 fan powered boxes installed in 1994
		\$35,000				3.6 Refurbish air handling unit installed in 1994 with new bearings, motor, dampers, etc.
						3.7

"X" indicates further study or design required.

** Estimated cost is 2019 pricing.

Elizabeth Meyer School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
\$0	\$0	\$205,000	\$60,000	\$200,000	\$0	Subtotal**
						4.0 PLUMBING
		\$10,000				4.1 Provide point-of-use thermostatic mixing valves at all remaining lavatories and classroom sinks.
		\$5,000				4.2 Add a 3/4" RPZ backflow preventer at all existing mop sinks in janitors closets where cleaning chemicals are connected to mop sink faucets.
		\$2,500				4.3 Existing 3/4"RPZ in boiler room is mounted higher than 5'-0" Relocate RPZ.
		\$12,500			\$15,000	4.4 Replace existing triple compartment sink, provide fixture with side drainboards.
					\$45,000	4.5 Replace cast iron grease interceptor. Provide floor sink at triple compartment sink.
						4.6 Renovate large toilet room, replace wash fountain with lavatories within toilet room.
						4.7
						4.8
\$0	\$0	\$30,000	\$0	\$0	\$60,000	Subtotal**
						5.0 POWER
		\$1,500				5.1 Replace bonding jumper on either side of the water meter with new of matching size as the grounding electrode conductor.
					\$15,000	5.2 Replace classroom receptacles in 1994 building with tamper-resistant type.
						5.3
\$0	\$0	\$1,500	\$0	\$0	\$15,000	Subtotal**
						6.0 LIGHTING
		\$4,000			\$150,000	6.1 Replace lights in Kitchen with new lights such that fluorescent lamp failure would not result in food contamination.
					\$15,000	6.2 Replace interior fluorescent lights in 1994 building with energy efficient LED lights and lighting control system.
						6.3 Replace exterior HID lights in 1994 building with energy efficient LED lights.
		\$2,000				6.4 Provide emergency lighting in gender neutral toilet rooms.
\$0	\$0	\$6,000	\$0	\$0	\$165,000	Subtotal**
						7.0 SYSTEMS

"X" indicates further study or design required.

** Estimated cost is 2019 pricing.

Elizabeth Meyer School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
					\$150,000	7.1 Replace discontinued Simplex 4002 fire alarm control panel with new and upgrade to an emergency voice/alarm communication system.
					\$80,000	7.2 Add natural gas generator for power backup.
		\$3,000				7.3 Provide fire alarm notification devices in gender neutral toilet rooms.
						7.4
						7.5
\$0	\$0	\$3,000	\$0	\$0	\$230,000	Subtotal**
\$0	\$0	\$295,500	\$80,200	\$200,000	\$970,000	Building Subtotal**
\$0	\$0	\$384,150	\$104,260	\$260,000	\$1,261,000	130% for Soft Costs and Contingencies

"X" indicates further study or design required.

** Estimated cost is 2019 pricing.

John Middleton Elementary School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21-22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
			\$14,000			1.0 BUILDING INTERIOR
			\$200,000			1.1 Refinish Gym Floor
						1.2 Allowance for Library Renovation & new flexible furniture
			\$12,000			1.3 Replace casework in Library Corridor
					\$15,000	1.4 Art Room - Separate the Kiln from students
					\$13,500	1.5 Art, Drama & Faculty Rm. - new ceiling tiles & grid
					\$14,400	1.6 Cafeteria - new ceiling tiles & grid
					\$15,000	1.7 Cafeteria - recommend acoustical panels
			\$500,000			1.8 Renovation of remaining Toilet Rooms and ADA updates
				\$25,000		1.9 Nurse's Office - renovate for ADA toilet room
				\$5,000		1.10 Allowance for accent walls painted - Classrooms & corridors
				\$200,000		1.11 New entrance canopy for improved image and cover from weather (design already complete)
					\$60,000	1.12 Furniture for creating a STEM lab when space is available
						1.13
\$0	\$0	\$0	\$726,000	\$230,000	\$117,900	Subtotal**
						2.0 BUILDING EXTERIOR AND SITE
			\$1,000			2.1 Repair concrete walk near garden
			\$175,000			2.2 Replace asphalt paving @ circle drive
			\$28,000			2.3 Replace asphalt paving @ parking in alley
			\$98,000			2.4 Replace asphalt paving @ parking on south
			\$500			2.5 Repair metal siding above window-west end
			\$10,000			2.6 Replace fence @ mechanical enclosure
			\$500			2.7 Replace missing screens
					\$20,000	2.8 Create on outdoor classroom in courtyard and tables for greenhouse use
		\$2,000				2.9 Order infrared roof surface scan to determine moisture content in roof.
		\$9,000				2.10 Patch and repair blistering areas on roof surfaces - east classroom wing and south 2-story wing.
			\$150,000			2.11 Recoat entire roof with urethane coating
		\$25,000				2.12 Replace roof surface above southwest entrance.

John Middleton Elementary School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21-22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
		TBD				2.13 Replace an existing 2" roof drain with 4" roof drain to promote positive drainage from roof area if space above the ceiling allows.
				\$8,100		2.14 Build up roofing insulation above maintenance and storage rooms for positive drainage to existing scuppers.
		\$1,000				2.15 Powerwash roof surfaces where trees were cut back to remove growth of vegetation.
						2.16
						2.17
\$0	\$0	\$37,000	\$463,000	\$8,100	\$20,000	Subtotal**
						3.0 HEATING, VENTILATION, AND AIR CONDITIONING
					\$35,000	3.1 At 2 story wing, provide unit ventilator relief system utilizing corridor ceiling as an exhaust plenum.
			\$4,000			3.2 At additional room created within Multipurpose Room 31, provide relief grille and duct for outside air introduced through unit ventilator.
					\$20,000	3.3 At 2 story hall outside rooms 34, 35, and 51, provide relief path for outside air introduced through unit ventilators in those rooms and relieved to Hall.
					\$15,000	3.4 Provide air conditioning to IDF room across corridor from Classroom 21.
					\$25,000	3.5 Replace 6 old exhaust fans that are beyond their useful life.
			\$75,000			3.6 Replace Reznor gas fired make-up air units installed in 1996 serving corridors.
					\$1,110,000	3.7 Replace 41 unit ventilators installed in 1996.
		\$25,000				3.8 Inspect and repair refractory at 2 Bryan hot water boilers installed in 1996.
					\$260,000	3.9 Replace 2 Bryan hot water boilers installed in 1996.
			\$130,000			3.10 Remove remaining pneumatic temperature controls and replace with direct digital controls. Allowance.
			\$50,000			3.11 Provide kitchen make-up supply air unit.
						3.12
\$0	\$0	\$25,000	\$259,000	\$0	\$1,465,000	Subtotal**
						4.0 PLUMBING

John Middleton Elementary School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21-22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
				\$285,000		4.1 Replace all existing galvanized piping throughout the building. Provide shut-off valves for adequate shut-off to isolate toilet rooms.
				\$65,000		4.2 Not used
						4.3 Provide RPZ backflow preventer at domestic water service. Reconfigure water service to eliminate existing 2 1/2" domestic water main and utilize existing 6" fire protection water main for both domestic water and sprinkler system. Add pressure booster pump system if city water pressure is not sufficient to operate plumbing fixtures.
					\$15,000	4.4 Replace cast iron grease interceptor in Kitchen.
					\$15,000	4.5 Kitchen is lacking proper hand washing stations. Provide additional hand washing sinks.
					\$20,000	4.6 Add floor sinks at line serving kitchen equipment. Route to grease interceptor.
					\$5,000	4.7 Provide a floor drain at water heater in kitchen.
		\$15,000				4.8 Provide point-of-use thermostatic mixing valves at all remaining lavatories and classroom sinks.
					\$50,000	4.9 (9) classroom sinks have cold water only. Provide hot water to sinks.
		\$10,000				4.10 Add a 3/4" RPZ backflow preventer at all existing mop sinks in janitors closets where cleaning chemicals are connected to mop sink faucets.
				\$5,000		4.11 Provide mop sink in boiler room.
				\$10,000		4.12 Floor drain at water service is of insufficient size, replace floor drain and associated piping with larger size.
				\$65,000		4.13 Fire pump has excessive corrosion, replace fire pump.
						4.14
						4.15
\$0	\$0	\$25,000	\$0	\$430,000	\$105,000	Subtotal**
						5.0 POWER

John Middleton Elementary School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21-22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
		\$1,500			\$130,000	5.1 Existing 480/277V-3PH, 2,000A rated switchboard has space for only (1) new switch. Replacement switchboard section to be considered to allocate room for additional switches.
						5.2 Add grounding electrode conductor jumper over water meter such that the continuity of the grounding path is maintained without relying on the presence of water meters.
					\$75,000	5.3 There are minimal receptacles in classrooms. Add new receptacle locations.
						5.4
\$0	\$0	\$1,500	\$0	\$0	\$205,000	Subtotal**
					\$500,000	6.0 LIGHTING
						6.1 Replace interior fluorescent lights in building with energy efficient LED lights and lighting control system.
		\$1,000			\$25,000	6.2 Replace exterior HID lights with energy efficient LED lights.
		\$2,000				6.3 Relocate light in Meeting 110 currently located above drywall partition.
						6.4 Provide emergency lighting in gender neutral toilet rooms.
						6.5
\$0	\$0	\$3,000	\$0	\$0	\$525,000	Subtotal**
			\$250,000			7.0 SYSTEMS
						7.1 Replace discontinued Fire-Lite MS-9200 fire alarm control panel with new and upgrade to an emergency voice/alarm communication system.
					\$80,000	7.2 Add natural gas generator for power backup.
		\$3,000				7.3 Provide fire alarm notification devices in gender neutral toilet rooms.
						7.4
						7.5
\$0	\$0	\$3,000	\$250,000	\$0	\$80,000	Subtotal**
\$0	\$0	\$94,500	\$1,698,000	\$668,100	\$2,517,900	Building Subtotal**
\$0	\$0	\$122,850	\$2,207,400	\$868,530	\$3,273,270	130% for Soft Costs and Contingencies

Oliver McCracken Middle School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
		542,000	\$430,000			1.0 BUILDING INTERIOR
						1.1 Renovate corridor restrooms, both floors
						1.2 Renovation of Boys & Girls Locker Room restrooms, storage rooms
						1.3 Not used
					84,000	1.4 Gym Lighting & floor refinishing
			\$200,000			1.5 Allowance for Library minor renovation & new flexible furniture
					30,000	1.6 Cafeteria finishes updated
					30,000	1.7 Replace Fitness & Cafeteria Operable Wall with fixed wall to reduce sound transmission
					14,000	1.8 Replace Stage floor
					35,000	1.9 Replace Art Room casework
					\$70,000	1.10 Allowance to replacement of Main Office wood/glass corridor walls after discussion on security level.
						1.11
						1.12
						1.13
\$0	\$0	\$542,000	\$630,000	\$0	\$263,000	Subtotal**
						2.0 BUILDING EXTERIOR AND SITE
			\$3,000			2.1 Paint underside of entry canopy
			\$600			2.2 Paint exterior soffits
			\$24,000			2.3 Masonry tuck pointing-@ Faculty Lounge & Boiler Rm
			\$400			2.4 Clean limestone a wing walls near entry
			\$400			2.5 Clean brick @ west wall of Maint. Stor. Rm.
			\$180			2.6 Replace window screens @ rooms 126 & 127
			\$500			2.7 Suggest seating for patio at green roof
				\$496,250		2.8 Roof replacement over 1-story office, lockers, and fine arts wing. OR
			-			2.9 Recoat roof surface over 1-story office, lockers, and fine arts wing. \$50,000
				\$27,000		2.10 Recoat roof surfaces over 2008 science labs and band room.
				\$6,750		2.11 Repair surface blisters over science labs and band room.
			\$6,750			2.12 Install heat trace in downspout at far north roof area of 2-story classroom wing
						2.13
						2.14
\$0	\$0	\$0	\$35,830	\$530,000	\$0	Subtotal

"X" indicates further study or design required.

** Estimated cost is 2019 pricing.

Oliver McCracken Middle School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
						3.0 HEATING, VENTILATION, AND AIR CONDITIONING
					\$130,000	3.1 At 2 story wing, provide unit ventilator relief system utilizing corridor ceiling as an exhaust plenum.
		\$2,000				3.2 At classrooms 126 & 129, provide new end cover at unit ventilator to replace existing one the doesn't fit properly.
		\$2,000				3.3 At classroom 126, re-hang finned tube radiation cover and replace missing section.
		\$1,000				3.4 At classroom 129, re-hang finned tube radiation cover.
		\$1,000				3.5 At Classroom 228 and Boys 136, replace missing end cap on finned tube radiation enclosure.
			\$3,000			3.6 At additional room created within Classroom 227, provide relief grille and duct for outside air introduced through unit ventilator.
					\$35,000	3.7 Replace 8 old exhaust fans that are beyond their useful life.
			\$35,000			3.8 Replace packaged rooftop unit serving administration area installed in 1996.
				\$135,000		3.9 Replace roof mounted air handling unit serving gymnasium installed in 1996.
				\$130,000		3.10 Replace roof mounted air handling unit serving cafeteria installed in 1996.
			\$55,000			3.11 Replace exterior ductwork serving gymnasium.
		\$130,000				3.12 Replace York air cooled water chiller installed in 1996.
			\$25,000			3.13 Replace Reznor gas fired make-up air unit serving 2nd floor corridor.
					\$840,000	3.14 Replace 31 unit ventilators installed in 1996.
		\$25,000				3.15 Inspect and repair refractory at 2 Bryan hot water boilers installed in 1996.
					\$260,000	3.16 Replace 2 Bryan hot water boilers installed in 1996.
			\$95,000			3.17 Remove remaining pneumatic temperature controls and replace with direct digital controls. Allowance.
			\$20,000			3.18 Provide heat in main entry vestibule.
			\$15,000			3.19 Provide air conditioning to MDF room.

Oliver McCracken Middle School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
				\$10,000		3.20 Increase exhaust for toilet rooms 171 and 173. 3.21 3.22
\$0	\$0	\$161,000	\$248,000	\$275,000	\$1,265,000	Subtotal**
			\$325,000			4.0 PLUMBING
			\$25,000			4.1 Replace all existing galvanized piping throughout the building. Provide shut-off valves for adequate shut-off to isolate toilet rooms. Resize piping to accommodate future flush valves. 4.2 Not used 4.3 Replace water heater in boiler room. Reconfigure water heaters to parallel configuration to allow for additional capacity and redundancy. Further evaluate condition of solar water heater system and either service equipment or remove system. 4.4 Replace water heater at 2nd floor mech. Room serving science rooms. Reconfigure piping to eliminate master mixing valve. Enlarge water heater system to supply required ANSI Z358.1 (15) min of water to emergency shower. 4.5 Provide RPZ backflow preventer at domestic water service. Reconfigure water service to eliminate existing 3" domestic water main and utilize existing 6" fire protection water main for both domestic water and sprinkler system. Add pressure booster pump system if city water pressure is not sufficient to operate plumbing fixtures.
				\$25,000		
				\$65,000		
					\$ 29,000	4.6 Provide a triple compartment sink, hand sinks and grease interceptor at kitchen. 4.7 Provide point-of-use thermostatic mixing valves at all remaining lavatories and classroom sinks. 4.8 Add a 3/4" RPZ backflow preventer at all existing mop sinks in janitors closets where cleaning chemicals are connected to mop sink faucets. 4.9 Not used
		\$14,000				
		\$12,500				

Oliver McCracken Middle School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
					\$ 10,000	4.10 Replace drench hose's in science rooms with counter mounted eye wash.
					\$ 10,000	4.11 Remove existing DDC and provide RPDA type backflow preventer at sprinkler water service.
						4.12
\$0	\$0	\$26,500	\$350,000	\$90,000	\$49,000	Subtotal**
						5.0 POWER
		\$2,000				5.1 Provide additional receptacles in Storage 111C that's suitable for use as an Office.
		\$1,000				5.2 Provide appropriate covers to conceal live receptacle wiring on surface raceway in Classroom 124.
		\$1,250				5.3 Repair non-continuous conduit in JC 270.
		\$1,000				5.4 Provide appropriate covers to conceal live wiring in Tech Office 272.
						5.5
						5.6
\$0	\$0	\$5,250	\$0	\$0	\$0	Subtotal**
						6.0 LIGHTING
		\$2,000			\$650,000	6.1 Provide permanent lighting in the IT closet off of Faculty Lounge 116.
						6.2 Replace interior fluorescent lights in building with energy efficient LED lights and lighting control system.
					\$45,000	6.3 Replace old exit signs with new LED type.
					\$12,000	6.4 Replace lights in Music 111 & Classroom 177 to improve light levels.
		\$1,000				6.5 Provide light switch inside Classroom 227 instead outside the room.
		\$2,000				6.6 Provide emergency lighting in gender neutral toilet rooms on second floor.
					\$50,000	6.7 Replace exterior HID lights with energy efficient LED lights.
						6.8
\$0	\$0	\$5,000	\$0	\$0	\$757,000	Subtotal**
						7.0 SYSTEMS
					\$80,000	7.1 Add natural gas generator for power backup.
		\$3,000				7.2 Provide fire alarm notification devices in gender neutral toilet rooms on second floor.
		\$1,500				7.3 Provide fire alarm notification device in Tech Office 272.

Oliver McCracken Middle School

Compl. Work	2020 Planned work	Priority			Long Range Planning	ITEM DESCRIPTION
		A FY 21 - 22 (Summers 2020 and 2021)	B FY 23-24 (Summers 2022 and 2023)	C FY 25-26 (Summers 2024 and 2025)		
		\$6,000		\$25,000		7.4 Provide carbon monoxide detector in Science Classrooms 274, 275, and 276 due to existence of natural gas turrets. 7.5 Upgrade existing master clock system such that wireless clock can be added without the need of wires. 7.6
\$0	\$0	\$10,500	\$0	\$25,000	\$80,000	Subtotal**
\$0	\$0	\$750,250	\$1,263,830	\$920,000	\$2,414,000	Building Subtotal**
\$0	\$0	\$975,325	\$1,642,979	\$1,196,000	\$3,138,200	130% for Soft Costs and Contingencies

SUSTAINABILITY

As the District continues the physical improvements and regular maintenance of its facilities, GreenAssociates encourages the District to continue to incorporate the basic tenets of sustainable design into the decision making. Not only proven to reduce operating expenses, some of the more visible aspects of sustainable design can demonstrate to students a building's impact on its environment as well as their own role as future stewards of nature.

SITE CONSIDERATIONS

By using native/drought resistant plantings and keeping open or wooded areas as undeveloped as possible, the affect of a building on its site can be minimized. The capture of rain water in "Bio-swales" would reduce the amount of runoff from the site. The lessened demand for irrigation and reduced mowing activity will save water and fuel, while improving air quality. Likewise carpooling and bike usage should be encouraged to save fuel and reduce emissions near the school. Drivers could even practice conservation by turning off their vehicles while waiting to pick up children.

ENERGY AND UTILITIES CONCERNS

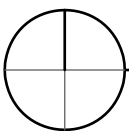
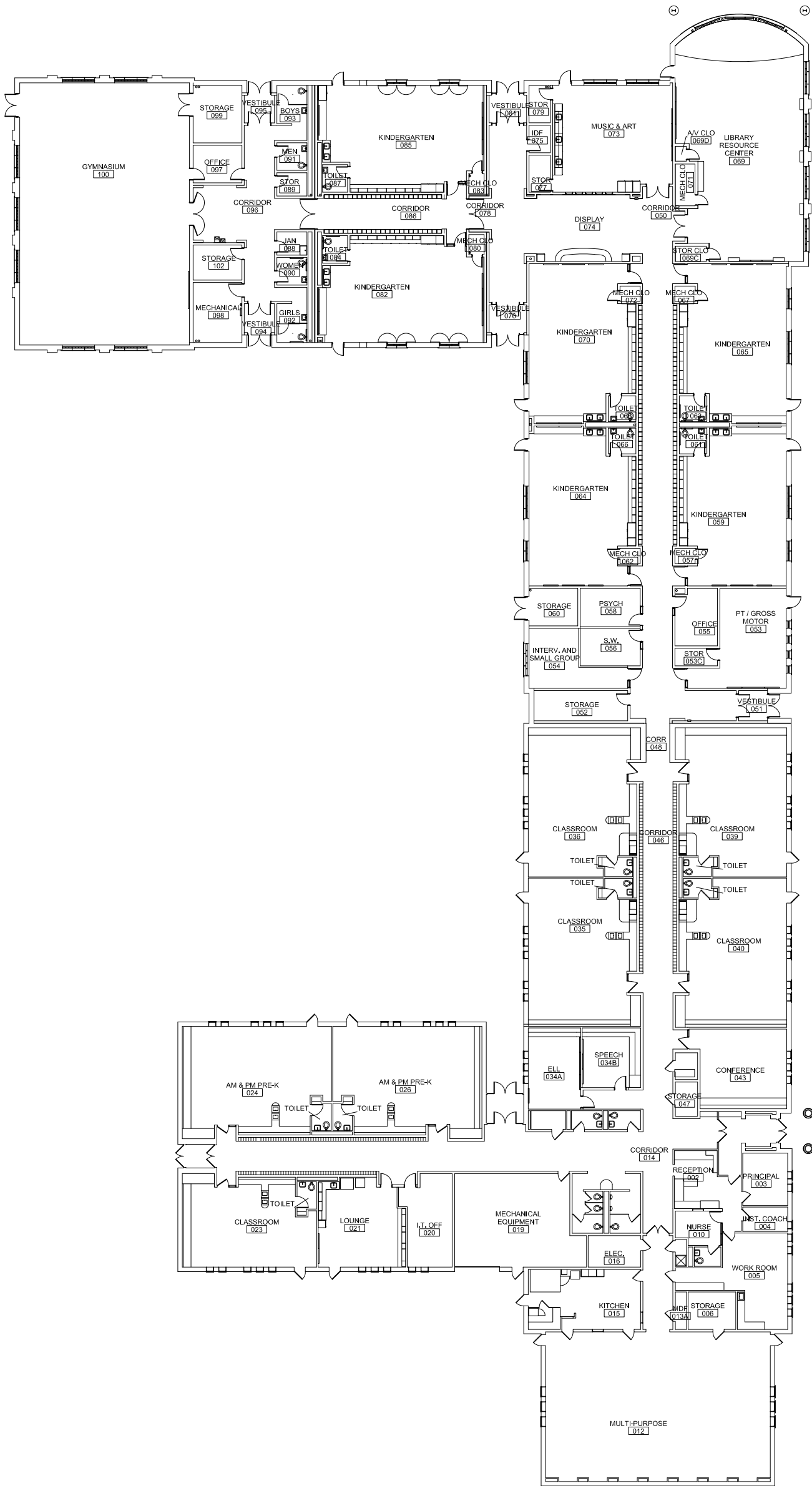
When replacing or retrofitting building equipment, care should be taken to select those items that offer increased energy efficiency with little or no price premium. Newer technologies such as occupancy sensors, daylight sensors, adjustable skylights, and programmable temperature controls benefit the students and save the District energy. Technologies such as these can also be used as teaching tools for students. The use of automatic plumbing valves, 'tankless' water heaters and low flow fixtures demonstrate water conservation while saving money and resources. In the same way, passive solar design, solar hot water panels, geothermal systems, and photovoltaic roof top arrays allow students to see the hardware, learn how it works and understand its benefits and savings. Many of these features are already in use at your schools.

BUILDING DESIGN STRATEGIES

There are numerous ways a building's design can improve the environment of its occupants and reduce the District's overall operating expense. On the outside, the selection of a light colored roof will reflect summer heat while saving air conditioning dollars. Going a step further, a green or 'planted' roof will not only lessen heat load, but also reduce water runoff as well as provide a teaching tool for students as they watch and research the hydrological cycle of the various plantings.

Inside, research has shown that student comfort and attention are improved when lighting and air quality are optimized. The extensive use of natural day lighting becomes a logical part of the solution. Similarly, indoor air quality can benefit through the selection of new materials—carpets, paints, millwork—with lower levels of off-gassing VOCs (volatile organic compounds). In addition, because the recycled content of products is now quantified and readily available, more eco friendly material selections can be made when shaping the learning environment.

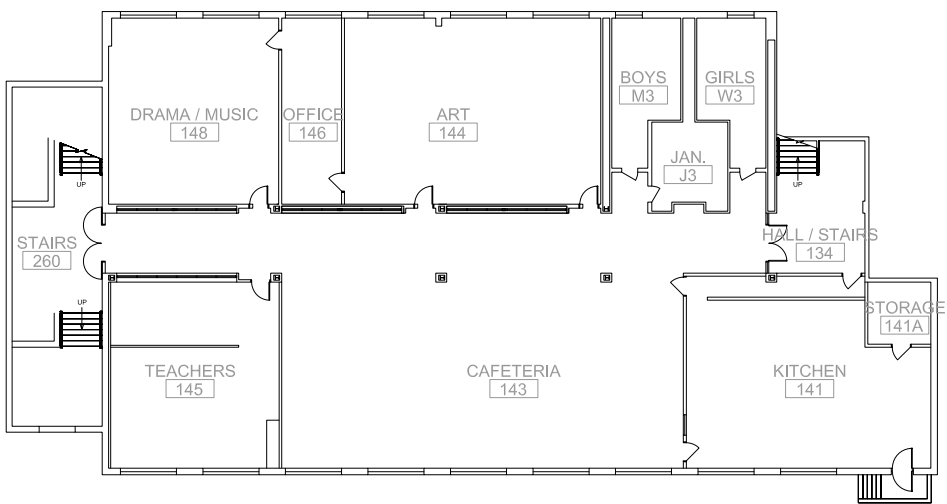
At GreenAssociates, we follow these principles whenever assisting our clients with renovations or new construction. It is our hope that District 73.5 will continue to give consideration to these principals during the maintenance and cleaning of its buildings.



MEYER FLOOR PLAN 42982 SQFT

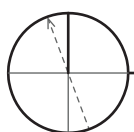
1/32" = 1'-0" 0' 16' 32' 64'





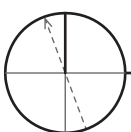
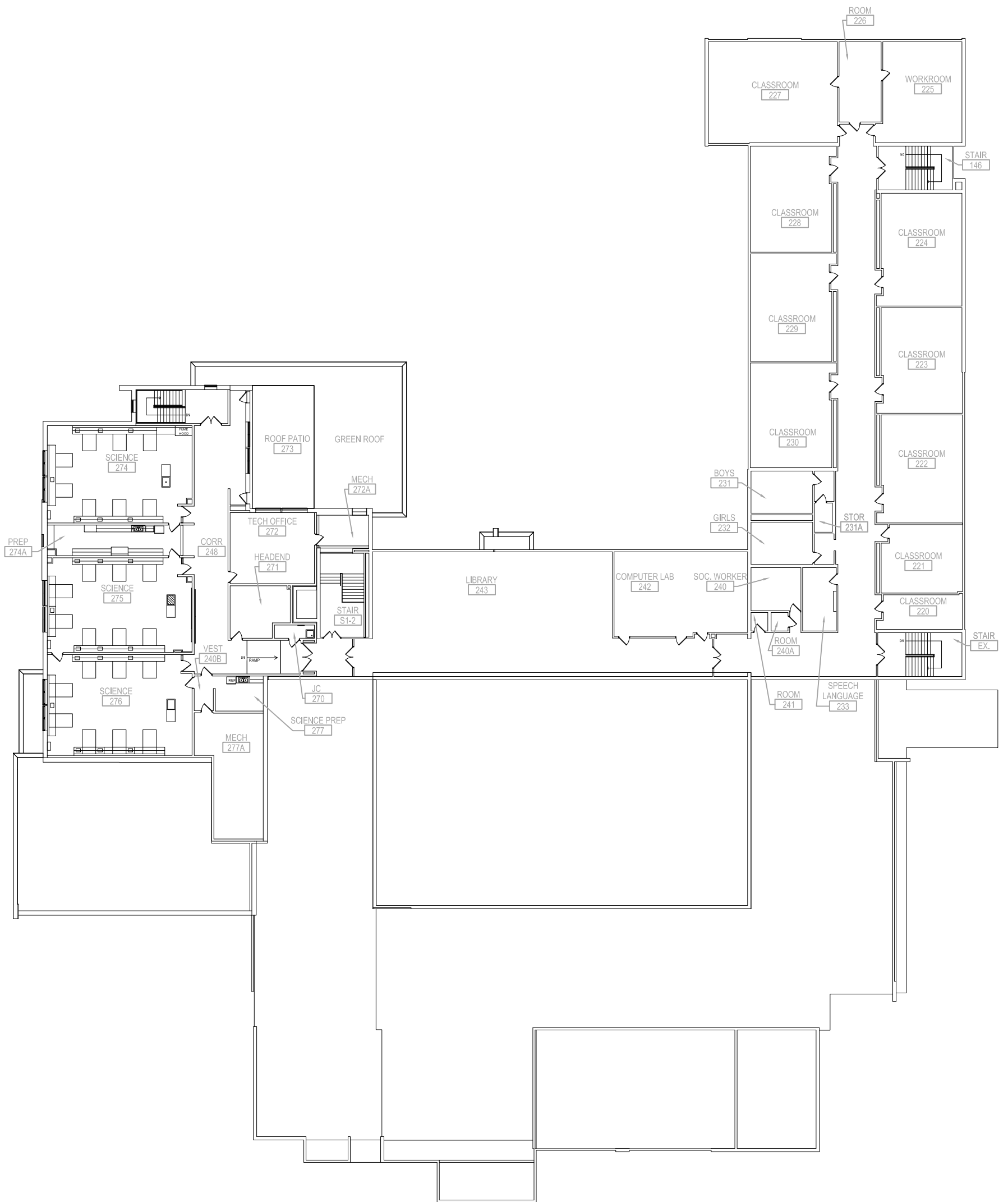
MIDDLETON LOWER FLOOR PLAN 10848 SQFT

1/32" = 1'-0" 0' 16' 32' 64'



1/32" = 1'-0" 0' 16' 32' 64'

TOTAL BUILDING: 85300 SQFT



McCRACKEN SECOND FLOOR PLAN 25900 SQFT

1/32" = 1'-0" 0' 16' 32' 64'

TOTAL BUILDING: 85300 SQFT