Facility Condition Assessment Summary Report

This report provides a summary of the Facility Condition Index (FCI) value of a school facility and select major building systems. The FCI calculation represents the cost of needed repairs divided by the replacement value. The FCI is a numerical value of condition and helps to identify the need for renewal or replacement of specific parts of the facility. The FCI is particularly useful when comparing similar facilities within the same portfolio.

Emlen School

Governance	DISTRICT	Report Type	Elementary
Address	6501 Chew Ave.	Enrollment	422
	Philadelphia, Pa 19119	Grade Range	'00-05'
Phone/Fax	215-951-4010 / 215-951-4131	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Emlen	Turnaround Model	N/A

Building/System FCI Tiers

Facility Condition Index (FCI) = Cost of Assessed Deficiencies / Replacement Value

< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
Buildings				
Minimal Current Capital Funding Required	Refurbish Systems in building	Replace Systems in building.	Building should be considered for major renovation.	Building should be considered for closing/replacement.
Systems				
Perform routine maintenance on system	System requires minor repairs	System should be studied to determine repair vs. replacement.	System is nearing end of its life expectancy and should be considered for replacement	System should be replaced as part of the Capital Program

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**62.59%**	**$24,122,056**	**$38,538,218**
Building	64.79 %	$23,863,790	$36,832,655
Grounds	15.14 %	$258,266	$1,705,563

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	97.45 %	$939,137	$963,720
Exterior Walls (Shows condition of the structural condition of the exterior facade)	09.93 %	$272,986	$2,749,795
Windows (Shows functionality of exterior windows)	98.37 %	$1,319,858	$1,341,745
Exterior Doors (Shows condition of exterior doors)	170.05 %	$183,691	$108,025
Interior Doors (Classroom doors)	364.87 %	$954,117	$261,495
Interior Walls (Paint and Finishes)	01.72 %	$20,322	$1,180,080
Plumbing Fixtures	00.00 %	$0	$1,007,240
Boilers	60.25 %	$838,059	$1,390,915
Chillers/Cooling Towers	65.60 %	$1,196,411	$1,823,760
Radiators/Unit Ventilators/HVAC	228.17 %	$7,307,844	$3,202,755
Heating/Cooling Controls	158.90 %	$1,598,178	$1,005,750
Electrical Service and Distribution	147.29 %	$1,064,356	$722,650
Lighting	46.43 %	$1,199,651	$2,583,660
Communications and Security (Cameras, Pa System and Fire Alarm)	51.01 %	$493,636	$967,755

Please note that some FCIs may be over 100% because there are times when replacing a building system requires that other building systems be upgraded to complete the installation. A FCI of 0.0% represents that there are no current deficiencies with the associated system.

School District of Philadelphia

S622001;Emlen

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

Site Executive Summary

The organization of this report, as displayed in the Table of Contents, follows the structure of the associated eCOMET database. The overall node for each school campus begins with the letter "S", which indicates the "Site" label. Each Site is comprised of separate "Building" and "Grounds" nodes; their asset names begin with the letters "B" and "G" respectively. Information rolls up to the Site node from the Building and Grounds nodes. This Site report combines facility information with subsections for the Buildings And Grounds nodes.

The basis for the evaluation of condition is the functional systems and elements of a building and grounds organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are typically developed for similar building types and functions. Evaluation of systems and their elements takes into account their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) is an industry-standard measurement calculated as the ratio of the repair costs to correct a facility's deficiencies to the facility's Current Replacement Value. Condition Index (CI) for a system is calculated as the sum of a the deficiencies divided by the sum of a system's Replacement Value (both values include soft-cost) expressed as a percentage ranging from 0% 100%.

Gross Area (SF):	74,500
Year Built:	1926
Last Renovation:	
Replacement Value:	$38,538,218
Repair Cost:	$24,122,055.84
Total FCI:	62.59 %
Total RSLI:	63.12 %

Description:

Facility Assessment
November 2015

School District of Philadelphia
Eleanor Emlen Elementary School
6501 Chew Ave.
Philadelphia, PA 19119

74,500 SF / 735 Students / LN 06

GENERAL

The Eleanor Emlen School is one of the older schools in service to the Philadelphia communities and has a dedication plaque to the name sake Eleanor Emlen School Board Member in the main lobby. The school is identified as B622001 and was originally designated as the Eleanor Emlen Elementary School.

This facility is located at 6501 Chew Ave., Philadelphia, PA. The late Gothic Revival design of the rectangular-shaped, concrete and steel-framed building includes brick facades with a concrete foundation. Constructed in 1925 the school has had one major addition

the classroom addition added to the northeastern exterior in 1970.

The main entrance faces the Southern exterior facing the drop off drive area on Chew Street. General parking is street side or on the edge of the paved play area. K to 6 and has a basement with three stories consisting of a total gross square footage of 74,500 GSF.

This school has several classrooms, a library, kitchen and student commons, Gym, Auditorium and cafeteria, with supporting administrative spaces.

The information for this report was collected during a site visit on November 4, 2015.

Mr. Lorenzo Davis, Building Engineer, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Ms. Tammy Thomas, Principal, also shared information about the school with the assessment team.

Architectural / Structural Systems

Foundations are concrete and appear to be in good condition. The superstructure is concrete and steel framed with masonry support and likewise in good condition.

There is evidence of water infiltration through the basement foundations wall facing the East Upsal street exterior. To improve the integrity of the basement wall excavation and waterproofing system upgrades are recommended. Improve the slope of the grade away from the foundation prior to restoring the landscaping system.

The structure reportedly rests on a modified slab-on-grade foundation with interior columns resting on spread footings. The main structure is steel beams and columns with precast concrete. Floor structure appears to be reinforced, cast-in-place concrete.

The 1970 classroom addition are comprised of steel framing with preformed metal panel exterior. As indicated in the photos the metal exterior finish is damaged in several areas and the painted surface for this finish is beyond repair. The entire exterior metal panel finish is recommended to removed and replaced with a new insulated metal panel finish.

The exterior brick surfaces are generally in fair to good condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The repointing of deteriorated mortar joints is also recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the brick and repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

Most of the exterior windows have been upgraded from the original applications. As indicated in the photos several of the windows appear to be original. A majority of the window system is estimated to have been installed in the 1990's with the exception of the 1970 addition. The Addition windows are original. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system and service doors are recommended for upgrade. The new doors are expected to retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The mechanical room roll up door is an original metal application. The safety equipment for this door is no longer functional and the door was reported to be limited in operation. This door system is recommended to be removed and replaced with a modern overhead door system with safety and security considerations.

Special consideration for those that may be physically challenged was not a main factor in the construction of the addition or main building. Currently there are no compliant entrances at grade. The path of travel is not clear from any access points as the interior path of travel is not designed or supported by interior ramps, elevator, compliant signage, restrooms amities, compliant door hardware, hand rails and guard rails to meet the needs of the physically challenged. This school building will require several upgrades to meet the needs of the physically challenged.

There are a number of roof sections and different roof elevations ranging from the main roof to the mechanical roof. The built up application was reported to have been installed in the late 1980'S. Although several applications of roof coating has been applied to

extend the life of the roof the condition of the insulation and some of the seams have become an issue. Considering the age and condition of the roofing systems, universal upgrades are recommended.

This 1970 building addition has a metal roof over the footprint and small areas of flat roofing atop the center section extending the length of the addition. During the time of the inspection several issues were reported related to minor leaks and that repairs have become the standard. Experience indicates that repairs on a metal roof application of this age creates a diminishing returns. It is recommended that this roof be added in the capital renewal funding process for universal upgrade.

Interior partitions include glazed block, plaster, wood, moveable partitions, and glazed openings.

Structural fire separation is not maintained according to code requirements for new construction in select areas of this school. Primarily, data cabling has been routed with little regard for fire rated separations. Intumescent passive fire stopping and some minor structural separation repairs should be accomplished promptly.

There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

There are several transom lites and sidelights constructed into hallway wall systems. It is recommended that the lites and sidelights be removed and replaced with a fire rated wall construction. The deficiency provides a budgetary consideration to correct the hallway, transoms, lites and sidelights.

The present floor plan arrangement has the lobby to the Auditorium opening up into the existing hall corridor. This opening into a corridor and stair access to the second floor does not have fire doors or barriers designed to support modern code. The lobby should be completely separate from the corridor with rated partitions and fire door installations. This Auditorium lobby needs to have at least one means of egress and contain smoke detectors. This deficiency recommends the construction of fire resistant barrier with automatically closing fire doors to be installed between the existing corridor access to the Auditorium and the corridors to provide the required separation and protection.

A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically metal in metal frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames. Doors are generally in fair condition considering the age of the application. Doors swing in the direction of exit and do not obstruct hallways. . Universal upgrades are required for the interior door systems it is recommended that the interior doors system be removed and replaced with a new modern metal framed hollow metal door system with consideration for ADA compliance.

Fittings include: chalkboards; marker boards; tack boards; interior signage; toilet accessories and metal toilet partitions; fixed storage shelving.

There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

Some of the classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade damaged chalk boards to new marker board systems.

There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

Stair construction is concrete. Stair treads and landings are finished with concrete and nosings are either metal or concrete.

Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code

enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

Interior wall finishes are typically painted plaster. Other wall finishes include: ceramic tile at restrooms; vinyl wall covering and wood paneling in the Auditorium. Wall finishes are generally in fair condition.

There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

The floor finish for this school is a combination of marble, polished stone and terrazzo, tile in the kitchen and service line areas, wood classrooms with concrete hallways and stirs finishes and a vinyl tile finish. The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

The wooden floor finish in the classrooms has served this school from the first day of school. The systems maintenance has been a priority each year as part of a cyclical program to either, sand, clean and resurface or wax as needed. Considering the age and current condition of the classroom wooden floor finish, removal and replacement is recommended.

The ceiling finish is a mix of 12 x 12 ceiling grid, painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended efforts in this report prior to re-opening. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the exterior elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this historic structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

Institutional equipment includes: library equipment; stage equipment; instrumental equipment; A/V equipment and gym equipment – basketball backstops, etc. Other equipment includes kitchen equipment; loading dock bumpers.

The school stage has a stage curtain assembly that appears to be from the original construction. Modern applications are typically fire -proof applications with adjustable tracks and electric support for operation. The curtains are torn in a few section and the track is not functioning properly, overall the system is in poor condition. It is recommended that the curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

Furnishings include: fixed casework; window blinds; and fixed auditorium seating.

The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school. Ensure that ADA requirements are followed with the new seating layout.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Lavatories have dual wheel handle faucets and urinals and water closets have recessed manual flush valves with lever operators or exposed flush valves. Custodial areas have cast iron service sinks. There are single level stainless steel water coolers with integral refrigeration and double china drinking fountains with no refrigeration in corridors. Domestic water is heated by a seventy gallon State gas water heater in the basement mechanical room with a small inline circulating pump, installed in 2010.There is no domestic water booster pump system.

Water piping has been replaced since the original installation with copper but may contain lead solder based on age. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron. Water service is a four inch line and meter from Chew St.

into the mechanical room. The service has no backflow preventer assembly. Gas service is a four inch line into a room adjacent to the mechanical room.

The water heater should be serviceable for twenty years. The cast iron piping has exceeded the anticipated service life. Rainwater and vent piping should continue functioning, but the sanitary and waste piping should be inspected to determine condition and replace damaged portions. Domestic water supply piping should be replaced. Most plumbing fixtures appear to be less than ten years old and should be serviceable twenty five more years.

HVAC-Heating is generated by two HB Smith one hundred sixty hp sectional cast iron low pressure steam gas/ oil fired boilers in the basement mechanical room. One boiler has been completely disassembled, cleaned, and decontaminated. Only the frame, which has been coated with some product, is intact. The boilers have Power Flame burners with separate oil pumps. Boilers appear to be older and have a nameplate indicating replacement values for 1961 units. Age of the boilers could not be determined. There is a triplex boiler feed pump/ condensate receiver. There are combustion air louvers and dampers and a field fabricated rectangular insulated boiler vent into a brick chimney. Oil is stored in an eight thousand gallon underground oil storage tank. Reportedly the tank was being inspected for leaks concurrently with this survey. A tank monitoring system panel is in the mechanical room. A duplex fuel oil pump system in an adjacent room provides circulation.

Some classrooms have older Nesbitt unit ventilators with steam coils, filters, blowers and motors, control valves and controls. Most classrooms, corridors, gymnasium, toilet rooms other areas requiring heat are served by exposed steam radiators with pneumatic control valves and traps. There are two central house fan systems in the basement that provide heat and ventilation through central duct systems and vertical shafts to most of the building. These systems have been decontaminated and are functional. A third house fan system in a mechanical room adjacent to the auditorium is not operational.

There is no central air conditioning or separate system for any area, except there are a few window air conditioners and a ductless split system for the IT room. The condensing unit is mounted on the exterior wall. There is no cooking or exhaust hood in the small warming kitchen. Toilet rooms do not have mechanical exhaust systems. There are older pneumatic controls that are inoperable.

The steam distribution piping and radiators are from original construction and should be replaced based on age and condition. The boilers and condensate receiver/ feed water system have exceeded the service life and should be replaced. The unit ventilators are beyond service life and should be upgraded as part of the proposed HVAC renovation.

FIRE PROTECTION - There are no sprinklers in this building.

ELECTRICAL SYSTEMS

Electrical Service-- The building is served by PECO Energy Company with underground 120/240V, 2 phase, 5 wire service routed from an overhead line along Chew Ave. through a current transformer cabinet to a 600A service entrance disconnect switch in Mechanical Room 007. The service entrance switch supplies a 600A, 120/240V, 2 phase, 5 wire, two section panelboard in Room 007, which feeds panelboards on each floor.

There is a knife blade, fusible type panelboard with exposed busing located adjacent to the current transformer. A 150A enclosed circuit breaker adjacent to the 600A panelboard feeds 200A, 208/120V Power Panelboard BR in the Boiler Room via a 75 kVA phase change transformer. There are also four (4) motor controllers and a 100A panelboard in Mechanical Room 007.

All of the service and distribution equipment has served its useful life. Replacement is recommended within the next 2 to 3 years. The 600A, 120/240V, 2 phase, 5 wire service should be replaced with a 208/120V, 3 phase, 4 wire service, with a 1000 kVA packaged unit substation, consisting of a load interrupter switch, transformer and 3000A Main Switchboard to serve existing loads and capacity for central air conditioning equipment, an elevator addition, and a fire pump (if required). Also, replace (13) panelboards and four (4) motor controllers. Feeder conductors within some panelboards were observed to be wrapped with asbestos insulation. It is estimated 9 panelboards have asbestos wrapped feeder conductors. Abatement is required before panelboards are replaced.

Receptacles—Most of the classrooms are provided with very few duplex receptacles. An additional 6 to 8 duplex receptacles should be provided in 42 classrooms using surface metal raceway. Due to the age of the wiring devices, all duplex receptacles should be replaced with new devices and branch circuit wiring. An estimated 200 duplex receptacles are included for replacement.

Lighting-- Lighting fixtures in the basement, stairwells and areas without ceilings are typically surface mounted 2x4 modular fluorescent with acrylic prismatic lenses. Corridors, classrooms and other rooms with lay-in grid acoustical ceiling tile (ACT) have 2x4 recessed fluorescent grid troffers. Corridors without ACT have surface mounted 4 foot fluorescent wraparound fixtures. Recessed fixtures in the corridors, Main Office, Principal's Office and restrooms have been upgraded with T8 lamps. Fixtures in classrooms,

library and corridors in the northeast and northwest classroom wing corridors have served their useful life and need to be replaced. Lighting in classrooms is controlled by multiple light switches; there are no occupancy sensors for lighting control.

The cafeteria/gymnasium is illuminated with (24) 8 foot, 4 lamp, strip fixtures with wire guards. These fixtures are showing their age and should be replaced within the next 4 to 5 years.

The auditorium is illuminated with (10) 300 watt incandescent suspended chandeliers. Some fixtures are missing glass bowls. Replacement of LED lamps is recommended for energy efficiency and reduced maintenance cost.

The platform in the auditorium has one row of theatrical batten lighting and two 8 foot fluorescent worklights. There is no dimming system for the platform and auditorium. Lighting is controlled by branch circuit breakers in panelboard on the platform.

Industrial fluorescent fixtures with T8 lamps are located in the Basement mechanical room. There are also mercury vapor industrial fixtures in the Basement that should be replaced with industrial fluorescent.

Except for two exit discharges, exterior wall mounted lighting fixtures are located above the exterior doors. Floodlighting fixtures are mounted at the roof to illuminate play and parking areas.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations and bell notification appliances. The fire alarm control panel (FACP) is by S.H. Couch Company, and is located in the Basement. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances in the building. The entire fire alarm system needs to be replaced with an addressable type to meet current NFPA codes and ADA requirements.

Telephone/LAN--The demarcation point is located in the Basement. The Main Distribution Frame (MDF) and telephone distribution system is located in Room 212, which was originally a restroom. A telephone is provided in each classroom. Hard wired data outlets are provided in some classrooms. An allowance for adding data outlets in 21 classrooms is included in this report. Wireless access points are provided in classrooms, offices, auditorium and gymnasium for Wi-Fi service throughout the entire school.

Intercom/Paging/Sound Systems-- The paging system is accessed through the telephone system. Paging amplifiers are located in MDF Room 212 to provide paging interface with the telephone system. Each classroom has a ceiling or wall mounted speaker. Recessed ceiling speakers are located in the corridors. Horn speakers are located in the auditorium and cafeteria/gymnasium. This system is estimated to have a remaining useful life of 8 to10 years.

There is only a portable sound system in the auditorium. The Visitor Entrance has an Aiphone intercom station with communication to the Main Office.

Clock and Program System--The Simplex 2350 Master Time System panel is located in the Main Office. It is nearing the end of its useful service life and should be replaced when the speakers are replaced in 8 to 10 years. Ceiling or wall mounted speakers are provided throughout the building for paging and program. Clocks are provided in classrooms, auditorium, cafeteria/gymnasium and offices but are not operational from the time control center. It is recommended that all clocks be replaced with battery operated synchronized clocks controlled by a wireless GPS master clock system.

Television System-- There is no television system in this school.

Video Surveillance and Security Systems-- The video surveillance equipment is located in Room 104 and consists of one (1) 16 channel digital video recorder (DVR), a transceiver hub and one (1) monitor. There is also one (1) monitor in the Main Office. There are a total of 15 video surveillance cameras, including three (3) exterior cameras. All cameras were reported to be in good working order. There are no cameras located in corridors on Floors 1, 2 and 3 in the original building. A budget is included in this report to add three (3) cameras on each of Floors 1, 2 and 3.

Some exterior and stairwell doors are provided with magnetic door contacts. A security keypad is located at one of the doors to arm/disarm the system.

Emergency Power System-- There is no standby generator in this building. A budget is included in this report to add a standby generator to supply emergency egress and exit lighting fixtures, the addition of a hydraulic elevator and, if required, fire pump.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting is provided by wall mounted, battery operated emergency lighting units (ELUs) located in corridors, auditorium and cafeteria/gymnasium. The spacing of the ELUs does not meet the 1 footcandle minimum illumination level at the floor, as required by NFPA 101, Life Safety Code. Several additional ELU's would be

needed to comply with this code requirement. Rather than adding ELUs, selected lighting fixtures should be connected to an emergency panelboard supplied by the standby generator and the ELUs removed.

Exit signs are connected to a knife blade fusible panelboard located at the main service disconnecting means for the building. The exit signs are not supplied by an independent power supply and do not comply with code. Furthermore, exit signs are incandescent type and generally in poor condition. Recommend replacement with LED exit signs that are either provided with integral battery backup or connected to the standby generator.

Lightning Protection System--There is no lightning protection system for this building.

Conveying Systems-- The building does not have an elevator. Refer to Architectural / Structural Systems narrative for elevator recommendations.

GROUNDS

The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in fair condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended.

The sidewalk system is original to the buildings construction. There are a several areas of cracking concrete but no tripping hazards. The sidewalk system is expected to expire in the near future. Removal of the entire system is recommended. Universal upgrades are required and should include all aspects of current ADA legislation.

Landscaping systems are good condition and very limited. The picket and chain link fence system that surrounds the school is in good condition. There are no recommendations required at this time.

The trash dumpster is located in the parking lot open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

Site Lighting-- Site lighting is provided by floodlighting fixtures mounted at the roof level that are aimed to illuminate the site and paved play areas. An allowance is included to add two (2) additional floodlighting fixtures on the north side of building for increased illumination level of the site. There are no site lighting poles on the site.

Site video surveillance system--There are three (3) exterior cameras located on the building; one (1) at the main entrance and two (2) for coverage north side of the site. It is recommended that one (1) additional exterior camera be provided on the northwest wing.

RECOMMENDATIONS

- Re-seal foundation wall
- Remove and replace exterior metal insulated panels
- Conduct isolated point and tuck work
- Remove and replace exterior windows
- Upgrade exterior doors
- Remove and replace roll up door.
- Built up roof upgrade
- Remove and replace metal roof application
- Correct fire separation issues
- Remove and replace movable partitions
- Remove non-rated interior glass panels and replace with studs, gypsum board
- Remove and upgrade Fire Escape and Stair fire door applications
- Upgrade interior door system
- Remove and replace tackboards
- Remove and upgrade chalk boards
- Upgrade signage
- Hand rail system upgrade
- Repair and repaint interior finish

- Remove VAT and replace with VCT
- Upgrade wood floors
- Upgrade ceiling finish
- Construct elevator
- Upgrade fixed seating
- Upgrade stage curtain
- Remove and replace asphalt play parking surface
- Sidewalk upgrade
- Build secure trash dumpster
- Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide a fan coil unit for each classroom and separate area. Include new heat exchanger, pumps for hot water, piping, control valves and controls, to replace steam heating system.
- Provide a two hundred fifteen ton air cooled package chiller on the roof with pumps, piping and controls. Connect to new fan coil units and air handling units. Include controls and electrical connections.
- Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Provide a new central station air handling unit for the gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Provide a new central station air handling unit for the cafeteria with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Provide new mechanical toilet exhaust systems for all toilet rooms including inline fans, wall louvers, ductwork, and grills. Include electrical connections and controls.
- Replace domestic water supply piping with insulated rigid copper tubing. Include hangers, valves and supports.
- Replace two existing boilers and one disassembled boiler with three new cast iron sectional boilers.
- Replace condensate return/ boiler feed pump system with new duplex pump unit.
- Install approved backflow preventer assembly in existing four inch domestic water service line.
- Remove the 600A, 120/240V, 2 phase, 5 wire service disconnecting means, metering cabinet and 600A Main Panelboards and provide a 1000 kVA package unit substation with 3000A, 208/120V, 3 phase, 4 wire main switchboard with main circuit breaker and feeder circuit breakers to serve the existing building loads and added central air conditioning equipment, an elevator addition, and a fire pump (if required).
- Replace four (4) individual motor controllers and a total of (13) 120/240V, 1 phase panelboards in the building, including their feeders. Remove 75 kVA phase change transformer.
- Provide abatement of asbestos wrapped feeder conductors within panelboard enclosures for nine (9) panelboards.
- Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 42 classrooms. Replace all existing duplex receptacles throughout the building with new devices due to their age and condition (estimate 200 duplex receptacles to be replaced).
- Replace fluorescent lighting systems and branch circuit wiring throughout the building, except where fixtures have been upgraded with T8 lamps (classrooms and library 34,420 SF; Mechanical 3,000 SF; Administration, Support, and Circulation 10,930 SF).
- Replace (24) 8 foot, 4 lamp fluorescent lighting fixtures in the cafeteria/gymnasium.
- Replace glass bowls on 10 suspended chandeliers in the auditorium and replace incandescent lamps with LED lamps.
- Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.
- Provide allowance for adding hard wired data outlets in 21 classrooms.
- Remove all clocks and provide wireless GPS clock system with battery operated synchronized clocks.
- Add total of nine (9) interior video surveillance cameras, three (3) on each of Floors 1, 2 and 3. Add one digital video recorder (DVR).
- Provide standby generator system and replace obsolete knife blade fusible panelboard for exit signs. Size generator system for all emergency egress and exit lighting, elevator addition and, if required, fire pump (estimated size is 150 kW).
- Replace all existing exit signs with LED type. Remove emergency lighting units and connect emergency egress lighting fixtures to standby generator.
- Add two (2) floodlighting fixtures on north side of building for increased illumination of the site.
- Add one (1) exterior video surveillance camera on the northwest wing.

Site Assessment Report - S622001;Emlen

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 4 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S622001		

Site Condition Summary

The Table below shows the CI and FCI for each major system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

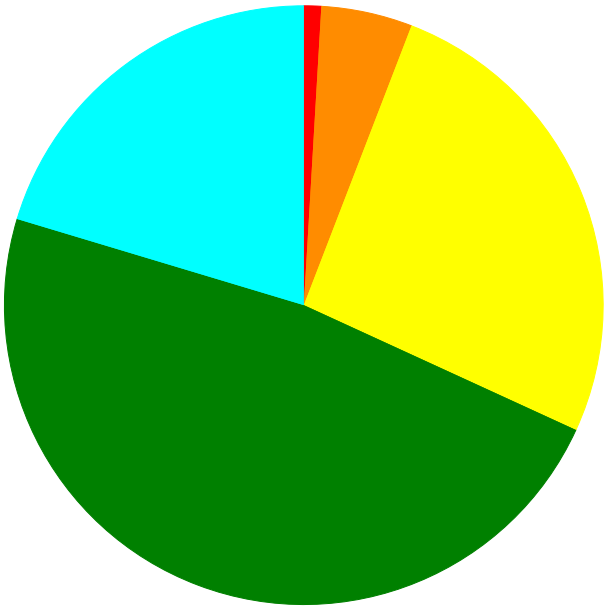
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.24 %	$4,591.09
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	35.05 %	42.30 %	$1,776,534.85
B30 - Roofing	51.00 %	97.45 %	$939,136.81
C10 - Interior Construction	35.11 %	74.64 %	$1,364,626.07
C20 - Stairs	37.00 %	22.23 %	$23,354.19
C30 - Interior Finishes	64.43 %	59.04 %	$2,377,154.45
D10 - Conveying	105.71 %	342.37 %	$1,012,601.25
D20 - Plumbing	75.30 %	52.20 %	$794,108.55
D30 - HVAC	96.30 %	132.01 %	$10,940,492.72
D40 - Fire Protection	92.47 %	177.49 %	$1,065,757.17
D50 - Electrical	102.74 %	70.81 %	$3,100,648.30
E10 - Equipment	35.15 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	292.90 %	$464,784.31
G20 - Site Improvements	36.19 %	18.21 %	$232,175.83
G40 - Site Electrical Utilities	54.17 %	6.06 %	$26,090.25
Totals:	**63.12 %**	**62.59 %**	**$24,122,055.84**

Condition Deficiency Priority

Facility Name	Gross Area (S.F.)	FCI %	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)
B622001;Emlen	74,500	64.79	$225,050.23	$1,096,885.00	$6,127,780.38	$11,519,309.61	$4,894,764.54
G622001;Grounds	74,100	15.14	$0.00	$90,766.78	$141,409.06	$10,754.93	$15,335.32
Total:		**62.59**	**$225,050.23**	**$1,187,651.78**	**$6,269,189.44**	**$11,530,064.54**	**$4,910,099.86**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $225,050.23
- 2 - Response Time (2-3 yrs) - $1,187,651.78
- 3 - Response Time (3-4 yrs) - $6,269,189.44
- 4 - Response Time (4-5 yrs) - $11,530,064.54
- 5 - Response Time (> 5 yrs) - $4,910,099.86

Budget Estimate Total: $24,122,055.84

Executive Summary

Building condition is evaluated based on the functional systems and elements of a building and organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are developed for similar building types and functions. Systems and their elements are evaluated based on their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) FCI is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value. It ranges from 0% (new) to 100% (very poor). Condition Index (CI) is calculated as the sum of a renewable system's Remaining Service Life (RSL) divided by the sum of a system's Replacement Value (both values exclude soft-cost to simplify calculation updates) expressed as a percentage ranging from 100% (new) to 0% (expired).

Function:	Elementary School
Gross Area (SF):	74,500
Year Built:	1926
Last Renovation:	
Replacement Value:	$36,832,655
Repair Cost:	$23,863,789.76
Total FCI:	64.79 %
Total RSLI:	64.16 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B622001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S622001		

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.24 %	$4,591.09
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	35.05 %	42.30 %	$1,776,534.85
B30 - Roofing	51.00 %	97.45 %	$939,136.81
C10 - Interior Construction	35.11 %	74.64 %	$1,364,626.07
C20 - Stairs	37.00 %	22.23 %	$23,354.19
C30 - Interior Finishes	64.43 %	59.04 %	$2,377,154.45
D10 - Conveying	105.71 %	342.37 %	$1,012,601.25
D20 - Plumbing	75.30 %	52.20 %	$794,108.55
D30 - HVAC	96.30 %	132.01 %	$10,940,492.72
D40 - Fire Protection	92.47 %	177.49 %	$1,065,757.17
D50 - Electrical	102.74 %	70.81 %	$3,100,648.30
E10 - Equipment	35.15 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	292.90 %	$464,784.31
Totals:	**64.16 %**	**64.79 %**	**$23,863,789.76**

Condition Detail

This section of the report contains results of the Facility Condition Assessment. The building is separated into system components based on UNIFORMAT II classification. The columns in the System Listing table below represent the following:

1. System Code: A code that identifies the system.
2. System Description: A brief description of a system present in the building.
3. Unit Price $: The unit price of the system.
4. UoM: The unit of measure for of the system.
5. Qty: The quantity for the system
6. Life: anticipated service life for thesystem based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency $: The financial investment to repair/replace system.

System Listing

The System Listing table below lists each of the systems organized by their UNIFORMAT II classification. The assessment team was tasked with recording the most recent replacement year of each system, determining the remaining service life based on the theoretical life, and evaluating the condition to confirm the forecast next replacement year. The system listing is the basis for all data contained in the Building Assessment Report.

Additionally, a condition rating (eCR) based on the following guidelines is provided as observed at the time of the assessment.

- Excellent (E) - No noticeable distress or damage. The entire system is free from observable defect.
- Very Good (VG) - Overall no serviceability reduction for the entire system. No degradation of critical components and minor distress and defect noticeable for some but not non critical components within the system.
- Good (G) - Slight or no serviceability reduction for the entire system. There may be noticeable defects for some non critical components and slight noticeable degradation of the critical components.
- Fair (F) - Overall serviceability is degraded but adequate. There may be moderate deterioration for very few of the critical components and few of the non critical components may have severe degradation.
- Marginal (MA) - Overall serviceability and reliability loss. Most if not all of the non critical components suffer from severe degradation and a few of the critical component may have severe degradation.
- Moderate (MO) - Overall a significant serviceability loss. Most if not all the components have severe degradation with the reminder of the component showing visible distress.
- Very Poor (VP) - Overall the system is barely functional. All of the components are severely degraded.
- Non-Functional (NF) - Overall the system does not function with all the components having no serviceability and suffer from severe degradation.

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	74,500	100	1926	2026	2052	37.00 %	0.33 %	37		$4,591.09	$1,370,800
A1030	Slab on Grade	$7.73	S.F.	74,500	100	1926	2026	2052	37.00 %	0.00 %	37			$575,885
A2010	Basement Excavation	$6.55	S.F.	74,500	100	1926	2026	2052	37.00 %	0.00 %	37			$487,975
A2020	Basement Walls	$12.70	S.F.	74,500	100	1926	2026	2052	37.00 %	0.00 %	37			$946,150
B1010	Floor Construction	$75.10	S.F.	74,500	100	1926	2026	2052	37.00 %	0.00 %	37			$5,594,950
B1020	Roof Construction	$13.88	S.F.	22,000	100	1926	2026	2052	37.00 %	0.00 %	37			$305,360
B2010	Exterior Walls	$36.91	S.F.	74,500	100	1926	2026	2052	37.00 %	9.93 %	37		$272,985.61	$2,749,795
B2020	Exterior Windows	$18.01	S.F.	74,500	40	1980	2020	2027	30.00 %	98.37 %	12		$1,319,857.98	$1,341,745
B2030	Exterior Doors	$1.45	S.F.	74,500	25	1980	2005	2027	48.00 %	170.05 %	12		$183,691.26	$108,025
B3010105	Built-Up	$37.76	S.F.	14,000	20	1980	2000	2027	60.00 %	89.73 %	12		$474,348.15	$528,640
B3010130	Preformed Metal Roofing	$54.22	S.F.	8,000	30	1970	2000	2027	40.00 %	107.15 %	12		$464,788.66	$433,760
B3020	Roof Openings	$0.06	S.F.	22,000	20	1926	1946	2027	60.00 %	0.00 %	12			$1,320
C1010	Partitions	$17.91	S.F.	74,500	100	1926	2026	2052	37.00 %	23.65 %	37		$315,528.16	$1,334,295
C1020	Interior Doors	$3.51	S.F.	74,500	40	1926	1966	2027	30.00 %	364.87 %	12		$954,117.42	$261,495
C1030	Fittings	$3.12	S.F.	74,500	40	1926	1966	2027	30.00 %	40.86 %	12		$94,980.49	$232,440
C2010	Stair Construction	$1.41	S.F.	74,500	100	1926	2026	2052	37.00 %	22.23 %	37		$23,354.19	$105,045
C3010230	Paint & Covering	$13.21	S.F.	74,500	10	1990	2000	2027	120.00 %	2.06 %	12		$20,321.63	$984,145
C3010232	Wall Tile	$2.63	S.F.	74,500	30	1926	1956	2027	40.00 %	0.00 %	12			$195,935

Site Assessment Report - B622001;Emlen

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3020412	Terrazzo & Tile	$75.52	S.F.	2,500	50	1926	1976	2027	24.00 %	0.00 %	12			$188,800
C3020413	Vinyl Flooring	$9.68	S.F.	15,000	20	1926	1946	2027	60.00 %	156.68 %	12		$227,500.02	$145,200
C3020414	Wood Flooring	$22.27	S.F.	42,000	25	1926	1951	2027	48.00 %	130.90 %	12		$1,224,386.98	$935,340
C3020415	Concrete Floor Finishes	$0.97	S.F.	15,000	50	1926	1976	2027	24.00 %	0.00 %	12			$14,550
C3030	Ceiling Finishes	$20.97	S.F.	74,500	25	1926	1951	2027	48.00 %	57.93 %	12		$904,945.82	$1,562,265
D1010	Elevators and Lifts	$3.97	S.F.	74,500	35	1926	1961	2052	105.71 %	342.37 %	37		$1,012,601.25	$295,765
D2010	Plumbing Fixtures	$13.52	S.F.	74,500	35	2005	2040		71.43 %	0.00 %	25			$1,007,240
D2020	Domestic Water Distribution	$1.68	S.F.	74,500	25	1926	1951	2042	108.00 %	342.47 %	27		$428,630.23	$125,160
D2030	Sanitary Waste	$2.90	S.F.	74,500	25	1926	1951	2042	108.00 %	169.16 %	27		$365,478.32	$216,050
D2040	Rain Water Drainage	$2.32	S.F.	74,500	30	1926	1956	2025	33.33 %	0.00 %	10			$172,840
D3020	Heat Generating Systems	$18.67	S.F.	74,500	35	1926	1961	2052	105.71 %	60.25 %	37		$838,059.34	$1,390,915
D3030	Cooling Generating Systems	$24.48	S.F.	74,500	30			2047	106.67 %	65.60 %	32		$1,196,411.06	$1,823,760
D3040	Distribution Systems	$42.99	S.F.	74,500	25	1926	1951	2042	108.00 %	228.17 %	27		$7,307,844.05	$3,202,755
D3050	Terminal & Package Units	$11.60	S.F.	74,500	20				0.00 %	0.00 %				$864,200
D3060	Controls & Instrumentation	$13.50	S.F.	74,500	20	1926	1946	2037	110.00 %	158.90 %	22		$1,598,178.27	$1,005,750
D4010	Sprinklers	$7.05	S.F.	74,500	35			2052	105.71 %	202.91 %	37		$1,065,757.17	$525,225
D4020	Standpipes	$1.01	S.F.	74,500	35				0.00 %	0.00 %				$75,245
D5010	Electrical Service/Distribution	$9.70	S.F.	74,500	30	1926	1956	2047	106.67 %	147.29 %	32		$1,064,355.76	$722,650
D5020	Lighting and Branch Wiring	$34.68	S.F.	74,500	20	1926	1946	2037	110.00 %	46.43 %	22		$1,199,651.28	$2,583,660
D5030	Communications and Security	$12.99	S.F.	74,500	15	1926	1941	2027	80.00 %	51.01 %	12		$493,635.69	$967,755
D5090	Other Electrical Systems	$1.41	S.F.	74,500	30	1926	1956	2047	106.67 %	326.53 %	32		$343,005.57	$105,045
E1020	Institutional Equipment	$4.82	S.F.	74,500	35	1926	1961	2028	37.14 %	0.00 %	13			$359,090
E1090	Other Equipment	$11.10	S.F.	74,500	35	1926	1961	2027	34.29 %	0.00 %	12			$826,950
E2010	Fixed Furnishings	$2.13	S.F.	74,500	40	1926	1966	2027	30.00 %	292.90 %	12		$464,784.31	$158,685
								Total	**64.16 %**	**64.79 %**			**$23,863,789.76**	**$36,832,655**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

System: C3010 - Wall Finishes — This system contains no images

Note: Brick 20%
Painted wall surface 75%
Marble / Stone / Wood 5%

System: C3020 - Floor Finishes — This system contains no images

Note: Terrazzo Tile 4%
Vinyl 20%
Wood 56%
Concrete 20%

System: D1010 - Elevators and Lifts — This system contains no images

Note: There is no existing elevator in this school.

System: D5010 - Electrical Service/Distribution — This system contains no images

Note: There is one (1) secondary transformer rated 75 kVA, 240V, 2 phase primary, 208/120V 3 phase, 4 wire secondary.

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$23,863,790**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$255,511**	**$24,119,301**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$4,591	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,591**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$272,986	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$272,986**
B2020 - Exterior Windows	$1,319,858	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,319,858**
B2030 - Exterior Doors	$183,691	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$183,691**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$474,348	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$474,348**
B3010130 - Preformed Metal Roofing	$464,789	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$464,789**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$315,528	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$315,528**
C1020 - Interior Doors	$954,117	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$954,117**
C1030 - Fittings	$94,980	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$94,980**

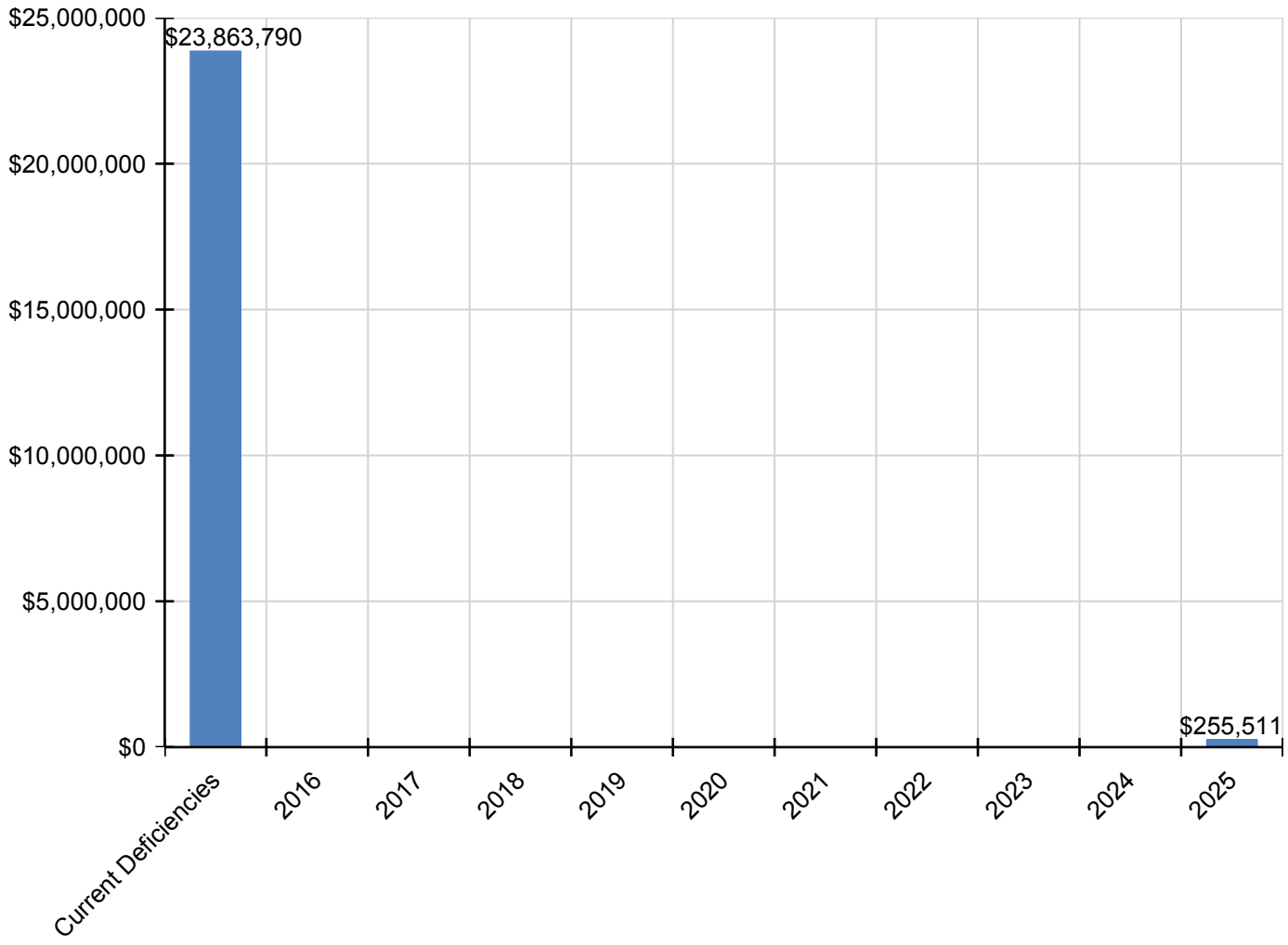
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$23,354	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$23,354**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$20,322	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$20,322**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$227,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$227,500**
C3020414 - Wood Flooring	$1,224,387	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,224,387**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$904,946	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$904,946**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$1,012,601	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,012,601**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$428,630	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$428,630**
D2030 - Sanitary Waste	$365,478	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$365,478**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$255,511	**$255,511**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$838,059	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$838,059**
D3030 - Cooling Generating Systems	$1,196,411	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,196,411**
D3040 - Distribution Systems	$7,307,844	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,307,844**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,598,178	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,598,178**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,065,757	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,065,757**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$1,064,356	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,064,356**
D5020 - Lighting and Branch Wiring	$1,199,651	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,199,651**
D5030 - Communications and Security	$493,636	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$493,636**

D5090 - Other Electrical Systems	$343,006	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$343,006**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$464,784	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$464,784**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

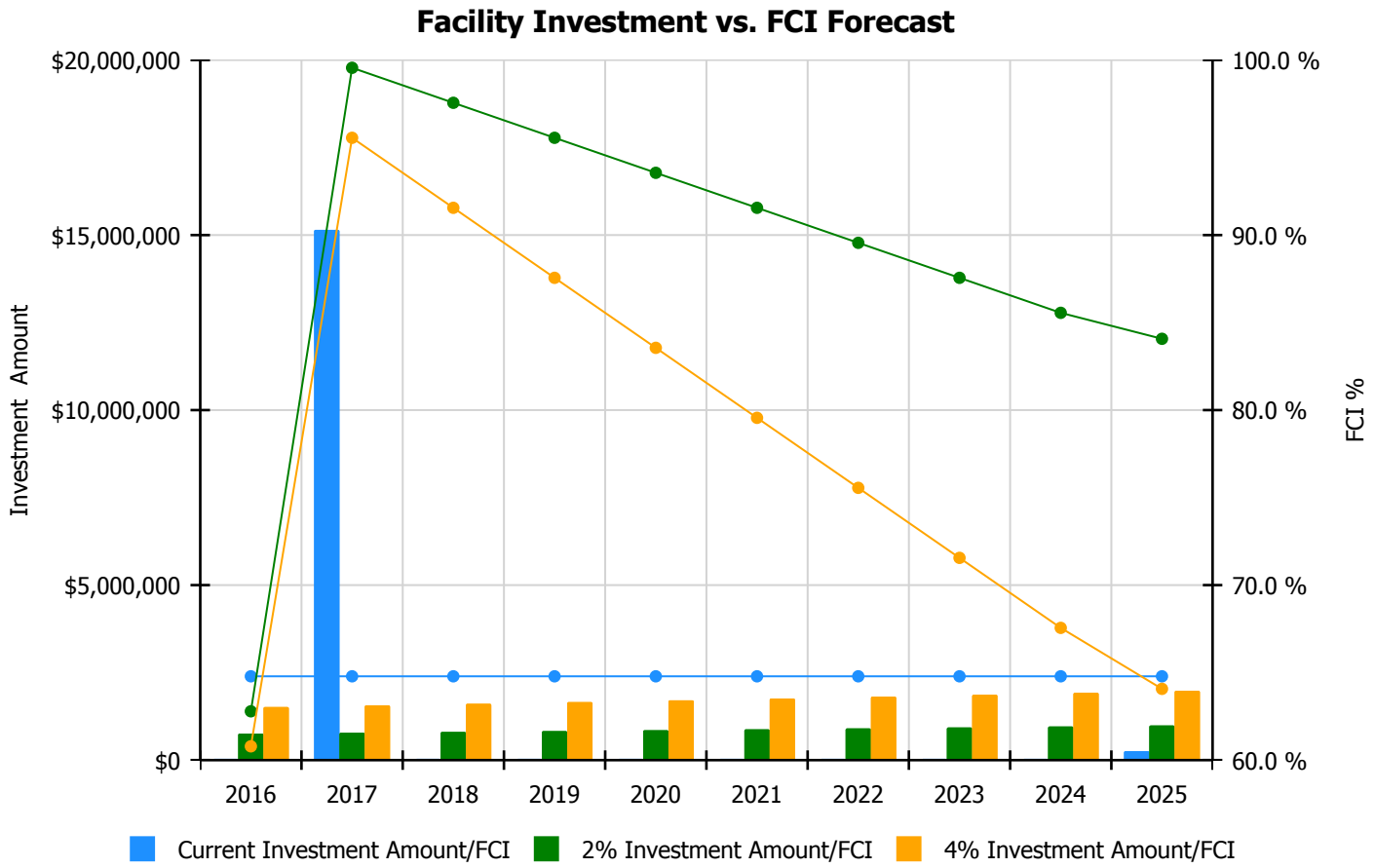
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

The chart below illustrates the effect of various investment levels on the building FCI for the next 10 years. The levels of investment shown below include:

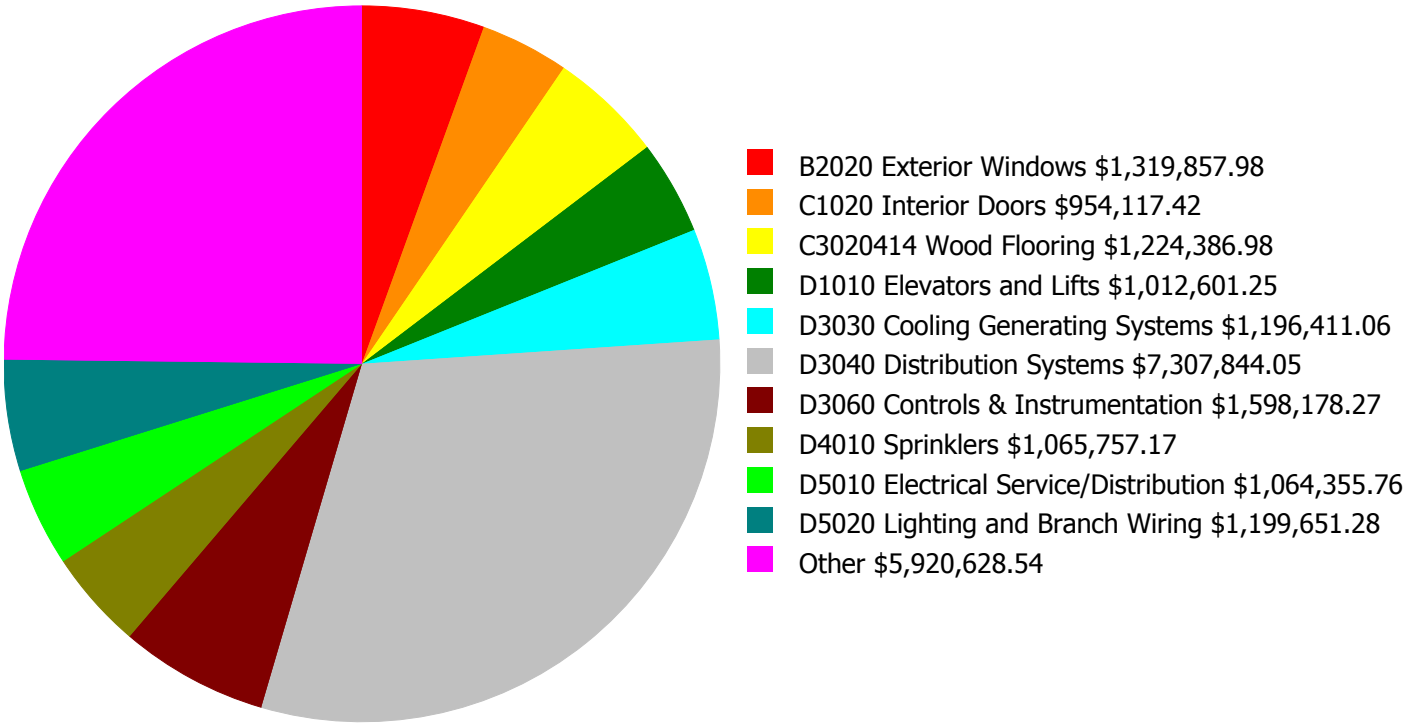
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value of the building, escalated for inflation



Year	Investment Amount Current FCI - 64.79%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$758,753.00	62.79 %	$1,517,505.00	60.79 %
2017	$15,148,560	$781,515.00	99.56 %	$1,563,031.00	95.56 %
2018	$0	$804,961.00	97.56 %	$1,609,921.00	91.56 %
2019	$0	$829,110.00	95.56 %	$1,658,219.00	87.56 %
2020	$0	$853,983.00	93.56 %	$1,707,966.00	83.56 %
2021	$0	$879,602.00	91.56 %	$1,759,205.00	79.56 %
2022	$0	$905,990.00	89.56 %	$1,811,981.00	75.56 %
2023	$0	$933,170.00	87.56 %	$1,866,340.00	71.56 %
2024	$0	$961,165.00	85.56 %	$1,922,330.00	67.56 %
2025	$255,511	$990,000.00	84.07 %	$1,980,000.00	64.07 %
Total:	**$15,404,071**	**$8,698,249.00**		**$17,396,498.00**	

Deficiency Summary by System

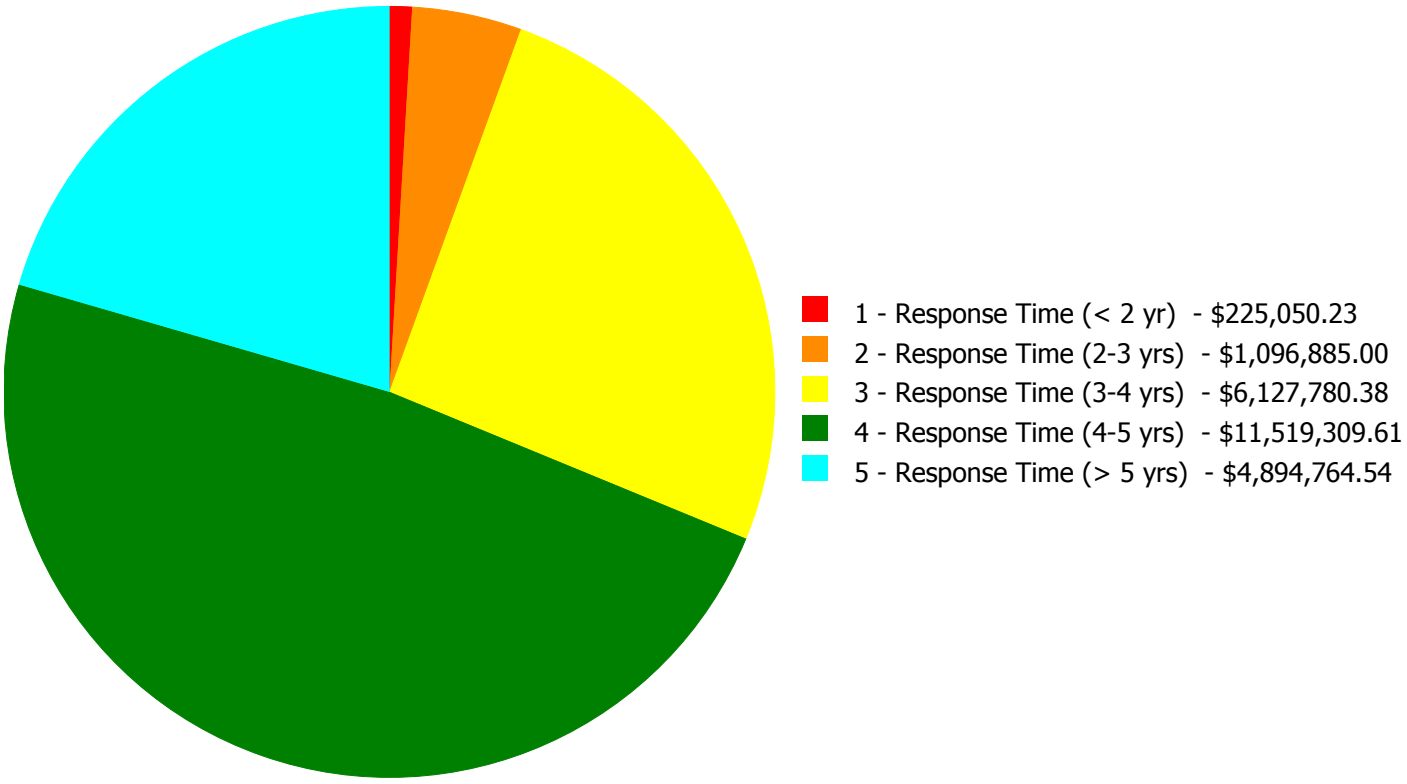
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart lists all current deficiencies associated with this facility.



Budget Estimate Total: $23,863,789.76

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $23,863,789.76

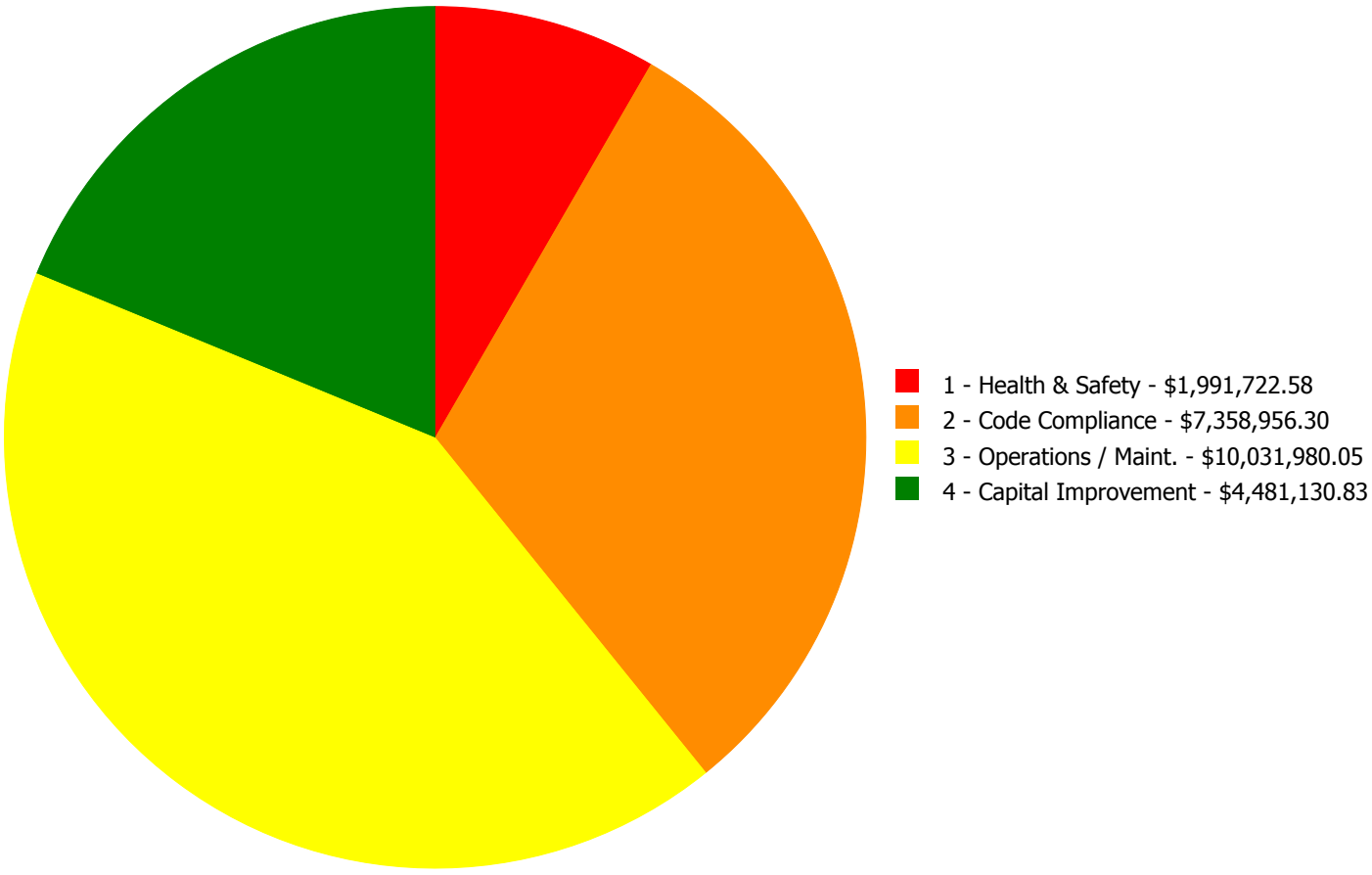
Deficiency By Priority Investment Table

The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
A1010	Standard Foundations	$4,591.09	$0.00	$0.00	$0.00	$0.00	$4,591.09
B2010	Exterior Walls	$0.00	$0.00	$64,578.94	$208,406.67	$0.00	$272,985.61
B2020	Exterior Windows	$0.00	$0.00	$1,319,857.98	$0.00	$0.00	$1,319,857.98
B2030	Exterior Doors	$0.00	$0.00	$183,691.26	$0.00	$0.00	$183,691.26
B3010105	Built-Up	$0.00	$0.00	$474,348.15	$0.00	$0.00	$474,348.15
B3010130	Preformed Metal Roofing	$0.00	$0.00	$464,788.66	$0.00	$0.00	$464,788.66
C1010	Partitions	$203,129.98	$112,398.18	$0.00	$0.00	$0.00	$315,528.16
C1020	Interior Doors	$0.00	$0.00	$954,117.42	$0.00	$0.00	$954,117.42
C1030	Fittings	$0.00	$0.00	$0.00	$94,980.49	$0.00	$94,980.49
C2010	Stair Construction	$0.00	$0.00	$23,354.19	$0.00	$0.00	$23,354.19
C3010230	Paint & Covering	$0.00	$20,321.63	$0.00	$0.00	$0.00	$20,321.63
C3020413	Vinyl Flooring	$0.00	$227,500.02	$0.00	$0.00	$0.00	$227,500.02
C3020414	Wood Flooring	$0.00	$0.00	$0.00	$0.00	$1,224,386.98	$1,224,386.98
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$0.00	$904,945.82	$904,945.82
D1010	Elevators and Lifts	$0.00	$0.00	$0.00	$0.00	$1,012,601.25	$1,012,601.25
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$428,630.23	$0.00	$428,630.23
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$365,478.32	$0.00	$365,478.32
D3020	Heat Generating Systems	$0.00	$736,665.17	$0.00	$101,394.17	$0.00	$838,059.34
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,196,411.06	$1,196,411.06
D3040	Distribution Systems	$0.00	$0.00	$0.00	$7,307,844.05	$0.00	$7,307,844.05
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,598,178.27	$0.00	$1,598,178.27
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,065,757.17	$0.00	$1,065,757.17
D5010	Electrical Service/Distribution	$17,329.16	$0.00	$1,047,026.60	$0.00	$0.00	$1,064,355.76
D5020	Lighting and Branch Wiring	$0.00	$0.00	$885,919.16	$313,732.12	$0.00	$1,199,651.28
D5030	Communications and Security	$0.00	$0.00	$353,260.90	$34,908.12	$105,466.67	$493,635.69
D5090	Other Electrical Systems	$0.00	$0.00	$343,005.57	$0.00	$0.00	$343,005.57
E2010	Fixed Furnishings	$0.00	$0.00	$13,831.55	$0.00	$450,952.76	$464,784.31
	Total:	$225,050.23	$1,096,885.00	$6,127,780.38	$11,519,309.61	$4,894,764.54	$23,863,789.76

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



Budget Estimate Total: $23,863,789.76

Deficiency Details by Priority

The deficiency detail notes listed below provide additional information on identified deficiencies found within the facility.

Priority 1 - Response Time (< 2 yr):

System: A1010 - Standard Foundations

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Apply waterproofing on existing foundation walls - SF of foundation wall - add for sump and discharge piping

Qty: 75.00

Unit of Measure: S.F.

Estimate: $4,591.09

Assessor Name: System

Date Created: 02/01/2016

Notes: There is evidence of water infiltration through the basement foundations wall facing the East Upsal street exterior. To improve the integrity of the basement wall excavation and waterproofing system upgrades are recommended. Improve the slope of the grade away from the foundation prior to restoring the landscaping system.

System: C1010 - Partitions

Location: Fire Escape and Corridor Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install fire rated walls and door where required - insert number of doors

Qty: 1.00

Unit of Measure: S.F.

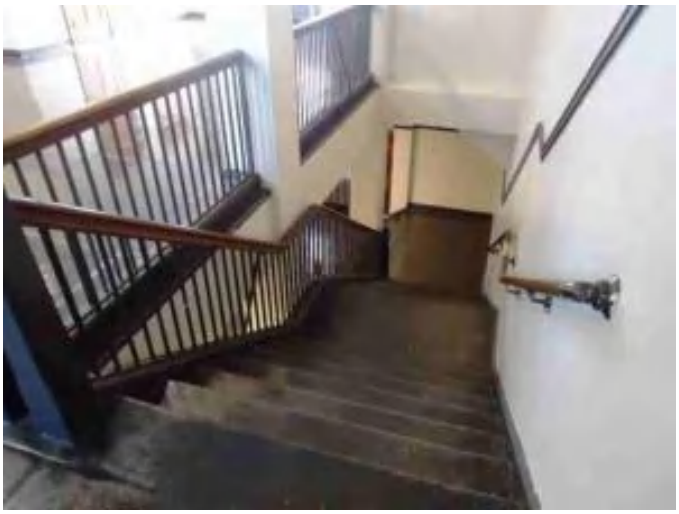
Estimate: $125,575.67

Assessor Name: System

Date Created: 02/01/2016

Notes: A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically metal in metal frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

System: C1010 - Partitions



Location: Auditorium Lobby

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install fire rated walls and door where required - insert number of doors

Qty: 2,000.00

Unit of Measure: S.F.

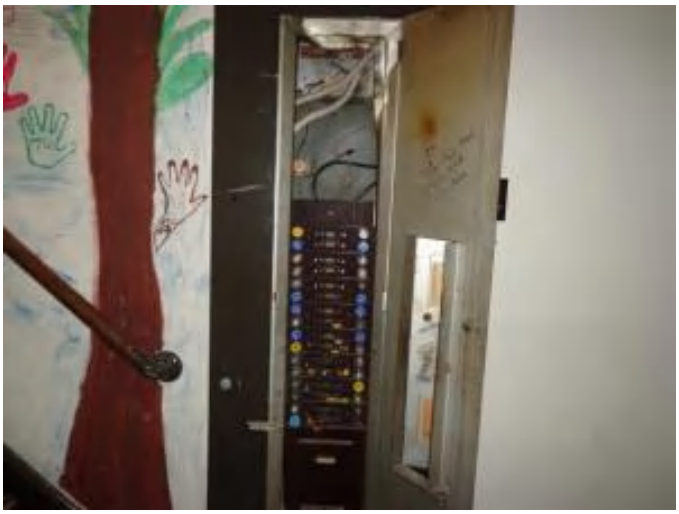
Estimate: $77,554.31

Assessor Name: System

Date Created: 02/01/2016

Notes: The present floor plan arrangement has the lobby to the Auditorium opening up into the existing hall corridor. This opening into a corridor and stair access to the second floor does not have fire doors or barriers designed to support modern code. The lobby should be completely separate from the corridor with rated partitions and fire door installations. This Auditorium lobby needs to have at least one means of egress and contain smoke detectors. This deficiency recommends the construction of fire resistant barrier with automatically closing fire doors to be installed between the existing corridor access to the Auditorium and the corridors to provide the required separation and protection.

System: D5010 - Electrical Service/Distribution



Location: Panelboards

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Remove asbestos from electrical panel - based on approximately 20 SF

Qty: 9.00

Unit of Measure: Ea.

Estimate: $17,329.16

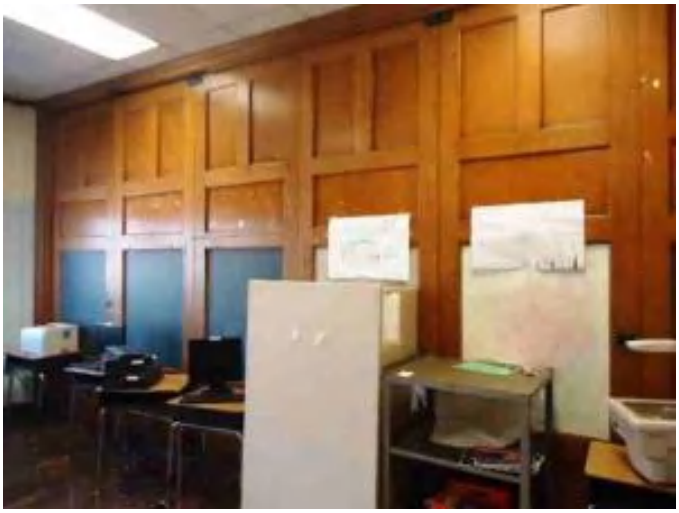
Assessor Name: System

Date Created: 01/24/2016

Notes: Provide abatement of asbestos wrapped feeder conductors within panelboard enclosures for nine (9) panelboards.

Priority 2 - Response Time (2-3 yrs):

System: C1010 - Partitions



Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Remove folding wood partitions; replace with metal studs and gypsum board painted

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $66,838.49

Assessor Name: System

Date Created: 02/01/2016

Notes: There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

System: C1010 - Partitions

Location: Hallways

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall

Qty: 1,600.00

Unit of Measure: S.F.

Estimate: $42,798.92

Assessor Name: System

Date Created: 02/01/2016

Notes: There are several transom lites and sidelights constructed into hallway wall systems. It is recommended that the lites and sidelights be removed and replaced with a fire rated wall construction. The deficiency provides a budgetary consideration to correct the hallway, transoms, lites and sidelights.

System: C1010 - Partitions

Location: Mechanical Room

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Add firestopping - per penetration - pick the type of penetration and insert the quantities in the estimate including finish restoration

Qty: 1.00

Unit of Measure: Ea.

Estimate: $2,760.77

Assessor Name: System

Date Created: 02/01/2016

Notes: Structural fire separation are not maintained according to code requirements for new construction in select areas of this school. Primarily, data cabling has been routed with little regard for fire rated separations. Intumescent passive fire stopping and some minor structural separation repairs should be accomplished promptly.

System: C3010230 - Paint & Covering

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Repair and repaint all interior walls - SF of wall surface

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $20,321.63

Assessor Name: System

Date Created: 02/01/2016

Notes: There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

System: C3020413 - Vinyl Flooring

Location: Building Wide

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Remove VAT and replace with VCT - SF of area

Qty: 15,000.00

Unit of Measure: S.F.

Estimate: $227,500.02

Assessor Name: System

Date Created: 02/01/2016

Notes: The floor finish for this school is a combination of marble, polished stone and terrazzo, tile in the kitchen and service line areas, wood classrooms with concrete hallways and stirs finishes and a vinyl tile finish. The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Replace boiler, cast iron sectional (50 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $736,665.17

Assessor Name: System

Date Created: 01/30/2016

Notes: Replace two existing boilers and one disassembled boiler with three new cast iron sectional boilers.

Priority 3 - Response Time (3-4 yrs):

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Repair cracks in masonry - replace missing mortar and repoint - SF of wall area

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $64,578.94

Assessor Name: System

Date Created: 02/01/2016

Notes: The exterior brick surfaces are generally in fair to good condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The repointing of deteriorated mortar joints is also recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the brick and repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

System: B2020 - Exterior Windows

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace aluminum windows - pick the appropriate size and style and insert the number of units

Qty: 240.00

Unit of Measure: Ea.

Estimate: $1,319,857.98

Assessor Name: System

Date Created: 02/01/2016

Notes: Most of the exterior windows have been upgraded from the original applications. As indicated in the photos several of the windows appear to be original. A majority of the window system is estimated to have been installed in the 1990's with the exception of the 1970 addition. The Addition windows are original. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: B2030 - Exterior Doors

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace exterior doors - per leaf

Qty: 20.00

Unit of Measure: Ea.

Estimate: $182,146.42

Assessor Name: System

Date Created: 02/01/2016

Notes: The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system and service doors are recommended for upgrade. The new doors are expected to retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: B2030 - Exterior Doors

Location: Mechanical Access Door

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace overhead door - pick the closest type and size and add for the operator if required

Qty: 1.00

Unit of Measure: Ea.

Estimate: $1,544.84

Assessor Name: System

Date Created: 02/01/2016

Notes: The mechanical room roll up door is an original metal application. The safety equipment for this door is no longer functional and the door was reported to be limited in operation. This door system is recommended to be removed and replaced with a modern overhead door system with safety and security considerations.

System: B3010105 - Built-Up

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and Replace Built Up Roof

Qty: 14,000.00

Unit of Measure: S.F.

Estimate: $474,348.15

Assessor Name: System

Date Created: 02/01/2016

Notes: There are a number of roof sections and different roof elevations ranging from the main roof to the mechanical roof. The built up application was reported to have been installed in the late 1980'S. Although several applications of roof coating has been applied to extend the life of the roof the condition of the insulation and some of the seams have become an issue. Considering the age and condition of the roofing systems, universal upgrades are recommended.

System: B3010130 - Preformed Metal Roofing

Location: Addition Roof

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace preformed metal roofing

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: $464,788.66

Assessor Name: System

Date Created: 02/01/2016

Notes: This 1970 building addition has a metal roof over the footprint and small areas of flat roofing atop the center section extending the length of the addition. During the time of the inspection several issues were reported related to minor leaks and that repairs have become the standard. Experience indicates that repairs on a metal roof application of this age creates a diminishing returns. It is recommended that this roof be added in the capital renewal funding process for universal upgrade.

System: C1020 - Interior Doors

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace interior doors - wood doors with hollow metal frames - per leaf

Qty: 200.00

Unit of Measure: Ea.

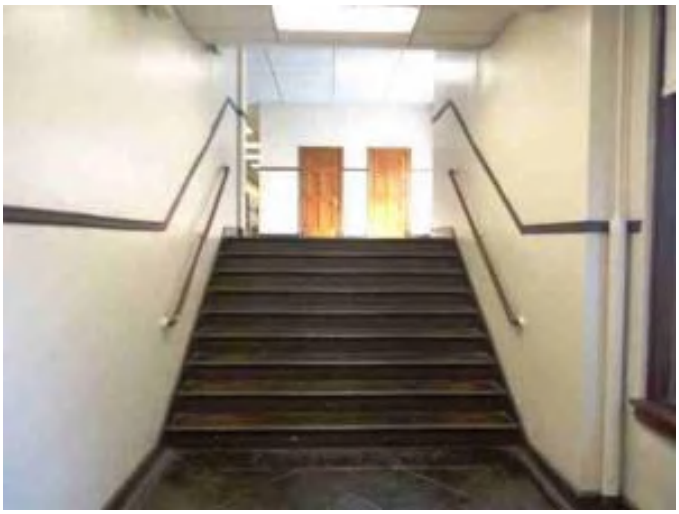
Estimate: $954,117.42

Assessor Name: System

Date Created: 02/01/2016

Notes: Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames. Doors are generally in fair condition considering the age of the application. Doors swing in the direction of exit and do not obstruct hallways. . Universal upgrades are required for the interior door systems it is recommended that the interior doors system be removed and replaced with a new modern metal framed hollow metal door system with consideration for ADA compliance.

System: C2010 - Stair Construction



Location: Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace inadequate or install proper stair railing - select appropriate material

Qty: 1,500.00

Unit of Measure: L.F.

Estimate: $23,354.19

Assessor Name: System

Date Created: 02/01/2016

Notes: Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

System: D5010 - Electrical Service/Distribution

Location: Mechanical Rom 007

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

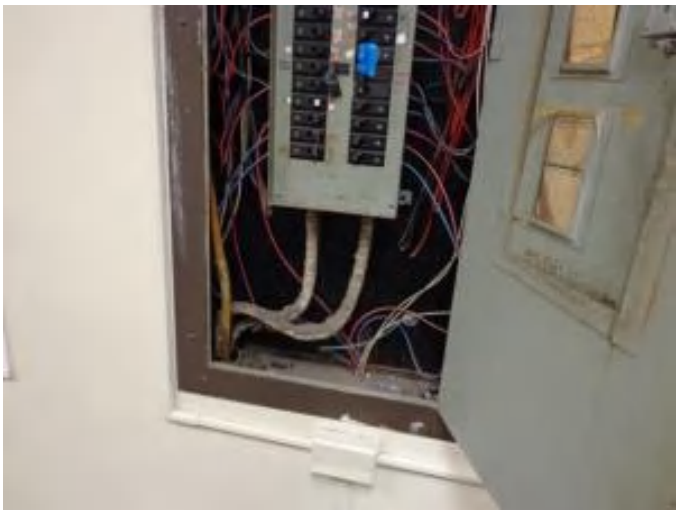
Estimate: $653,254.26

Assessor Name: System

Date Created: 01/11/2016

Notes: Remove the 600A, 120/240V, 2 phase, 5 wire service disconnecting means, metering cabinet and 600A Main Panelboards and provide a 1000 kVA package unit substation with 3000A, 208/120V, 3 phase, 4 wire main switchboard with main circuit breaker and feeder circuit breakers to serve the existing building loads and added central air conditioning equipment, an elevator addition, and a fire pump (if required).

System: D5010 - Electrical Service/Distribution



Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace Panelboard

Qty: 17.00

Unit of Measure: Ea.

Estimate: $393,772.34

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace four (4) individual motor controllers and a total of (13) 120/240V, 1 phase panelboards in the building, including their feeders. Remove 75 kVA phase change transformer.

System: D5020 - Lighting and Branch Wiring

Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace Lighting Fixtures (SF)

Qty: 48,350.00

Unit of Measure: S.F.

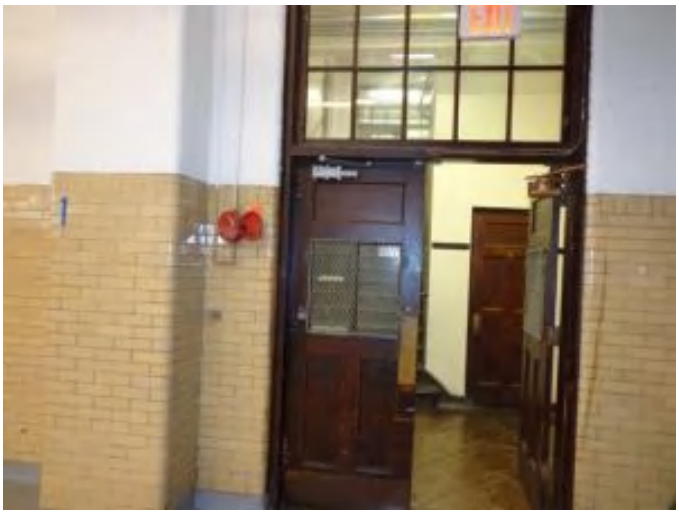
Estimate: $885,919.16

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace fluorescent lighting systems and branch circuit wiring throughout the building, except where fixtures have been upgraded with T8 lamps (classrooms and library 34,420 SF; Mechanical 3,000 SF; Administration, Support, and Circulation 10,930 SF).

System: D5030 - Communications and Security



Location: Building wide

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace fire alarm system

Qty: 74,500.00

Unit of Measure: S.F.

Estimate: $353,260.90

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.

System: D5090 - Other Electrical Systems

This deficiency has no image.

Location: Mechanical Room 007

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 3 - Response Time (3-4 yrs)

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $301,005.65

Assessor Name: System

Date Created: 01/11/2016

Notes: Provide standby generator system and replace obsolete knife blade fusible panelboard for exit signs. Size generator system for all emergency egress and exit lighting, elevator addition and fire pump (estimated size is 150 kW).

System: D5090 - Other Electrical Systems

Location: Building wide

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Replace Emergency/Exit Lighting

Qty: 41.00

Unit of Measure: Ea.

Estimate: $41,999.92

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace all existing exit signs with LED type. Remove emergency lighting units and connect emergency egress lighting fixtures to standby generator.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace stage curtain - insert the LF of track and SF of curtain

Qty: 1.00

Unit of Measure: Ea.

Estimate: $13,831.55

Assessor Name: System

Date Created: 02/01/2016

Notes: The school stage has a stage curtain assembly that appears to be from the original construction. Modern applications are typically fire-proof applications with adjustable tracks and electric support for operation. The curtains are torn in a few section and the track is not functioning properly, overall the system is in poor condition. It is recommended that the curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

Priority 4 - Response Time (4-5 yrs):

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Remove and replace insulated metal exterior wall panels

Qty: 5,500.00

Unit of Measure: S.F.

Estimate: $208,406.67

Assessor Name: System

Date Created: 02/01/2016

Notes: The 1970 classroom addition are comprised of steel framing with preformed metal panel exterior. As indicated in the photos the metal exterior finish is damaged in several areas and the painted surface for this finish is beyond repair. The entire exterior metal panel finish is recommended to removed and replaced with a new insulated metal panel finish.

System: C1030 - Fittings

Location: Classroom

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace blackboards with marker boards - pick the appropriate size and insert the quantities

Qty: 40.00

Unit of Measure: Ea.

Estimate: $46,416.36

Assessor Name: System

Date Created: 02/01/2016

Notes: Some of the classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade damaged chalk boards to new marker board systems.

System: C1030 - Fittings

Location: Building WIde

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace missing or damaged signage - insert the number of rooms

Qty: 150.00

Unit of Measure: Ea.

Estimate: $40,636.87

Assessor Name: System

Date Created: 02/01/2016

Notes: There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

System: C1030 - Fittings

Location: Hallways

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Remove and replace tackboards - select size

Qty: 10.00

Unit of Measure: Ea.

Estimate: $7,927.26

Assessor Name: System

Date Created: 02/01/2016

Notes: There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

System: D2020 - Domestic Water Distribution

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace domestic water piping (75 KSF)

Qty: 74,500.00

Unit of Measure: S.F.

Estimate: $377,517.98

Assessor Name: System

Date Created: 01/30/2016

Notes: Replace domestic water supply piping with insulated rigid copper tubing. Include hangers, valves and supports.

System: D2020 - Domestic Water Distribution

Location: mechanical room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $51,112.25

Assessor Name: System

Date Created: 01/30/2016

Notes: Install approved backflow preventer assembly in existing four inch domestic water service line.

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Inspect sanitary waste piping and replace damaged sections. (+50KSF)

Qty: 74,500.00

Unit of Measure: S.F.

Estimate: $365,478.32

Assessor Name: System

Date Created: 01/30/2016

Notes: Inspect old cast iron sanitary piping including camera observation and replace damaged sections.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace boiler feed pump (duplex) and surge tank

Qty: 1.00

Unit of Measure: Ea.

Estimate: $101,394.17

Assessor Name: System

Date Created: 01/30/2016

Notes: Replace condensate return/ boiler feed pump system with new duplex pump unit.

System: D3040 - Distribution Systems

Location: classrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide classroom FC units and dedicated OA ventilation system. (20 clsrms)

Qty: 68.00

Unit of Measure: C

Estimate: $5,648,147.22

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide a fan coil unit for each classroom and separate area. Include new heat exchanger, pumps for hot water, piping, control valves and controls, to replace steam heating system.

System: D3040 - Distribution Systems

Location: auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Install HVAC unit for Auditorium (200 seat).

Qty: 500.00

Unit of Measure: Seat

Estimate: $712,713.57

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Install HVAC unit for Cafeteria (850 students).

Qty: 735.00

Unit of Measure: Student

Estimate: $376,109.93

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide a new central station air handling unit for the cafeteria with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

System: D3040 - Distribution Systems

Location: gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Install HVAC unit for Gymnasium (single station).

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $344,860.27

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide a new central station air handling unit for the gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

System: D3040 - Distribution Systems

Location: toilet rooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (4 plbg fixtures)

Qty: 10.00

Unit of Measure: Ea.

Estimate: $172,070.42

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide new mechanical toilet exhaust systems for all toilet rooms including inline fans, wall louvers, ductwork, and grills. Include electrical connections and controls.

System: D3040 - Distribution Systems

Location: toilet rooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (8 plbg fixtures)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $53,942.64

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide new mechanical toilet exhaust systems for all toilet rooms including inline fans, wall louvers, ductwork, and grills. Include electrical connections and controls.

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 74,500.00

Unit of Measure: S.F.

Estimate: $1,598,178.27

Assessor Name: System

Date Created: 01/30/2016

Notes: Install new direct digital control system and building automation system with remote computer control capability and graphics package.

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 4 - Response Time (4-5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 74,500.00

Unit of Measure: S.F.

Estimate: $1,065,757.17

Assessor Name: System

Date Created: 01/30/2016

Notes: Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required

System: D5020 - Lighting and Branch Wiring

Location: Classrooms and Building wide

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide surface raceway system and wiring devices

Qty: 1,260.00

Unit of Measure: L.F.

Estimate: $267,467.93

Assessor Name: System

Date Created: 01/11/2016

Notes: Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 42 classrooms. Replace all existing duplex receptacles throughout the building with new devices due to their age and condition (estimate 200 duplex receptacles to be replaced).

System: D5020 - Lighting and Branch Wiring

Location: Cafeteria/Gymnasium

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace lighting fixtures

Qty: 24.00

Unit of Measure: Ea.

Estimate: $36,846.60

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace (24) 8 foot, 4 lamp fluorescent lighting fixtures in the cafeteria/gymnasium.

System: D5020 - Lighting and Branch Wiring

Location: Auditorium

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Maintain Lighting Fixtures

Qty: 10.00

Unit of Measure: Ea.

Estimate: $9,417.59

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace glass bowls on 10 suspended chandeliers in the auditorium and replace incandescent lamps with LED lamps.

System: D5030 - Communications and Security

Location: Building wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide wireless GPS clock system

Qty: 1.00

Unit of Measure: LS

Estimate: $34,908.12

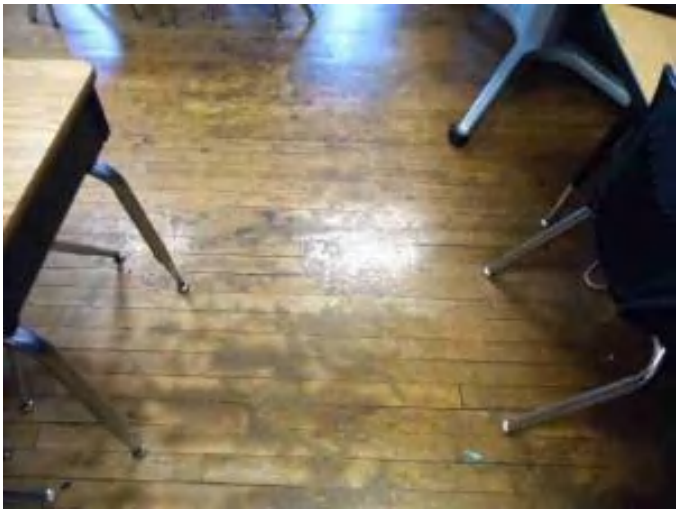
Assessor Name: System

Date Created: 01/11/2016

Notes: Remove all clocks and provide wireless GPS clock system with battery operated synchronized clocks.

Priority 5 - Response Time (> 5 yrs):

System: C3020414 - Wood Flooring



Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace wood flooring

Qty: 42,000.00

Unit of Measure: S.F.

Estimate: $1,224,386.98

Assessor Name: System

Date Created: 02/01/2016

Notes: The wooden floor finish in the classrooms has served this school from the first day of school. The systems maintenance has been a priority each year as part of a cyclical program to either, sand, clean and resurface or wax as needed. Considering the age and current condition of the classroom wooden floor finish, removal and replacement is recommended.

System: C3030 - Ceiling Finishes

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace suspended acoustic ceilings - lighting not included

Qty: 60,000.00

Unit of Measure: S.F.

Estimate: $904,945.82

Assessor Name: System

Date Created: 02/01/2016

Notes: The ceiling finish is a mix of 12 x 12 ceiling grid, painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended efforts in this report prior to re-opening. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

System: D1010 - Elevators and Lifts

Location: Bulding Wide

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add external 4 stop elevator - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $1,012,601.25

Assessor Name: System

Date Created: 02/01/2016

Notes: There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the exterior elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this historic structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install chilled water system with distribution piping and pumps. (+75KSF)

Qty: 74,500.00

Unit of Measure: S.F.

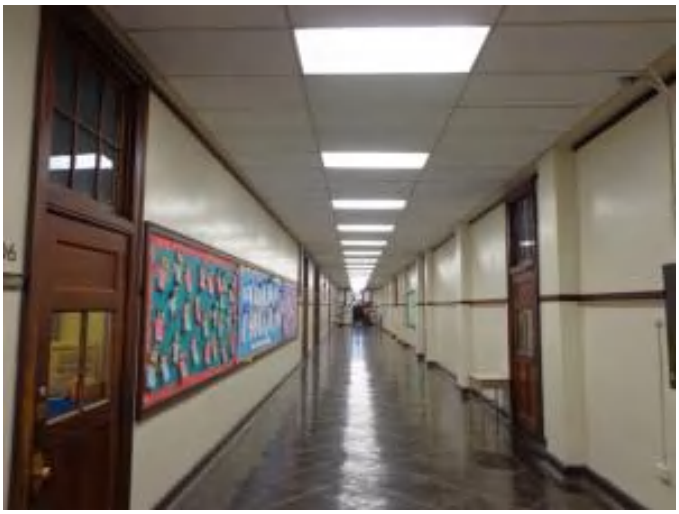
Estimate: $1,196,411.06

Assessor Name: System

Date Created: 01/30/2016

Notes: Provide a two hundred fifteen ton air cooled package chiller on the roof with pumps, piping and controls. Connect to new fan coil units and air handling units. Include controls and electrical connections.

System: D5030 - Communications and Security



Location: Corridors - Floors 1, 2 and 3
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 5 - Response Time (> 5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 9.00
Unit of Measure: Ea.
Estimate: $69,138.82
Assessor Name: System
Date Created: 01/11/2016

Notes: Add total of nine (9) interior video surveillance cameras, three (3) on each of Floors 1, 2 and 3. Add one digital video recorder (DVR).

System: D5030 - Communications and Security

Location: Classrooms
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 5 - Response Time (> 5 yrs)
Correction: Add data outlets
Qty: 21.00
Unit of Measure: Ea.
Estimate: $36,327.85
Assessor Name: System
Date Created: 01/11/2016

Notes: Provide allowance for adding hard wired data outlets in 21 classrooms.

System: E2010 - Fixed Furnishings

Location: Auditorium

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace auditorium seating - add tablet arms if required. Veneer seating is an option.

Qty: 500.00

Unit of Measure: Ea.

Estimate: $450,952.76

Assessor Name: System

Date Created: 02/01/2016

Notes: The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school. Ensure that ADA requirements are followed with the new seating layout.

Equipment Inventory

The following table represents the inventory details of the inventory found in the building, which fall under the following subsystems:

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	mechanical room	hb smith	mills 650			35			$122,870.00	$270,314.00
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 600 A	2.00	Ea.	Basement Mechanical Room	Penn Panel & Box Company	NLAB	AK224682 and AK224684		20			$16,891.20	$37,160.64
												Total:	**$307,474.64**

Executive Summary

Building condition is evaluated based on the functional systems and elements of a building and organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are developed for similar building types and functions. Systems and their elements are evaluated based on their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) FCI is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value. It ranges from 0% (new) to 100% (very poor). Condition Index (CI) is calculated as the sum of a renewable system's Remaining Service Life (RSL) divided by the sum of a system's Replacement Value (both values exclude soft-cost to simplify calculation updates) expressed as a percentage ranging from 100% (new) to 0% (expired).

Function:	
Gross Area (SF):	74,100
Year Built:	1926
Last Renovation:	
Replacement Value:	$1,705,563
Repair Cost:	$258,266.08
Total FCI:	15.14 %
Total RSLI:	40.73 %

Description:

Attributes:

General Attributes:

Bldg ID:	S622001	Site ID:	S622001

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
G20 - Site Improvements	36.19 %	18.21 %	$232,175.83
G40 - Site Electrical Utilities	54.17 %	6.06 %	$26,090.25
Totals:	**40.73 %**	**15.14 %**	**$258,266.08**

Condition Detail

This section of the report contains results of the Facility Condition Assessment. The building is separated into system components based on UNIFORMAT II classification. The columns in the System Listing table below represent the following:

1. System Code: A code that identifies the system.
2. System Description: A brief description of a system present in the building.
3. Unit Price $: The unit price of the system.
4. UoM: The unit of measure for of the system.
5. Qty: The quantity for the system
6. Life: anticipated service life for thesystem based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency $: The financial investment to repair/replace system.

System Listing

The System Listing table below lists each of the systems organized by their UNIFORMAT II classification. The assessment team was tasked with recording the most recent replacement year of each system, determining the remaining service life based on the theoretical life, and evaluating the condition to confirm the forecast next replacement year. The system listing is the basis for all data contained in the Building Assessment Report.

Additionally, a condition rating (eCR) based on the following guidelines is provided as observed at the time of the assessment.

- Excellent (E) - No noticeable distress or damage. The entire system is free from observable defect.
- Very Good (VG) - Overall no serviceability reduction for the entire system. No degradation of critical components and minor distress and defect noticeable for some but not non critical components within the system.
- Good (G) - Slight or no serviceability reduction for the entire system. There may be noticeable defects for some non critical components and slight noticeable degradation of the critical components.
- Fair (F) - Overall serviceability is degraded but adequate. There may be moderate deterioration for very few of the critical components and few of the non critical components may have severe degradation.
- Marginal (MA) - Overall serviceability and reliability loss. Most if not all of the non critical components suffer from severe degradation and a few of the critical component may have severe degradation.
- Moderate (MO) - Overall a significant serviceability loss. Most if not all the components have severe degradation with the reminder of the component showing visible distress.
- Very Poor (VP) - Overall the system is barely functional. All of the components are severely degraded.
- Non-Functional (NF) - Overall the system does not function with all the components having no serviceability and suffer from severe degradation.

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2020	Parking Lots	$8.50	S.F.	10,000	30	1926	1956	2027	40.00 %	166.36 %	12		$141,409.06	$85,000
G2030	Pedestrian Paving	$12.30	S.F.	68,500	40	1926	1966	2027	30.00 %	8.54 %	12		$71,914.25	$842,550
G2040	Site Development	$4.36	S.F.	74,100	25	1926	1951	2027	48.00 %	5.84 %	12		$18,852.52	$323,076
G2050	Landscaping & Irrigation	$4.36	S.F.	5,600	15	1926	1941	2027	80.00 %	0.00 %	12			$24,416
G4020	Site Lighting	$4.84	S.F.	74,100	30	1926	1956	2030	50.00 %	3.00 %	15		$10,754.93	$358,644
G4030	Site Communications & Security	$0.97	S.F.	74,100	20	1926	1946	2030	75.00 %	21.34 %	15		$15,335.32	$71,877
								Total	**40.73 %**	**15.14 %**			**$258,266.08**	**$1,705,563**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

No data found for this asset

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

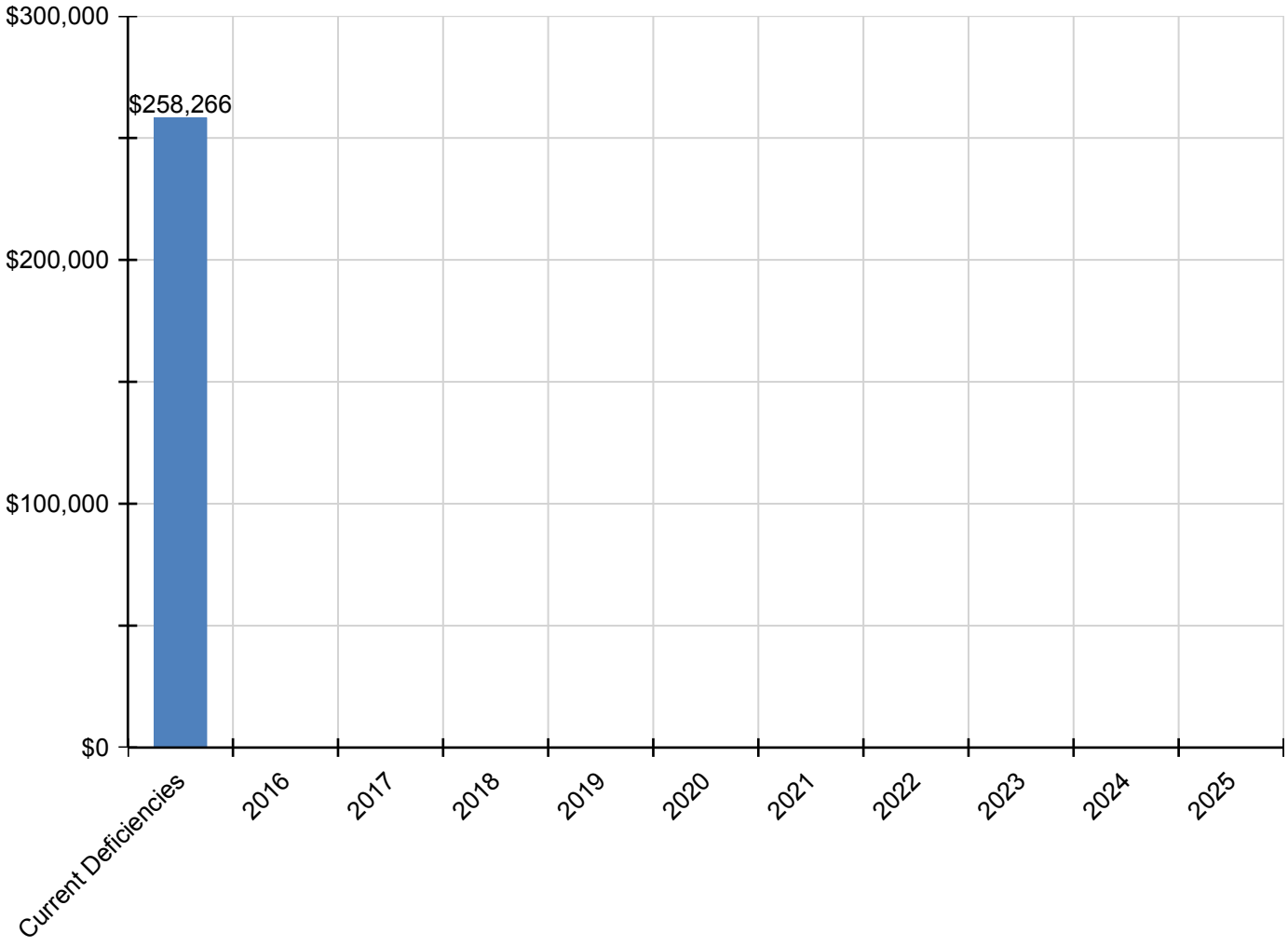
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$258,266**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$258,266**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$141,409	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$141,409**
G2030 - Pedestrian Paving	$71,914	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$71,914**
G2040 - Site Development	$18,853	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$18,853**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$10,755	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$10,755**
G4030 - Site Communications & Security	$15,335	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$15,335**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

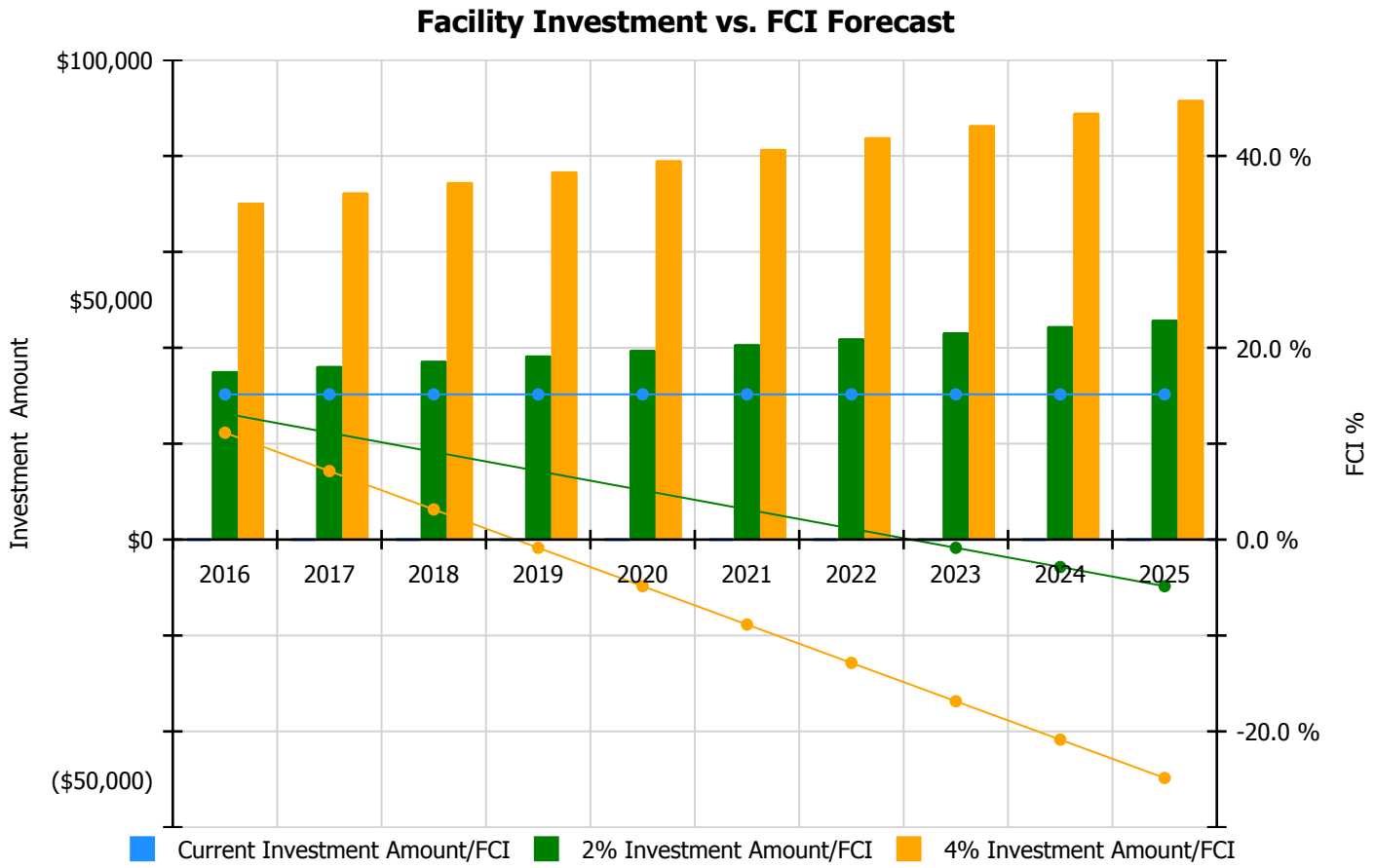
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

The chart below illustrates the effect of various investment levels on the building FCI for the next 10 years. The levels of investment shown below include:

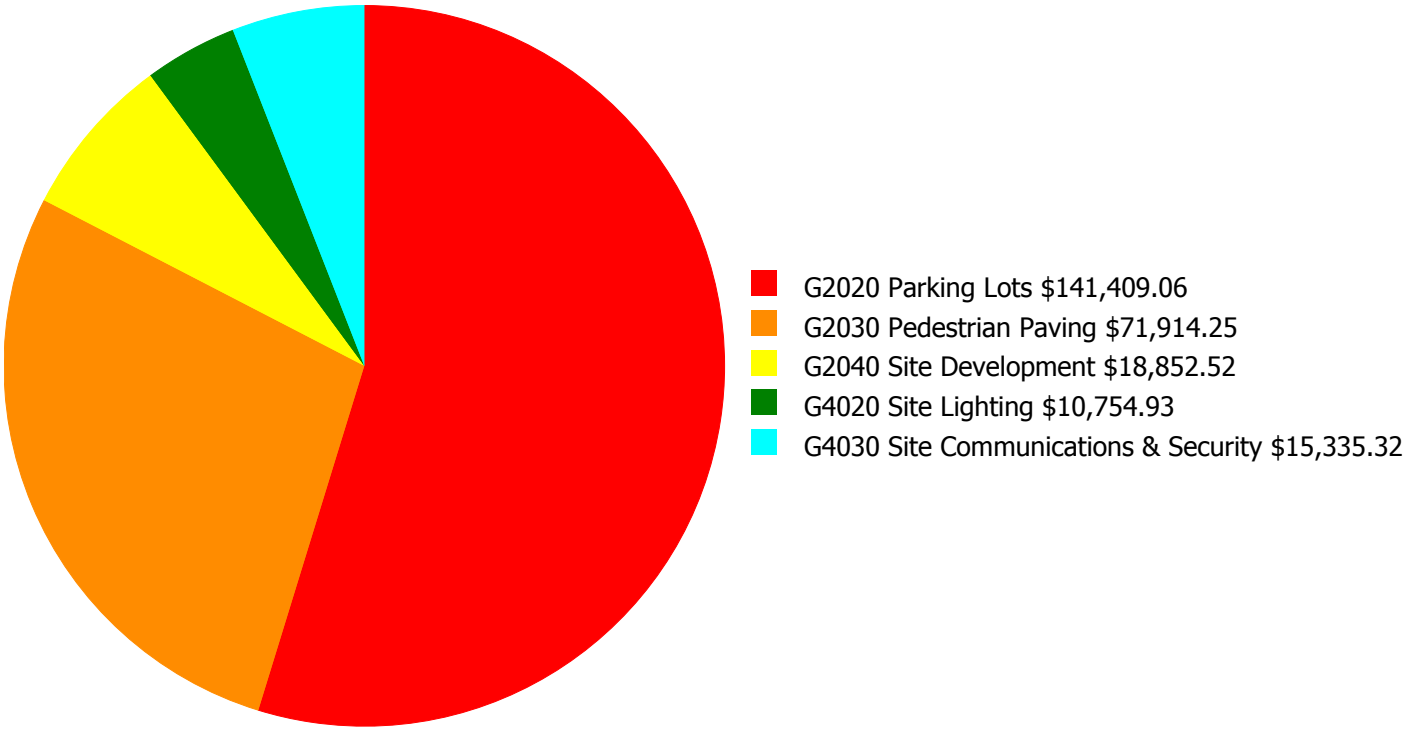
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value of the building, escalated for inflation



Year	Investment Amount Current FCI - 15.14%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$35,135.00	13.14 %	$70,269.00	11.14 %
2017	$0	$36,189.00	11.14 %	$72,377.00	7.14 %
2018	$0	$37,274.00	9.14 %	$74,549.00	3.14 %
2019	$0	$38,393.00	7.14 %	$76,785.00	-0.86 %
2020	$0	$39,544.00	5.14 %	$79,089.00	-4.86 %
2021	$0	$40,731.00	3.14 %	$81,461.00	-8.86 %
2022	$0	$41,953.00	1.14 %	$83,905.00	-12.86 %
2023	$0	$43,211.00	-0.86 %	$86,422.00	-16.86 %
2024	$0	$44,507.00	-2.86 %	$89,015.00	-20.86 %
2025	$0	$45,843.00	-4.86 %	$91,685.00	-24.86 %
Total:	**$0**	**$402,780.00**		**$805,557.00**	

Deficiency Summary by System

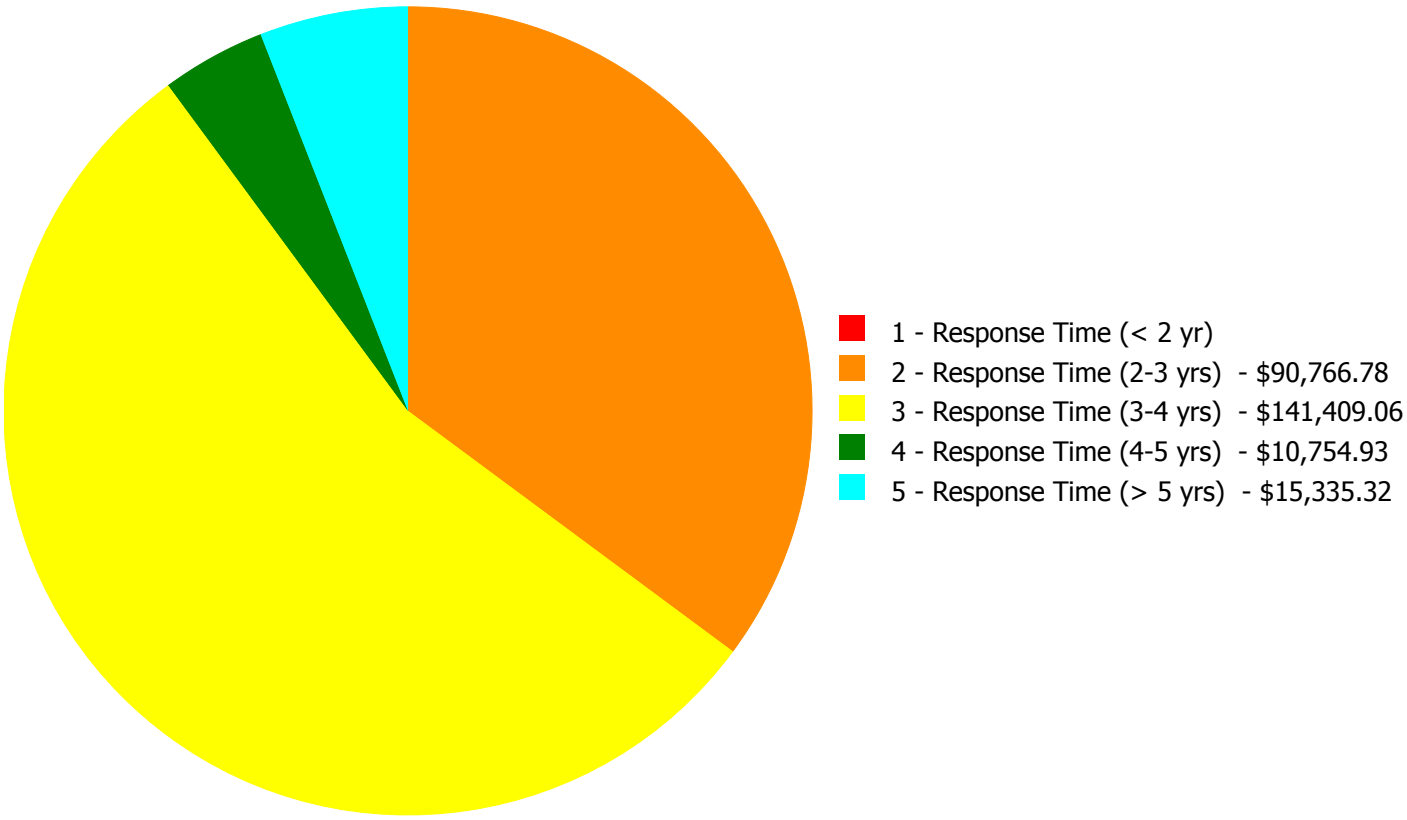
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart lists all current deficiencies associated with this facility.



Budget Estimate Total: $258,266.08

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $258,266.08

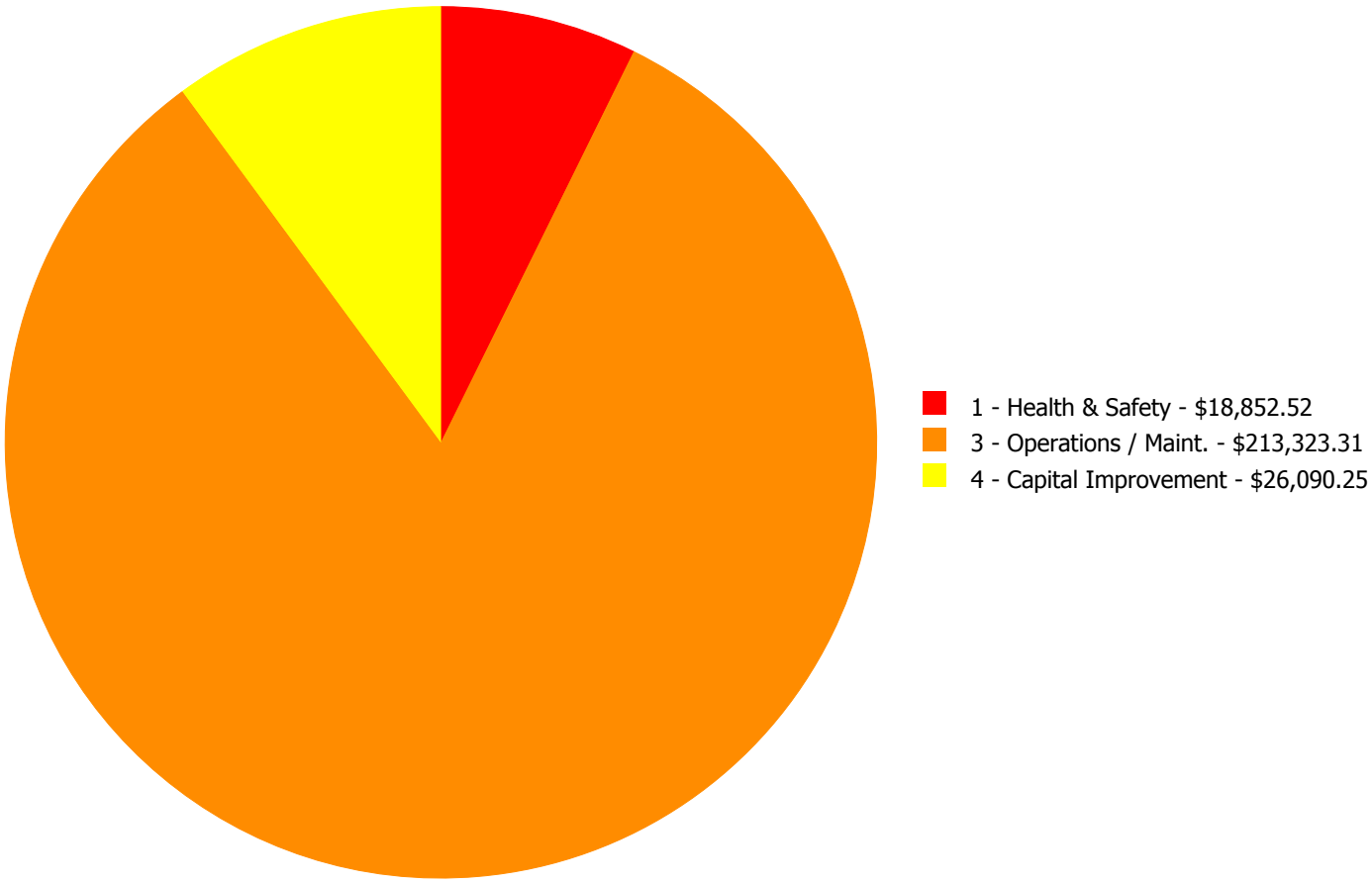
Deficiency By Priority Investment Table

The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$141,409.06	$0.00	$0.00	$141,409.06
G2030	Pedestrian Paving	$0.00	$71,914.25	$0.00	$0.00	$0.00	$71,914.25
G2040	Site Development	$0.00	$18,852.52	$0.00	$0.00	$0.00	$18,852.52
G4020	Site Lighting	$0.00	$0.00	$0.00	$10,754.93	$0.00	$10,754.93
G4030	Site Communications & Security	$0.00	$0.00	$0.00	$0.00	$15,335.32	$15,335.32
	Total:	$0.00	$90,766.78	$141,409.06	$10,754.93	$15,335.32	$258,266.08

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



Budget Estimate Total: $258,266.08

Deficiency Details by Priority

The deficiency detail notes listed below provide additional information on identified deficiencies found within the facility.

Priority 2 - Response Time (2-3 yrs):

System: G2030 - Pedestrian Paving

Location: Sidewalks

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Remove and replace concrete sidewalk or concrete paving - 4" concrete thickness

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $71,914.25

Assessor Name: Hayden Collins

Date Created: 02/01/2016

Notes: The sidewalk system is original to the buildings construction. There are a several areas of cracking concrete but no tripping hazards. The sidewalk system is expected to expire in the near future. Removal of the entire system is recommended. Universal upgrades are required and should include all aspects of current ADA legislation.

System: G2040 - Site Development

Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Hayden Collins

Date Created: 02/01/2016

Notes: The trash dumpster is located in the parking lot open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

Priority 3 - Response Time (3-4 yrs):

System: G2020 - Parking Lots

Location: Site Parking / Play Area

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace AC paving parking lot

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $141,409.06

Assessor Name: Hayden Collins

Date Created: 02/01/2016

Notes: The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in fair condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended.

Priority 4 - Response Time (4-5 yrs):

System: G4020 - Site Lighting

Location: Site

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 4 - Response Time (4-5 yrs)

Correction: Add site lighting fixtures

Qty: 2.00

Unit of Measure: Ea.

Estimate: $10,754.93

Assessor Name: Hayden Collins

Date Created: 01/11/2016

Notes: Add two (2) floodlighting fixtures on north side of building for increased illumination of the site.

Priority 5 - Response Time (> 5 yrs):

System: G4030 - Site Communications & Security

Location: Site

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $15,335.32

Assessor Name: Hayden Collins

Date Created: 01/11/2016

Notes: Add one (1) exterior video surveillance camera on the northwest wing.

Equipment Inventory

The following table represents the inventory details of the inventory found in the building, which fall under the following subsystems:

No data found for this asset

Glossary

ABMA	American Boiler Manufacturers Association http://www.abma.com/
ACEEE	American Council for an Energy-Efficient Economy
ACGIH	American Council of Governmental and Industrial Hygienists
AEE	Association of Energy Engineers
AFD	Adjustable Frequency Drive
AFTC	After Tax Cash Flow
AGA	American Gas Association
AHU	Air Handling Unit
Amp	Ampere
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASD	Adjustable Speed Drive
ASHRAE	American Society of Heating Refrigerating and Air-Conditioning Engineers Inc.
ASME	American Society of Mechanical Engineers
Assessment	Visual survey of a facility to determine its condition. It involves looking at the age of systems reviewing information from local sources and visual evidence of potential problems to assign a condition rating. It does not include destructive testing of materials or testing of systems or equipment for functionality.
ATS	After Tax Savings
AW	Annual worth
BACNET	Building Automation Control Network
BAS	Building Automation System
BCR	Benefit Cost Ratio
BEP	Business Energy Professional (AEE)
BF	Ballast Factor
BHP	Boiler Horsepower (boilers)
BHP	Brake Horsepower (motors)
BLCC	Building Life Cycle Cost analysis program (FEMP)
BOCA	Building Officials and Code Administrators
BTCF	Before Tax Cash Flow

BTS	Before Tax Savings
Btu	British thermal unit
Building Addition	An area space or component of a building added to a building after the original building's year built date.
CAA	Clean Air Act
CAAA-90	Clean Air Act Amendments of 1990
CABO	Council of American Building Officials
CAC	Conventional Air Conditioning
CADDET	Center for the Analysis and Dissemination of Demonstrated Energy Technologies
Calculated Next Renewal	The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system.
Capital Renewal	Capital renewal is condition work (excluding suitability and energy audit work) that includes the replacement of building systems or elements (as they become obsolete or beyond their useful life) not normally included in an annual operating budget. Calculated next renewal The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system. Next renewal The assessor adjusted expected useful life of a system or element based on on-site inspection.
CDD	Cooling Degree Days
CDGP	Certified Distributed Generation Professional
CEC	California Energy Commission
CEM	Certified Energy Manager
CEP	Certified Energy Procurement Professional
CFC	Chlorofluorocarbon
CFD	Cash Flow Diagram
CFL	Compact Fluorescent Light
CFM cfm	Cubic Feet per Minute
CHP	Combined Heat and Power (a.k.a. cogeneration)
CHW	Chilled Water
Condition	Condition refers to the state of physical fitness or readiness of a facility system or system element for its intended use.
COP	Coefficient of Performance
Cp	Heat Capacity of Material
CPUC	California Public Utility Commission
CRI	Color Rendering Index
CRT	Cathode Ray Tube VDT HMI

CTC	Competitive Transition Charge
Cu	Coefficient of Utilization
Current Replacement Value (CRV)	CRV represents the hypothetical total cost of rebuilding or replacing an existing facility in current dollars to its optimal condition (excluding auxiliary facilities) under current codes and construction standards.
Cv	Value Coefficient
CWS	Chilled Water System
D d	Distance (usually feet)
DB	Dry Bulb
DCV	Demand Control Ventilation
DD	Degree Day
DDB	Double Declining Balance
DDC	Direct Digital Controls
Deferred maintenance	Deferred maintenance is condition work (excluding suitability and energy audit needs) deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available.
Deficiency	A deficiency is a repair item that is damaged missing inadequate or insufficient for an intended purpose.
Delta	Difference
Delta P	Pressure Difference
Delta T	Temperature Difference
DG	Distributed Generation
DOE	Department of Energy
DP	Dew Point
DR	Demand Response
DX	Direct Expansion Air Conditioner
EA	Energy Audit
EBITDA	Earnings before Interest Taxes Depreciation and Amortization
ECI	Energy Cost Index
ECM	Energy Conservation Measure
ECO	Energy Conservation Opportunity
ECPA	Energy Conservation and Production Act
ECR	Energy Conservation Recommendation
ECS	Energy Control System

EER	Energy Efficiency Ratio
EERE	Energy Efficiency and Renewable Energy division of US DOE
EIA	Energy Information Agency
EIS	Energy Information System
EMCS	Energy Management Computer System
EMO	Energy Management Opportunity
EMP	Energy Management Project
EMR	Energy Management Recommendation
EMS	Energy Management System
Energy Utilization Index (EUI)	EUI is the measure of total energy consumed in the cooling or heating of a building in a period expressed as British thermal unit (BTU) per (cooled or heated) gross square foot.
EO	Executive Order
EPA	Environmental Protection Agency
EPACT	Energy Policy Act of 1992
EPCA	Energy Production and Conservation Act of 1975
EPRI	Electric Power Research Institute
EREN	Efficiency and Renewable Energy (Division of USDOE)
ERV	Energy Recovery Ventilator
ESCO	Energy Service Company
ESPC	Energy Savings Performance Contract
EUI	Energy Use Index
EWG	Exempt Wholesale Generators
Extended Facility Condition Index (EFCI)	EFCI is calculated as the condition needs for the current year plus facility system renewal needs going out to a set time in the future divided by Current Replacement Value.
f	Frequency
F	Fahrenheit
Facility	A facility refers to site(s) building(s) or building addition(s) or combinations thereof that provide a particular service.
Facility Condition Assessment (FCA)	FCA is a process for evaluating the condition of buildings and facilities for programming and budgetary purposes through an on site inspection and evaluation process.
Facility Condition Index (FCI)	FCI is an industry-standard measurement of a facility's condition that is the ratio of the cost to correct a facility's deficiencies to the Current Replacement Value of the facilities. The higher the FCI the poorer the condition of a facility. After an FCI is established for all buildings within a portfolio a building's condition can be ranked relative to other buildings. The FCI may also represent the condition of a portfolio based on the cumulative FCIs of the portfolio's facilities.

FC	Footcandle
FCA	Fuel Cost Adjustment
FEMIA	Federal Energy Management Improvement Act of 1988
FEMP	Federal Energy Management Program
FERC	Federal Energy Regulatory Commission
FESR	Fuel Energy Savings Ratio
FLA	Full Load Amps
FLF	Facility Load Factor (usually monthly)
FLRPM	Full Load Revolutions per Minute
FMS	Facility Management System
FPM fpm	Feet per Minute (velocity)
FSEC	Florida Solar Energy Center
Ft	Foot
GPM gpm	Gallons per Minute
GRI	Gas Research Institute
Gross Square Feet (GSF)	The size of the enclosed floor space of a building in square feet measured to the outside face of the enclosing wall.
GUI	Graphical User Interface
H h	Enthalpy Btu/lb
HCFC	Hydrochlorofluorocarbons
HDD	Heating Degree days
HFC	Hydrofluorocarbons
HHV	Higher Heating Value
HID	High Intensity Discharge (lamp)
HMI	Human Machine Interface
HMMI	Human Man Machine Interface
HO	High Output (lamp)
HP Hp hp	Horsepower
HPS	High Pressure Sodium (lamp)
HR	Humidity Ratio
Hr hr	Hour

HRU	Heat Recovery Unit
HVAC	Heating Ventilation and Air-Conditioning
Hz	Hertz
I	Intensity (lumen output of lamp)
I i	Interest rate or Discount rate
IAQ	Indoor Air Quality
ICA	International Cogeneration Alliance
ICBO	International Conference of Buildings Officials
ICC	International Code Council
ICP	Institutional Conservation Program
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronic Engineers
IESNA	Illuminating Engineering Society of North America
Install year	The year a building or system was built or the most recent major renovation date (where a minimum of 70 of the system?s Current Replacement Value (CRV) was replaced).
IRP	Integrated Resource Planning
IRR	Internal Rate of Return
ISO	Independent System Operator
ITA	Independent Tariff Administrator
k	Kilo multiple of thousands in SI system
K	Kelvins (color temperature of lamp)
K k	Thermal Conductivity of Material
KVA	Kilovolt Ampere
KVAR	Kilovolt Ampere Reactive
kW	kiloWatt
kWh	kiloWatt hour
L	Length (usually feet)
LCC	Life Cycle Costing
LDC	Local Distribution Company
LEED	Leadership in Energy and Environmental Design
LEED EB	LEED for Existing Buildings

LEED NC	LEED for new construction
LF	Load Factor
LHV	Lower Heating Value
Life cycle	The period of time that a building or site system or element can be expected to adequately serve its intended function.
LPS	Low Pressure Sodium (lamp)
Lu	Lumen Output of a Lamp or Fixture
M	Mega multiple of millions in SI system
M&V	Measurement and Verification
MACRS	Modified Accelerated Cost Recovery System
MARR	Minimum Attractive Rate of Return
Mbtu	Thousand Btu
MCF	Thousand Cubic Feet (usually of gas)
MEC	Model Energy Code
Mm	Multiple of Thousands in I/P System
MMBtu	Million Btu
MMCS	Maintenance Management Computer System
MMI	Man Machine Interface
MMS	Maintenance Management System
MSE 2000	Management System for Energy 2000 (ANSI Georgia Tech Univ)
MW	MegaWatt
MWH MWh	MegaWatt hour
NAAQS	National Ambient Air Quality Standards
NAESCO	National Association of Energy Service Companies
NAIMA	North American Insulation Manufacturers Association
NEA	National Energy Act of 1978
NECPA	National Energy Conservation Policy Act
NEMA	National Electrical Manufacturer's Association
NERC	North American Electric Reliability Council
Next Renewal	The Next Renewal date is an override of the 'Calculated Next Renewal' date and is based upon the assessor?s visual inspection.

NFPA	National Fire Protection Association
NGPA	National Gas Policy Act of 1978
NLRPM	No Load Revolutions per Minute (speed)
Nn	Equipment or Project lifetime in economic analysis
NOPR	Notice of Proposed Rule Making from FERC
NOx	Nitrogen Oxide Compounds
NPV	Net present value in economic analysis
NREL	National Renewable Energy Laboratory
NUG	Non-Utility Generator
O&M	Operation and Maintenance
OA	Outside Air
ODP	Ozone Depletion Potential
OPAC	Off-Peak Air Conditioning
P	Present value in economic analysis
PBR	Performance Based Rates
PEA	Preliminary Energy Audit
PF	Power Factor
PID	Proportional plus integral plus derivative (control system)
PM	Portfolio Manager in Energy Star rating system
PM	Preventive Maintenance
PoolCo	Power Pool Company or Organization
POU	Point of Use
PQ	Power Quality
PSC	Public Service Commission
PSIA psia	Pounds per square inch absolute (pressure)
PSIG psig	Pounds per square inch gauge (pressure)
PUC	Public Utility Commission
PUHCA	Public Utilities Holding Company Act of 1935
PURPA	Public Utilities Regulatory Policies of 1978
PV	Photovotaic system

PV	Present Value
PW	Present Worth
PX	Power Exchange
q	Rate of heat flow in Btu per hour
Q	Heat load due to conduction using degree days
QF	Qualifying Facility
R	Electrical resistance
R	Thermal Resistance
RC	Remote controller
RCR	Room Cavity Ratio
RCRA	Resource Conservation and Recovery Act
Remaining Service Life (RSL)	RSL is the number of years service remaining for a system or equipment item. It is automatically calculated based on the difference between the current year and the 'Calculated Next Renewal' date or the 'Next Renewal' date whichever one is the later date.
Remaining Service Life Index (RSLI)	RSLI is defined as a percentage ratio of the remaining service life of a system. It usually ranges from 0 to 100
REMR	Repair Evaluation Maintenance Rehabilitation (REMR) is a scale used to objectively rank systems based on their condition
Renewal Schedule	A timeline that provides the items that need repair the year in which the repair is needed and the estimated price of the renewal.
RH	Relative Humidity
RLA	Running Load Amps
RMS	Root Mean Square
RO	Reverse Osmosis
ROI	Return on Investment
RPM	Revolutions Per Minute
RTG	Regional Transmission Group
RTO	Regional Transmission Organization
RTP	Real Time Pricing
SBCCI	Southern Building Code Congress International
SC	Scheduling Coordinator
SC	Shading Coefficient
SCADA	Supervisory Control and Data Acquisition Systems

SEER	Seasonal Energy Efficiency Ratio
SHR	Sensible Heat Ratio
Site	The grounds and utilities roadways landscaping fencing and other typical land improvements needed to support the facility.
Soft Cost	An expense item that is not considered direct construction cost. Soft cost includes architectural engineering financing legal fees and other pre-and-post construction expenses.
SOx	Sulfur Oxide Compounds
SP	Static Pressure
SP SPB	Simple Payback
SPP	Simple Payback Period
SPP	Small Power Producers
STR	Stack Temperature Rise
SV	Specific Volume
System	System refers to building and related site work elements as described by ASTM Uniformat II Classification for Building Elements (E1557-97) a format for classifying major facility elements common to most buildings. Elements usually perform a given function regardless of the design specification construction method or materials used. See also Uniformat II.
T	Temperature
T	Tubular (lamps)
TAA	Technical Assistance Audit
TCP/IP	Transmission Control Protocol/Internet Protocol
TES	Thermal Energy Storage
THD	Total Harmonic Distortion
TOD	Time of Day
TOU	Time of Use
TQM	Total Quality Management
TransCo	Transmission Company
U	Thermal Conductance
UDC	Utility Distribution Company
UL	Underwriters Laboratories
UNIFORMAT II	The ASTM UNIFORMAT II Classification for Building Elements (E1557-97) a format for classifying major facility components common to most buildings.
USGBC	US Green Building Council
v	Specific Volume

V	Volts Voltage
V	Volume
VAV	Variable Air Volume
VDT	Video Display Terminal
VFD	Variable Frequency Drive
VHO	Very High Output
VSD	Variable Speed Drive
W	Watts
W	Width
WB	Wet bulb
WH Wh	Watt Hours
Year built	The year that a building or addition was originally built based on substantial completion or occupancy.
Z	Electrical Impedance