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.

AMY at (Martin, James) School

Governance	DISTRICT	Report Type	Middle
Address	3380 RICHMOND ST. Philadelphia, PA 19134	Enrollment Grade Range	435 '06-08'
Phone/Fax	215-291-4172 / 215-291-5180	Admissions Category	Citywide
Website	www.philasd.org/schools/martin	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	**59.92%**	**$19,408,022**	**$32,390,756**
Building	59.22 %	$18,691,568	$31,561,318
Grounds	86.38 %	$716,454	$829,438

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$663,785
Exterior Walls (Shows condition of the structural condition of the exterior facade)	26.07 %	$710,368	$2,725,349
Windows (Shows functionality of exterior windows)	124.36 %	$1,656,697	$1,332,171
Exterior Doors (Shows condition of exterior doors)	54.19 %	$48,911	$90,264
Interior Doors (Classroom doors)	327.50 %	$715,588	$218,501
Interior Walls (Paint and Finishes)	101.93 %	$1,066,601	$1,046,439
Plumbing Fixtures	37.59 %	$316,408	$841,634
Boilers	79.91 %	$928,688	$1,162,226
Chillers/Cooling Towers	63.71 %	$970,863	$1,523,904
Radiators/Unit Ventilators/HVAC	168.23 %	$4,502,107	$2,676,170
Heating/Cooling Controls	158.90 %	$1,335,413	$840,389
Electrical Service and Distribution	48.92 %	$295,382	$603,835
Lighting	52.79 %	$1,139,731	$2,158,865
Communications and Security (Cameras, Pa System and Fire Alarm)	73.83 %	$596,996	$808,640

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

S543001;Martin, James

Final

Site Assessment Report

February 2, 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):	62,251
Year Built:	1894
Last Renovation:	
Replacement Value:	$32,390,756
Repair Cost:	$19,408,022.05
Total FCI:	59.92 %
Total RSLI:	77.66 %

Description:

Facility Assessment
June 2015

School District of Philadelphia
James Martin School
3380 Richmond Street
Philadelphia, PA 19134

62,251 SF / 504 Students / LN 03

Mr. Scott Ovington, Facility Area Coordinator, provided input to the Parsons assessment team on current problems and planned renovation/addition projects. Mr. Dave Annis, Building Engineer, accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance history.

The James Martin School Building is located at 3380 Richmond Street in Philadelphia, PA. The 3 story, 62,251 square foot building which serves as Alternative Middle Years school for 504 students was originally constructed in 1892. Two additional 3-story wings were added around 1914. All three elements have basement containing most of support areas.

ARCHITECTURAL/STRUCTURAL

Structural/Exterior Closure: The building typically rests on stone masonry and concrete foundations and bearing walls that are not showing signs of settlement or damage. The main structure consists typically of masonry load bearing walls supporting heavy timber and concrete slabs. The building envelope is typically granite ashlar facing on elevations facing streets and face brick on the courtyard sides. In general, masonry is in good or very good condition. The original windows were replaced in late 1970's or early 1980's with extruded aluminum double hung windows single glazed with acrylic glazing. All windows are generally in poor to very poor condition with some of the windows inoperable; first floor windows are fitted with the security screens in good condition. The roof structure consists of heavy timber trusses, girders and purlins supporting wood structural deck. The central (original) element of the building is sloped with dormers. The wings are typically flat with minimal slopes to roof drains. Roofing is built-up with crushed rock topping in good condition on wings; central element is covered with asphalt shingles roofing. All roofing and flashing is approximately 12 years old and is typically in good condition. Exterior doors are typically hollow metal in poor condition.

Interiors: Partition wall types include plastered ceramic blocks (hollow brick) and drywall. The interior wall finishes are generally painted plaster or drywall and some painted brick with glazed brick wainscot in stairways. Generally, paint is in fair condition, however substrate is often uneven. Most ceilings are 2x4 suspended acoustical panels with some pressed metal tiles and exposed, painted. The suspension system and tile are old and approaching the end of their useful life. Flooring in classrooms and most corridors is VCT with cove base. Most tile flooring is in fair condition, however, the substrate is often uneven creating possible trip hazard; cove base is typically in poor to very poor condition. Teacher's rooms and library have carpet flooring, generally in very poor condition. Interior doors are generally rail and stile wood doors, some glazed; some of the doors leading to exit stairways are retrofitted with hollow metal doors and frames in good condition. Stair finishes are generally painted wood with non-slip treads. Interior identifying signage is typically directly painted on wall or door surfaces in poor condition.

Accessibility: the building does not have accessible entrance, and accessible routes. There is no elevator to reach floors above. None of the toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars. None of the doors in the building has ADA required door handles.

MECHANICAL

Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of floor mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. A few of the fixtures are not in service and the chrome finish is damaged at some of the faucets. These fixtures are well beyond their service lives and should be replaced in the near future.

Drinking fountains in the corridors and at the restrooms are wall hung with integral refrigerated coolers. They are well beyond their service life and should be replaced; most are NOT accessible type. A service sink is available in the corridor on each floor for use by the janitorial staff. The Cafeteria has a three-compartment, stainless steel sink with lever operated faucets. Chemicals are injected manually into the sanitizing basin.

A 3" city water service enters the building from Richmond Street near the intersection with East Ontario St. The 3" meter and valves are located in a small utility room on the basement level near the east stair. A reduced pressure backflow preventer is installed. The original domestic hot and cold water distribution piping was replaced with copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures. However, the domestic water piping is well beyond its service life and should be replaced to eliminate joints made with lead solder.

One (1) 50 gallon vertical tank type, gas-fired water heater installed in 2010 supplies hot water for domestic use. The unit is located near the outside wall of the utility room near the entry to the boiler room. It is equipped with a T&P relief valve, but has no expansion tank. The water heater is within its service life and should provide reliable service for the next 5-10 years. A water softener located in this room supplies conditioned water to the boilers.

The original sanitary sewer piping is heavy weight cast iron with hub and spigot fittings. Damaged sections of pipe have been replaced using cast iron pipe with hub less fittings joined with banded couplings.

The small sewage ejector pit located in the basement boiler room receives waste from the drains in that area. It has a single self-priming pump replaced in 2007. The pump is within its service life and should provide reliable service for the next 5-10 years.

The maintenance staff reported no problems with the sanitary waste piping systems. However, the sewer piping has been in service for over 100 years and will require more frequent attention from the maintenance staff as time passes. The District should hire a qualified contractor to examine the sanitary waste piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Downspouts from the roof run down the outside of the building and connect to an underground storm sewer system on the site. The drain piping should be inspected by a qualified contractor and repaired as necessary.

City gas enters the building via a 4" pipe in the former coal/ash room on the West side of the building. The meter is 3" and located in the former coal/ash room. A Spencer gas booster pump is installed to ensure adequate pressure to the boilers.

The reserve oil supply is stored in a 6,000 gallon underground storage tank (UST) installed before 2000. The tank is located in the playground area on the South side of the building and is equipped with automatic leak detection and monitoring. Duplex pumps located in the former coal/ash room across the hall from the boiler room circulate oil through the system. Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. The current supply has been in storage for some time and should be tested for quality on a regular schedule. USTs have an anticipated service life of 20 years. The actual condition of the fuel side is unknown.

Low pressure steam is generated at a maximum of 15 lbs./sq. in. by two (2) 122HP HB Smith cast iron sectional boilers installed in 1950. A third boiler was removed

and one (1) boiler can handle the building heating load in all weather conditions. Each boiler is equipped with a Power Flame burner designed to operate on natural gas or fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with electronic ignition, digital flame sensing and pressure atomization on oil. Burner oil pumps are loose and not driven by the fan motor. The gas train serving each boiler appears to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. The oil supply to the burner is equipped with dual solenoid valves and strainer/disposable media filter. The Building Engineer reports the system loses a significant amount of condensate due to failed steam traps, which was made up with raw city water as the system had no boiler chemical treatment until 2011. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service nearly 70 years. The boilers appear to have been maintained well, but the actual condition of the water side is unknown. The District should budget to replace these boilers in the next 1-5 years.

The condensate receiver tank and boiler feed pump assembly were installed in the mechanical room adjacent to the boiler room in 2011 and 2010, respectively. A serious problem was reported with failed steam traps. Live steam passes into the condensate piping system from the failed traps and then vents from the condensate handling equipment damaging the surrounding building construction. The District has not conducted a steam trap survey for this building and traps are not serviced on a regular schedule.

Steam piping is black steel with welded fittings. The condensate piping is black steel with threaded fittings. Steam and condensate piping mains from the basement level run up through the building to the terminal units on all three (3) floors. The distribution piping has been in use well beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.

Unit ventilators provide heating and ventilation for the majority of the classrooms. These rooms also have a modular air-to-air heat exchanger mounted in one of the window openings to supply code required minimum outdoor air ventilation. The unit ventilators were installed in approximately the late 1990s and are equipped with mixing dampers and steam heating coils, but have no cooling coils. The outdoor air intake for these units is ducted from louvers in the window openings. The unit ventilators are approaching the end of their anticipated service life of 15-20 years and should be scheduled for replacement. The new units should be designed for quiet operation and equipped with hot water and chilled water coils, and integral heat exchangers so the existing exchangers can also be removed from the rooms.

Cast iron steam radiators provide supplemental heat for many of the spaces. These radiators and the original radiant heating (manifold) terminals fashioned from welded piping still present in the Cafeteria and two (2) classrooms on each floor of the Element 2 wing are well beyond their service life. They should be replaced with finned tube elements to protect students from exposure to the hot surfaces.

The Cafeteria, Gymnasium, Art Room, corridors, and offices have no mechanical ventilation. Ventilation should be provided for the Cafeteria by installing a constant volume air handling unit with distribution ductwork and registers. For the Gymnasium a fan coil air handling unit should be hung from the structure with outdoor air ducted to the unit from louvers in the window openings. Similar units should be installed for the corridors and offices. These units would be equipped with hot water heating coils and chilled water cooling coils. Steam converters should be installed in the existing boiler room with circulating pumps, distribution piping, and controls to provide heating hot water for the new coils.

Several of the classrooms in the school building have window air conditioning units that have an anticipated service life of only 10 years. Installing a 170 ton air-cooled chiller, with pumps located in a mechanical room, and chilled water distribution piping would supply more reliable air conditioning for the building with a much longer service life.

Through wall propeller fans mounted in the window openings exhaust air from the restrooms. These fans are manually controlled by a wall switch. These exhaust fans are not capable of providing adequate exhaust for the restrooms and should be replaced with a wall mounted centrifugal exhaust fan.

A Mitsubishi split system air conditioning system provides cooling to the LAN room located on the first floor off of the Main Office. The installation date of this unit is unknown; the anticipated service life of a split system air conditioner is 15 years. The district should budget to replace this unit within the next 7-10 years.

The kitchen has no cooking equipment and does not require an exhaust hood.

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Pneumatic control air is supplied from the duplex Curtis air compressor and dryer located in the utility room at the entry to the boiler room. The maintenance staff reports no problems with oil, moisture or dirt in the pneumatic copper tubing, but the small rubber gaskets and tubing connections at devices have become brittle and fail regularly. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves, dampers and pneumatic actuators are over 35 years old and should be rebuilt or replaced. These controls should be converted to DDC.

A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

The school does not have fire stand pipes installed.

ELECTRICAL

The original electrical service is from a Medium voltage overhead lines on a wooden poles along E. Ontario St. There were two pole-mounted power transformers to step down the voltage from Medium Voltage to 120V/240V, 1Ph, 600A each. The service entrance is on the corner of E. Ontario St & Richmond St. The electrical service entrance room is in the basement of the building near the south/east corner. The utility main disconnect switch and utility metering is in this electrical service entrance room. There are many other electrical equipment also housed in the electrical room. These include the Fire Alarm Panel, as well as, the phase convertor transformers, from 120V/240V single phase to 120V/208V three phase, plus building main power distribution Panel Board, and several disconnect switches. This room is too congested. Our recommendation is keep the utility metering and the main disconnect in this room, however, relocated the main panel board and other electrical equipment to a new electrical room that is presently a large storage room. We also recommend to relocate the main Fire Alarm Panel plus any new power distribution (MCCs/Switchgear for a new HVAC system) to the new Electrical Room. We also recommend to upgrade the electrical service to a new 250 KVA Pad Mounted Transformer outside. The new service will be 480V/277V, 3Ph power. The main disconnect and utility metering will be located at the existing electrical room. The main Switchboard will be located inside the new electrical room, with one breaker to feed the 480V MCC for HVAC equipment, and one breaker to feed a step down transformer from 480V 3Ph to 120V/208V 3Ph transformer to feed the lighting loads, receptacles, and other loads.

Distribution System and Raceway System - The distribution system is both 120V single phase and 120V/208V three phase. There are 120V distributions in each floor for lighting and receptacles. We recommend keeping the existing panels in all the floors, and change the power feeder to the panels from the new 120V/208V three phase main panel board. The raceway is mainly conduits run above the ceiling. Our recommendation to keep the conduits to the existing Junction boxes, receptacles, and lighting.

Receptacles - There is inadequate receptacles in classrooms, multi-purpose room, computer room, etc. We recommend two receptacles in each wall of class rooms and other purpose rooms. Also, we recommend adding a wire-mold system with receptacles on every 3' for the computer room.

Lighting - The entire building has outdated lighting with fixtures that are obsolete. We recommend new lighting fixtures for all the class rooms, and other purpose rooms. A new fluorescent lighting will be adequate, however, using the state-of-the-art LED lighting will improve the energy usage. However, the new LED lighting will add an extra cost of 50% to the lighting upgrade.

Fire Alarm System – The present Fire Alarm system is inadequate and is not addressable. The pull stations are mounted too high. We recommend a new Automated Fire Alarm System to be located in the new Electrical Room.

Telephone/LAN – The present telephone system is adequate. The main distribution frame (MDF) along with a telephone PBX system are providing the necessary communication function of the building. School is also equipped with Wi-Fi system.

Public Address/Intercom/Paging – Although the PA system is not working, the school uses the telephone systems for public announcement. This system is working adequately for most part.

Clock and Program System – The present clocks are not functioning properly. Most classrooms are provided with a 12-inch wall mounted round clocks, however these clocks are not controlled properly by the central master control panel.

Television System - The Television system is not provided in the school. Most classes are equipped with smart boards having the ability to connect to computers and internet.

Security System - The present security system is adequate. There are cameras at exit doors, corridors, exterior, and other critical areas. The cameras are controlled by a closed circuit television (CCTV) system.

Emergency Power System – The present emergency power system is inadequate (non-existence). School needs a new emergency generator to feed all the emergency loads.

UPS – There was adequate UPS in the IT room near the Principals Office. However, the computer room did not have a UPS, and we recommend a new 30KVA UPS for the computer room.

Emergency Lighting System / Exit Lighting- The emergency lighting and exit lighting is inadequate throughout each floor and stairways. We recommend installing new battery packed emergency lights and exit lights in all the hallways, stairways, and in each class room or other purpose room.

Lightning Protection System- The present Lightning Protection System is adequate. There are lightning rods on the roof that are properly connected to the ground using stranded aluminum cables.

Grounding System - The present grounding system is adequate. All equipment are properly bonded to the ground.

Site Lighting - The present Site Lighting System is adequate. There are sufficient exterior lights to provide safe walking outside.

Site Video Surveillance - The present Site Video Surveillance System is inadequate. We recommend installing new cameras, and Surveillance System with the master control panel to be located in the Principals Office area.

Site Paging - The present Site Paging System is adequate. There are sufficient number of speakers installed on the exterior of the building for proper communication with students who are playing outside.

RECOMMENDATIONS:

- Repair/patch concrete slabs in fire tower and basement
- Repair cracks in masonry (10%); tuck-point all walls
- Provide ADA accessible partitions in toilets
- Replace all flooring including cove base
- Replace carpet in office area
- Replace all suspended acoustical ceilings
- Repair and repaint all plaster ceilings
- Repair and repaint all interior walls
- Replace all windows with double insulated units
- Replace all exterior doors and hardware
- Replace all interior doors
- Repair and repaint all walls
- Provide accessible ramp at the main entrance
- Reconfigure toilets on each floor for accessibility.
- Replace playground pavement
- Install 3000 lb traction elevator serving all floors and basementReplace twenty (20) floor mounted water closets in the restrooms, which are well beyond their service lives, with new code compliant fixtures.
- Replace twelve (12) wall hung urinals in the restrooms, which are well beyond their service lives, with new low flow fixtures.
- Replace eight (8) wall hung drinking fountains and integral refrigerated coolers in the corridors. These units are well beyond their service life and most are NOT accessible type.
- Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for an unknown amount of time, and replace any damaged piping.
- Provide an expansion tank for the 50 gallon vertical tank type, gas-fired domestic water heater.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Hire a qualified contractor to perform a detailed examination of the rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the two (2) 122HP HB Smith cast iron sectional boilers in service since 1950.
- Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.
- Hire a qualified contractor to examine the steam and condensate piping in service nearly 70 years and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.
- Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Standard 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils. Also, remove the existing air-to-air exchangers from the window openings and replace the glazing panels.
- Remove the window air conditioning units and install a 170 ton air-cooled chiller with chilled water distribution piping and pumps located in a mechanical room to supply more reliable air conditioning for the building with a much longer service life.
- Provide ventilation for the Cafeteria by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers.
- Provide ventilation for the Gymnasium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings.
- Replace the inadequate propeller fans mounted in the window openings of the restrooms with a wall mounted centrifugal exhaust fan.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.
- Upgrade the existing electrical service to a new service with a new 250 KVA Pad Mounted Transformer 480V/277V, 3Ph power. The new service shall be sized to handle the new HVAC loads.
- Install two receptacles in each all of class rooms and other purpose rooms. Add a wire-mold system with receptacles on every 3’ for the computer room.
- Install new lighting fixtures for all the class rooms, and other rooms. A new fluorescent lighting will be adequate, however, using the state-of-the-art LED lighting will improve the energy usage.
- Install a new Automated Fire Alarm System to be located in the new Electrical Room.
- Install a new clock system.
- Install a new emergency power system (new 50 KVA generator).
- Replace the existing battery pack emergency lights and exit lights in all the hallways, stairways, and in each class room or other purpose room.
- Install new cameras, and Surveillance System with the master control panel located in the Principal’s Office area.

Site Assessment Report - S543001;Martin, James

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 3 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S543001		

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	52.00 %	0.00 %	$0.00
A20 - Basement Construction	52.00 %	0.00 %	$0.00
B10 - Superstructure	52.00 %	1.03 %	$60,814.02
B20 - Exterior Enclosure	70.24 %	58.25 %	$2,415,976.32
B30 - Roofing	90.00 %	0.00 %	$0.00
C10 - Interior Construction	57.74 %	48.97 %	$748,067.24
C20 - Stairs	52.00 %	0.00 %	$0.00
C30 - Interior Finishes	102.48 %	83.68 %	$2,294,392.59
D10 - Conveying	105.71 %	290.47 %	$1,012,601.25
D20 - Plumbing	77.39 %	98.02 %	$1,222,851.55
D30 - HVAC	97.04 %	111.73 %	$7,737,070.63
D40 - Fire Protection	92.47 %	177.49 %	$890,527.62
D50 - Electrical	110.11 %	63.11 %	$2,309,266.35
E10 - Equipment	19.92 %	0.00 %	$0.00
E20 - Furnishings	0.00 %	0.00 %	$0.00
G20 - Site Improvements	105.00 %	127.18 %	$716,454.48
G40 - Site Electrical Utilities	40.00 %	0.00 %	$0.00
Totals:	**77.66 %**	**59.92 %**	**$19,408,022.05**

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)
B543001;Martin, James	62,251	59.22	$5,354,515.14	$512,651.73	$5,722,734.70	$1,825,564.46	$5,276,101.54
G543001;Grounds	62,251	86.38	$0.00	$0.00	$213,054.72	$503,399.76	$0.00
Total:		**59.92**	**$5,354,515.14**	**$512,651.73**	**$5,935,789.42**	**$2,328,964.22**	**$5,276,101.54**

Deficiencies By Priority

- 1 - Response Time (< 2 yr) - $5,354,515.14
- 2 - Response Time (2-3 yrs) - $512,651.73
- 3 - Response Time (3-4 yrs) - $5,935,789.42
- 4 - Response Time (4-5 yrs) - $2,328,964.22
- 5 - Response Time (> 5 yrs) - $5,276,101.54

Budget Estimate Total: $19,408,022.05

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:	Middle School
Gross Area (SF):	62,251
Year Built:	1894
Last Renovation:	
Replacement Value:	$31,561,318
Repair Cost:	$18,691,567.57
Total FCI:	59.22 %
Total RSLI:	77.49 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B543001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S543001		

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	52.00 %	0.00 %	$0.00
A20 - Basement Construction	52.00 %	0.00 %	$0.00
B10 - Superstructure	52.00 %	1.03 %	$60,814.02
B20 - Exterior Enclosure	70.24 %	58.25 %	$2,415,976.32
B30 - Roofing	90.00 %	0.00 %	$0.00
C10 - Interior Construction	57.74 %	48.97 %	$748,067.24
C20 - Stairs	52.00 %	0.00 %	$0.00
C30 - Interior Finishes	102.48 %	83.68 %	$2,294,392.59
D10 - Conveying	105.71 %	290.47 %	$1,012,601.25
D20 - Plumbing	77.39 %	98.02 %	$1,222,851.55
D30 - HVAC	97.04 %	111.73 %	$7,737,070.63
D40 - Fire Protection	92.47 %	177.49 %	$890,527.62
D50 - Electrical	110.11 %	63.11 %	$2,309,266.35
E10 - Equipment	19.92 %	0.00 %	$0.00
E20 - Furnishings	0.00 %	0.00 %	$0.00
Totals:	**77.49 %**	**59.22 %**	**$18,691,567.57**

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	$23.16	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$1,441,733
A1030	Slab on Grade	$5.17	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$321,838
A2010	Basement Excavation	$4.36	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$271,414
A2020	Basement Walls	$10.05	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$625,623
B1010	Floor Construction	$85.94	S.F.	62,251	100	1894	1994	2067	52.00 %	1.14 %	52		$60,814.02	$5,349,851
B1020	Roof Construction	$9.26	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$576,444
B2010	Exterior Walls	$43.78	S.F.	62,251	100	1894	1994	2067	52.00 %	26.07 %	52		$710,368.39	$2,725,349
B2020	Exterior Windows	$21.40	S.F.	62,251	40	1980	2020	2057	105.00 %	124.36 %	42		$1,656,696.97	$1,332,171
B2030	Exterior Doors	$1.45	S.F.	62,251	25	1980	2005	2042	108.00 %	54.19 %	27		$48,910.96	$90,264
B3010105	Built-Up	$37.76	S.F.	7,515	20	2013	2033		90.00 %	0.00 %	18			$283,766
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.	9,812	20	2013	2033		90.00 %	0.00 %	18			$380,019
B3020	Roof Openings	$0.06	S.F.		30				0.00 %	0.00 %				$0
C1010	Partitions	$17.91	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$1,114,915
C1020	Interior Doors	$3.51	S.F.	62,251	40	1894	1934	2057	105.00 %	327.50 %	42		$715,588.07	$218,501
C1030	Fittings	$3.12	S.F.	62,251	40	1990	2030		37.50 %	16.72 %	15		$32,479.17	$194,223
C2010	Stair Construction	$1.41	S.F.	62,251	100	1894	1994	2067	52.00 %	0.00 %	52			$87,774

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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 $
C3010230	Paint & Covering	$13.21	S.F.	62,251	10	1990	2000	2027	120.00 %	129.70 %	12		$1,066,600.96	$822,336
C3010231	Vinyl Wall Covering	$0.97	S.F.	62,251	15				0.00 %	0.00 %				$60,383
C3010232	Wall Tile	$2.63	S.F.	62,251	30				0.00 %	0.00 %				$163,720
C3020411	Carpet	$7.30	S.F.	2,000	10	2005	2015	2027	120.00 %	153.30 %	12		$22,381.52	$14,600
C3020412	Terrazzo & Tile	$75.52	S.F.		30				0.00 %	0.00 %				$0
C3020413	Vinyl Flooring	$9.68	S.F.	38,800	20	1990	2010	2037	110.00 %	124.15 %	22		$466,280.23	$375,584
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3030	Ceiling Finishes	$20.97	S.F.	62,251	30	1980	2010	2047	106.67 %	56.62 %	32		$739,129.88	$1,305,403
D1010	Elevators and Lifts	$5.60	S.F.	62,251	35			2052	105.71 %	290.47 %	37		$1,012,601.25	$348,606
D2010	Plumbing Fixtures	$13.52	S.F.	62,251	35	1894	1929	2037	62.86 %	37.59 %	22		$316,407.95	$841,634
D2020	Domestic Water Distribution	$1.68	S.F.	62,251	25	1894	1919	2042	108.00 %	310.77 %	27		$325,008.04	$104,582
D2030	Sanitary Waste	$2.52	S.F.	62,251	25	1894	1919	2042	108.00 %	194.67 %	27		$305,387.85	$156,873
D2040	Rain Water Drainage	$2.32	S.F.	62,251	30	1894	1924	2047	106.67 %	191.14 %	32		$276,047.71	$144,422
D3020	Heat Generating Systems	$18.67	S.F.	62,251	35	1950	1985	2052	105.71 %	79.91 %	37		$928,688.27	$1,162,226
D3030	Cooling Generating Systems	$24.48	S.F.	62,251	20			2037	110.00 %	63.71 %	22		$970,862.94	$1,523,904
D3040	Distribution Systems	$42.99	S.F.	62,251	25	1950	1975	2042	108.00 %	168.23 %	27		$4,502,106.62	$2,676,170
D3050	Terminal & Package Units	$11.60	S.F.	62,251	20				0.00 %	0.00 %				$722,112
D3060	Controls & Instrumentation	$13.50	S.F.	62,251	20	1950	1970	2037	110.00 %	158.90 %	22		$1,335,412.80	$840,389
D4010	Sprinklers	$7.05	S.F.	62,251	35			2052	105.71 %	202.91 %	37		$890,527.62	$438,870
D4020	Standpipes	$1.01	S.F.	62,251	35				0.00 %	0.00 %				$62,874
D5010	Electrical Service/Distribution	$9.70	S.F.	62,251	30	1894	1924	2047	106.67 %	48.92 %	32		$295,381.99	$603,835
D5020	Lighting and Branch Wiring	$34.68	S.F.	62,251	20	1894	1914	2037	110.00 %	52.79 %	22		$1,139,730.60	$2,158,865
D5030	Communications and Security	$12.99	S.F.	62,251	15	1894	1909	2032	113.33 %	73.83 %	17		$596,996.46	$808,640
D5090	Other Electrical Systems	$1.41	S.F.	62,251	30	1894	1924	2047	106.67 %	315.76 %	32		$277,157.30	$87,774
E1020	Institutional Equipment	$4.82	S.F.	62,251	35				0.00 %	0.00 %				$300,050
E1090	Other Equipment	$11.10	S.F.	62,251	35	1990	2025		28.57 %	0.00 %	10			$690,986
E2010	Fixed Furnishings	$2.13	S.F.	62,251	40				0.00 %	0.00 %				$132,595
								Total	**77.49 %**	**59.22 %**			**$18,691,567.57**	**$31,561,318**

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: Paint 100%

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

Note: VCT 78%
Carpe 4%
Concrete 18%

System: C3030 - Ceiling Finishes — This system contains no images

Note: ACT 77 %
Plaster, painted 23%

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

Note: Total of 3 transformers-(1) 25kva and (2) 75kva

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:	**$18,691,568**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,021,491**	**$19,713,058**
*** 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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$60,814	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$60,814**
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	$710,368	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$710,368**
B2020 - Exterior Windows	$1,656,697	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,656,697**
B2030 - Exterior Doors	$48,911	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$48,911**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

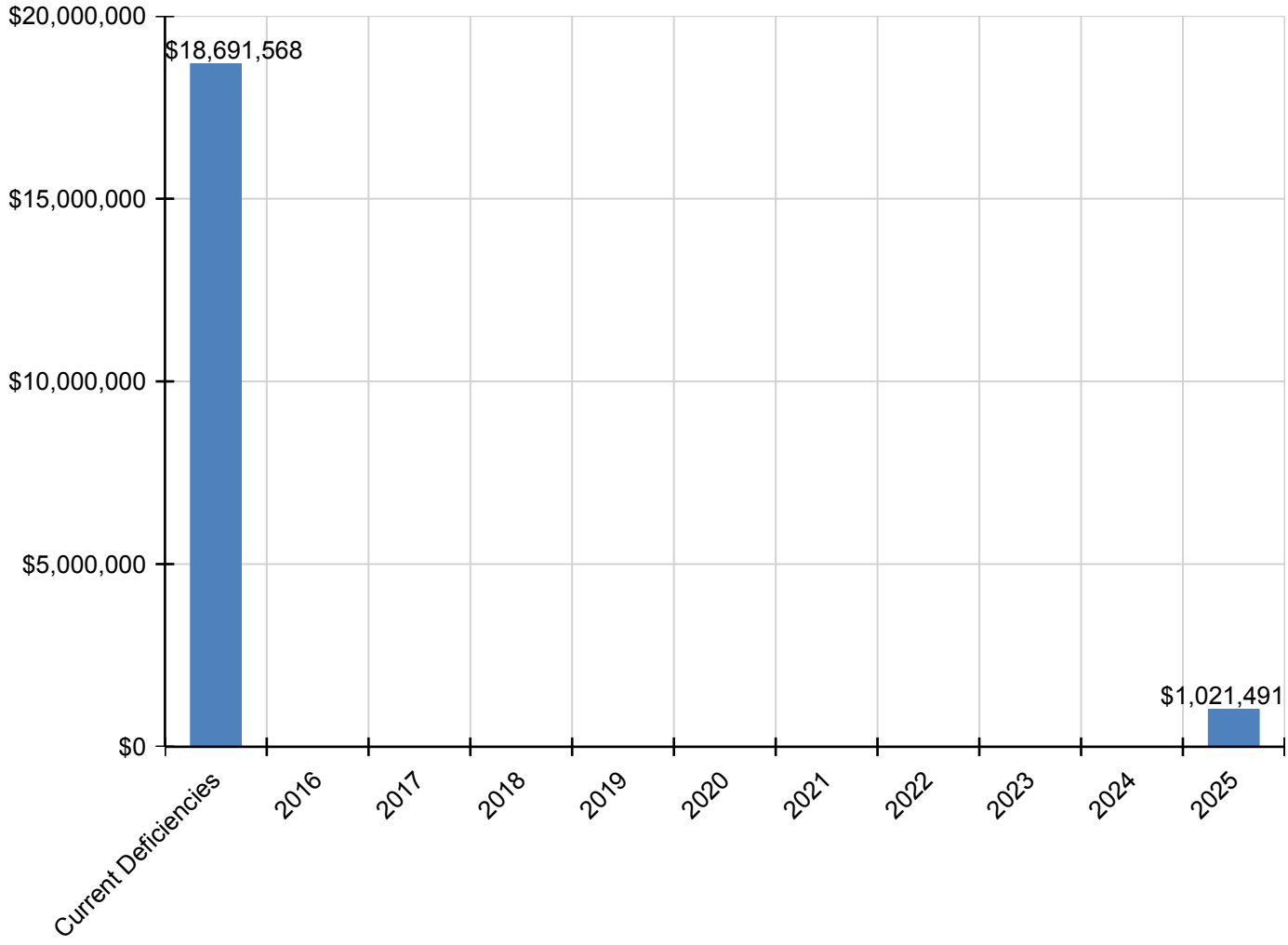
C1020 - Interior Doors	$715,588	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$715,588**
C1030 - Fittings	$32,479	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$32,479**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$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	$1,066,601	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,066,601**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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**
C3020411 - Carpet	$22,382	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$22,382**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$466,280	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$466,280**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$739,130	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$739,130**
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	$316,408	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$316,408**
D2020 - Domestic Water Distribution	$325,008	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$325,008**
D2030 - Sanitary Waste	$305,388	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$305,388**
D2040 - Rain Water Drainage	$276,048	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$276,048**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$928,688	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$928,688**
D3030 - Cooling Generating Systems	$970,863	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$970,863**
D3040 - Distribution Systems	$4,502,107	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,502,107**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,335,413	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,335,413**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$890,528	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$890,528**
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	$295,382	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$295,382**
D5020 - Lighting and Branch Wiring	$1,139,731	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,139,731**
D5030 - Communications and Security	$596,996	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$596,996**
D5090 - Other Electrical Systems	$277,157	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$277,157**
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	$1,021,491	**$1,021,491**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

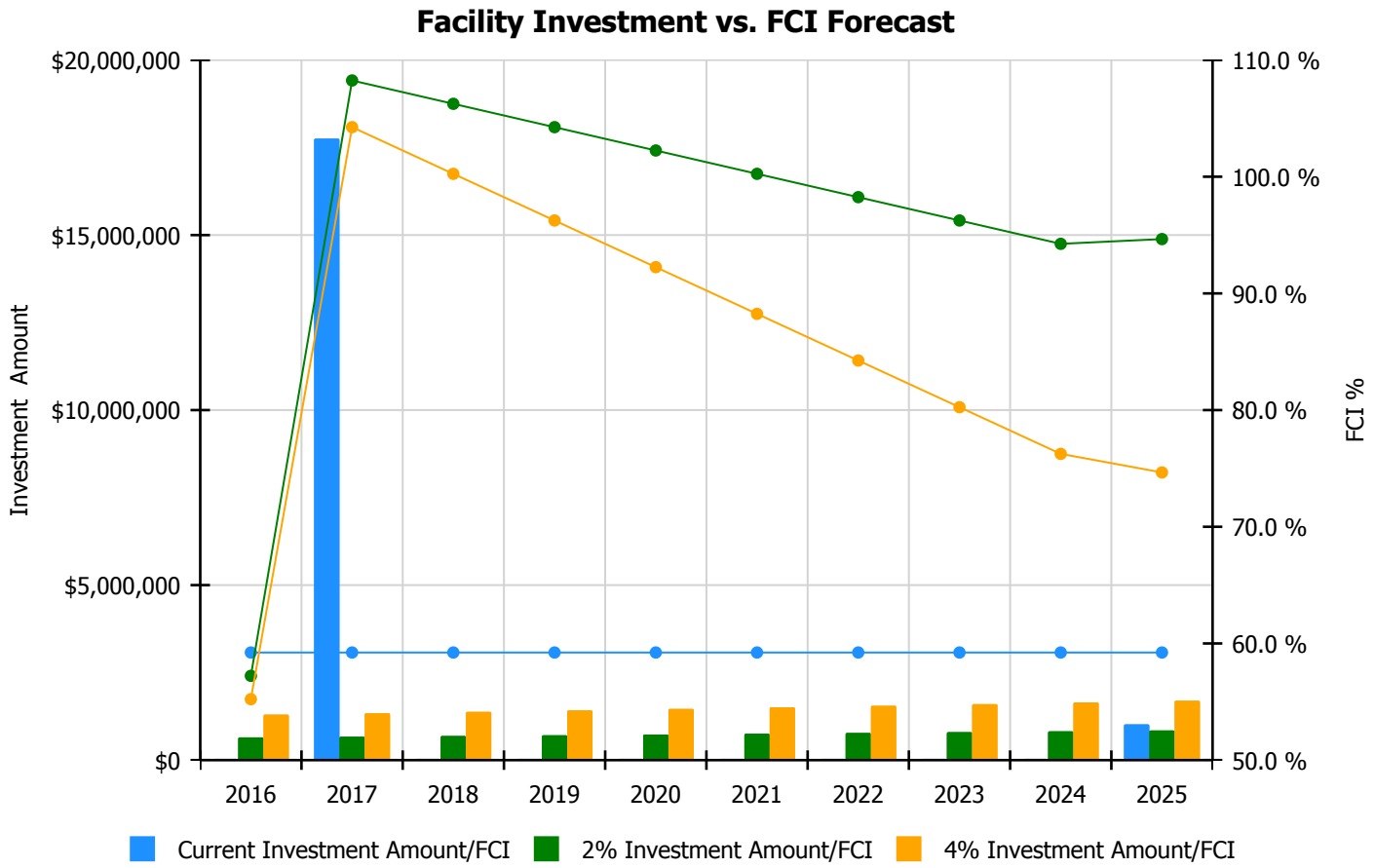
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

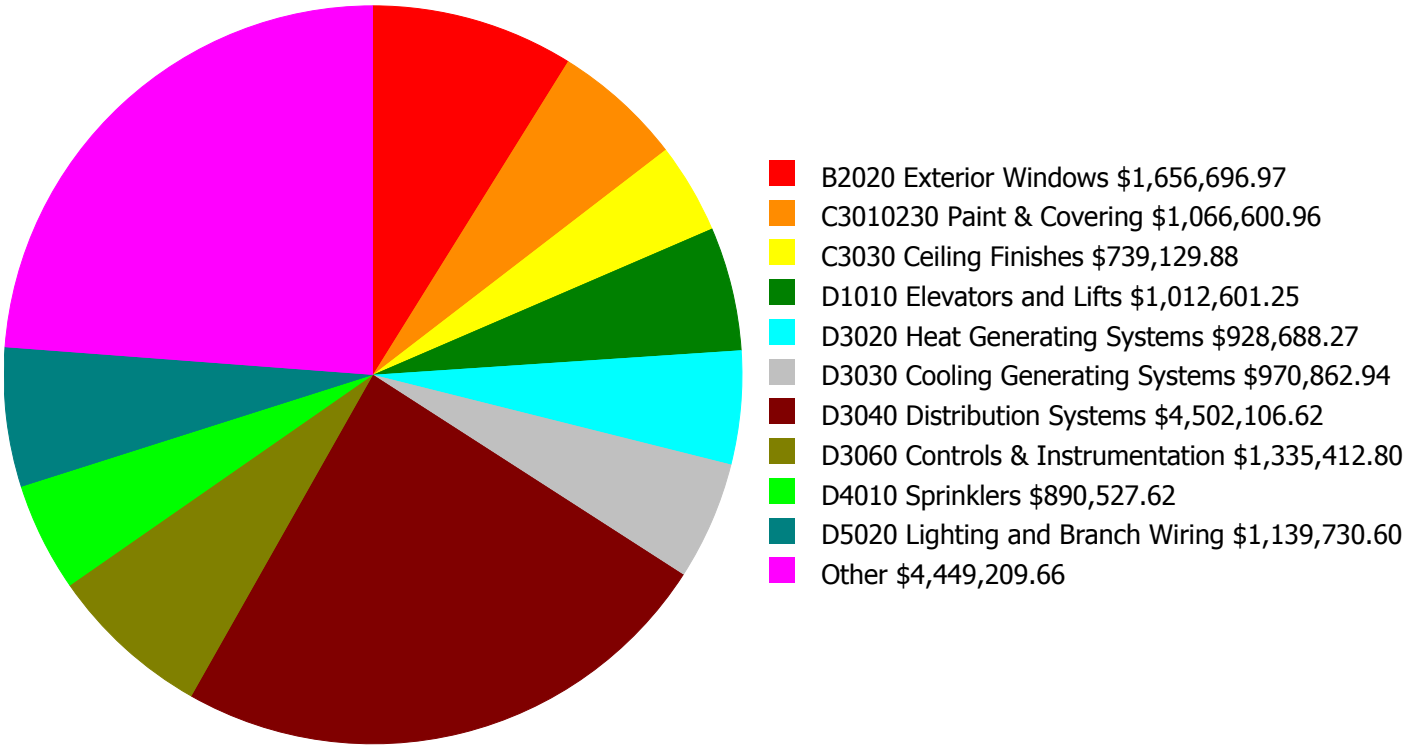
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 59.22%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$650,163.00	57.22 %	$1,300,326.00	55.22 %
2017	$17,754,604	$669,668.00	108.25 %	$1,339,336.00	104.25 %
2018	$0	$689,758.00	106.25 %	$1,379,516.00	100.25 %
2019	$0	$710,451.00	104.25 %	$1,420,902.00	96.25 %
2020	$0	$731,764.00	102.25 %	$1,463,529.00	92.25 %
2021	$0	$753,717.00	100.25 %	$1,507,435.00	88.25 %
2022	$0	$776,329.00	98.25 %	$1,552,658.00	84.25 %
2023	$0	$799,619.00	96.25 %	$1,599,237.00	80.25 %
2024	$0	$823,607.00	94.25 %	$1,647,214.00	76.25 %
2025	$1,021,491	$848,315.00	94.66 %	$1,696,631.00	74.66 %
Total:	**$18,776,095**	**$7,453,391.00**		**$14,906,784.00**	

Deficiency Summary by System

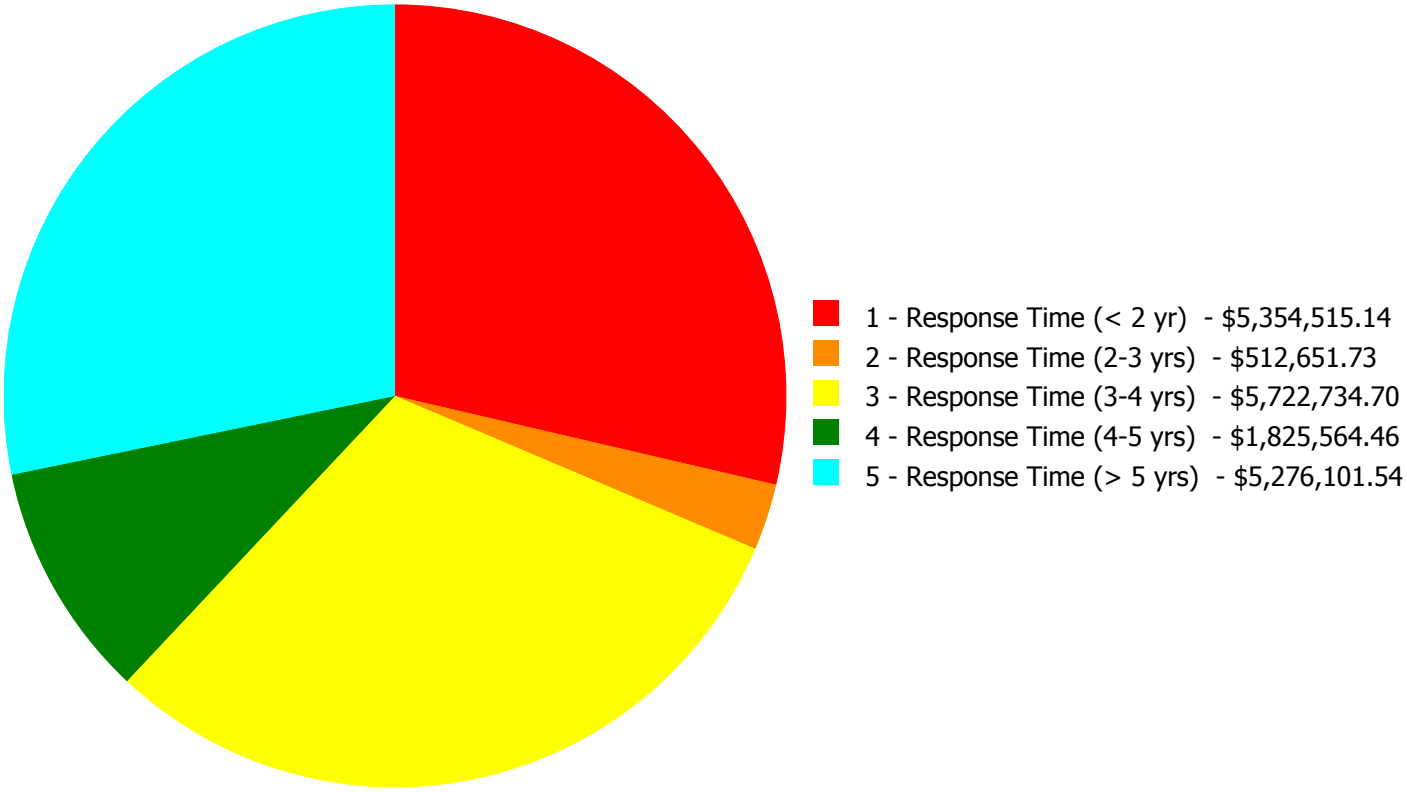
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $18,691,567.57

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: $18,691,567.57

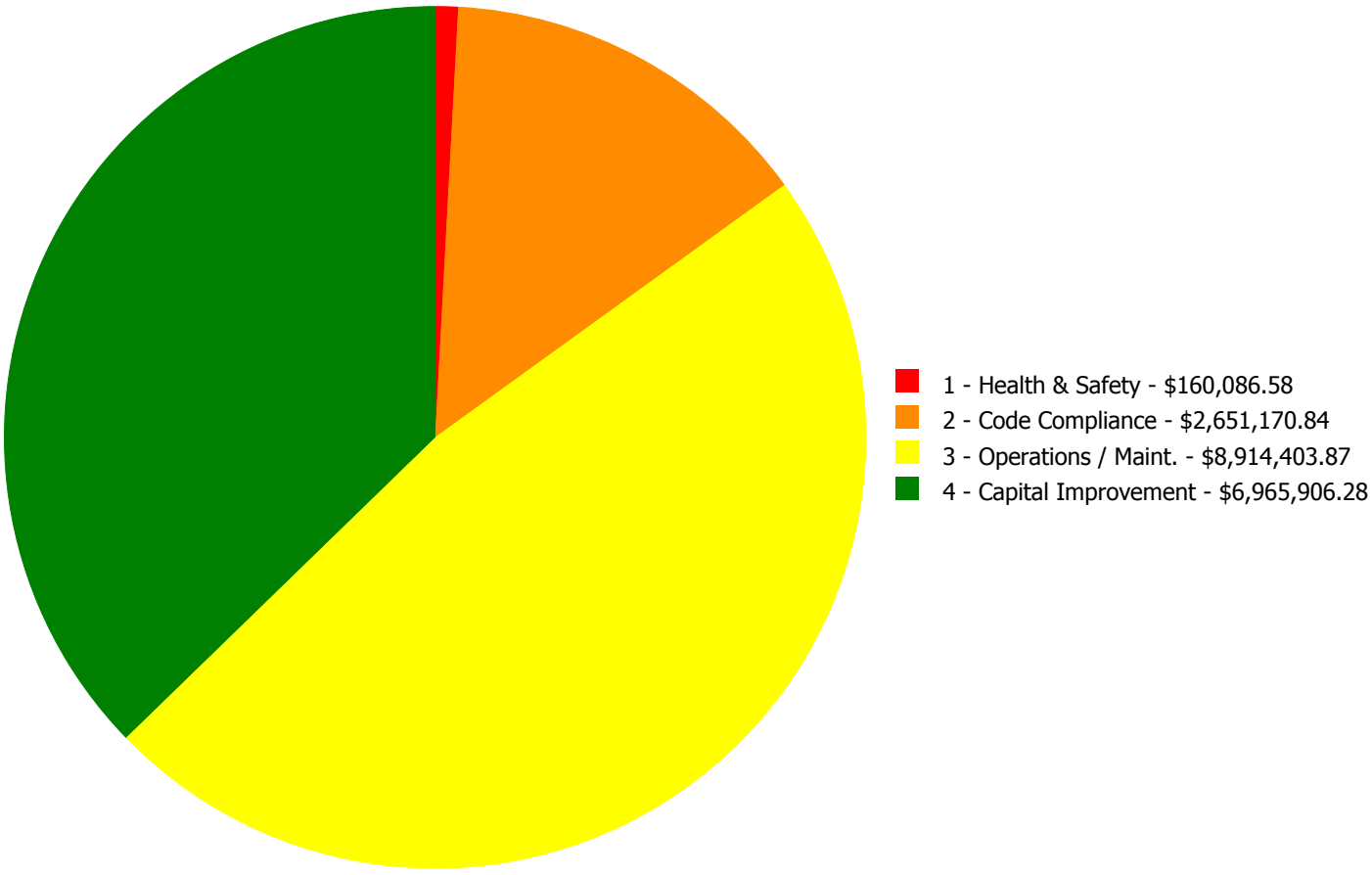
Deficiency By Priority Investment Table

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
B1010	Floor Construction	$0.00	$0.00	$0.00	$60,814.02	$0.00	$60,814.02
B2010	Exterior Walls	$0.00	$0.00	$0.00	$0.00	$710,368.39	$710,368.39
B2020	Exterior Windows	$0.00	$0.00	$0.00	$0.00	$1,656,696.97	$1,656,696.97
B2030	Exterior Doors	$0.00	$0.00	$0.00	$48,910.96	$0.00	$48,910.96
C1020	Interior Doors	$0.00	$0.00	$0.00	$715,588.07	$0.00	$715,588.07
C1030	Fittings	$0.00	$0.00	$32,479.17	$0.00	$0.00	$32,479.17
C3010230	Paint & Covering	$0.00	$0.00	$1,066,600.96	$0.00	$0.00	$1,066,600.96
C3020411	Carpet	$0.00	$22,381.52	$0.00	$0.00	$0.00	$22,381.52
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$466,280.23	$0.00	$466,280.23
C3030	Ceiling Finishes	$0.00	$0.00	$739,129.88	$0.00	$0.00	$739,129.88
D1010	Elevators and Lifts	$0.00	$0.00	$1,012,601.25	$0.00	$0.00	$1,012,601.25
D2010	Plumbing Fixtures	$0.00	$316,407.95	$0.00	$0.00	$0.00	$316,407.95
D2020	Domestic Water Distribution	$0.00	$9,560.11	$315,447.93	$0.00	$0.00	$325,008.04
D2030	Sanitary Waste	$0.00	$0.00	$305,387.85	$0.00	$0.00	$305,387.85
D2040	Rain Water Drainage	$0.00	$0.00	$276,047.71	$0.00	$0.00	$276,047.71
D3020	Heat Generating Systems	$0.00	$0.00	$928,688.27	$0.00	$0.00	$928,688.27
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$970,862.94	$970,862.94
D3040	Distribution Systems	$3,207,186.20	$103,242.25	$588,917.73	$0.00	$602,760.44	$4,502,106.62
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$1,335,412.80	$1,335,412.80
D4010	Sprinklers	$890,527.62	$0.00	$0.00	$0.00	$0.00	$890,527.62
D5010	Electrical Service/Distribution	$0.00	$0.00	$0.00	$295,381.99	$0.00	$295,381.99
D5020	Lighting and Branch Wiring	$1,139,730.60	$0.00	$0.00	$0.00	$0.00	$1,139,730.60
D5030	Communications and Security	$0.00	$61,059.90	$297,347.37	$238,589.19	$0.00	$596,996.46
D5090	Other Electrical Systems	$117,070.72	$0.00	$160,086.58	$0.00	$0.00	$277,157.30
	Total:	$5,354,515.14	$512,651.73	$5,722,734.70	$1,825,564.46	$5,276,101.54	$18,691,567.57

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: $18,691,567.57

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: D3040 - Distribution Systems

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $3,002,933.57

Assessor Name: System

Date Created: 07/06/2015

Notes: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils. Also, remove the existing air-to-air exchangers from the window openings and replace the glazing panels.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Conduct a steam trap survey and replace failed units.

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $204,252.63

Assessor Name: System

Date Created: 07/05/2015

Notes: Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.

System: D4010 - Sprinklers

Location: Throughout building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 62,251.00

Unit of Measure: S.F.

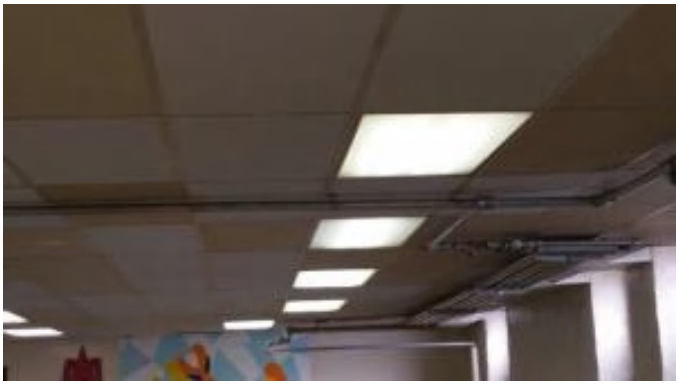
Estimate: $890,527.62

Assessor Name: System

Date Created: 07/06/2015

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.

System: D5020 - Lighting and Branch Wiring



Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Lighting Fixtures (SF)

Qty: 0.00

Unit of Measure: S.F.

Estimate: $725,041.83

Assessor Name: System

Date Created: 07/28/2015

Notes: Install new lighting fixtures for all the class rooms, and other purpose rooms. A new fluorescent lighting (T-5).

System: D5020 - Lighting and Branch Wiring

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Wiring Devices (SF) - surface mounted conduit and boxes

Qty: 0.00

Unit of Measure: S.F.

Estimate: $414,688.77

Assessor Name: System

Date Created: 07/28/2015

Notes: Install minimum two receptacles in each wall of class rooms and other purpose rooms. Also, we recommend adding a two-compartment surface mounted raceway, for data power, for the computer lab room.

System: D5090 - Other Electrical Systems

This deficiency has no image.

Location:	Electrical Room
Distress:	Beyond Service Life
Category:	3 - Operations / Maint.
Priority:	1 - Response Time (< 2 yr)
Correction:	Add Standby Generator System
Qty:	1.00
Unit of Measure:	Ea.
Estimate:	$117,070.72
Assessor Name:	System
Date Created:	07/28/2015

Notes: Install a new emergency power system (50KW).
Note: There is no picture attached, since the school presently has no emergency generator.

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

System: C3020411 - Carpet

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $22,381.52

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace carpet in office area

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace water closet - quantify additional units

Qty: 20.00

Unit of Measure: Ea.

Estimate: $149,242.96

Assessor Name: System

Date Created: 01/05/2016

Notes: Replace twenty (20) floor mounted water closets in the restrooms, which are well beyond their service lives, with new code compliant fixtures.

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace water fountains to meet ADA - includes high and low fountains and new recessed alcove

Qty: 8.00

Unit of Measure: Ea.

Estimate: $125,543.18

Assessor Name: System

Date Created: 07/10/2015

Notes: Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 12.00

Unit of Measure: Ea.

Estimate: $41,621.81

Assessor Name: System

Date Created: 01/05/2016

Notes: Replace twelve (12) wall hung urinals in the restrooms, which are well beyond their service lives, with new low flow fixtures.

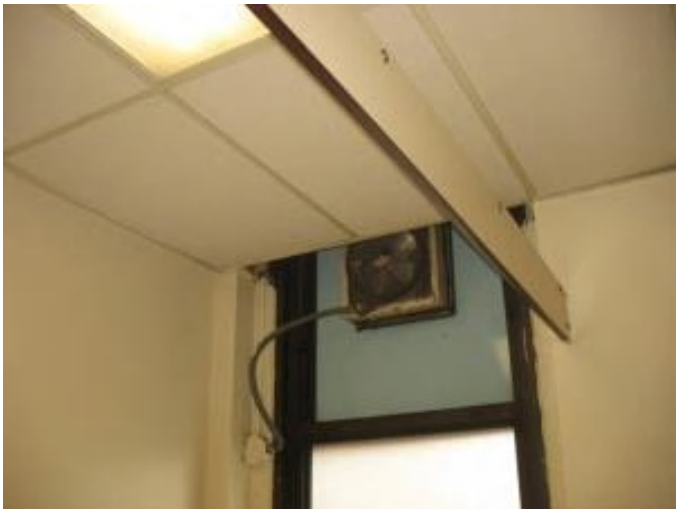
System: D2020 - Domestic Water Distribution

This deficiency has no image.

Location: Basement
Distress: Building / MEP Codes
Category: 2 - Code Compliance
Priority: 2 - Response Time (2-3 yrs)
Correction: Provide expansion tank for water heater.
Qty: 1.00
Unit of Measure: Ea.
Estimate: $9,560.11
Assessor Name: System
Date Created: 01/19/2016

Notes: Provide an expansion tank for the 50 gallon vertical tank type, gas-fired domestic water heater.

System: D3040 - Distribution Systems



Location: Restrooms
Distress: Building / MEP Codes
Category: 2 - Code Compliance
Priority: 2 - Response Time (2-3 yrs)
Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (4 plbg fixtures)
Qty: 6.00
Unit of Measure: Ea.
Estimate: $103,242.25
Assessor Name: System
Date Created: 01/05/2016

Notes: Replace the inadequate propeller fans mounted in the window openings of the restrooms with a wall mounted centrifugal exhaust fan.

System: D5030 - Communications and Security

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $61,059.90

Assessor Name: System

Date Created: 07/28/2015

Notes: Install new cameras, and Surveillance System with the master control panel located in the Principal's Office area.

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

System: C1030 - Fittings

Location: Interior

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 10.00

Unit of Measure: Ea.

Estimate: $32,479.17

Assessor Name: System

Date Created: 07/10/2015

Notes: Provide ADA accessible partitions in toilets

System: C3010230 - Paint & Covering

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 124,500.00

Unit of Measure: S.F.

Estimate: $1,066,600.96

Assessor Name: System

Date Created: 01/11/2016

Notes: Repair and repaint all interior walls

System: C3030 - Ceiling Finishes

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 43,350.00

Unit of Measure: S.F.

Estimate: $653,823.36

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace all suspended acoustical ceilings

System: C3030 - Ceiling Finishes

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair and resurface plaster ceilings - 2 coats plaster

Qty: 6,500.00

Unit of Measure: S.F.

Estimate: $85,306.52

Assessor Name: System

Date Created: 01/11/2016

Notes: Repair and repaint all plaster ceilings

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: Exterior

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 3 - Response Time (3-4 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: 01/11/2016

Notes: Install 3000 lb traction elevator serving all floors and basement

System: D2020 - Domestic Water Distribution

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (75 KSF)

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $315,447.93

Assessor Name: System

Date Created: 06/26/2015

Notes: Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for an unknown amount of time, and replace any damaged piping..

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $305,387.85

Assessor Name: System

Date Created: 07/05/2015

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D2040 - Rain Water Drainage

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect internal rain water drainage piping and replace pipe - based on SF of multi-story building - insert SF of building

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $276,047.71

Assessor Name: System

Date Created: 01/05/2016

Notes: Hire a qualified contractor to perform a detailed examination of the rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace boiler, cast iron sectional (150 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $928,688.27

Assessor Name: System

Date Created: 01/05/2016

Notes: Replace the two (2) 122 HP HB Smith cast iron sectional boilers in service since 1950.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $588,917.73

Assessor Name: System

Date Created: 07/06/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping in service nearly 70 years and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.

System: D5030 - Communications and Security

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

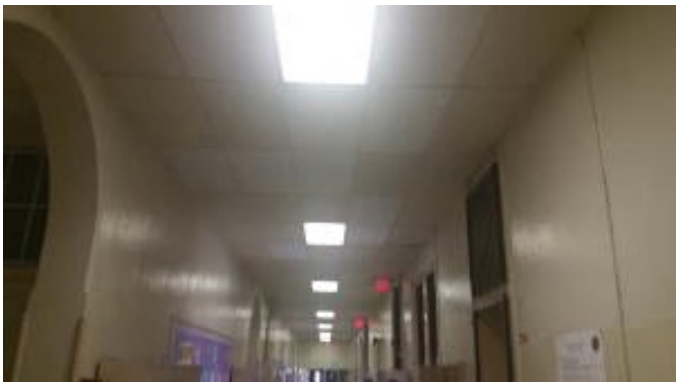
Estimate: $297,347.37

Assessor Name: System

Date Created: 07/28/2015

Notes: Install a new Automated Fire Alarm System to be located in the new Electrical Room. Add smoke detectors and other initiation devices per code. Note: Used 1.1 for quantity (10%) to cover the demolition cost.

System: D5090 - Other Electrical Systems



Location: throughout the building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Replace Emergency/Exit Lighting

Qty: 1.00

Unit of Measure: Ea.

Estimate: $160,086.58

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace the existing battery packed emergency lights and exit lights in all the hallways, stairways, and in each class room or other purpose rooms.

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

System: B1010 - Floor Construction

Location: Interior/exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair rebar and epoxy grout exposed rebar on the underside of floors and floor beams

Qty: 750.00

Unit of Measure: S.F.

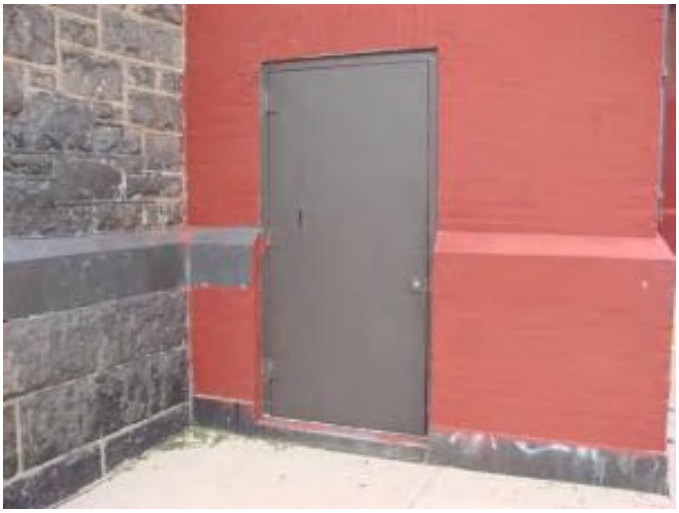
Estimate: $60,814.02

Assessor Name: System

Date Created: 07/10/2015

Notes: Repair/patch concrete slabs in fire tower and basement

System: B2030 - Exterior Doors



Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace hardware with compliant hardware, paint and weatherstrip - per leaf

Qty: 14.00

Unit of Measure: Ea.

Estimate: $48,910.96

Assessor Name: System

Date Created: 07/10/2015

Notes: Replace all exterior doors and hardware

System: C1020 - Interior Doors

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 150.00

Unit of Measure: Ea.

Estimate: $715,588.07

Assessor Name: System

Date Created: 07/10/2015

Notes: Replace all interior doors

System: C3020413 - Vinyl Flooring

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 38,800.00

Unit of Measure: S.F.

Estimate: $466,280.23

Assessor Name: System

Date Created: 01/11/2016

Notes: Replace all flooring including cove base

System: D5010 - Electrical Service/Distribution

Location: Electrical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Service Transformer, Add Switchboard

Qty: 0.00

Unit of Measure: Ea.

Estimate: $295,381.99

Assessor Name: System

Date Created: 07/21/2015

Notes: Upgrade the existing electrical service to a new service with a new 250 KVA Pad Mounted Transformer 480V/277V, 3Ph power. The new service shall be sized to handle the new HVAC loads.

System: D5030 - Communications and Security

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace clock/program system

Qty: 0.00

Unit of Measure: Ea.

Estimate: $238,589.19

Assessor Name: System

Date Created: 07/28/2015

Notes: Install a new Clock System.

Priority 5 - Response Time (> 5 yrs):

System: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 22,000.00

Unit of Measure: S.F.

Estimate: $710,368.39

Assessor Name: System

Date Created: 07/10/2015

Notes: Re-point/repair cracked joints at brick masonry and stone at roof chimneys and courtyard walls

System: B2020 - Exterior Windows

Location: Exterior

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace double slider windows

Qty: 150.00

Unit of Measure: Ea.

Estimate: $1,656,696.97

Assessor Name: System

Date Created: 07/10/2015

Notes: Replace all windows for energy efficiency and appearance

System: D3030 - Cooling Generating Systems

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $970,862.94

Assessor Name: System

Date Created: 07/10/2015

Notes: Remove the window air conditioning units and install a 170 ton air-cooled chiller with chilled water distribution piping and pumps located in a mechanical room to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6,000.00

Unit of Measure: Ea.

Estimate: $344,860.27

Assessor Name: System

Date Created: 01/05/2016

Notes: Provide ventilation for the Gymnasium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings.

System: D3040 - Distribution Systems

Location: Cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 504.00

Unit of Measure: Pr.

Estimate: $257,900.17

Assessor Name: System

Date Created: 01/05/2016

Notes: Provide ventilation for the Cafeteria by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers.

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 62,251.00

Unit of Measure: S.F.

Estimate: $1,335,412.80

Assessor Name: System

Date Created: 01/05/2016

Notes: Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.

Equipment Inventory

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

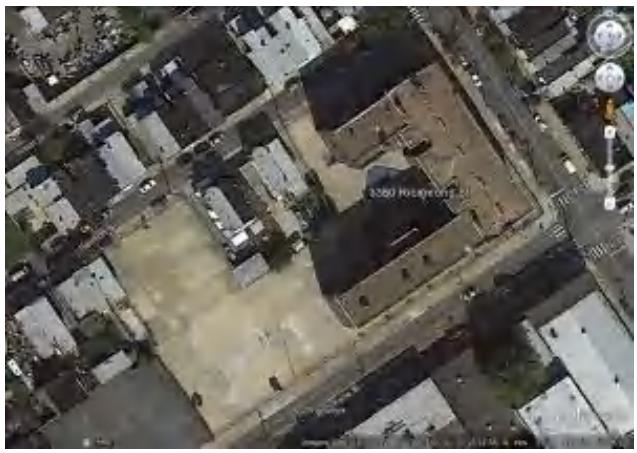
Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 4650 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	HB Smith	450 Mills			35			$112,258.50	$246,968.70
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 4650 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	HB Smith	450 Mills			35			$112,258.50	$246,968.70
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, subfeed lug-rated, 400 amp, excl breakers	1.00	Ea.	Electrical room at the basement					30	1894	2017	$3,167.10	$3,483.81
												Total:	**$497,421.21**

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):	62,251
Year Built:	1894
Last Renovation:	
Replacement Value:	$829,438
Repair Cost:	$716,454.48
Total FCI:	86.38 %
Total RSLI:	84.15 %



Description:

Attributes:

General Attributes:

Bldg ID:	S543001	Site ID:	S543001

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	105.00 %	127.18 %	$716,454.48
G40 - Site Electrical Utilities	40.00 %	0.00 %	$0.00
Totals:	**84.15 %**	**86.38 %**	**$716,454.48**

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 $
G2010	Roadways	$11.52	S.F.		30	1997	2027		40.00 %	0.00 %	12			$0
G2020	Parking Lots	$8.50	S.F.		30	1997	2027		40.00 %	0.00 %	12			$0
G2030	Pedestrian Paving	$12.30	S.F.	45,800	40	1980	2020	2057	105.00 %	127.18 %	42		$716,454.48	$563,340
G2050	Landscaping & Irrigation	$4.36	S.F.		15				0.00 %	0.00 %				$0
G4020	Site Lighting	$4.84	S.F.	45,800	30	1997	2027	2027	40.00 %	0.00 %	12			$221,672
G4030	Site Communications & Security	$0.97	S.F.	45,800	30	1997	2027	2027	40.00 %	0.00 %	12			$44,426
								Total	**84.15 %**	**86.38 %**			**$716,454.48**	**$829,438**

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.

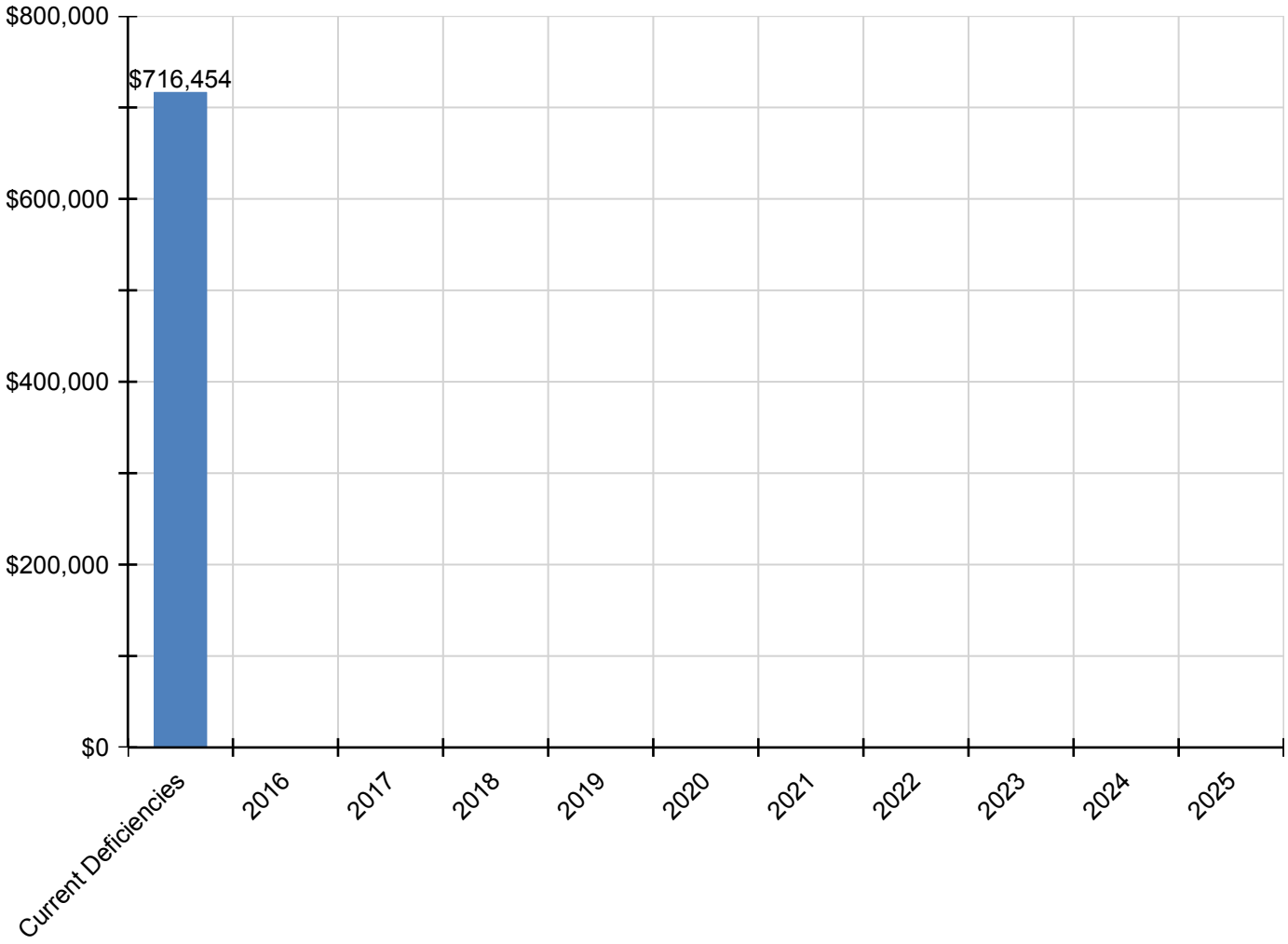
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$716,454**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$716,454**
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**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$716,454	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$716,454**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

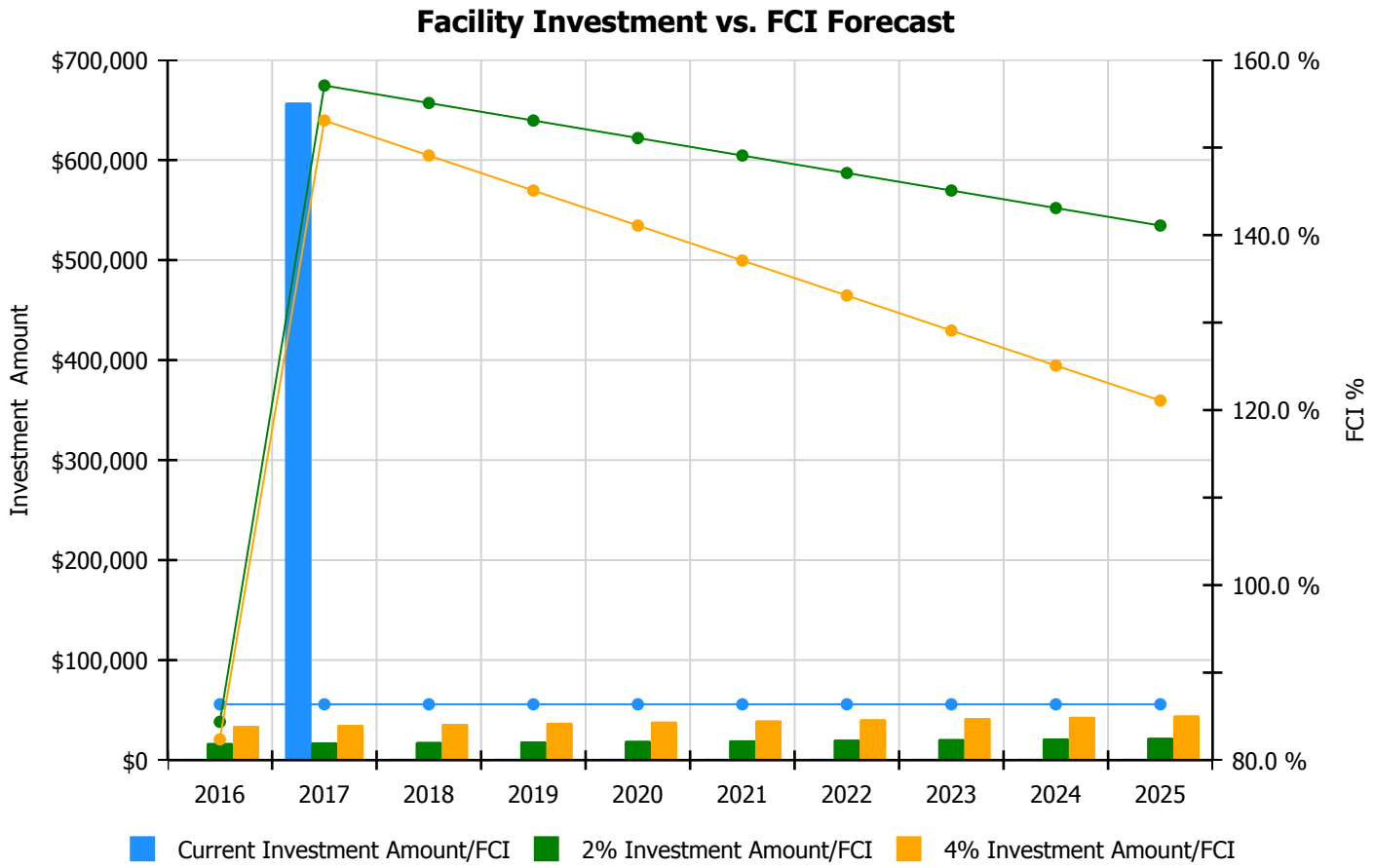
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

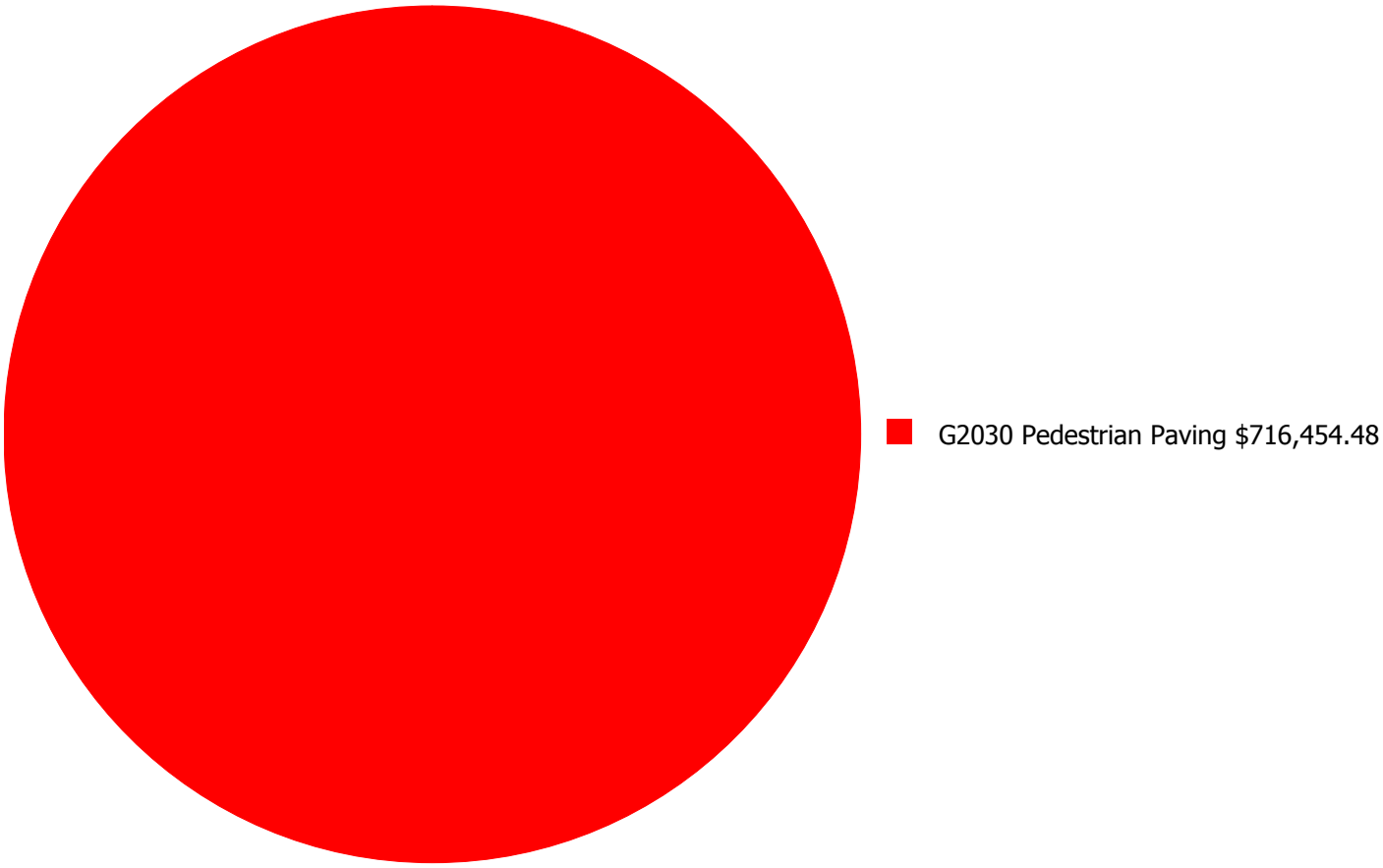
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 86.38%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$17,086.00	84.38 %	$34,173.00	82.38 %
2017	$657,412	$17,599.00	157.09 %	$35,198.00	153.09 %
2018	$0	$18,127.00	155.09 %	$36,254.00	149.09 %
2019	$0	$18,671.00	153.09 %	$37,342.00	145.09 %
2020	$0	$19,231.00	151.09 %	$38,462.00	141.09 %
2021	$0	$19,808.00	149.09 %	$39,616.00	137.09 %
2022	$0	$20,402.00	147.09 %	$40,804.00	133.09 %
2023	$0	$21,014.00	145.09 %	$42,028.00	129.09 %
2024	$0	$21,645.00	143.09 %	$43,289.00	125.09 %
2025	$0	$22,294.00	141.09 %	$44,588.00	121.09 %
Total:	**$657,412**	**$195,877.00**		**$391,754.00**	

Deficiency Summary by System

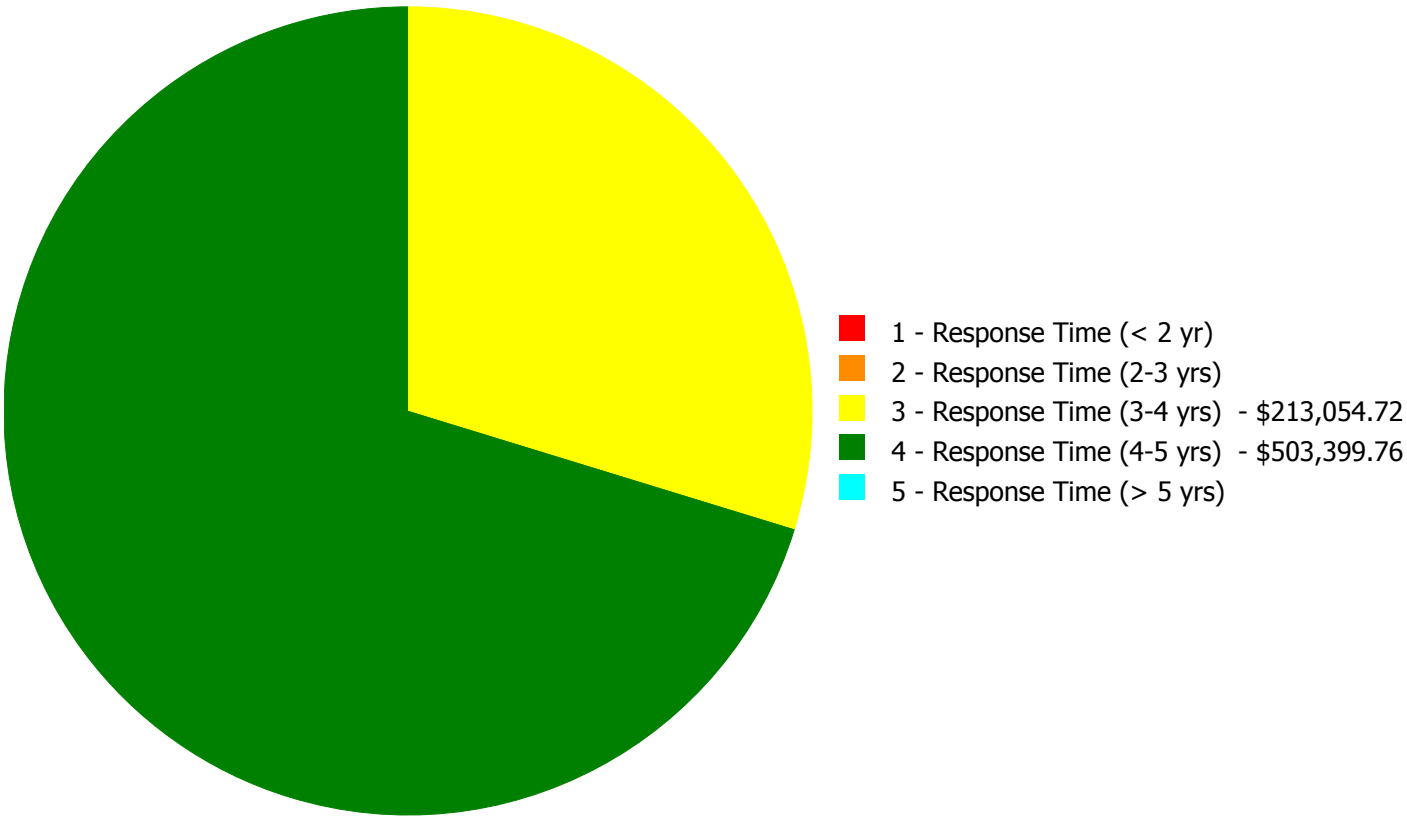
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $716,454.48

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: $716,454.48

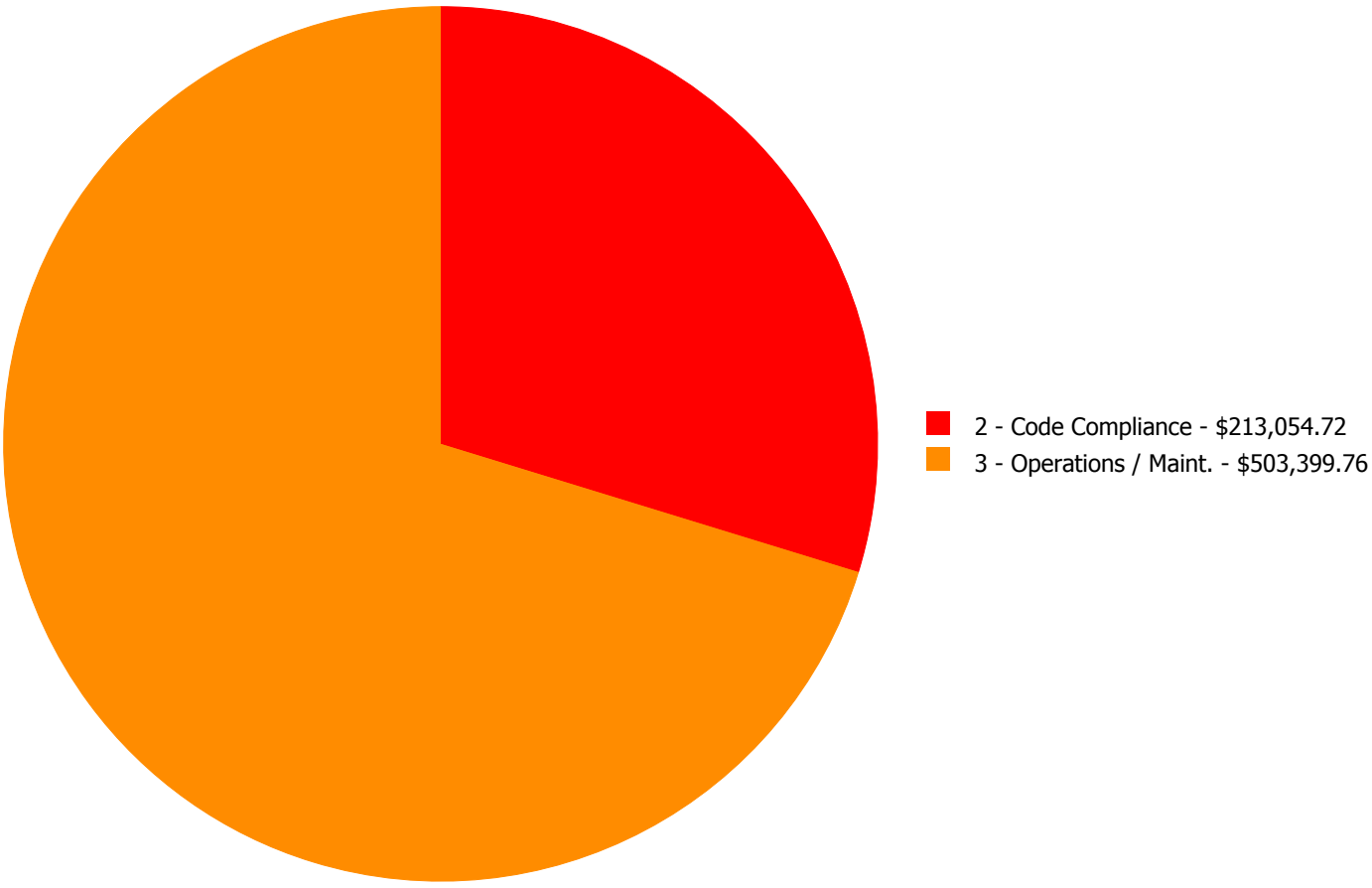
Deficiency By Priority Investment Table

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
G2030	Pedestrian Paving	$0.00	$0.00	$213,054.72	$503,399.76	$0.00	$716,454.48
	Total:	$0.00	$0.00	$213,054.72	$503,399.76	$0.00	$716,454.48

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: $716,454.48

Deficiency Details by Priority

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

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

System: G2030 - Pedestrian Paving

This deficiency has no image.

Location: Grounds

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to 84" rise - per LF of ramp - figure 1 LF of ramp per inch of rise

Qty: 90.00

Unit of Measure: L.F.

Estimate: $213,054.72

Assessor Name: Wlodek Pieczonka

Date Created: 01/11/2016

Notes: Provide accessible ramp at the main entrance

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

System: G2030 - Pedestrian Paving

Location:	Grounds
Distress:	Beyond Service Life
Category:	3 - Operations / Maint.
Priority:	4 - Response Time (4-5 yrs)
Correction:	Remove and replace concrete sidewalk or concrete paving - 4" concrete thickness
Qty:	35,000.00
Unit of Measure:	S.F.
Estimate:	$503,399.76
Assessor Name:	Wlodek Pieczonka
Date Created:	01/11/2016

Notes: Replace playground pavement

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