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.

Belmont School

Governance	CHARTER	Report Type	Elementarymiddle
Address	4030 Brown St. Philadelphia, Pa 19104	Enrollment	670
		Grade Range	'00-08'
Phone/Fax	215-823-8208 / 215-823-8209	Admissions Category	Neighborhood
Website	Www.Cea-Philly.Org/ Index.Php/Our-Schools/ Belmont-Charter-School	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	**50.79%**	**$22,357,460**	**$44,022,559**
Building	52.81 %	$22,072,223	$41,795,790
Grounds	12.81 %	$285,238	$2,226,769

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.59 %	$745,404	$832,040
Exterior Walls (Shows condition of the structural condition of the exterior facade)	10.06 %	$322,895	$3,211,170
Windows (Shows functionality of exterior windows)	00.00 %	$0	$1,566,870
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$126,150
Interior Doors (Classroom doors)	312.45 %	$954,117	$305,370
Interior Walls (Paint and Finishes)	14.45 %	$135,478	$937,670
Plumbing Fixtures	34.28 %	$403,177	$1,176,240
Boilers	32.27 %	$524,194	$1,624,290
Chillers/Cooling Towers	65.60 %	$1,397,167	$2,129,760
Radiators/Unit Ventilators/HVAC	139.78 %	$5,227,847	$3,740,130
Heating/Cooling Controls	158.90 %	$1,866,332	$1,174,500
Electrical Service and Distribution	268.29 %	$2,264,097	$843,900
Lighting	54.55 %	$1,645,984	$3,017,160
Communications and Security (Cameras, Pa System and Fire Alarm)	40.94 %	$462,644	$1,130,130

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

S121001;Belmont

Final

Site Assessment Report

February 1, 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):	87,000
Year Built:	1927
Last Renovation:	
Replacement Value:	$44,022,559
Repair Cost:	$22,357,460.13
Total FCI:	50.79 %
Total RSLI:	68.00 %

Description:

Facility Assessment
August 2015

School District of Philadelphia
Belmont Charter School and Belmont Academy Charter School
Community Education Alliance of West Philadelphia (Belmont Public School)
4030 Brown St
Philadelphia, PA 19104

87,000 SF / 815 Students / LN 02

GENERAL

The Belmont Charter School and Belmont Academy Charter School is one of the older schools in service to the Philadelphia communities and has a dedication plaque to Jacob H Sides in the main lobby. The school is currently being run by the Community Education Alliance of West Philadelphia and is identified as B121001 and was originally designated as the Belmont Public School. This facility is located at 4030 Brown St, Philadelphia, PA. The late Gothic Revival design of the rectangular-shaped, concrete and steel-framed building includes brick facades with a concrete foundation. Constructed in 1927 the school has had one major additions that

includes an auditorium and classroom area with some administrative space.

The main entrance faces the Northern exterior facing Brown Street. General parking is west of the school just on the other side of North Forty-First Street. This School serves students in grades K to 6 and has a basement with three stories consisting of a total gross square footage of 87,000 GSF.

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

The information for this report was collected during a site visit on August 27, 2015.

Mr. Jason Glass, Facilities Director, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history.

Structural / EXTERIOR CLOSURE

Foundations are concrete and appear to be in good condition. Basement walls are concrete and masonry and appear to be in good condition. The superstructure, Floor construction and Roof construction is sound and in good condition.

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

The exterior windows are in like new condition. The window systems were reported to have been installed in the past few years. The double pane aluminum framed applications are expected to have a life cycle that extends beyond the outlook of this report. Therefore no recommendations are required at this time.

The Exterior door systems were reported to have been installed within the past few years and are in very good condition. The metal doors and frames are well maintained and no issues surfaced during the time of the inspection. No recommendations are required at this time.

There are a number of roof sections and different roof elevations ranging from the main roof to the mechanical roof. Parapet heights, coping materials, and the height of the flashing also varies in different sections. The main roof is a built up application that was installed in the early 1990'S. The other built up roofs have not conclusive installation dates and have been seal coated several times to extend the life cycle of the application. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace all roof sections.

Interior partitions include marble, plaster, brick, CMU, moveable partitions, and glazed openings.

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

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

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

Interior doors are typically wood in wood frames with glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames. Doors are generally in good condition considering the age of the application. Universal upgrades are required for the interior door systems, it is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system with consideration for ADA compliance.

Fittings include: chalkboards; marker boards; tack boards; interior signage; metal lockers; toilet accessories and wood/metal/marble toilet partitions; fixed storage shelving. There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

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

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

Stair construction is concrete and sound. Stair treads and landings are finished with either metal or concrete nosings and are in good condition.

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

Interior wall finishes are typically marble, plaster, CMU or Brick finishes. Other wall finishes include: ceramic tile at restrooms. Wall finishes are generally in fair condition. There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

The interior carpet finish was installed approximately in 2000 and is in fair condition considering the age and high traffic conditions. This finish will exceeded its expected life within the next five years and is recommended for removal and replacement.

The floor finish for this school is a combination of carpet, marble, terrazzo, clay tile with concrete hallways and stirs finishes. The vinyl tile finish is a mix of 12 x 12 and 9 x 9 tile application. The 9x9 finish is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application.

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

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

Institutional equipment includes: library equipment; stage equipment; instrumental equipment; A/V equipment; and laboratory equipment; gym equipment – basketball backstops, scoreboards, etc. Other equipment includes kitchen equipment. The Gyms are still used as either a student common area or practice court. The interior backboards and support equipment is beyond its service life. Damaged boards are recommended for removal and replacement.

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

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

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Most lavatories have dual wheel handle faucets and urinals and water closets have manual lever flush valves. Cast iron service sinks are located in corridors. There are some stainless steel counter top sinks. New single level stainless steel water coolers with integral refrigeration were installed in 2012. The kitchen waste is piped through an above floor grease trap. Two Navian instantaneous gas water heaters are in the basement mechanical room, each with a small inline circulating pump. The heaters have direct vents and combustion air with PVC piping. There is no domestic water booster pump system, and there are pressure problems on the upper level. A Federal Pump duplex sump pump is in the mechanical room for ground water removal. There is an abandoned horizontal gas water heater and two abandoned double suction booster pumps.

Water piping has been replaced since the original installation with copper, but may contain lead solder based on age. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron, with some hubless cast iron where additions or damage have occurred. The water service is a four inch line and meter from Brown St., located in the basement mechanical room. There is no backflow preventer. Gas service is a four inch line into the mechanical room from Brown St., and gas piping is black steel with screwed fittings.

Domestic water piping has exceeded the service life and should be replaced. Sanitary and waste cast iron piping should be inspected for damage and repaired or replaced as required. There are reportedly operational problems with the plumbing fixtures, which have exceeded service life and should be replaced. The water heaters appear to be newer and should be functional up to fifteen more years.

HVAC-The building is heated by hot water generated by two Weil Mclain cast iron sectional boilers. The boilers are gas fired one hundred sixty hp each, reportedly installed in 2014, with one being new and one relocated from another school. Each unit has a Powerflame burner and control panel, and powered draft fan, connected to a common field fabricated insulated vent system routed to an existing chimney. There are two end suction Armstrong hot water pumps, one 7 ½ and one 5 hp. The 5 hp pump was replaced in 2015 and the 7 ½ hp pump is older. There is reportedly insufficient pressure to serve all areas of the building.

Classrooms and some other areas have Nelson AAF unit ventilators with hot water coil, outside air damper, filter, blower and motor, control valve and controls. Hot water radiation is located at entrances and other areas requiring heat.

There are inoperable heating and ventilating units for the auditorium and the cafeteria/gymnasium, which also has unit heaters. There is no cooking in the kitchen and no hood. The boiler room has combustion air louvers with motorized dampers. Toilet rooms have individual small wall propeller fans, some of which are inoperable, and there is a centrifugal roof ventilator at the annex.

There is no central air conditioning. The building has very few window air conditioners and a ductless split system for the IT room with the condensing unit mounted on the exterior wall.

Heating water piping is insulated welded black steel. Two horizontal expansion tanks are suspended in the pump area and an air separator is part of the piping system.

There are no central control systems. There is a duplex controls air compressor in the mechanical room and old control panels, most of which are abandoned. Reportedly about thirty percent of the unit ventilator controls are functional.

The unit ventilators have exceed the service life and do not comply with ventilation codes, and should be replaced. One of the hot water pumps is in bad condition. Given the condition of this pump and the inadequate system pressure, the pumps should be replaced, keeping the newer pump as standby.

FIRE PROTECTION- There are dry standpipes at the transition stairwell with exterior building fire department connection and fire hose connections at each level. There is no automatic sprinkler system.

ELECTRICAL SYSTEMS

Electrical Service—The building is served by PECO Energy Company with underground service routed to a current transformer cabinet and 800A service disconnecting means located in the Wrestling Room. The main switchboard is a Penn Panel & Box Company 800A, 120/240V, 2 phase, 5 wire, three section fusible type switchboard located in the Main Electrical Room, which is adjacent to the Boiler Room. There are three phase converter transformers, one to provide 240V, 3 phase power, and two to provide 208/120V, 3 phase, 4 wire power to mechanical equipment.

The switchboard feeds 17 panelboards located throughout the school. All of these panelboards, the main switchboard and the 240V, 1

phase to 240V, 3 phase converter transformer have exceeded their useful service life and need to be replaced, including their feeder conductors. The other two phase converter transformers would not be required if the secondary voltage is 208/120V, 3 phase, 4 wire.

The service entrance switchboard would need to be increased in size to serve central air conditioning equipment, an elevator addition, and a fire pump (if required). It is estimated that a 3000A, 208/120V, 3 phase, 4 wire service distribution switchboard with associated feeder circuit breakers and feeders would be required. Since replacement of the main switchboard is needed, consideration should be given to providing a 1600A, 480/277V, 3 phase, 4 wire secondary service, with 480-208/120V step-down transformers for existing building loads.

Receptacles—Classrooms were originally provided with only a few duplex receptacles. Additional receptacles were added in classrooms on Floor 3 using surface metal raceways. It is recommended that approximately 33 classrooms be provided with additional duplex receptacles using surface metal raceway. There are four (4) duplex receptacles in the kitchen and one (1) in Computer Room 308 that need to be replaced with ground-fault circuit-interrupting type receptacles for personnel protection, as required by NFPA 70, National Electrical Code Article 210.8. Existing duplex receptacles in classrooms should also be replaced due to their age.

Lighting—Most of the interior lighting fixtures are recessed or surface mounted 1x4 or 2x4 fluorescent troffers or modular wraparound type with acrylic prismatic lenses. Most of the lighting fixtures have obsolete T12 fluorescent lamps, have served their useful life, and need to be replaced with fixtures using emergency efficient T8 or T5 lamps. Only the corridors, the IMC, some classrooms and toilet rooms, and a few other rooms have had fixture upgrades with T8 lamps.

There are also several areas with incandescent lighting fixtures, including the Main Electrical Room, Boiler Room, Basement locker rooms, toilet rooms and corridors, Kitchen storage room, Auditorium and Stage.

Significant lighting upgrades are recommended in all areas that have not been previously updated. It is estimated that approximately 83% of the building, or 73,000 SF, requires lighting upgrades.

Exterior wall mounted lighting fixtures are located at doors exiting to grade. Some of the fixtures are damaged. Due to their poor condition, it is recommended that all exterior fixtures at exit discharges be replaced.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations and bell notification appliances. A visual notification appliance and Siemens remote fire alarm annunciator panel is provided at the main entrance. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances in the building. The fire alarm control panel (FACP) is by S.H. Couch Company located in the Basement Main Electrical Room. The entire fire alarm system needs to be replaced to meet current NFPA codes and ADA.

Telephone/LAN—An overhead telephone service drop enters on the east side of the building. The demarcation point is located in the Basement corridor between the Girl's Locker and Toilet Rooms. The Main IT Room is located on Floor 1 behind the Main Office. A telephone and two data outlets are provided in each classroom. Wireless access points are provided in classrooms, corridors, auditorium, gymnasium/cafeteria, and IMC for Wi-Fi service throughout the entire school.

Intercom/Paging Systems-- An Aiphone audible/visual intercom system is provided between the main entrance and reception desk. The paging system is accessed through the telephone system. A 250W amplifier is located in the Main IT Room to provide paging interface with the telephone system. Each classroom has a paging speaker. There are also wall mounted or ceiling recessed paging speakers in corridors. This system is estimated to have 10 years of useful life remaining.

Clock and Program System--The original speakers in classrooms are obsolete and have been replaced with wall speakers. The obsolete wall mounted speakers in classrooms and corridors have been abandoned in place. The program bells in corridors still remain in place. The clock system is wireless and was installed around 2009, and has a remaining useful life exceeding this report.

Television System-- There are no television outlets in classrooms. Smart boards are provided in several classrooms.

Video Surveillance and Security Systems-- There are approximately 50 video surveillance cameras that provide coverage of corridors, auditorium, gymnasium and the site. Surveillance cameras were installed in the last 5 years and have 10 years of useful life remaining. The cameras are monitored at the reception desk and in the Main Office. Security access and control is provided on three exterior doors using a key FOB.

Emergency Power System-- There is no standby generator in the building. A standby generator should be provided when an elevator is installed. It is estimated that a 150 kW generator would be required, or 300 kW, if a fire pump is also required for the building.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting is provided by emergency lighting units (ELUs) with battery backup. It was observed that there are not an adequate number of ELUs in the corridors, auditorium and gymnasium to provide a minimum illumination level of 1 footcandle measured on the floor in the path of egress, as required by NFPA 101, Life Safety Code 7.8.1. Emergency lighting should be served from a standby generator rather than battery type ELUs.

Exit signage in the school is inadequate. There are several locations where exit signs are missing or not illuminated. Directional exit signs also need to be provided. It is recommended that all exit signs be replaced with vandal resistant LED type.

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

Conveying Systems-- The building did not have an elevator. Provide feeder circuits, safety switches and fire alarm system interface for an elevator addition.

GROUNDS

The parking area has ADA parking with approved curb cuts for access to the sidewalks that lead to the main entrance. However, the parking lots are in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a parking lot renewal program that includes all aspects of the current ADA legislation. Universal upgrades are recommended.

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

Site Lighting— Site lighting is provided by exterior wall pack and HID floodlighting lighting fixtures on the building that are aimed to illuminate the site and parking areas. There are no pole mounted lighting fixtures on the site.

Site video surveillance system—Exterior cameras are mounted on the building to provide coverage of parking and play areas. No surveillance cameras were mounted on the front of the building.

RECOMMENDATIONS

- Repair cracks in masonry - replace missing mortar and repoint
- Replace auditorium seating
- Remove and replace stage curtain
- Remove and replace or install basketball backstop and hoop
- Remove and replace suspended acoustic ceilings
- Remove and replace wood flooring
- Remove VAT and replace with VCT
- Remove and replace carpet
- Repair and repaint all interior walls
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Replace blackboards with marker boards
- Remove and replace tackboards
- Remove and replace interior doors
- Remove folding wood partitions; replace with metal studs and gypsum board painted
- Install fire rated walls and door where required
- Install fire rated walls and door where required
- Remove and Replace Built Up Roof
- Remove and replace concrete sidewalk or paving
- Remove and replace parking lot
- Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.
- Remove the existing window air conditioning units and install a two hundred twenty ton air-cooled chiller on the roof with chilled water distribution piping, two pumps, chemical treatment and controls located in a mechanical room on the basement

level.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.
- Provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Provide a new central station air handling unit for the cafeteria/gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.
- Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.
- Provide new domestic water booster pump system with two pumps, pressure tank, and controls. Connect to main domestic water line.
- Provide two new end suction hot water pumps to replace existing pumps.
- Replace 800A, 120/240V, 2 phase, 5 wire switchboard with a 3000A, 208/120V, 3 phase, 4 wire service distribution switchboard with associated feeder circuit breakers and feeders to serve the exiting building and added central air conditioning equipment, an elevator addition, and a fire pump (if required).
- Replace all 120/240V, 1 phase panelboards in the building and the 400A, 120/240V, 2 phase, 5 wire Panelboard in the Boiler Room. Total of (17) panelboards. Also, replace the 25 kVA, 240V, 3 phase transformer.
- Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 33 classrooms.
- Replace total of (5) duplex receptacles in the kitchen and Computer Room 308 with ground-fault circuit-interrupting (GFCI) type to provide personnel protection, as required by NFPA 70, Article 210.8.
- Replace fluorescent lighting fixtures in classrooms, gymnasium/cafeteria, auditorium and support areas throughout the building (Approximately 73,000 SF).
- Replace exterior wall mounted lighting fixtures at exit discharges to grade (Total of 8).
- Replace fire alarm system with an addressable type system, including pull stations, smoke and heat detectors, and audible and visual notification appliances.
- Provide standby generator system and equipment, sized for all emergency egress and exit lighting, elevator and fire pump (if required). Estimated size is 300 kW.
- Replace all exit signs in the building with vandal-resistant LED type.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S121001		

Site Condition Summary

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

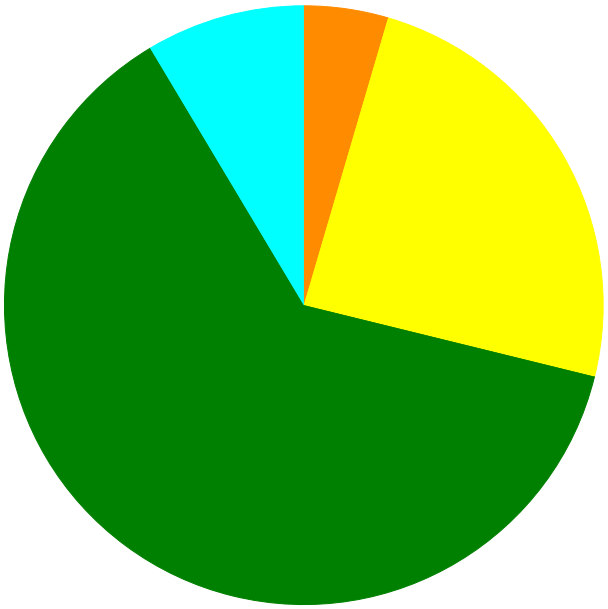
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	57.64 %	6.58 %	$322,894.72
B30 - Roofing	60.00 %	89.59 %	$745,404.24
C10 - Interior Construction	35.11 %	66.27 %	$1,414,851.38
C20 - Stairs	37.00 %	241.31 %	$296,013.39
C30 - Interior Finishes	56.24 %	46.68 %	$2,239,857.99
D10 - Conveying	105.71 %	0.00 %	$0.00
D20 - Plumbing	98.00 %	74.03 %	$1,315,138.05
D30 - HVAC	105.91 %	104.00 %	$9,015,540.68
D40 - Fire Protection	105.71 %	177.49 %	$1,244,573.85
D50 - Electrical	107.14 %	94.78 %	$5,006,772.01
E10 - Equipment	34.29 %	2.19 %	$30,273.46
E20 - Furnishings	30.00 %	237.93 %	$440,902.80
G20 - Site Improvements	36.36 %	17.52 %	$285,237.56
G40 - Site Electrical Utilities	75.00 %	0.00 %	$0.00
Totals:	**68.00 %**	**50.79 %**	**$22,357,460.13**

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)
B121001;Belmont	87,000	52.81	$0.00	$874,562.13	$5,431,713.83	$13,992,162.64	$1,773,783.97
G121001;Grounds	103,100	12.81	$0.00	$141,409.06	$0.00	$0.00	$143,828.50
Total:		**50.79**	**$0.00**	**$1,015,971.19**	**$5,431,713.83**	**$13,992,162.64**	**$1,917,612.47**

Deficiencies By Priority



Budget Estimate Total: $22,357,460.13

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	87,000
Year Built:	1927
Last Renovation:	
Replacement Value:	$41,795,790
Repair Cost:	$22,072,222.57
Total FCI:	52.81 %
Total RSLI:	69.13 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B121001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S121001		

Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	57.64 %	6.58 %	$322,894.72
B30 - Roofing	60.00 %	89.59 %	$745,404.24
C10 - Interior Construction	35.11 %	66.27 %	$1,414,851.38
C20 - Stairs	37.00 %	241.31 %	$296,013.39
C30 - Interior Finishes	56.24 %	46.68 %	$2,239,857.99
D10 - Conveying	105.71 %	0.00 %	$0.00
D20 - Plumbing	98.00 %	74.03 %	$1,315,138.05
D30 - HVAC	105.91 %	104.00 %	$9,015,540.68
D40 - Fire Protection	105.71 %	177.49 %	$1,244,573.85
D50 - Electrical	107.14 %	94.78 %	$5,006,772.01
E10 - Equipment	34.29 %	2.19 %	$30,273.46
E20 - Furnishings	30.00 %	237.93 %	$440,902.80
Totals:	**69.13 %**	**52.81 %**	**$22,072,222.57**

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	$18.40	S.F.	87,000	100	1927	2027	2052	37.00 %	0.00 %	37			$1,600,800
A1030	Slab on Grade	$7.73	S.F.	87,000	100	1927	2027	2052	37.00 %	0.00 %	37			$672,510
A2010	Basement Excavation	$6.55	S.F.	87,000	100	1927	2027	2052	37.00 %	0.00 %	37			$569,850
A2020	Basement Walls	$12.70	S.F.	87,000	100	1927	2027	2052	37.00 %	0.00 %	37			$1,104,900
B1010	Floor Construction	$75.10	S.F.	87,000	100	1927	2027	2052	37.00 %	0.00 %	37			$6,533,700
B1020	Roof Construction	$13.88	S.F.	22,000	100	1927	2027	2052	37.00 %	0.00 %	37			$305,360
B2010	Exterior Walls	$36.91	S.F.	87,000	100	1927	2027	2052	37.00 %	10.06 %	37		$322,894.72	$3,211,170
B2020	Exterior Windows	$18.01	S.F.	87,000	40	2014	2054		97.50 %	0.00 %	39			$1,566,870
B2030	Exterior Doors	$1.45	S.F.	87,000	25	2012	2037		88.00 %	0.00 %	22			$126,150
B3010105	Built-Up	$37.76	S.F.	22,000	20	1990	2010	2027	60.00 %	89.73 %	12		$745,404.24	$830,720
B3020	Roof Openings	$0.06	S.F.	22,000	20	1990	2010	2027	60.00 %	0.00 %	12			$1,320
C1010	Partitions	$17.91	S.F.	87,000	100	1927	2027	2052	37.00 %	16.24 %	37		$253,050.53	$1,558,170
C1020	Interior Doors	$3.51	S.F.	87,000	40	1927	1967	2027	30.00 %	312.45 %	12		$954,117.42	$305,370
C1030	Fittings	$3.12	S.F.	87,000	40	1927	1967	2027	30.00 %	76.51 %	12		$207,683.43	$271,440
C2010	Stair Construction	$1.41	S.F.	87,000	100	1927	2027	2052	37.00 %	241.31 %	37		$296,013.39	$122,670
C3010230	Paint & Covering	$13.21	S.F.	67,000	10	1927	1937	2027	120.00 %	15.31 %	12		$135,477.54	$885,070
C3010232	Wall Tile	$2.63	S.F.	20,000	30	1927	1957	2027	40.00 %	0.00 %	12			$52,600
C3020411	Carpet	$7.30	S.F.	3,000	10	2000	2010	2027	120.00 %	102.20 %	12		$22,381.52	$21,900

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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 $
C3020412	Terrazzo & Tile	$75.52	S.F.	15,000	50	1927	1977	2027	24.00 %	0.00 %	12			$1,132,800
C3020413	Vinyl Flooring	$9.68	S.F.	20,000	20	1927	1947	2027	60.00 %	78.34 %	12		$151,666.68	$193,600
C3020414	Wood Flooring	$22.27	S.F.	30,000	25	1927	1952	2027	48.00 %	130.90 %	12		$874,562.13	$668,100
C3020415	Concrete Floor Finishes	$0.97	S.F.	20,000	50	1927	1977	2027	24.00 %	0.00 %	12			$19,400
C3030	Ceiling Finishes	$20.97	S.F.	87,000	25	1927	1952	2027	48.00 %	57.87 %	12		$1,055,770.12	$1,824,390
D1010	Elevators and Lifts	$2.50	S.F.	87,000	35	1927	1962	2052	105.71 %	0.00 %	37			$217,500
D2010	Plumbing Fixtures	$13.52	S.F.	87,000	35			2052	105.71 %	34.28 %	37		$403,176.93	$1,176,240
D2020	Domestic Water Distribution	$1.68	S.F.	87,000	25			2042	108.00 %	371.17 %	27		$542,506.41	$146,160
D2030	Sanitary Waste	$2.90	S.F.	87,000	25			2042	108.00 %	146.43 %	27		$369,454.71	$252,300
D2040	Rain Water Drainage	$2.32	S.F.	87,000	30	1927	1957	2025	33.33 %	0.00 %	10			$201,840
D3020	Heat Generating Systems	$18.67	S.F.	87,000	35	2014	2049		97.14 %	32.27 %	34		$524,194.20	$1,624,290
D3030	Cooling Generating Systems	$24.48	S.F.	87,000	30			2047	106.67 %	65.60 %	32		$1,397,167.26	$2,129,760
D3040	Distribution Systems	$42.99	S.F.	87,000	25			2042	108.00 %	139.78 %	27		$5,227,847.29	$3,740,130
D3050	Terminal & Package Units	$11.60	S.F.		20				0.00 %	0.00 %				$0
D3060	Controls & Instrumentation	$13.50	S.F.	87,000	20			2037	110.00 %	158.90 %	22		$1,866,331.93	$1,174,500
D4010	Sprinklers	$7.05	S.F.	87,000	35			2052	105.71 %	202.91 %	37		$1,244,573.85	$613,350
D4020	Standpipes	$1.01	S.F.	87,000	35			2052	105.71 %	0.00 %	37			$87,870
D5010	Electrical Service/Distribution	$9.70	S.F.	87,000	30	1927	1957	2047	106.67 %	268.29 %	32		$2,264,097.10	$843,900
D5020	Lighting and Branch Wiring	$34.68	S.F.	87,000	20	1927	1947	2037	110.00 %	54.55 %	22		$1,645,983.54	$3,017,160
D5030	Communications and Security	$12.99	S.F.	87,000	15	1927	1942	2030	100.00 %	40.94 %	15		$462,643.56	$1,130,130
D5090	Other Electrical Systems	$3.35	S.F.	87,000	30	1927	1957	2047	106.67 %	217.55 %	32		$634,047.81	$291,450
E1020	Institutional Equipment	$4.82	S.F.	87,000	35	1927	1962	2027	34.29 %	7.22 %	12		$30,273.46	$419,340
E1090	Other Equipment	$11.10	S.F.	87,000	35	1927	1962	2027	34.29 %	0.00 %	12			$965,700
E2010	Fixed Furnishings	$2.13	S.F.	87,000	40	1927	1967	2027	30.00 %	237.93 %	12		$440,902.80	$185,310
								Total	**69.13 %**	**52.81 %**			**$22,072,222.57**	**$41,795,790**

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: Marble / Tile 30%
Painted 60%
Brick 10%

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

Note: Carpet 4%
Terrazzo/Marble 17%
Vinyl 23%
Wood 33%
Concrete 23%

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

Note: There is no existing elevator.

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

Note: There are three (3) phase converter transformers, as follows:
(1) 25 kVA, 240V, 2 phase to 240V, 3 phase
(2) 25 kVA, 120/240V, 2 phase to 208/120V, 3 phase

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:	**$22,072,223**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$298,382**	**$22,370,604**
*** 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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$322,895	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$322,895**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$745,404	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$745,404**
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	$253,051	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$253,051**
C1020 - Interior Doors	$954,117	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$954,117**
C1030 - Fittings	$207,683	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$207,683**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

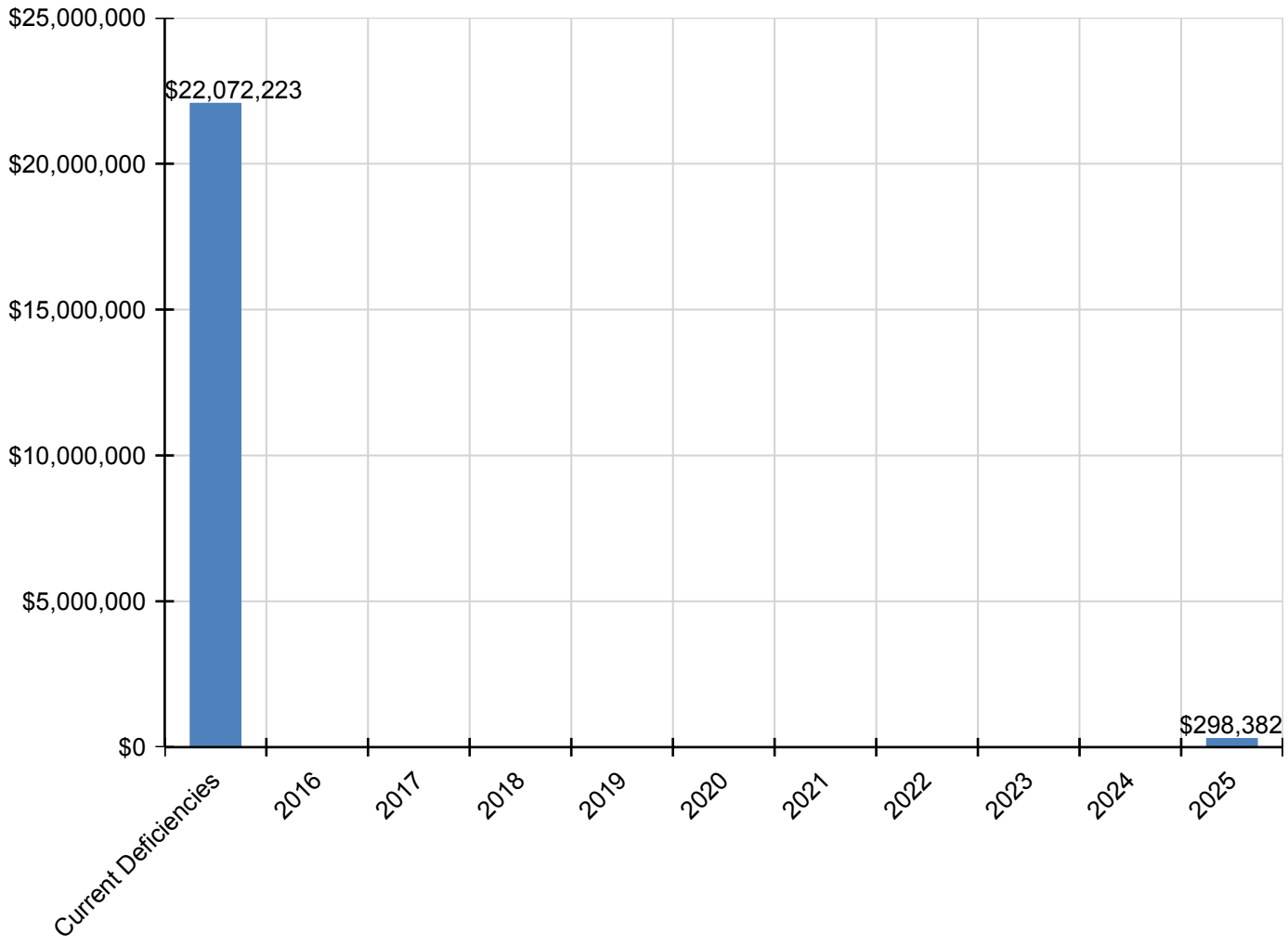
C2010 - Stair Construction	$296,013	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$296,013**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$135,478	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$135,478**
C3010232 - Wall 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	$151,667	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$151,667**
C3020414 - Wood Flooring	$874,562	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$874,562**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$1,055,770	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,055,770**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$403,177	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$403,177**
D2020 - Domestic Water Distribution	$542,506	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$542,506**
D2030 - Sanitary Waste	$369,455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$369,455**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$298,382	**$298,382**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$524,194	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$524,194**
D3030 - Cooling Generating Systems	$1,397,167	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,397,167**
D3040 - Distribution Systems	$5,227,847	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,227,847**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,866,332	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,866,332**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,244,574	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,244,574**
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	$2,264,097	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,264,097**
D5020 - Lighting and Branch Wiring	$1,645,984	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,645,984**
D5030 - Communications and Security	$462,644	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$462,644**

D5090 - Other Electrical Systems	$634,048	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$634,048**
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	$30,273	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$30,273**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$440,903	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$440,903**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

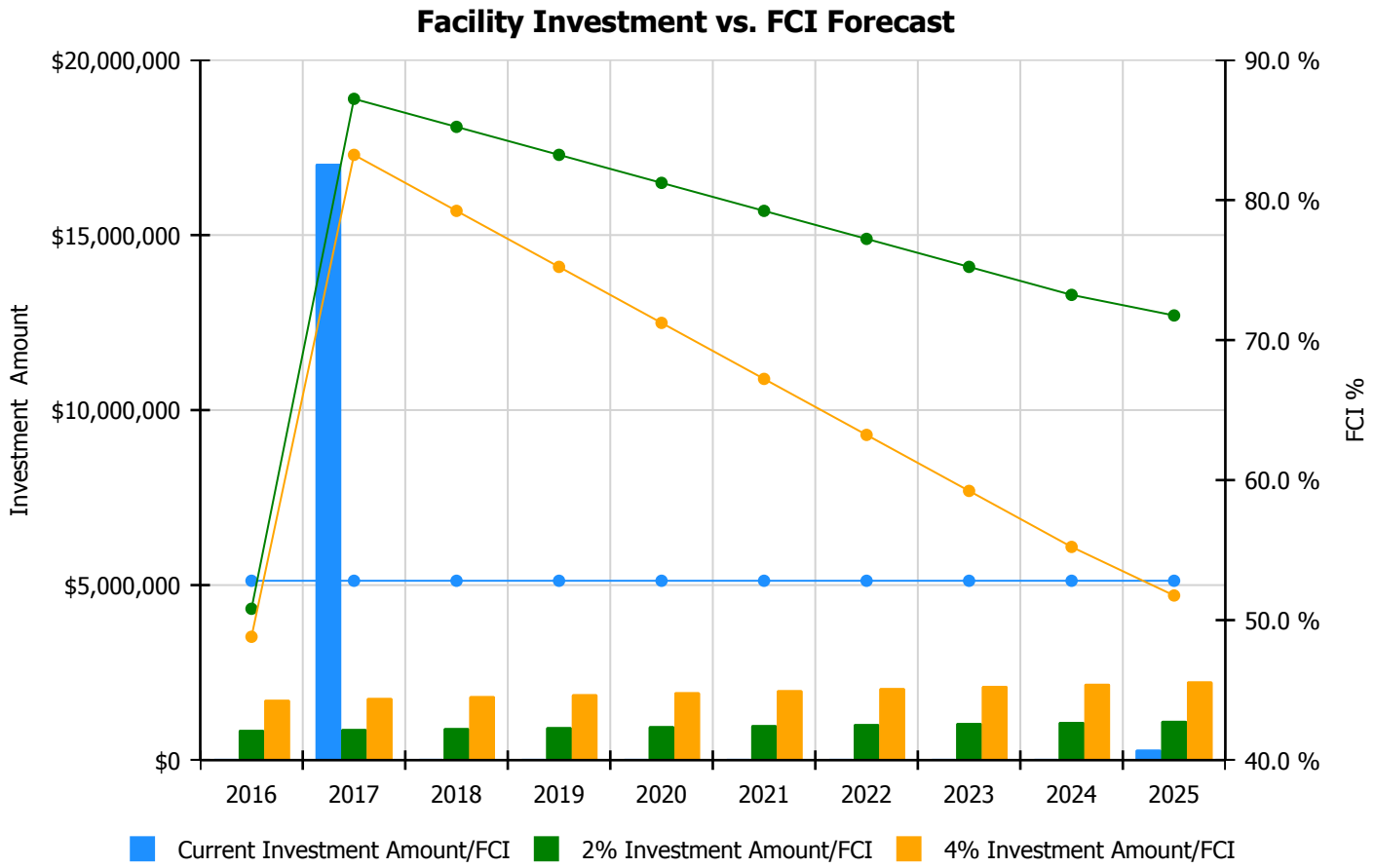
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

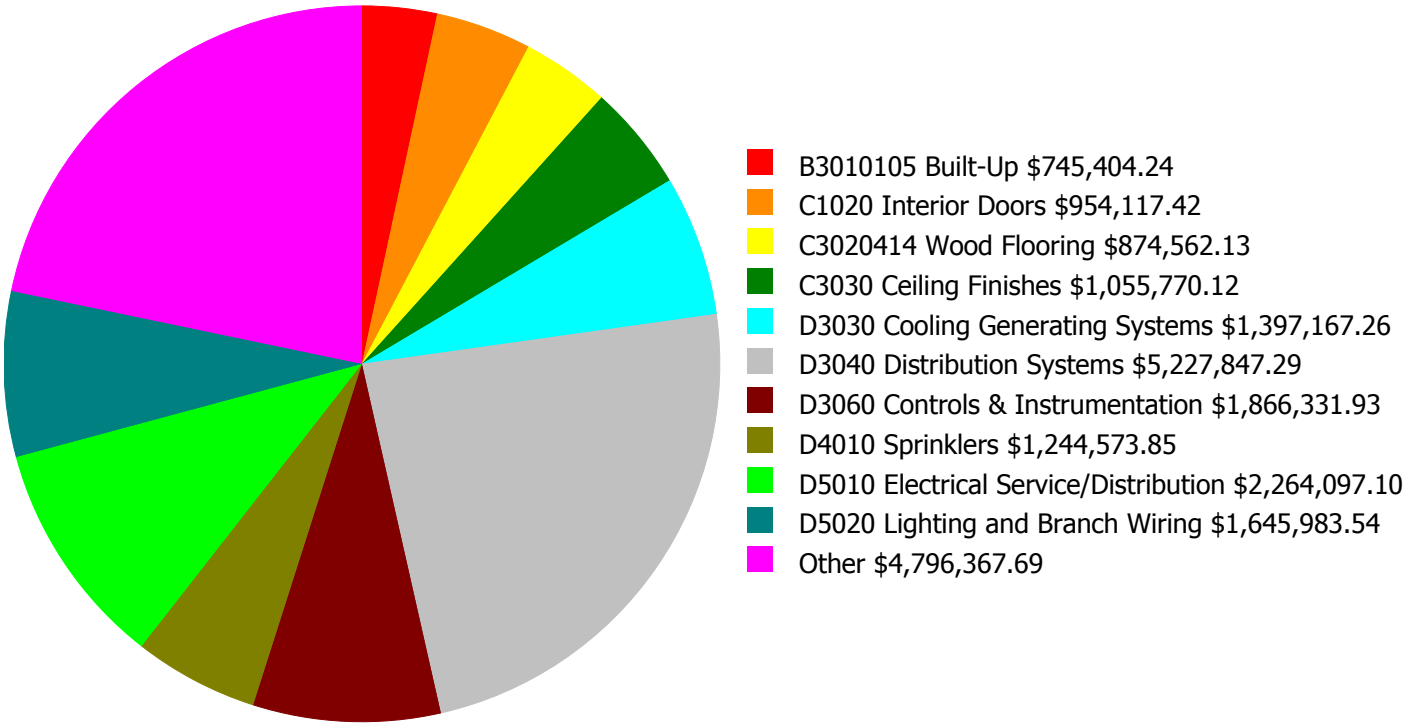
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 52.81%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$860,993.00	50.81 %	$1,721,987.00	48.81 %
2017	$17,034,891	$886,823.00	87.23 %	$1,773,646.00	83.23 %
2018	$0	$913,428.00	85.23 %	$1,826,856.00	79.23 %
2019	$0	$940,831.00	83.23 %	$1,881,661.00	75.23 %
2020	$0	$969,056.00	81.23 %	$1,938,111.00	71.23 %
2021	$0	$998,127.00	79.23 %	$1,996,254.00	67.23 %
2022	$0	$1,028,071.00	77.23 %	$2,056,142.00	63.23 %
2023	$0	$1,058,913.00	75.23 %	$2,117,826.00	59.23 %
2024	$0	$1,090,681.00	73.23 %	$2,181,361.00	55.23 %
2025	$298,382	$1,123,401.00	71.76 %	$2,246,802.00	51.76 %
Total:	**$17,333,273**	**$9,870,324.00**		**$19,740,646.00**	

Deficiency Summary by System

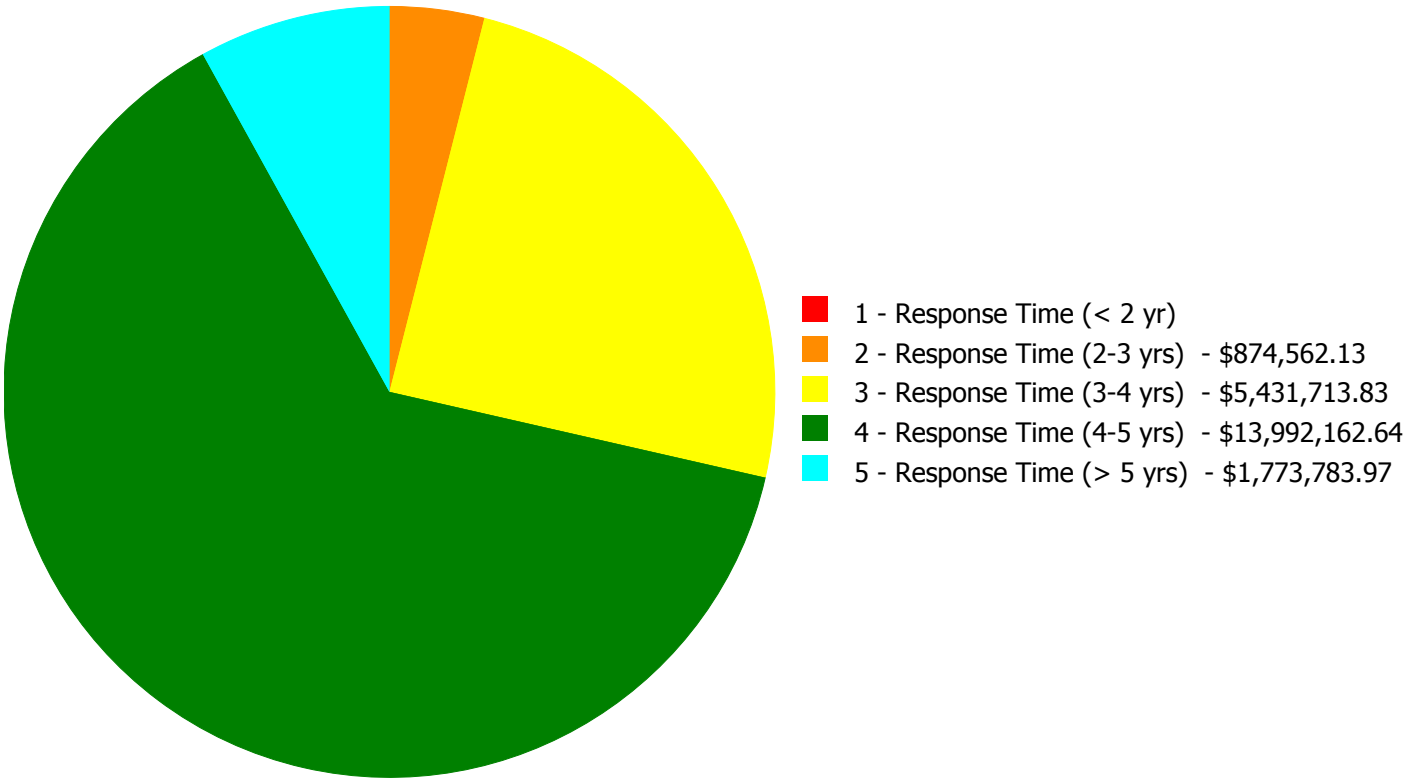
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $22,072,222.57

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: $22,072,222.57

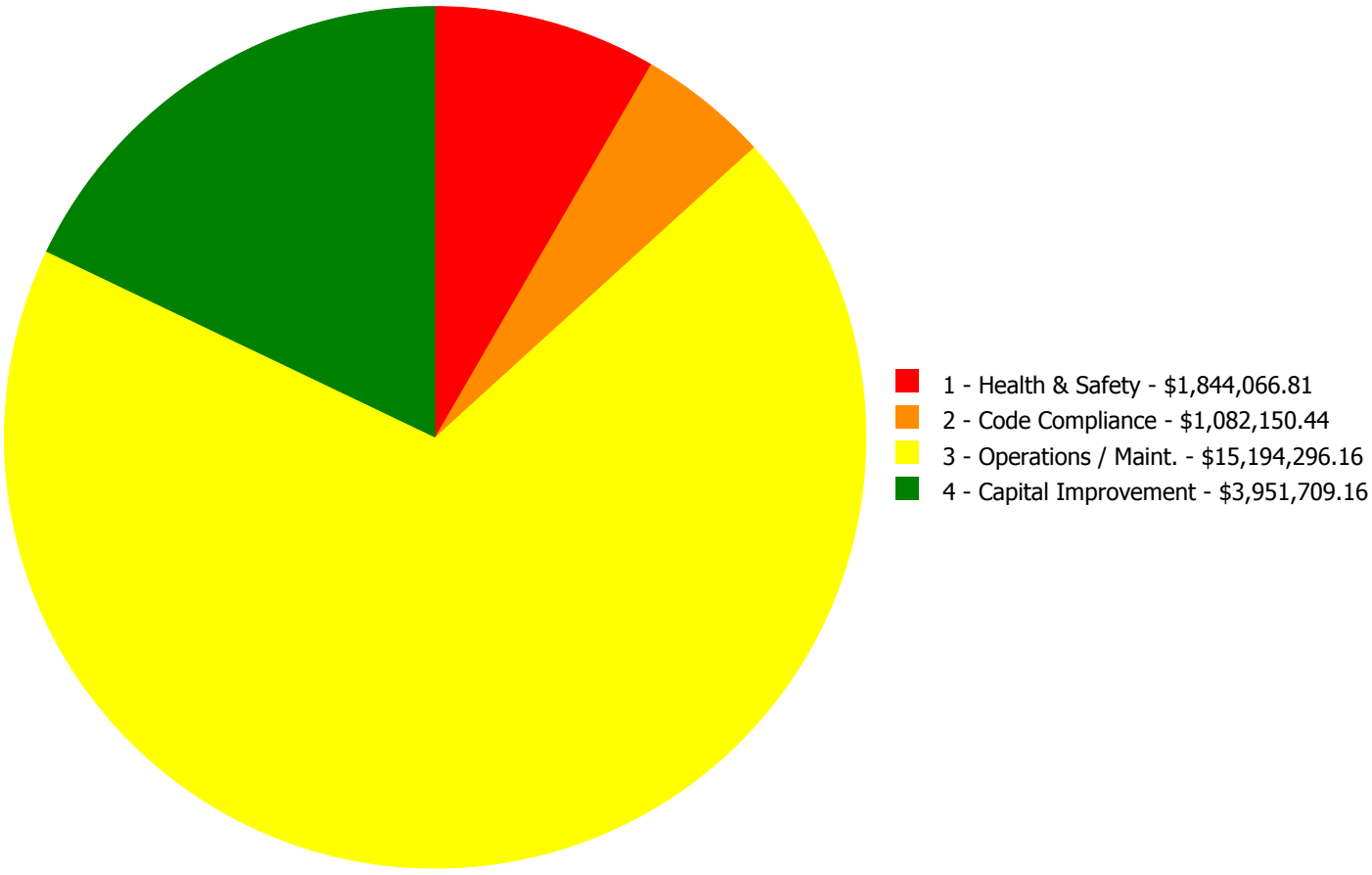
Deficiency By Priority Investment Table

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
B2010	Exterior Walls	$0.00	$0.00	$0.00	$322,894.72	$0.00	$322,894.72
B3010105	Built-Up	$0.00	$0.00	$0.00	$745,404.24	$0.00	$745,404.24
C1010	Partitions	$0.00	$0.00	$253,050.53	$0.00	$0.00	$253,050.53
C1020	Interior Doors	$0.00	$0.00	$0.00	$954,117.42	$0.00	$954,117.42
C1030	Fittings	$0.00	$0.00	$0.00	$191,828.92	$15,854.51	$207,683.43
C2010	Stair Construction	$0.00	$0.00	$296,013.39	$0.00	$0.00	$296,013.39
C3010230	Paint & Covering	$0.00	$0.00	$0.00	$135,477.54	$0.00	$135,477.54
C3020411	Carpet	$0.00	$0.00	$0.00	$22,381.52	$0.00	$22,381.52
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$151,666.68	$0.00	$151,666.68
C3020414	Wood Flooring	$0.00	$874,562.13	$0.00	$0.00	$0.00	$874,562.13
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$1,055,770.12	$0.00	$1,055,770.12
D2010	Plumbing Fixtures	$0.00	$0.00	$0.00	$403,176.93	$0.00	$403,176.93
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$542,506.41	$0.00	$542,506.41
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$369,454.71	$0.00	$369,454.71
D3020	Heat Generating Systems	$0.00	$0.00	$0.00	$524,194.20	$0.00	$524,194.20
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,397,167.26	$1,397,167.26
D3040	Distribution Systems	$0.00	$0.00	$0.00	$5,227,847.29	$0.00	$5,227,847.29
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,866,331.93	$0.00	$1,866,331.93
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,244,573.85	$0.00	$1,244,573.85
D5010	Electrical Service/Distribution	$0.00	$0.00	$2,264,097.10	$0.00	$0.00	$2,264,097.10
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,521,861.44	$124,122.10	$0.00	$1,645,983.54
D5030	Communications and Security	$0.00	$0.00	$462,643.56	$0.00	$0.00	$462,643.56
D5090	Other Electrical Systems	$0.00	$0.00	$634,047.81	$0.00	$0.00	$634,047.81
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$30,273.46	$0.00	$30,273.46
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$80,140.60	$360,762.20	$440,902.80
	Total:	$0.00	$874,562.13	$5,431,713.83	$13,992,162.64	$1,773,783.97	$22,072,222.57

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:



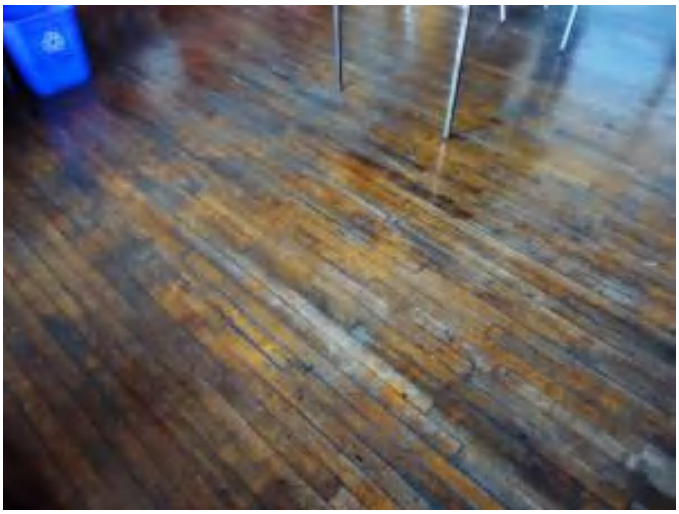
Budget Estimate Total: $22,072,222.57

Deficiency Details by Priority

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

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

System: C3020414 - Wood Flooring



Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace wood flooring

Qty: 30,000.00

Unit of Measure: S.F.

Estimate: $874,562.13

Assessor Name: System

Date Created: 10/21/2015

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

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

System: C1010 - Partitions

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 5,000.00

Unit of Measure: S.F.

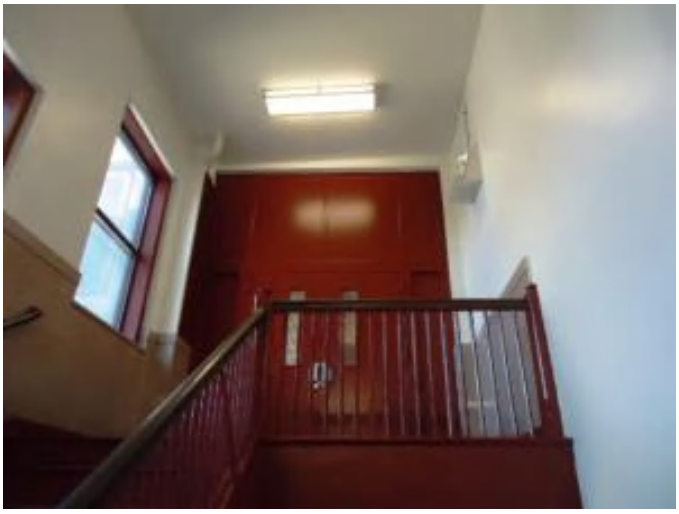
Estimate: $111,397.49

Assessor Name: System

Date Created: 10/21/2015

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

System: C1010 - Partitions



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 20.00

Unit of Measure: S.F.

Estimate: $95,486.88

Assessor Name: System

Date Created: 10/21/2015

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

System: C1010 - Partitions

Location: Hallways

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $46,166.16

Assessor Name: System

Date Created: 10/21/2015

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

System: C2010 - Stair Construction

Location: Stiars

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 2,000.00

Unit of Measure: L.F.

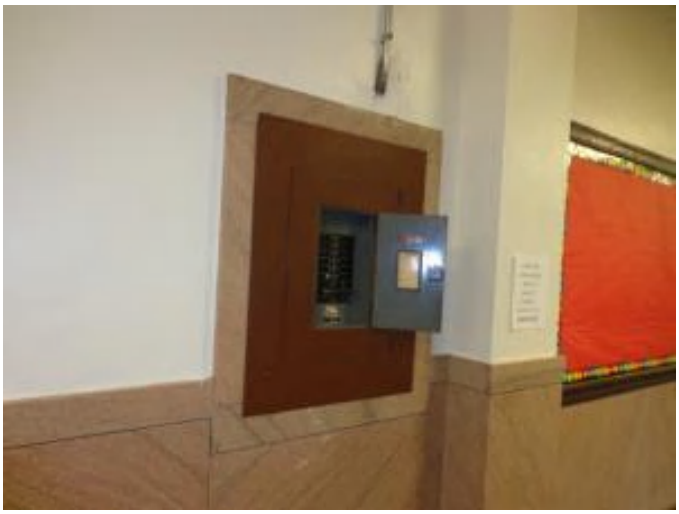
Estimate: $296,013.39

Assessor Name: System

Date Created: 10/21/2015

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

System: D5010 - Electrical Service/Distribution



Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard

Qty: 17.00

Unit of Measure: Ea.

Estimate: $1,359,816.05

Assessor Name: System

Date Created: 10/18/2015

Notes: Replace all 120/240V, 1 phase panelboards in the building and the 400A, 120/240V, 2 phase, 5 wire Panelboard in the Boiler Room. Total of (17) panelboards. Also, replace the 25 kVA, 240V, 3 phase transformer.

System: D5010 - Electrical Service/Distribution

Location: Main Electrical Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $904,281.05

Assessor Name: System

Date Created: 10/18/2015

Notes: Replace 800A, 120/240V, 2 phase, 5 wire switchboard with a 3000A, 208/120V, 3 phase, 4 wire service distribution switchboard with associated feeder circuit breakers and feeders to serve the exiting building and added central air conditioning equipment, an elevator addition, and a fire pump (if required).

System: D5020 - Lighting and Branch Wiring

Location: Classrooms, gym, auditorium, support areas

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 73,000.00

Unit of Measure: S.F.

Estimate: $1,510,480.38

Assessor Name: System

Date Created: 10/18/2015

Notes: Replace fluorescent lighting fixtures in classrooms, gymnasium/cafeteria, auditorium and support areas throughout the building (Approximately 73,000 SF).

System: D5020 - Lighting and Branch Wiring

Location: Building Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 8.00

Unit of Measure: Ea.

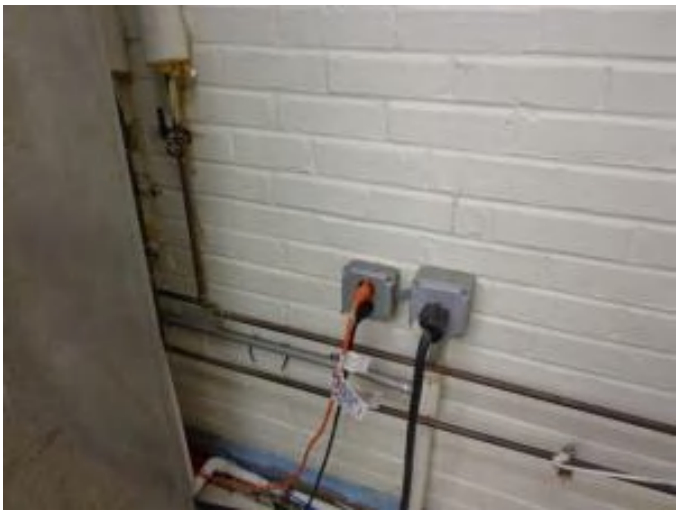
Estimate: $9,668.71

Assessor Name: System

Date Created: 10/18/2015

Notes: Replace exterior wall mounted lighting fixtures at exit discharges to grade (Total of 8).

System: D5020 - Lighting and Branch Wiring



Location: Kitchen, Computer Room 308

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace Wiring Device

Qty: 5.00

Unit of Measure: Ea.

Estimate: $1,712.35

Assessor Name: System

Date Created: 10/18/2015

Notes: Replace total of (5) duplex receptacles in the kitchen and Computer Room 308 with ground-fault circuit-interrupting (GFCI) type to provide personnel protection, as required by NFPA 70, Article 210.8.

System: D5030 - Communications and Security

Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace fire alarm system

Qty: 87,000.00

Unit of Measure: S.F.

Estimate: $462,643.56

Assessor Name: System

Date Created: 10/18/2015

Notes: Replace fire alarm system with an addressable type system, including pull stations, smoke and heat detectors, and audible and visual notification appliances.

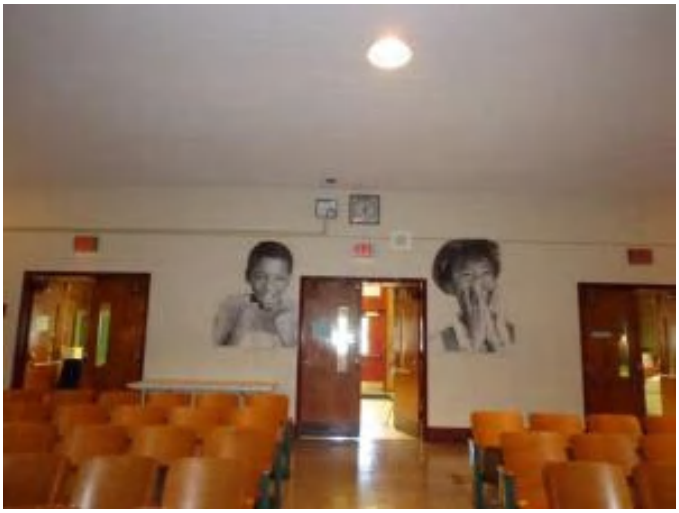
System: D5090 - Other Electrical Systems

This deficiency has no image.

Location: Main Electrical Room
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add Standby Generator System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $564,087.87
Assessor Name: System
Date Created: 10/19/2015

Notes: Provide standby generator system and equipment, sized for all emergency egress and exit lighting, elevator and fire pump (if required). Estimated size is 300 kW.

System: D5090 - Other Electrical Systems



Location: Building wide
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Emergency/Exit Lighting
Qty: 65.00
Unit of Measure: Ea.
Estimate: $69,959.94
Assessor Name: System
Date Created: 10/19/2015

Notes: Replace all exit signs in the building with vandal-resistant LED type.

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

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $322,894.72

Assessor Name: System

Date Created: 10/21/2015

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

System: B3010105 - Built-Up

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 22,000.00

Unit of Measure: S.F.

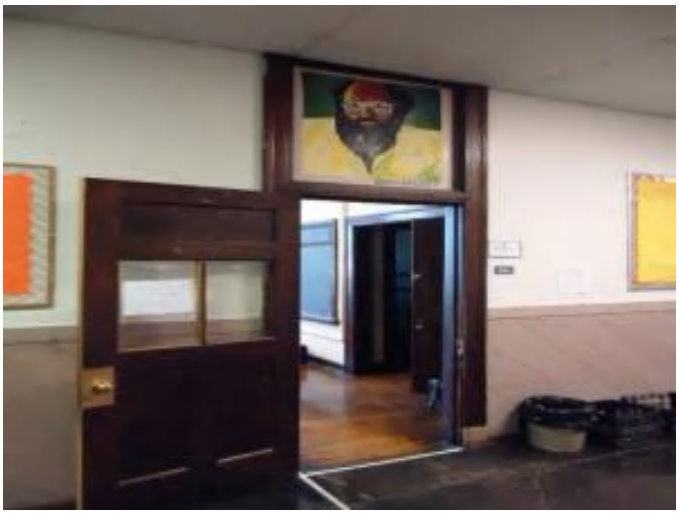
Estimate: $745,404.24

Assessor Name: System

Date Created: 10/21/2015

Notes: There are a number of roof sections and different roof elevations ranging from the main roof to the mechanical roof. Parapet heights, coping materials, and the height of the flashing also varies in different sections. The main roof is a built up application that was installed in the early 1990'S. The other built up roofs have not conclusive installation dates and have been seal coated several times to extend the life cycle of the application. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace all roof sections.

System: C1020 - Interior Doors



Location: Classrooms

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: 200.00

Unit of Measure: Ea.

Estimate: $954,117.42

Assessor Name: System

Date Created: 10/21/2015

Notes: Interior doors are typically wood in wood frames with glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames. Doors are generally in good condition considering the age of the application. Universal upgrades are required for the interior door systems, it is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system with consideration for ADA compliance.

System: C1030 - Fittings

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: Ea.

Estimate: $137,646.42

Assessor Name: System

Date Created: 10/21/2015

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

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: Ea.

Estimate: $54,182.50

Assessor Name: System

Date Created: 10/21/2015

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

System: C3010230 - Paint & Covering

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: $135,477.54

Assessor Name: System

Date Created: 10/21/2015

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

System: C3020411 - Carpet

Location: Administrative Area

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $22,381.52

Assessor Name: System

Date Created: 10/21/2015

Notes: The interior carpet finish was installed approximately in 2000 and is in fair condition considering the age and high traffic conditions. This finish will exceeded its expected life within the next five years and is recommended for removal and replacement.

System: C3020413 - Vinyl Flooring

Location: Classrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $151,666.68

Assessor Name: System

Date Created: 10/21/2015

Notes: The floor finish for this school is a combination of carpet, marble, terrazzo, clay tile with concrete hallways and stirs finishes. The vinyl tile finish is a mix of 12 x 12 and 9 x 9 tile application. The 9x9 finish is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application.

System: C3030 - Ceiling Finishes

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 70,000.00

Unit of Measure: S.F.

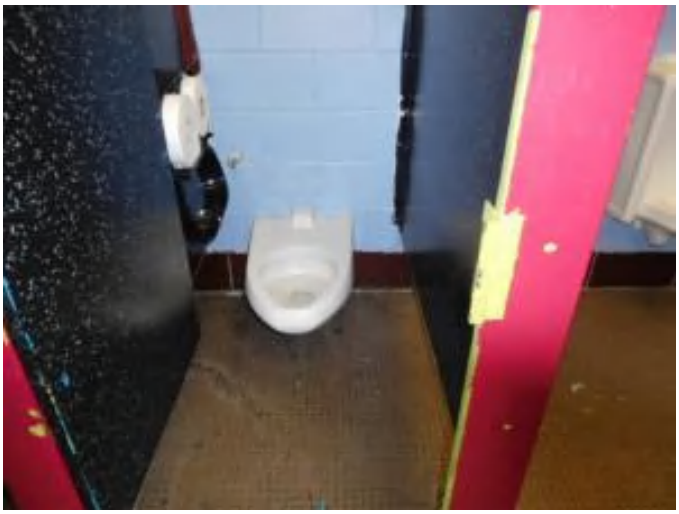
Estimate: $1,055,770.12

Assessor Name: System

Date Created: 10/21/2015

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

System: D2010 - Plumbing Fixtures



Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 29.00

Unit of Measure: Ea.

Estimate: $205,689.10

Assessor Name: System

Date Created: 10/29/2015

Notes: Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.

System: D2010 - Plumbing Fixtures

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace lavatory - quantify accessible if required

Qty: 39.00

Unit of Measure: Ea.

Estimate: $152,222.32

Assessor Name: System

Date Created: 10/29/2015

Notes: Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.

System: D2010 - Plumbing Fixtures

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 13.00

Unit of Measure: Ea.

Estimate: $45,265.51

Assessor Name: System

Date Created: 10/29/2015

Notes: Replace older plumbing fixtures, including lavatories, urinals and water closets. Include fittings and trim.

System: D2020 - Domestic Water Distribution

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (75 KSF)

Qty: 87,000.00

Unit of Measure: S.F.

Estimate: $440,860.30

Assessor Name: System

Date Created: 10/29/2015

Notes: Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.

System: D2020 - Domestic Water Distribution

Location: mechanical room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $51,112.25

Assessor Name: System

Date Created: 10/29/2015

Notes: Install new four inch reduced pressure backflow assembly in existing water service.

System: D2020 - Domestic Water Distribution

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace duplex domestic booster pump set (5 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $50,533.86

Assessor Name: System

Date Created: 10/29/2015

Notes: Provide new domestic water booster pump system with two pumps, pressure tank, and controls. Connect to main domestic water line.

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+100KSF)

Qty: 87,000.00

Unit of Measure: S.F.

Estimate: $369,454.71

Assessor Name: System

Date Created: 10/29/2015

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

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (5" size, 15 HP, to 1000 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $262,097.10

Assessor Name: System

Date Created: 10/29/2015

Notes: Provide two new end suction hot water pumps to replace existing pumps.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (5" size, 15 HP, to 1000 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $262,097.10

Assessor Name: System

Date Created: 10/29/2015

Notes: Provide two new end suction hot water pumps to replace existing pumps.

System: D3040 - Distribution Systems

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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: 87,000.00

Unit of Measure: S.F.

Estimate: $4,196,809.10

Assessor Name: System

Date Created: 10/29/2015

Notes: Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.

System: D3040 - Distribution Systems

Location: auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 456.00

Unit of Measure: Seat

Estimate: $649,994.73

Assessor Name: System

Date Created: 10/29/2015

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

System: D3040 - Distribution Systems

Location: cafeteria/gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 815.00

Unit of Measure: Pr.

Estimate: $381,043.46

Assessor Name: System

Date Created: 10/29/2015

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

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 87,000.00

Unit of Measure: S.F.

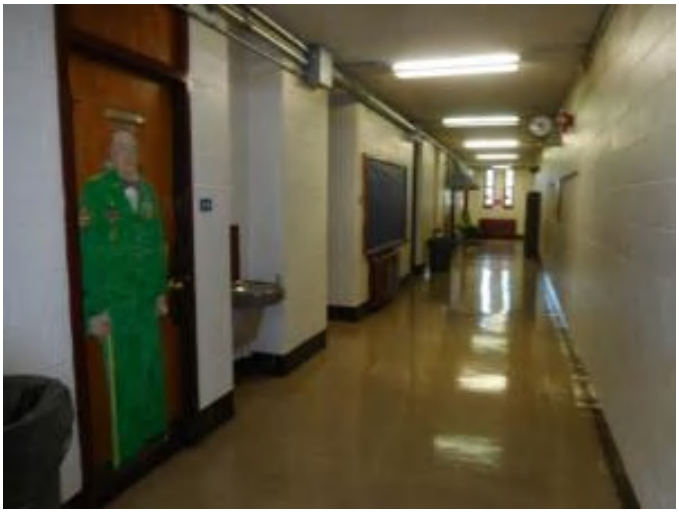
Estimate: $1,866,331.93

Assessor Name: System

Date Created: 10/29/2015

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

System: D4010 - Sprinklers



Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 87,000.00

Unit of Measure: S.F.

Estimate: $1,244,573.85

Assessor Name: System

Date Created: 10/29/2015

Notes: Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 990.00

Unit of Measure: L.F.

Estimate: $124,122.10

Assessor Name: System

Date Created: 10/18/2015

Notes: Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 33 classrooms.

System: E1020 - Institutional Equipment

Location: Gym

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or install basketball backstop and hoop - pick the appropriate style of backstop

Qty: 4.00

Unit of Measure: Ea.

Estimate: $30,273.46

Assessor Name: System

Date Created: 10/21/2015

Notes: The Gyms are still used as either a student common area or practice court. The interior backboards and support equipment is beyond its service life. Damaged boards are recommended for removal and replacement.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 75.00

Unit of Measure: Ea.

Estimate: $80,140.60

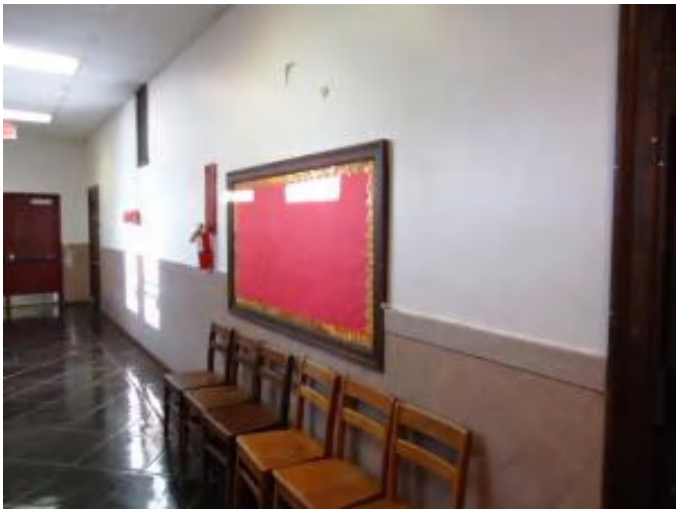
Assessor Name: System

Date Created: 10/21/2015

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

Priority 5 - Response Time (> 5 yrs):

System: C1030 - Fittings



Location: Hallways

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace tackboards - select size

Qty: 20.00

Unit of Measure: Ea.

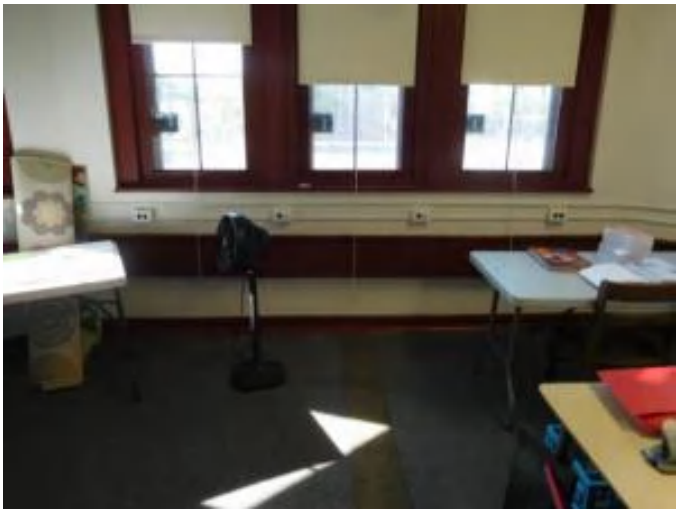
Estimate: $15,854.51

Assessor Name: System

Date Created: 10/21/2015

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

System: D3030 - Cooling Generating Systems



Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 87,000.00

Unit of Measure: S.F.

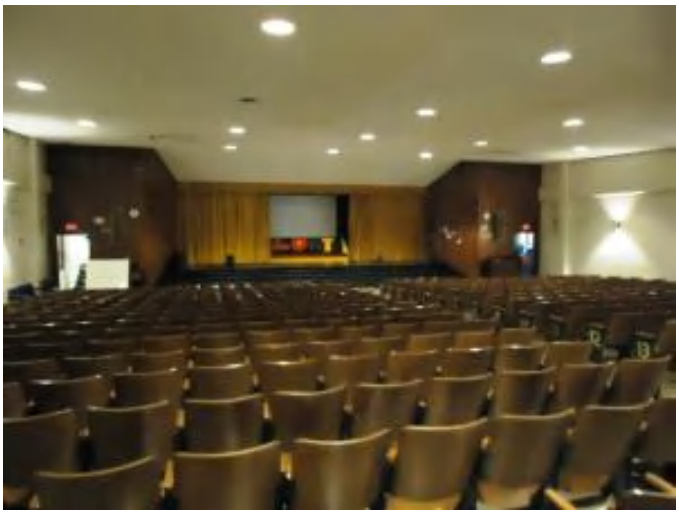
Estimate: $1,397,167.26

Assessor Name: System

Date Created: 10/29/2015

Notes: Remove the existing window air conditioning units and install a two hundred twenty ton air-cooled chiller on the roof with chilled water distribution piping, two pumps, chemical treatment and controls located in a mechanical room on the basement level.

System: E2010 - Fixed Furnishings



Location: Auditorium

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 400.00

Unit of Measure: Ea.

Estimate: $360,762.20

Assessor Name: System

Date Created: 10/21/2015

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

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 4488 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	mechanical room	weil mclain	94 series 3			35	2014	2049	$68,695.50	$75,565.05
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 4488 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	mechanical room	weil mclai	94 series 3			35	2014	2049	$68,695.50	$75,565.05
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	1.00	Ea.	Boiler Room	Penn Panel and Box Company	NA	NA		30			$12,109.50	$13,320.45
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 800 A	3.00	Ea.	Main Electrical Room	Penn Panel & Box Company	NA	NA		30			$21,766.05	$71,827.97
												Total:	**$236,278.52**

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):	103,100
Year Built:	1927
Last Renovation:	
Replacement Value:	$2,226,769
Repair Cost:	$285,237.56
Total FCI:	12.81 %
Total RSLI:	46.75 %

Description:

Attributes:

General Attributes:

Bldg ID:	S121001	Site ID:	S121001

Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
G20 - Site Improvements	36.36 %	17.52 %	$285,237.56
G40 - Site Electrical Utilities	75.00 %	0.00 %	$0.00
Totals:	**46.75 %**	**12.81 %**	**$285,237.56**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2020	Parking Lots	$8.50	S.F.	10,700	30	1970	2000	2027	40.00 %	155.48 %	12		$141,409.06	$90,950
G2030	Pedestrian Paving	$12.30	S.F.	86,200	40	1970	2010	2027	30.00 %	13.57 %	12		$143,828.50	$1,060,260
G2040	Site Development	$4.36	S.F.	103,100	25	1970	1995	2027	48.00 %	0.00 %	12			$449,516
G2050	Landscaping & Irrigation	$4.36	S.F.	6,200	15	1970	1985	2027	80.00 %	0.00 %	12			$27,032
G4020	Site Lighting	$4.84	S.F.	103,100	20			2030	75.00 %	0.00 %	15			$499,004
G4030	Site Communications & Security	$0.97	S.F.	103,100	20			2030	75.00 %	0.00 %	15			$100,007
								Total	**46.75 %**	**12.81 %**			**$285,237.56**	**$2,226,769**

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.

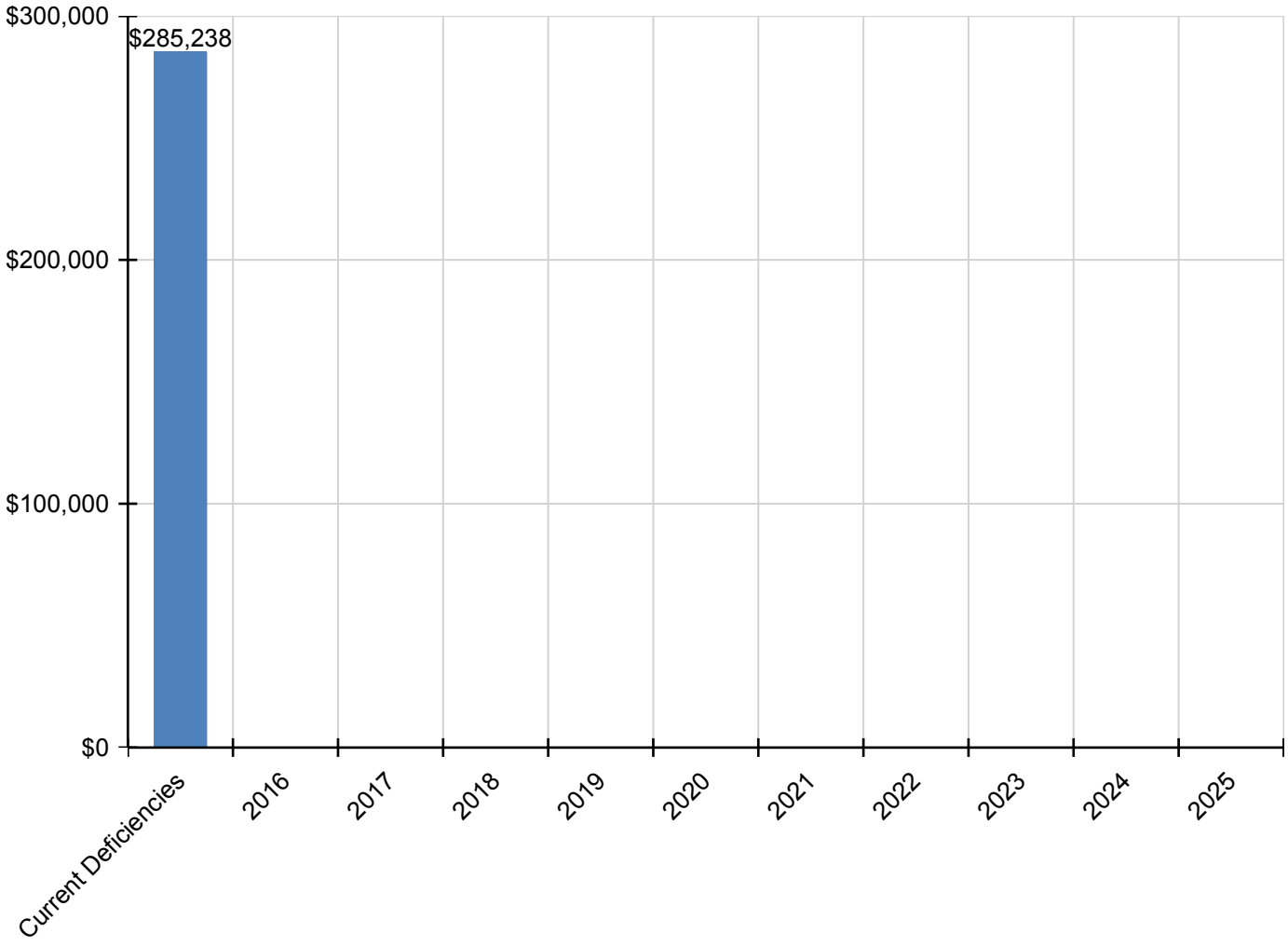
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$285,238**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$285,238**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$141,409	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$141,409**
G2030 - Pedestrian Paving	$143,829	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$143,829**
G2040 - Site Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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

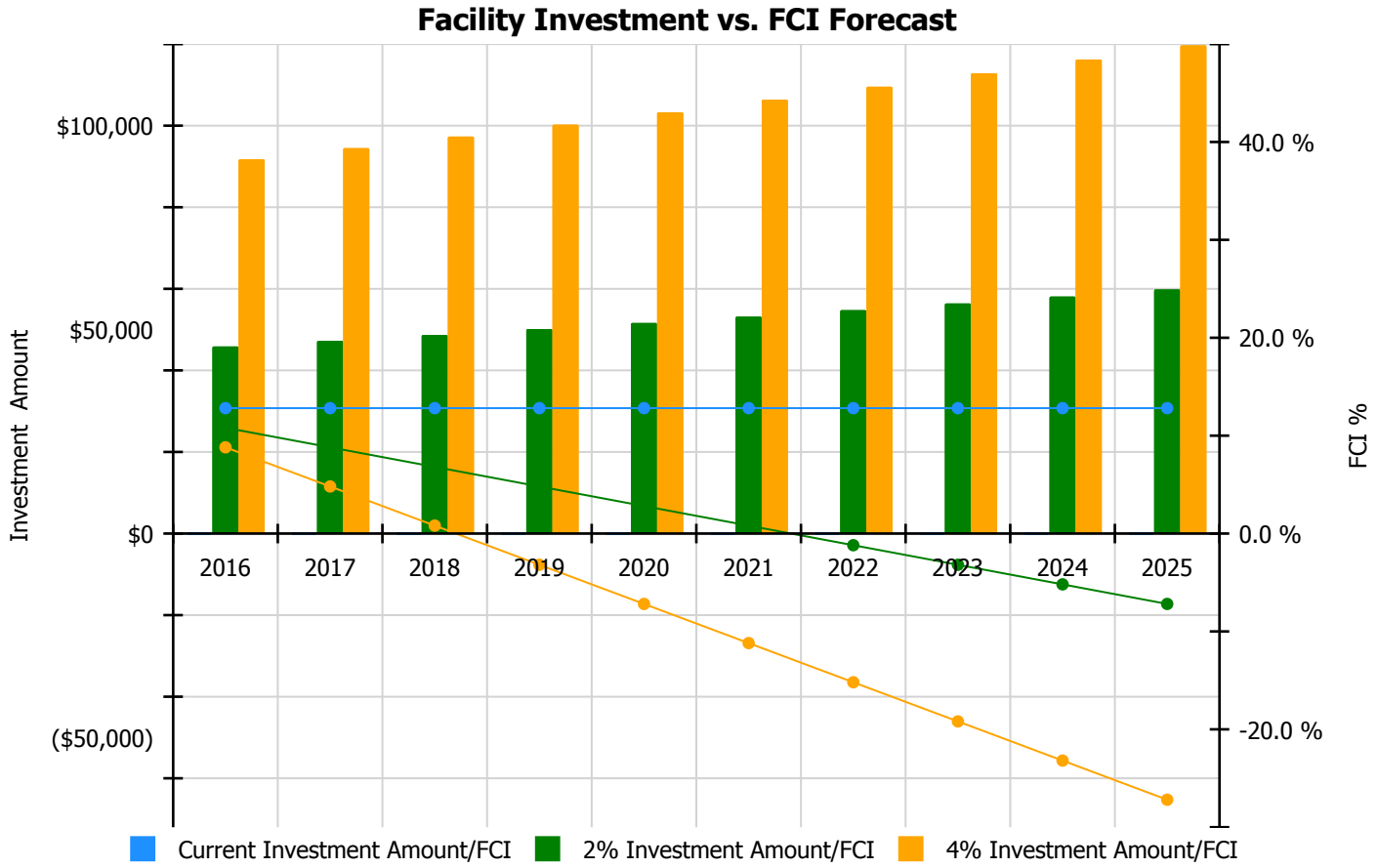
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

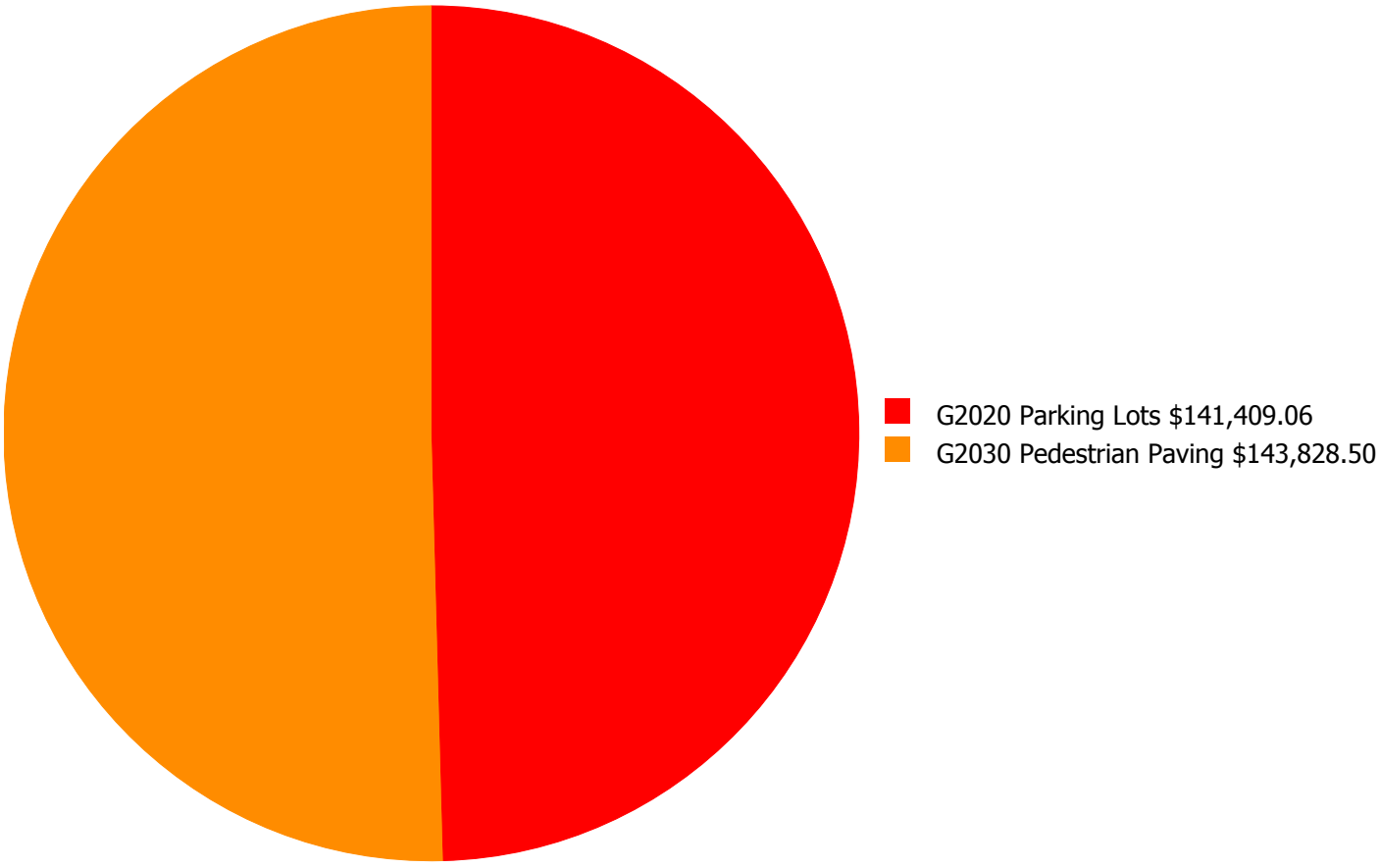
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 12.81%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$45,871.00	10.81 %	$91,743.00	8.81 %
2017	$0	$47,248.00	8.81 %	$94,495.00	4.81 %
2018	$0	$48,665.00	6.81 %	$97,330.00	0.81 %
2019	$0	$50,125.00	4.81 %	$100,250.00	-3.19 %
2020	$0	$51,629.00	2.81 %	$103,257.00	-7.19 %
2021	$0	$53,178.00	0.81 %	$106,355.00	-11.19 %
2022	$0	$54,773.00	-1.19 %	$109,546.00	-15.19 %
2023	$0	$56,416.00	-3.19 %	$112,832.00	-19.19 %
2024	$0	$58,109.00	-5.19 %	$116,217.00	-23.19 %
2025	$0	$59,852.00	-7.19 %	$119,704.00	-27.19 %
Total:	**$0**	**$525,866.00**		**$1,051,729.00**	

Deficiency Summary by System

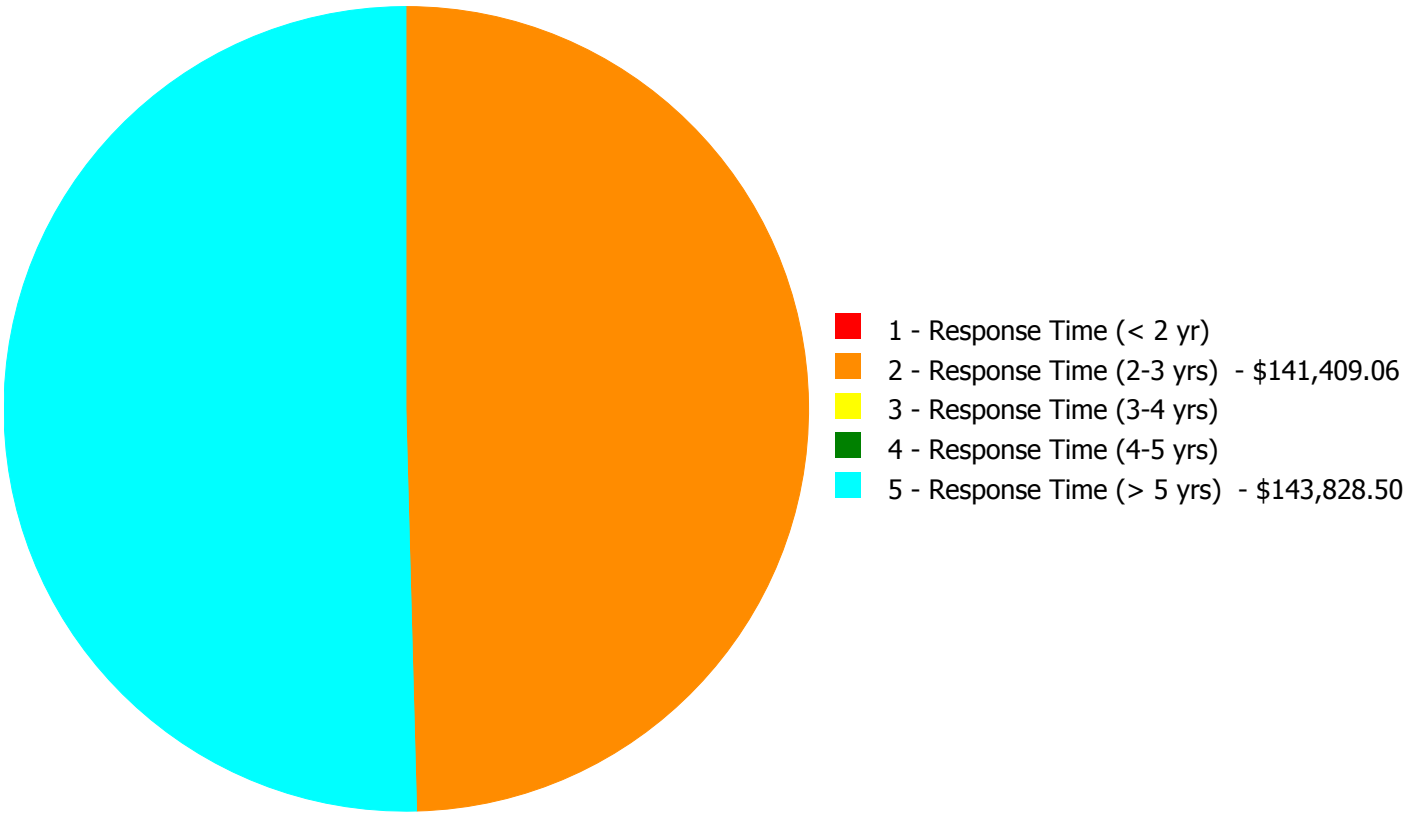
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $285,237.56

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: $285,237.56

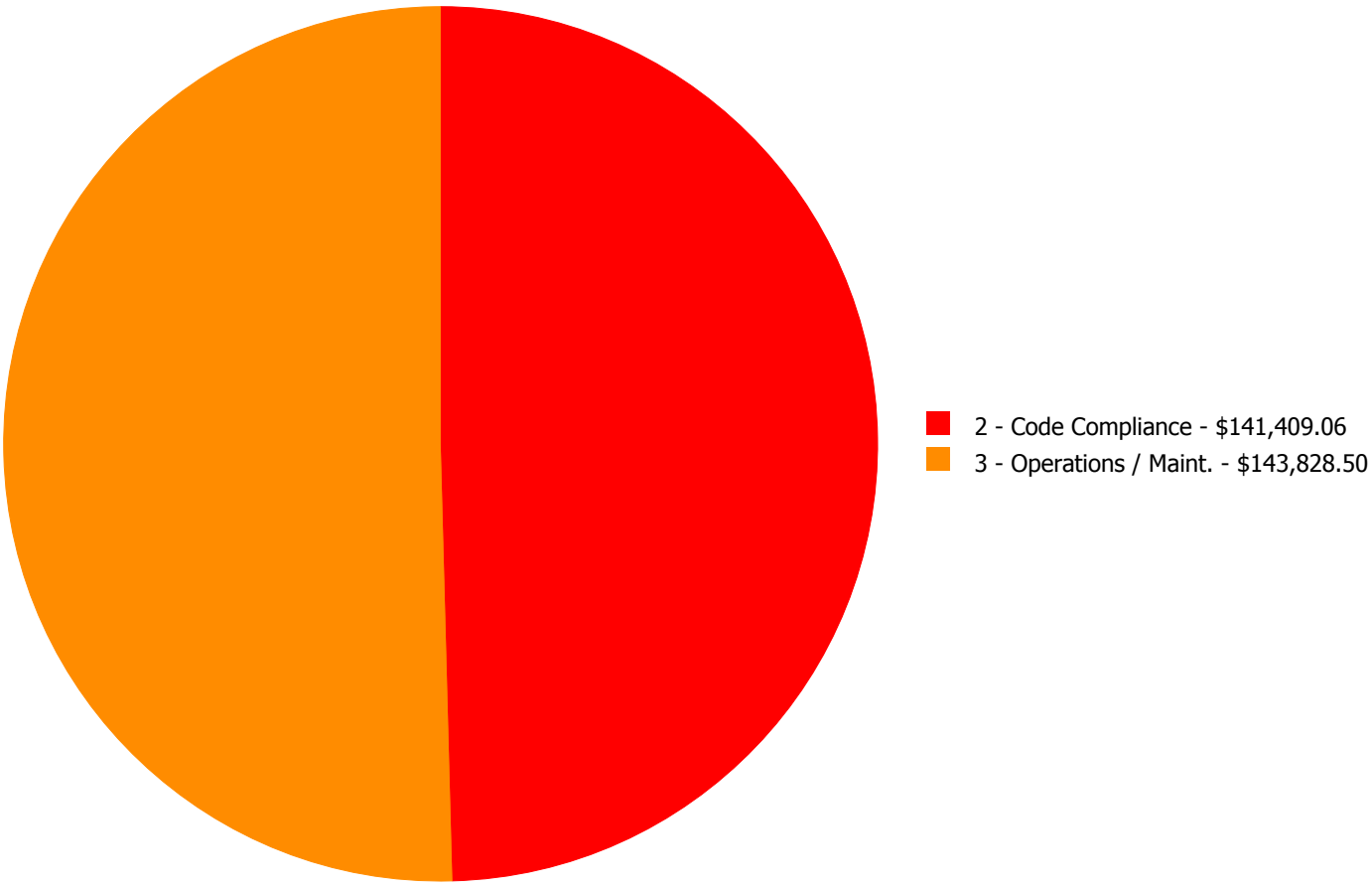
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$141,409.06	$0.00	$0.00	$0.00	$141,409.06
G2030	Pedestrian Paving	$0.00	$0.00	$0.00	$0.00	$143,828.50	$143,828.50
	Total:	$0.00	$141,409.06	$0.00	$0.00	$143,828.50	$285,237.56

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: $285,237.56

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: Site

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace AC paving parking lot

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $141,409.06

Assessor Name: Craig Anding

Date Created: 10/21/2015

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

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $143,828.50

Assessor Name: Ben Nixon

Date Created: 10/21/2015

Notes: The parking area has ADA parking with approved curb cuts for access to the sidewalks that lead to the main entrance. However, the parking lots are in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a parking lot renewal program that includes all aspects of the current ADA legislation. Universal upgrades are recommended.

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