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.

Edison School

Governance	DISTRICT	Report Type	High
Address	151 W. Luzerne St.	Enrollment	1056
	Philadelphia, Pa 19140	Grade Range	'09-12'
Phone/Fax	215-324-9599 / 215-329-5824	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Edison	Turnaround Model	Turnaround

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	**26.76%**	**$47,842,768**	**$178,817,351**
Building	24.68 %	$41,422,525	$167,840,096
Grounds	58.49 %	$6,420,243	$10,977,255

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.05 %	$3,355	$6,131,488
Exterior Walls (Shows condition of the structural condition of the exterior facade)	02.47 %	$336,720	$13,651,200
Windows (Shows functionality of exterior windows)	94.20 %	$8,191,705	$8,696,320
Exterior Doors (Shows condition of exterior doors)	124.23 %	$455,366	$366,560
Interior Doors (Classroom doors)	00.00 %	$0	$1,188,160
Interior Walls (Paint and Finishes)	78.49 %	$3,928,849	$5,005,440
Plumbing Fixtures	01.42 %	$60,634	$4,272,320
Boilers	10.75 %	$634,176	$5,899,720
Chillers/Cooling Towers	58.57 %	$4,530,940	$7,735,680
Radiators/Unit Ventilators/HVAC	72.84 %	$9,894,627	$13,584,840
Heating/Cooling Controls	136.47 %	$5,821,809	$4,266,000
Electrical Service and Distribution	00.00 %	$0	$3,065,200
Lighting	00.00 %	$0	$10,958,880
Communications and Security (Cameras, Pa System and Fire Alarm)	17.23 %	$707,398	$4,104,840

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

S502001;Edison and Field

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):	316,000
Year Built:	1988
Last Renovation:	
Replacement Value:	$178,817,351
Repair Cost:	$47,842,768.23
Total FCI:	26.76 %
Total RSLI:	75.54 %

Description:

Facility Assessment, August, 2015

School District of Philadelphia

Edison High School/CTE

151 W. Luzerne Street

Philadelphia, PA 19140

316,000 SF / 2,218 Students / LN 05

The Edison Career Technical Education (CTE) school building is located at 151 W. Luzerne Street in Philadelphia, PA. The 3 story, 316,000 square foot building was constructed in 1988. First and second floors contain large spaces such as workshops (primarily automotive), auditorium, cafeteria, gyms, administration, etc. Third floor contains classrooms. The building has no basement.

Mr. Scott Ovington, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned renovation

projects. Mr. Robert Baldwin, Building Engineer, accompanied us on our tour of the school and provided us with detailed information on the building systems and recent maintenance history.

STRUCTURAL/ EXTERIOR CLOSURE:

The building typically rests on concrete spread and strip footings that are not showing signs of settlement or damage. The first floor slab at grade is typically in good condition. The main structure is typically a steel frame, columns and girders; floors are typically concrete over metal deck. The superstructure is generally in very good condition.

The building envelope typically comprises of face brick over CMU with portions of walls and roof clerestories covered with prefinished, standing seam metal panels; walls are insulated cavity type. Some cracks at corners were observed. First floor walls are covered with anti-graffiti coating which is peeling off the substrate.

The roof structure (both sloped and flat) is typically metal deck supported by bar joists and wide flange framing.

Exterior windows are typically anodized aluminum curtain wall, single, acrylic glazed units with tilt-in operating sections. Substantial number of window glazing panels show signs of UV deterioration and physical damage. First floor windows are fitted with galvanized steel security screens.

Exterior doors are hollow metal glazed with security screens; service doors are typically hollow metal in hollow metal frames; several overhead, insulated roll-up doors are installed at loading dock and automotive workshops; doors have typically deteriorated, peeling finish with some rusting evident; the are beyond their service life.

Roofing typically consists of prefinished, standing seam system. All roofing is generally in good condition; however, metal panel soffits over main entrance overhangs have deteriorated finish. No leaks have been reported. Mechanical equipment courts on the roof are covered with built-up roofing in fair condition.

INTERIORS:

Partition wall types include painted CMU, glazed brick, hollow metal borrowed light partitions, and drywall, in good condition. Portions of gym and auditorium walls are acoustic CMU; walls in auditorium theatre are typically acoustic CMU. Gym has 3 full height movable partitions in good condition.

The interior wall finishes are generally painted drywall and CMU. Toilets have typically ceramic tile wainscot.

Most ceilings are 2x4 suspended acoustical panels; ceiling in gym and clerestories is exposed metal deck, painted. Ceiling in the auditorium theatre is a combination of acoustic tiles and drywall. All ceilings are in poor condition; some ceiling and drywall soffits damage was observed in various locations.

Flooring in most areas is generally vinyl composition tile, in fair condition; approximately 30% of VCT is deteriorated. Gym has hardwood, athletic flooring showing substantial moisture damage. Flooring in toilets and kitchen area is typically ceramic and quarry tiles in fair condition. Workshops, science classrooms and mechanical spaces have concrete floors, some with epoxy finish.

Interior doors are generally solid core wood doors in hollow metal frames, in good condition. Doors in store front partitions are typically wood solid core, glazed. Some doors are missing accessible door handles.

Stairs are generally painted steel with concrete filled metal pan treads.

Interior identifying devices are of modular type directly affixed to wall surfaces.

Toilet partitions are typically a mixture of metal and phenolic resin panels, some cubicles are ADA compliant, but in poor condition. Accessories are damaged or missing.

Institutional equipment includes library equipment*;* stage equipment*;* A/V equipment; and laboratory equipment; gym equipment – basketball backstops, scoreboards, etc. Other equipment includes kitchen equipment and automotive shop equipment such as hoists and monorail cranes, testing equipment, etc. All equipment is in very good condition.

CONVEYING EQUIPMENT:

The building has one 8,000 lb. hydraulic elevator, in poor condition (deteriorated cabin interior); and one, non-operational 2,500 lb. hydraulic elevator.

ACCESSIBILITY:

The building does have accessible entrance and accessible routes, including walkways not exceeding 5% slope, per requirement. Toilets are generally not in compliance with ADA. There are few accessible compartments but not located on each floor.

GROUNDS (SITE):

There are two parking lots at the site. Visitor's parking for 65 vehicles on east side of the building has no accessible spaces and aisles, paving is severely deteriorated; staff parking on north and west side for 139 vehicles has no spaces designated as accessible. Striping on both parking lots is faded; most of the wheel stops are damaged or dislocated. Asphalt paving is generally in fair condition with the exception of the visitor's parking where paving is cracked and deteriorated. Brick-clad retaining walls along walkways and ramps show substantial deterioration with missing coping and face brick.

There is a large grass play field north and east of the building with a baseball and softball amenities, football and soccer field, race track and tennis courts. Grass is in poor condition. Original perimeter chain link fences are generally in poor condition and rusting.

The portion of the parking facing Erie Street is landscaped with trees, and grass areas, generally in poor condition; trees and shrubs are fully mature. Trees along visitor's parking are overgrown and limiting access to parking stalls.

PLUMBING:

Plumbing Fixtures - The original plumbing fixtures were replaced in the recent past, the Building Engineer did not know the exact year. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with both wheel handle and lever handle faucets. The units appear to be in good condition and should provide reliable service for the next 20-25 years.

Drinking fountains in the corridors and at the restrooms consist of wall hung fixtures with integral refrigerated coolers. They are within their service life; most are accessible type. Eight (8) of the units have been damaged and should be replaced.

A service sink is available in a janitor closet in the corridor on each floor for use by the janitorial staff.

The Kitchen has four (4) sinks; one (1) three-compartment stainless steel sink with lever operated faucets and grease trap and three (3) single basin stainless steel sinks with lever operated faucets. Chemicals are injected manually into the sanitizing basin.

The Bakery, located on the first floor, is equipped with one (1) three-compartment stainless steel sink with lever operated faucets.

Domestic Water Distribution - A 6" city water service enters the first floor mechanical from the north side of the building. The 6" meter and valves are located in the mechanical room. A reduced pressure backflow preventer is not installed but should be. Duplex 7.5HP Paco domestic pressure booster pumps on an Alyan skid are installed on the domestic water line to ensure adequate pressure throughout the system. The pump system is approaching the end of its service life and should be replaced. The domestic hot and cold water distribution piping is copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures.

One (1) Patterson Kelley model 23107/19T gas fired boiler, located in the first floor mechanical room, used to supply the building domestic hot water. The maximum BTU input is 912 MBH was. The boiler is no longer operational and is used only as a storage tank. Two (2) hot water pumps circulate domestic hot water from the boiler. The boiler was installed in 1986, is beyond its service life, and no longer operational. One (1) Bradford White Magnum Series gas fired, 100 gallon vertical domestic hot water heater with circulating pump provides domestic hot water for the building by supplying it to the boiler storage tank. The unit was installed in 2015. The hot water heater is equipped with T&P relief valve. The domestic hot water heater is within its service life and should provide reliable service for the next 8-10 years. A water softener was located in the basement mechanical room.

One (1) Patterson Kelley model PKW72V2/8V electric boiler supplies domestic hot water for the Kitchen. It is rated at 72KW input. The Building Engineer reported no issues with this boiler. The boiler was installed in 1986, is beyond its service life, and should be replaced.

Sanitary Waste - The sanitary sewer piping is cast iron with no-hub fittings and is at the end of its service life. The majority of sanitary piping is located under the building slab and within mechanical chases. The maintenance staff reported no problems with the sanitary waste piping

systems. The sanitary piping should be inspected by a qualified contractor to ensure that there are no unseen issues with the piping.

The building does not have a sewage ejector or sump pump.

Rain Water Drainage - The rain water drains from the roof are routed through mechanical chases in the building and are original. The piping is HDPE with no hub fittings. No issues were reported with the roof drains or rain leaders, but the system is at the end of its service life and should be inspected by a qualified contractor.

MECHANICAL:

Energy Supply - A high pressure 4" city gas services enter from the North side of the building in the first floor mechanical room. Two gas meters are installed; a 4" and a 2" meter located in the mechanical room downstream of two pressure reducing valves. The 4" meter leads to the boilers and the 2" meter leads to the Kitchen and Bakery.

The reserve oil supply is stored in an underground storage tank (UST) in the parking lot on the West side of the building; the Building Engineer did not know the size of the tank. Duplex pumps, located in the first floor mechanical room, circulate oil through the system. Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. USTs have an anticipated service life of 20 years. The actual condition of the fuel side is unknown.

Heat Generating Systems - Building heating hot water is generated by three (3) 147HP Weil-McLain model 94 cast iron sectional boilers each with gross output of 4,940MBH. Each boiler is equipped with a 5HP Industrial Combustion burner designed to operate on natural gas or fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner oil pumps are and driven by the fan motor, which is not allowed by current code. The gas train serving each boiler does have code required venting of the regulators and dual solenoid valves with venting of the chamber between. No major issues with the boilers were reported by the Building Engineer. Cast iron boilers have an anticipated service life of 35years or more; these units have been in service 30 years. The District should provide reliable service for the next 5 to 10 years and plan on replacing the boilers within the next decade.

Cooling Generating Systems - Chilled water is generated by two (2) 500 nominal ton Trane Centravac model CVHE water-cooled centrifugal chillers located in the first floor mechanical room. Heat from the chillers is rejected by one (1) single cell BAC model VXT forced draft, counterflow cooling tower located in the parking lot on the North side of the building. The chillers are each equipped with a single three-stage compressor that operate on R-11, which is being phased out of use in the United States due to its high ozone depletion potential. Centrifugal chillers have an anticipated service life of 28 years; these units have been in service 30 years. The District should budget for replacing the chillers over the next 2-5 years. Galvanized metal cooling towers have an anticipated service life of 18 years; this unit has been in service 30 years and is in very poor condition. The District should replace the cooling tower within the next 0-2 years. The Building Engineer reported no issues with the chillers. The cooling tower is in poor condition, it constantly leaks water, and the support frame is rusting out.

Distribution Systems - A four pipe distribution system supplies building heating and cooling water to the air handling units (AH) on all three floors. Heating water is supplied to the heating and ventilation (HV) units by the hot water piping. Main distribution piping is black steel with welded and flanged fittings and smaller branch piping is copper pipe with sweat fittings. Condenser water piping is black steel with both welded and flanged fittings. An expansion tank, air separator, and chemical treatment are installed on the heating water distribution system. An air separator is installed on the chilled water distribution system. All main piping is covered with insulation, and appears to be in good condition, but has been in use 30 years and should be examined for potential damage. The District should hire a qualified contractor to examine the hot water distribution piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

Two (2) 75HP horizontal split case Aurora Pumps chilled water pumps, P-7 and P-8, circulate building chilled water. Three (3) 30HP end-suction Aurora Pump condenser water pumps, P-9, P-10, and P-11, circulate condenser water between the chillers and cooling tower. Two (2) 3HP end suction Aurora Pumps, P-12 and P-13, circulate building heating water. Two (2) 10HP end suction Aurora Pumps, P-14 and P-15, circulate building heating water. Two (2) 25HP end suction Aurora Pumps, P-16 and P-17, circulate building heating water. All pumps are original to the building, appear to be in good condition, and are beyond their anticipated service life of 25 years. All pumps should be replaced as they are beyond their service life and could fail at any time.

Building domestic hot water is circulated by two (2) ½HP pumps associated with the gas fired domestic hot water boiler. Two (2) air compressors and associated pressure tank ensure appropriate pressure within the domestic hot water distribution piping.

Thirty-seven (37) Trane air handling units provide heating and/or cooling to specific spaces within the building. The units are a mixture of heating only and heating and cooling units. All units provide outdoor air ventilation. The AH and HV units are located throughout the building in eleven (11) mechanical rooms, the Gymnasium, and the boiler room. The Gymnasium is heated and ventilated by four (4) HV units located in the Gymnasium; two of these units are damaged and were not operational at the time of the site visit. A full list of AH units installed and the spaces they serve is attached in the eCOMET® file. The unit housings are insulated with internal fibrous liner. Fiberglass liner materials are classified as a

possible human carcinogen and subject to OSHA regulated occupational exposure limits. The liner materials are difficult to maintain and clean. They deteriorate over time and can support microbial growth in the HVAC systems known to cause serious health effects for building occupants. The District should consider replacing these air handling units and the associated supply ductwork systems to eliminate this potential liability problem. Many of the AH units have associated variable air volume (VAV) boxes which control the airflow to specific spaces within the building. Drop ceilings within the classrooms act as return air plenums; the supply air is ducted to the spaces. All units were operational during the site visit, with the exception of the two (2) units serving the Gymnasium, are original to the building and at the end of their 30 year service life. Most units were in good condition, but have a fibrous lines, and the District should consider replacing the units in the next 3-5 years. Two (2) units, AH-13 located in Mechanical Room D and AH-21 located in Mechanical Room E, showed signs of rust damage and should be replaced immediately.

The building is exhausted by a total of seventy-five (75) exhaust fans located on the roof, in various equipment rooms, and above the ceilings. Ten (10) of these fans are located on the second floor roof. There are five (5) general types of exhaust fans installed; vertical roof, in-line tubular, in-line cabinet, utility, and propeller wall type. The roof mounted exhaust fans were not accessible during the site visit. The Building Engineer did not report any problems with the exhaust system. The exhaust fans remove air from various spaces within the building; a full list of exhaust fans and the spaces they serve is attached in the eCOMET® file. These spaces include restrooms, laboratories, the Gymnasium, the Kitchen, locker rooms, welding hoods, fume hoods, mechanical rooms, and electrical rooms. The District should provide reliable service for the next 4-6 years.

Five (5) kitchen hoods with integral Ansul fire suppression and outdoor air make-up systems are installed above the gas fired cooking equipment in the Kitchen. A Caddy automatic gas shutoff system is installed with the kitchen hood equipment. The equipment is in good condition.

One (1) hood is installed above the gas fired cooking equipment in the Bakery on the first floor.

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

Controls & Instrumentation - The original building management system (BMS) with pneumatic controls and communications network is installed in this building. Pneumatic control air is supplied from two (2) duplex compressors and Hankison air dryer located in the boiler room. The air dryer had a leak in it and oil was spraying on the wall adjacent to the unit. The Building Engineer reported that he can monitor the temperature of each classroom centrally from the BMS, but he cannot adjust it from the computer. Thermostats in each space report the temperature to the BMS and the Building Engineer adjusts the temperature by turning on/off the AHUs serving the spaces. The system is not operating as it should. All major mechanical equipment (chillers, boilers, air handling units, pumps, fans, etc.) are monitored by the system. These controls are beyond their service life and should be converted to DDC.

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

Sprinklers - The building is equipped with a wet type sprinkler system that covers the lobby area only, the majority of the building is not covered by the sprinkler system. A 10” fire water line enters the building in the first floor mechanical room along the same wall as the domestic water and gas line. An in-line centrifugal horizontal mount 60HP, 1,000 gpm Allis-Chalmers pump ensures adequate pressure throughout the system during a sprinkler discharge. The fire suppression system appears to be the originally installed equipment and the base of the pump is damaged by rust. The fire pump and skid mount should be replaced to ensure proper function of the system in case of a sprinkler discharge.

The building is equipped with fire stand pipes in the corridors and stairwells.

ELECTRICAL:

Site electrical service - The primary power is at 13.2KV from the street power pole which goes underground and feeds a 750KVA pad-mounted outdoor transformer (13.2KV – 120V/208V). The electrical service is fairly new (2002) and has not reached the end of its useful service. The main switchgear is rated at 2000A, 120V/208V, 3 phase, and is located in main electrical room. The PECO meter is also located inside the electrical room. The service entrance and the main building electrical distribution systems have been renovated in the past 15 years, and have ample capacity for future growth.

Distribution system - The electrical distribution is accomplished with a 120V/208V, 3 phase distribution switchboards. Switchboard feeds the 120V panels throughout the building (two in each floor). These panels are in good condition and have not reached the end of their useful service.

Receptacles - There is enough receptacles in classrooms, computer rooms, libraries, and other areas. There should be minimum of two receptacles on each wall of the classrooms, and other areas.

Lighting -Interior building is illuminated by various types of fixtures. They include fluorescent lighting (with T-5 & T-8 lamps) in majority of the areas, including; classrooms, corridor, offices and Kitchen. Surface or pendant mounted industrial fluorescent fixtures are used in mechanical and electrical rooms. Gymnasium is illuminated by metal halide enclosed glass fixture. The majority of interior lighting fixtures are in good condition.

Fire alarm - The present Fire Alarm system is not automatic/addressable, and is not in compliance with safety codes. There are manual pulls stations throughout the building. There is insufficient number of horn/strobes installed in classrooms, corridors, offices and other areas of the school.

Telephone/LAN - The school telephone and data systems are new and working correctly.A main distribution frame (MDF) along with a telephone PBX system is providing the necessary communication function for the building. School is also equipped with Wi-Fi system.

Public Address - Separate PA system does not exist. School uses the telephone system for public announcement. This system is working correctly. Each classroom is provided with intercom telephone service which is working correctly. The system permits paging and intercom 2-way communication between main office and classrooms, and communication between classrooms.

Clock and Program system - Clock and program systems are not working correctly. Classrooms are provided with 12-inch wall mounted round clocks, however, the clocks are not controlled properly by central master control panel.

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

Security Systems, access control, and video surveillance - The school is not provided with adequate video surveillance system. There is insufficient number of cameras at exit doors, corridors, exterior, and other critical areas. These cameras are not controlled by a Closed Circuit Television system (CCTV).

Emergency Power System - School is provided with an emergency generator to feed elevators, emergency lighting and other emergency loads.

Emergency lighting system, including exit lighting - there is sufficient number of emergency light fixtures in corridors, library and exit ways. Exit signs and emergency fixtures have not reached the end of their useful service.

Lightning Protection System - There is adequate lightning protection system installed in the school. The roof has lightning rods that are connected to the ground via stranded aluminum cables all the way to the ground level.

Grounding - The present grounding system is adequate. All equipment is correctly bonded to the ground.

Site Lighting - The school grounds and building perimeter are not adequately illuminated for safety of the people and security of property.

Site Paging - The present Site paging System is not adequate. There is insufficient number of speaker on building's exterior walls.

RECOMMENDATIONS:

- Replace anti-graffiti coating – entire building perimeter
- Repair cracks in masonry.
- Replace all windows (curtain wall)
- Replace exterior hollow metal doors.
- Replace toilet partitions and accessories; provide accessible compartments
- Repaint building interior walls
- Replace carpet in library
- Replace hardwood flooring in gym
- Replace damaged VCT tile (30%)
- Replace acoustical ceilings throughout the building
- Repair drywall soffits and ceilings
- Refurbish 8000# elevator cabin
- Replace 2500# elevator
- Restripe visitor's and staff parking
- Replace parking paving in visitor's lot
- Rebuild damaged retaining/ knee walls
- Re-sod grass areas at play field and visitor's parking
- Replace eight (8) wall hung drinking fountains and integral refrigerated coolers in the corridors; many of these units were

damaged and not working during the site visit.
- Install a reduced pressure backflow preventer on the 6" incoming domestic water line.
- Replace the duplex 7.5HP domestic pressure booster pumps which are nearing the end of their service life to ensure adequate pressure throughout the system.
- Replace one (1) 72KW electric boiler, which is beyond its service life of 20 years that supplies domestic hot water for the Kitchen.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Hire a qualified contractor to perform a detailed examination of the rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing forced draft, counterflow cooling tower which is beyond its service life and leaks water.
- Replace the two (2) existing 500 nominal ton water-cooled centrifugal chillers, located in the first floor mechanical room, which are reaching the end of their service life.
- Hire a qualified contractor to examine the chilled water distribution piping, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Hire a qualified contractor to examine the hot water distribution piping, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace two (2) 75HP horizontal split case Aurora Pumps chilled water pumps, P-7 and P-8, in the mechanical room which are beyond their service life.
- Replace three (3) 30HP end-suction Aurora Pump condenser water pumps, P-9, P-10, and P-11, in the mechanical room which are beyond their service life.
- Replace two (2) 3HP end suction Aurora Pumps hot water pumps, P-12 and P-13, in the mechanical room which are beyond their service life.
- Replace two (2) 10HP end suction Aurora Pumps hot water pumps, P-14 and P-15, in the mechanical room which are beyond their service life.
- Replace two (2) 25HP end suction Aurora Pumps hot water pumps, P-16 and P-17, in the mechanical room which are beyond their service life.
- Install OSHA required belt guards on all AH and HV fans, at least five (5) fans require the installation of belt guards.
- Replace AH-1, located in Mechanical Room A, serving the second floor SW which is beyond its service life and most likely has inefficient pressured dependent VAV boxes.
- Replace AH-2, located in Mechanical Room A, serving the third floor SW which is beyond its service life and most likely has inefficient pressured dependent VAV boxes.
- Replace AH-3, located in Mechanical Room B, serving the Cafeteria and first floor SW which is beyond its service life and should be replaced with a more efficient unit.
- Replace AH-7, located in Mechanical Room B, serving the kitchen hoods which is beyond its service life.
- Replace AH-10, located in Mechanical Room C, serving the Auditorium which is beyond its service life and should be replaced with a more efficient unit.
- Replace AH-11, located in Mechanical Room D, serving the third floor NE which is beyond its service life and most likely has inefficient pressured dependent VAV boxes.
- Replace AH-13, located in Mechanical Room D, serving the first floor NE which showed signs of rust damage.
- Replace AH-21 located in Mechanical Room E, serving rooms 154A and 154D showed signs of rust damage.
- Replace two (2) HV units serving the Gymnasium which are at the end of their service life and not operational due to failed motors.
- Install a new control system for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Replace the fire pump and skid mount, damaged by rust, to ensure proper function of the system in case of a sprinkler discharge.
- Install a new automated/addressable FA system

- Install a new Clock System

- Install new site lighting

- Install new site paging on building exterior wall

Site Assessment Report - S502001;Edison and Field

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S502001		

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.

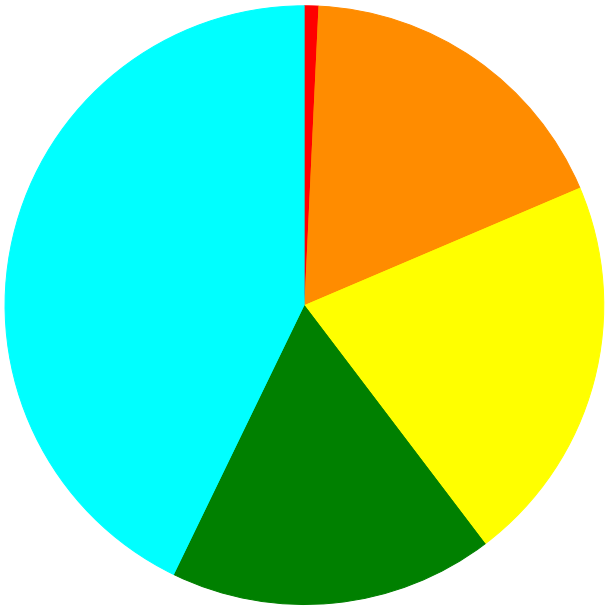
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	73.00 %	0.00 %	$0.00
A20 - Basement Construction	73.00 %	0.00 %	$0.00
B10 - Superstructure	73.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	56.32 %	39.55 %	$8,983,790.59
B30 - Roofing	104.51 %	0.05 %	$3,355.47
C10 - Interior Construction	63.27 %	4.33 %	$379,328.75
C20 - Stairs	73.08 %	0.00 %	$0.00
C30 - Interior Finishes	106.73 %	45.15 %	$6,744,567.28
D10 - Conveying	105.71 %	63.91 %	$258,498.42
D20 - Plumbing	88.04 %	51.97 %	$3,189,208.03
D30 - HVAC	89.91 %	59.40 %	$20,881,551.72
D40 - Fire Protection	37.14 %	10.79 %	$274,827.15
D50 - Electrical	68.43 %	3.81 %	$707,397.71
E10 - Equipment	27.18 %	0.00 %	$0.00
E20 - Furnishings	32.50 %	0.00 %	$0.00
G20 - Site Improvements	76.73 %	80.82 %	$6,286,784.99
G40 - Site Electrical Utilities	50.00 %	4.17 %	$133,458.12
Totals:	**75.54 %**	**26.76 %**	**$47,842,768.23**

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)
B502001;Edison	316,000	24.68	$358,358.12	$8,536,627.20	$8,829,700.95	$8,335,624.73	$15,362,214.12
G502001;Grounds	735,300	58.49	$0.00	$0.00	$1,255,241.33	$41,860.70	$5,123,141.08
Total:		**26.76**	**$358,358.12**	**$8,536,627.20**	**$10,084,942.28**	**$8,377,485.43**	**$20,485,355.20**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $358,358.12
- 2 - Response Time (2-3 yrs) - $8,536,627.20
- 3 - Response Time (3-4 yrs) - $10,084,942.28
- 4 - Response Time (4-5 yrs) - $8,377,485.43
- 5 - Response Time (> 5 yrs) - $20,485,355.20

Budget Estimate Total: $47,842,768.23

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:	High School / CTE
Gross Area (SF):	316,000
Year Built:	1988
Last Renovation:	
Replacement Value:	$167,840,096
Repair Cost:	$41,422,525.12
Total FCI:	24.68 %
Total RSLI:	75.97 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B502001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S502001		

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	73.00 %	0.00 %	$0.00
A20 - Basement Construction	73.00 %	0.00 %	$0.00
B10 - Superstructure	73.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	56.32 %	39.55 %	$8,983,790.59
B30 - Roofing	104.51 %	0.05 %	$3,355.47
C10 - Interior Construction	63.27 %	4.33 %	$379,328.75
C20 - Stairs	73.08 %	0.00 %	$0.00
C30 - Interior Finishes	106.73 %	45.15 %	$6,744,567.28
D10 - Conveying	105.71 %	63.91 %	$258,498.42
D20 - Plumbing	88.04 %	51.97 %	$3,189,208.03
D30 - HVAC	89.91 %	59.40 %	$20,881,551.72
D40 - Fire Protection	37.14 %	10.79 %	$274,827.15
D50 - Electrical	68.43 %	3.81 %	$707,397.71
E10 - Equipment	27.18 %	0.00 %	$0.00
E20 - Furnishings	32.50 %	0.00 %	$0.00
Totals:	**75.97 %**	**24.68 %**	**$41,422,525.12**

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	$27.30	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$8,626,800
A1030	Slab on Grade	$5.17	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$1,633,720
A2010	Basement Excavation	$4.36	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$1,377,760
A2020	Basement Walls	$9.91	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$3,131,560
B1010	Floor Construction	$85.34	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$26,967,440
B1020	Roof Construction	$14.39	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$4,547,240
B2010	Exterior Walls	$43.20	S.F.	316,000	100	1988	2088		73.00 %	2.47 %	73		$336,719.71	$13,651,200
B2020	Exterior Windows	$27.52	S.F.	316,000	40	1988	2028		32.50 %	94.20 %	13		$8,191,704.84	$8,696,320
B2030	Exterior Doors	$1.16	S.F.	316,000	25	1988	2013		0.00 %	124.23 %	-2		$455,366.04	$366,560
B3010105	Built-Up	$37.76	S.F.	6,800	20	1988	2008	2027	60.00 %	0.00 %	12			$256,768
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.	108,000	30	1988	2018	2047	106.67 %	0.00 %	32			$5,855,760
B3010140	Shingle & Tile	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	316,000	30	1988	2018	2027	40.00 %	17.70 %	12		$3,355.47	$18,960
C1010	Partitions	$21.05	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$6,651,800
C1020	Interior Doors	$3.76	S.F.	316,000	40	1988	2028		32.50 %	0.00 %	13			$1,188,160
C1030	Fittings	$2.90	S.F.	316,000	40	1988	2028		32.50 %	41.39 %	13		$379,328.75	$916,400
C2010	Stair Construction	$1.18	S.F.	316,000	100	1988	2088		73.00 %	0.00 %	73			$372,880

Site Assessment Report - B502001;Edison

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 $
C2020	Stair Finishes	$0.39	S.F.	316,000	30	1988	2018	2037	73.33 %	0.00 %	22			$123,240
C3010230	Paint & Covering	$13.21	S.F.	316,000	10	2000	2010	2027	120.00 %	94.12 %	12		$3,928,848.66	$4,174,360
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.	316,000	30	1988	2018	2047	106.67 %	0.00 %	32			$831,080
C3020411	Carpet	$7.30	S.F.	5,600	10	1988	1998	2027	120.00 %	153.30 %	12		$62,668.26	$40,880
C3020412	Terrazzo & Tile	$75.52	S.F.	15,000	50	1988	2038		46.00 %	0.00 %	23			$1,132,800
C3020413	Vinyl Flooring	$9.68	S.F.	189,600	20	1988	2008	2037	110.00 %	0.00 %	22			$1,835,328
C3020414	Wood Flooring	$22.27	S.F.	12,000	25	1988	2013	2042	108.00 %	130.90 %	27		$349,824.85	$267,240
C3020415	Concrete Floor Finishes	$0.97	S.F.	32,000	50	1988	2038		46.00 %	0.00 %	23			$31,040
C3030	Ceiling Finishes	$20.97	S.F.	316,000	25	1988	2013	2042	108.00 %	36.27 %	27		$2,403,225.51	$6,626,520
D1010	Elevators and Lifts	$1.28	S.F.	316,000	35			2052	105.71 %	63.91 %	37		$258,498.42	$404,480
D2010	Plumbing Fixtures	$13.52	S.F.	316,000	35	2010	2045		85.71 %	1.42 %	30		$60,633.52	$4,272,320
D2020	Domestic Water Distribution	$1.68	S.F.	316,000	25	1988	2013	2030	60.00 %	63.83 %	15		$338,840.27	$530,880
D2030	Sanitary Waste	$2.32	S.F.	316,000	30	1988	2018	2047	106.67 %	189.39 %	32		$1,388,454.33	$733,120
D2040	Rain Water Drainage	$1.90	S.F.	316,000	30	1988	2018	2047	106.67 %	233.39 %	32		$1,401,279.91	$600,400
D3020	Heat Generating Systems	$18.67	S.F.	316,000	35	1988	2023		22.86 %	10.75 %	8		$634,176.25	$5,899,720
D3030	Cooling Generating Systems	$24.48	S.F.	316,000	20	1988	2008	2037	110.00 %	58.57 %	22		$4,530,939.83	$7,735,680
D3040	Distribution Systems	$42.99	S.F.	316,000	25	1988	2013	2042	108.00 %	72.84 %	27		$9,894,626.78	$13,584,840
D3050	Terminal & Package Units	$11.60	S.F.	316,000	20	1988	2008	2028	65.00 %	0.00 %	13			$3,665,600
D3060	Controls & Instrumentation	$13.50	S.F.	316,000	20	1988	2008	2037	110.00 %	136.47 %	22		$5,821,808.86	$4,266,000
D4010	Sprinklers	$7.05	S.F.	316,000	35	1988	2023	2028	37.14 %	12.34 %	13		$274,827.15	$2,227,800
D4020	Standpipes	$1.01	S.F.	316,000	35	1988	2023	2028	37.14 %	0.00 %	13			$319,160
D5010	Electrical Service/Distribution	$9.70	S.F.	316,000	30	2000	2030	2030	50.00 %	0.00 %	15			$3,065,200
D5020	Lighting and Branch Wiring	$34.68	S.F.	316,000	20	2010	2030	2030	75.00 %	0.00 %	15			$10,958,880
D5030	Communications and Security	$12.99	S.F.	316,000	15	2010	2025	2025	66.67 %	17.23 %	10		$707,397.71	$4,104,840
D5090	Other Electrical Systems	$1.41	S.F.	316,000	30	2000	2030	2030	50.00 %	0.00 %	15			$445,560
E1020	Institutional Equipment	$4.82	S.F.	316,000	35	1988	2023	2028	37.14 %	0.00 %	13			$1,523,120
E1090	Other Equipment	$11.10	S.F.	316,000	35	1988	2023		22.86 %	0.00 %	8			$3,507,600
E2010	Fixed Furnishings	$2.13	S.F.	316,000	40	1988	2028		32.50 %	0.00 %	13			$673,080
								Total	**75.97 %**	**24.68 %**			**$41,422,525.12**	**$167,840,096**

System Notes

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

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

Note:
Paint (CMU) 95%
Ceramic tile 5%

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

Note:
VCT 75%
Ceramic tile 6%
Carpet 2%
Hardwood 5%
Concrete 12%

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

Note:
ACT 60%
Painted GWB 20%
Painted, exposed 20%

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:	**$41,422,525**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$13,108,603**	**$0**	**$6,068,218**	**$60,599,346**
*** 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	$336,720	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$336,720**
B2020 - Exterior Windows	$8,191,705	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$8,191,705**
B2030 - Exterior Doors	$455,366	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$455,366**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$3,355	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,355**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

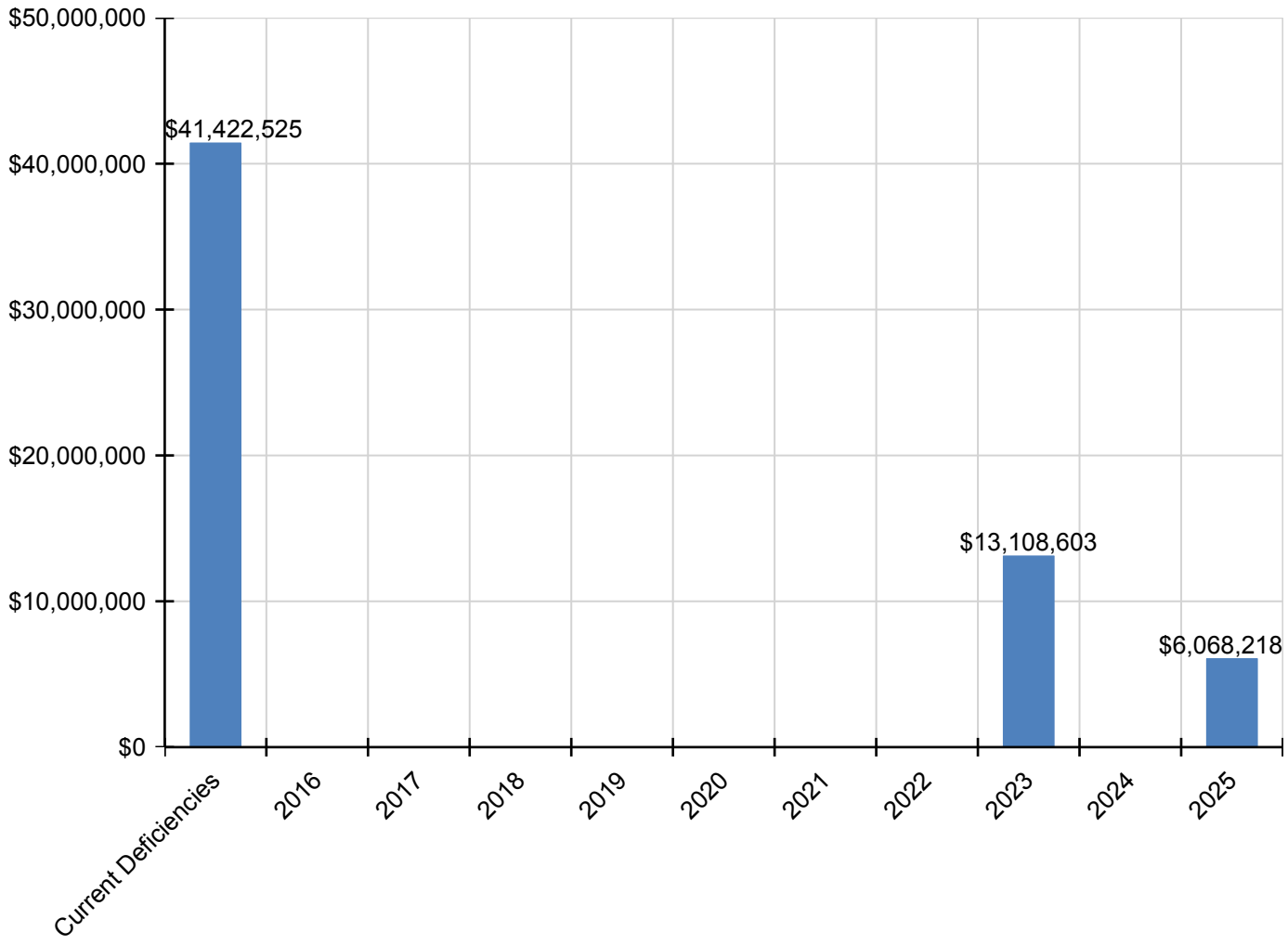
C1020 - Interior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$379,329	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$379,329**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2020 - Stair Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$3,928,849	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,928,849**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$62,668	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$62,668**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020414 - Wood Flooring	$349,825	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$349,825**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$2,403,226	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,403,226**
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	$258,498	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$258,498**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$60,634	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$60,634**
D2020 - Domestic Water Distribution	$338,840	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$338,840**
D2030 - Sanitary Waste	$1,388,454	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,388,454**
D2040 - Rain Water Drainage	$1,401,280	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,401,280**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$634,176	$0	$0	$0	$0	$0	$0	$0	$8,220,948	$0	$0	**$8,855,124**
D3030 - Cooling Generating Systems	$4,530,940	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,530,940**
D3040 - Distribution Systems	$9,894,627	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$9,894,627**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$5,821,809	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,821,809**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$274,827	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$274,827**

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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5030 - Communications and Security	$707,398	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,068,218	**$6,775,616**
D5090 - Other Electrical Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$4,887,655	$0	$0	**$4,887,655**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

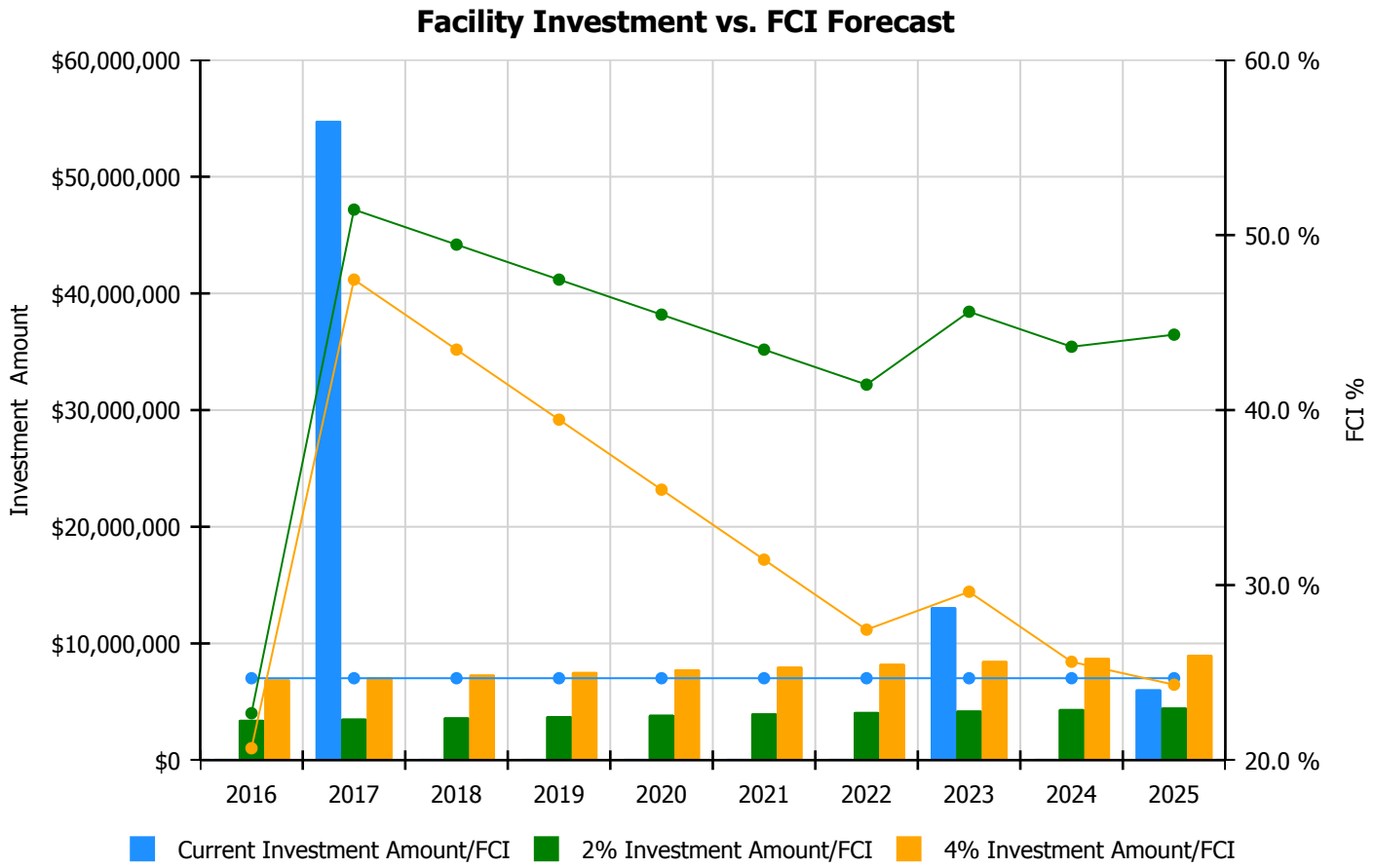
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

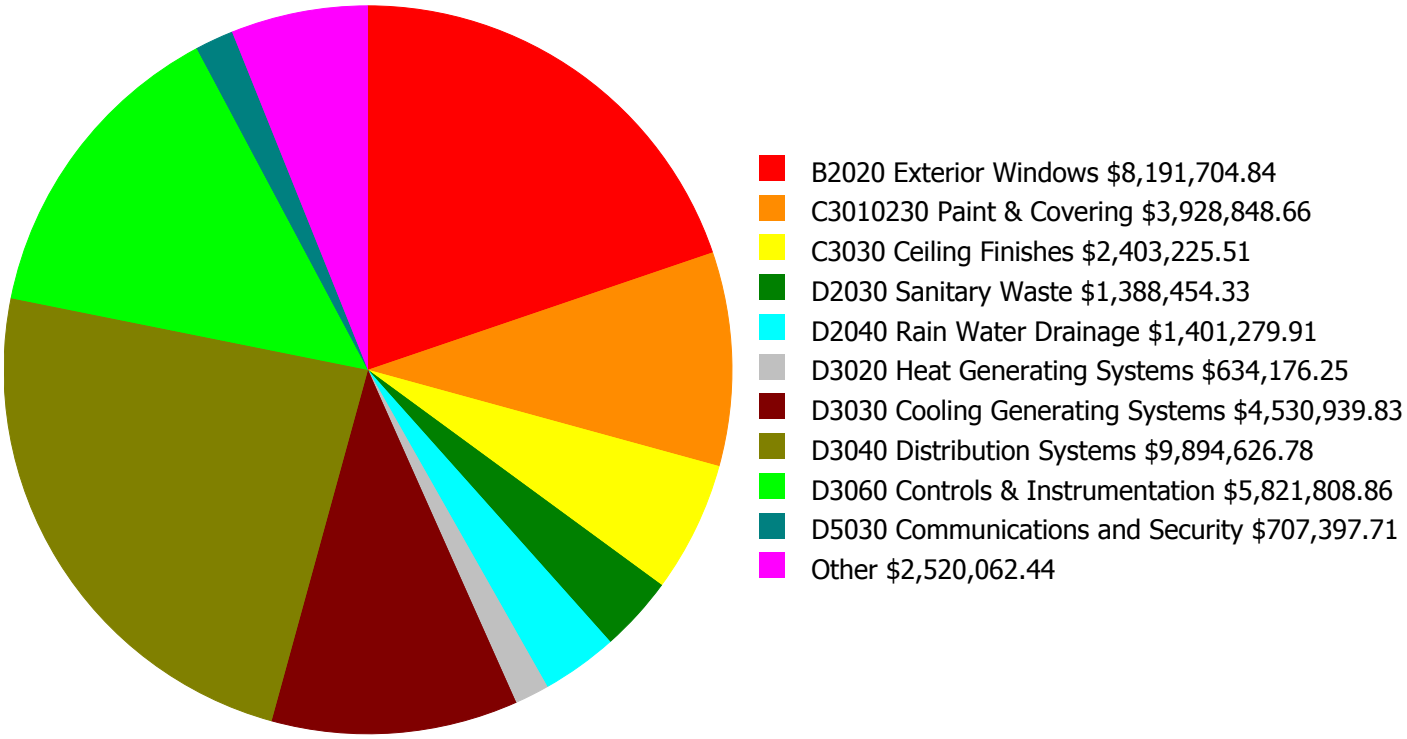
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 24.68%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$3,457,506.00	22.68 %	$6,915,012.00	20.68 %
2017	$54,796,819	$3,561,231.00	51.45 %	$7,122,462.00	47.45 %
2018	$0	$3,668,068.00	49.45 %	$7,336,136.00	43.45 %
2019	$0	$3,778,110.00	47.45 %	$7,556,220.00	39.45 %
2020	$0	$3,891,453.00	45.45 %	$7,782,907.00	35.45 %
2021	$0	$4,008,197.00	43.45 %	$8,016,394.00	31.45 %
2022	$0	$4,128,443.00	41.45 %	$8,256,886.00	27.45 %
2023	$13,108,603	$4,252,296.00	45.62 %	$8,504,592.00	29.62 %
2024	$0	$4,379,865.00	43.62 %	$8,759,730.00	25.62 %
2025	$6,068,218	$4,511,261.00	44.31 %	$9,022,522.00	24.31 %
Total:	**$73,973,639**	**$39,636,430.00**		**$79,272,861.00**	

Deficiency Summary by System

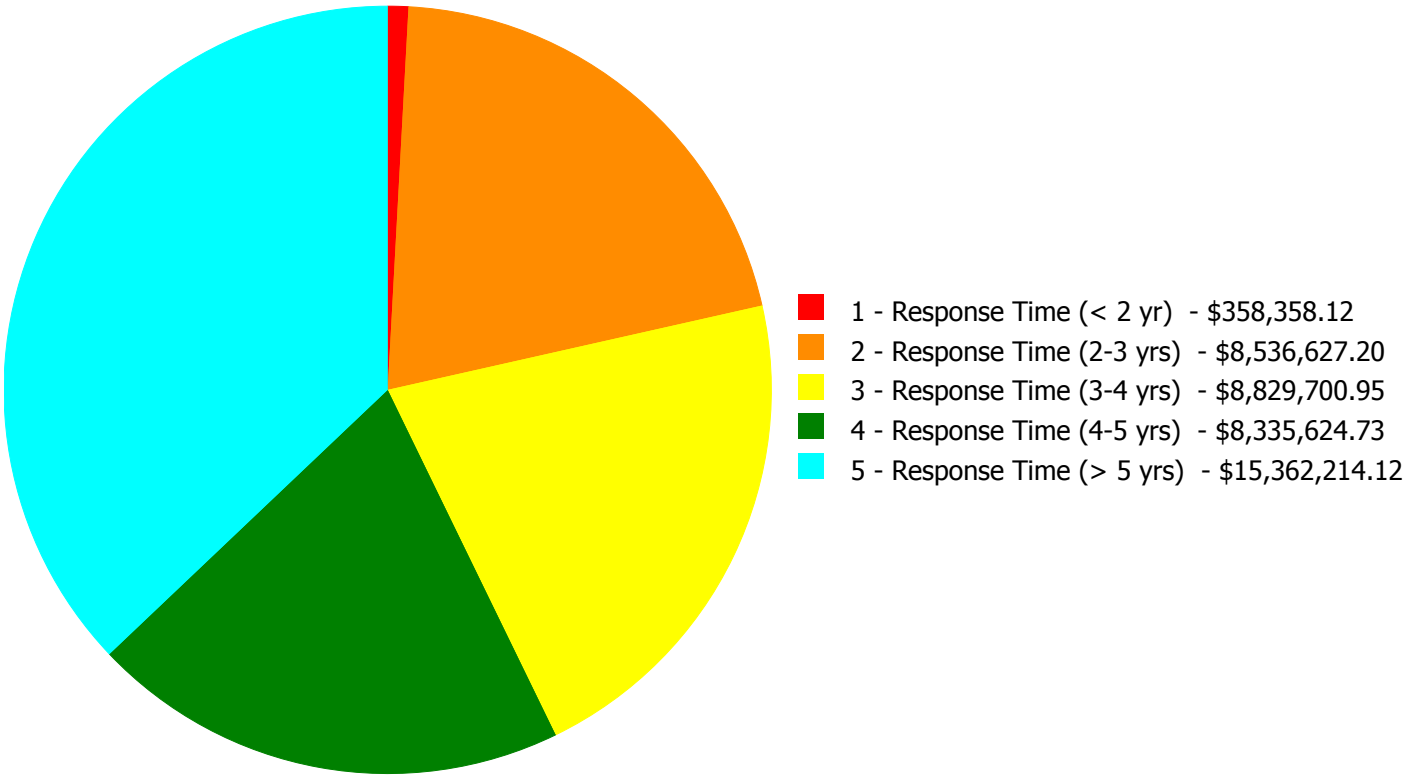
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $41,422,525.12

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: $41,422,525.12

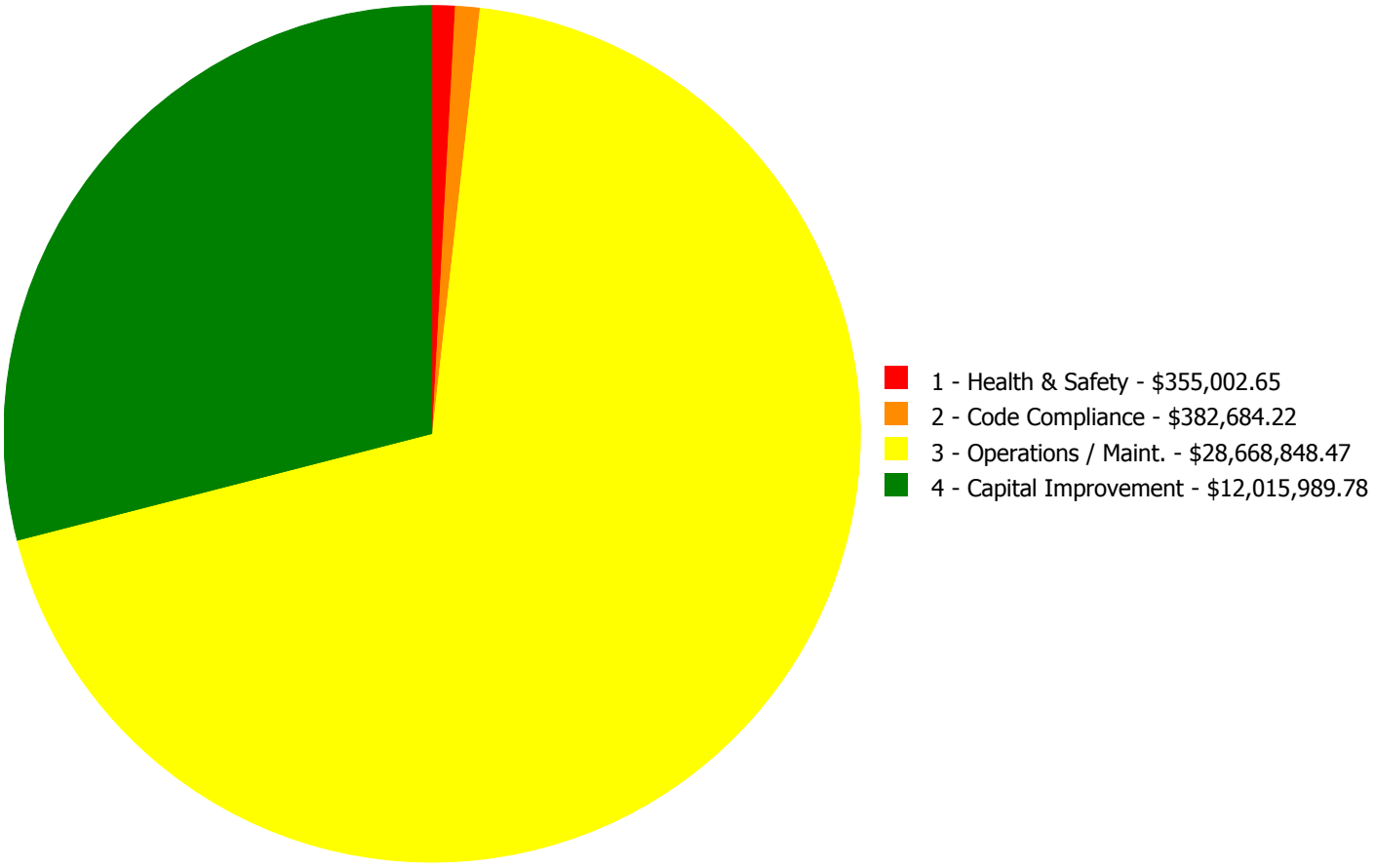
Deficiency By Priority Investment Table

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	$207,561.82	$129,157.89	$0.00	$336,719.71
B2020	Exterior Windows	$0.00	$8,191,704.84	$0.00	$0.00	$0.00	$8,191,704.84
B2030	Exterior Doors	$0.00	$0.00	$455,366.04	$0.00	$0.00	$455,366.04
B3020	Roof Openings	$3,355.47	$0.00	$0.00	$0.00	$0.00	$3,355.47
C1030	Fittings	$0.00	$0.00	$379,328.75	$0.00	$0.00	$379,328.75
C3010230	Paint & Covering	$0.00	$0.00	$0.00	$3,928,848.66	$0.00	$3,928,848.66
C3020411	Carpet	$0.00	$0.00	$0.00	$62,668.26	$0.00	$62,668.26
C3020414	Wood Flooring	$0.00	$0.00	$349,824.85	$0.00	$0.00	$349,824.85
C3030	Ceiling Finishes	$0.00	$0.00	$115,220.84	$2,288,004.67	$0.00	$2,403,225.51
D1010	Elevators and Lifts	$0.00	$258,498.42	$0.00	$0.00	$0.00	$258,498.42
D2010	Plumbing Fixtures	$0.00	$0.00	$60,633.52	$0.00	$0.00	$60,633.52
D2020	Domestic Water Distribution	$0.00	$86,423.94	$252,416.33	$0.00	$0.00	$338,840.27
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$0.00	$1,388,454.33	$1,388,454.33
D2040	Rain Water Drainage	$0.00	$0.00	$0.00	$0.00	$1,401,279.91	$1,401,279.91
D3020	Heat Generating Systems	$0.00	$0.00	$0.00	$634,176.25	$0.00	$634,176.25
D3030	Cooling Generating Systems	$355,002.65	$0.00	$3,040,752.49	$1,135,184.69	$0.00	$4,530,939.83
D3040	Distribution Systems	$0.00	$0.00	$3,143,955.76	$0.00	$6,750,671.02	$9,894,626.78
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$5,821,808.86	$5,821,808.86
D4010	Sprinklers	$0.00	$0.00	$274,827.15	$0.00	$0.00	$274,827.15
D5030	Communications and Security	$0.00	$0.00	$549,813.40	$157,584.31	$0.00	$707,397.71
	Total:	$358,358.12	$8,536,627.20	$8,829,700.95	$8,335,624.73	$15,362,214.12	$41,422,525.12

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: $41,422,525.12

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: B3020 - Roof Openings

Location: Mechanical room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install safety guard rails at roof perimeter (OSHA required if roof hatch is 10' from roof edge).

Qty: 5.00

Unit of Measure: L.F.

Estimate: $3,355.47

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Install OSHA required belt guards on all AH and HV fans, at least five (5) fans require the installation of belt guards.

System: D3030 - Cooling Generating Systems

This deficiency has no image.

Location: Mechanical room

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Provide refrigerant leak detection, alarm and purge ventilation system

Qty: 500.00

Unit of Measure: TonAC

Estimate: $355,002.65

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Install a refrigeration leak detection system in the Mechanical Room.

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

System: B2020 - Exterior Windows

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace curtain wall systems - SF of curtain wall area

Qty: 50,000.00

Unit of Measure: S.F.

Estimate: $8,191,704.84

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace all windows (curtain wall)

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Elevator - 2 to 3 stop hydraulic - add to the estimate for the number of stops over 2 up to 3 stops total - for 4 stops and up use traction elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $235,959.23

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace 2500# elevator

System: D1010 - Elevators and Lifts

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Modernize or upgrade the elevator cab or to comply with ADA - exact scope of work estimate not available - total cost is sufficient

Qty: 1.00

Unit of Measure: Ea.

Estimate: $22,539.19

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Refurbish 8000# elevator cabin

System: D2020 - Domestic Water Distribution

Location: Mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $86,423.94

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Install a reduced pressure backflow preventer on the 6” incoming domestic water line.

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

System: B2010 - Exterior Walls

Location: Exterior
Distress: Building Envelope Integrity
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Remove graffiti - power wash and paint
Qty: 30,800.00
Unit of Measure: S.F.
Estimate: $207,561.82
Assessor Name: Craig Anding
Date Created: 12/16/2015

Notes: Replace anti-graffiti coating – entire building perimeter

System: B2030 - Exterior Doors

Location: Exterior
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Remove and replace exterior doors - per leaf
Qty: 50.00
Unit of Measure: Ea.
Estimate: $455,366.04
Assessor Name: Craig Anding
Date Created: 12/16/2015

Notes: Replace exterior hollow metal doors

System: C1030 - Fittings

Location: Interior

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 80.00

Unit of Measure: Ea.

Estimate: $379,328.75

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace toilet partitions and accessories; provide accessible compartments

System: C3020414 - Wood Flooring

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace wood flooring

Qty: 12,000.00

Unit of Measure: S.F.

Estimate: $349,824.85

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace hardwood flooring in gym

System: C3030 - Ceiling Finishes

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace plaster ceilings

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $115,220.84

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Repair drywall soffits and ceilings

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Water Fountains - without ADA new recessed alcove

Qty: 8.00

Unit of Measure: Ea.

Estimate: $60,633.52

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace eight (8) wall hung drinking fountains and integral refrigerated coolers in the corridors; many of these units were damaged and not working during the site visit.

System: D2020 - Domestic Water Distribution

Location: Mechanical room

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace vertical tank type electric water heater (300 gal)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $151,348.61

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace one (1) 72KW electric water heater, which is beyond its service life of 20 years that supplies domestic hot water for the Kitchen.

System: D2020 - Domestic Water Distribution

Location: Mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $101,067.72

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace the duplex 7.5HP domestic pressure booster pumps which are nearing the end of their service life to ensure adequate pressure throughout the system.

System: D3030 - Cooling Generating Systems

Location: Mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace chiller, water-cooled (500 tons)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,806,981.07

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace the two (2) existing 500 nominal ton water-cooled centrifugal chillers, located in the first floor mechanical room, which are reaching the end of their service life and utilizes R-11 refrigerant.

System: D3030 - Cooling Generating Systems

Location: Parking lot

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace cooling tower, ID, galv. (500 tons)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,233,771.42

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace the existing forced draft, counterflow cooling tower which is beyond its service life and leaks water.

System: D3040 - Distribution Systems

Location: Mechanical Room C

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace HVAC unit for Auditorium (800 seat).

Qty: 2,218.00

Unit of Measure: Seat

Estimate: $1,133,997.47

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace AH-10, located in Mechanical Room C, serving the Auditorium which is beyond its service life and should be replaced with a more efficient unit.

System: D3040 - Distribution Systems

Location: Mechanical Room D

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 400.00

Unit of Measure: Seat

Estimate: $666,186.60

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace AH-13, located in Mechanical Room D, serving the first floor NE which showed signs of rust damage.

System: D3040 - Distribution Systems

Location: Mechanical Room B

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 2,218.00

Unit of Measure: Student

Estimate: $603,735.54

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace AH-3, located in Mechanical Room B, serving the Cafeteria and first floor SW which is beyond its service life and should be replaced with a more efficient unit.

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 12,000.00

Unit of Measure: S.F.

Estimate: $454,950.74

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace two (2) HV units serving the Gymnasium which are at the end of their service life and not operational due to failed motors.

System: D3040 - Distribution Systems

Location: Mechanical Room E

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: Seat

Estimate: $285,085.41

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace AH-21 located in Mechanical Room E, serving rooms 154A and 154D showed signs of rust damage.

System: D4010 - Sprinklers

Location: Mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace fire pump, electric, 1000 GPM

Qty: 1.00

Unit of Measure: Ea.

Estimate: $274,827.15

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace the fire pump and skid mount, damaged by rust, to ensure proper function of the system in case of a sprinkler discharge.

System: D5030 - Communications and Security

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $549,813.40

Assessor Name: Craig Anding

Date Created: 11/20/2015

Notes: Install a new automated/addressable FA system.
Note: Due to the size of the building a multiplier of 3.0 was used instead of 1.0 to also cover the cost of other related construction.

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

System: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

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: 4,000.00

Unit of Measure: S.F.

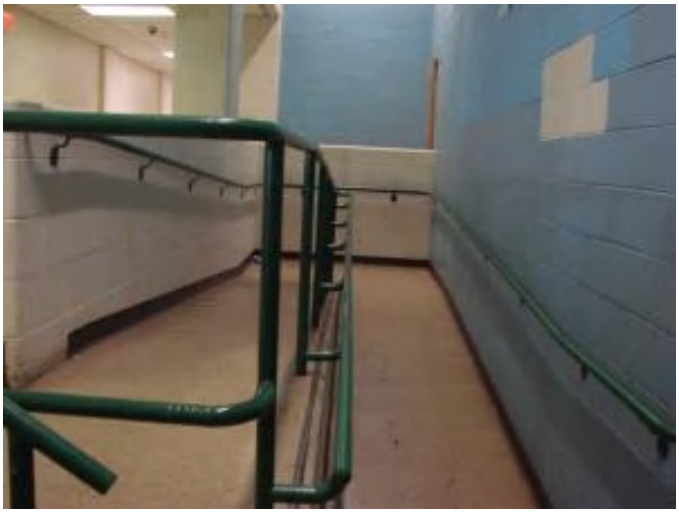
Estimate: $129,157.89

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Repair cracks in masonry

System: C3010230 - Paint & Covering



Location: interior

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 580,000.00

Unit of Measure: S.F.

Estimate: $3,928,848.66

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Repaint building interior walls

System: C3020411 - Carpet

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 5,600.00

Unit of Measure: S.F.

Estimate: $62,668.26

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace carpet in library

System: C3030 - Ceiling Finishes

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 151,700.00

Unit of Measure: S.F.

Estimate: $2,288,004.67

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace acoustical ceilings throughout the building

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 (6" size, 25 HP, to 1550 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $339,926.74

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace two (2) 25HP end suction Aurora Pumps hot water pumps, P-16 and P-17, in the mechanical room which are beyond their service life.

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 (4" size, 7-1/2 HP, to 350 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $161,580.94

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace two (2) 10HP end suction Aurora Pumps hot water pumps, P-14 and P-15, in the mechanical room which are beyond their service life.

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 (3" size, 5 HP, to 225 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $132,668.57

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace two (2) 3HP end suction Aurora Pumps hot water pumps, P-12 and P-13, in the mechanical room which are beyond their service life.

System: D3030 - Cooling Generating Systems

Location: Mechanical room

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace base mounted, double suction CHW pump (8" size, 75 HP, to 2500 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $628,541.27

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace two (2) 75HP horizontal split case Aurora Pumps chilled water pumps, P-7 and P-8, in the mechanical room which are beyond their service life.

System: D3030 - Cooling Generating Systems

Location: Mechanical room

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace base mounted, end suction CHW pump (6" size, 25 HP, to 1550 GPM)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $506,643.42

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Replace three (3) 30HP end-suction Aurora Pump condenser water pumps, P-9, P-10, and P-11, in the mechanical room which are beyond their service life.

System: D5030 - Communications and Security

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Clock System or Components

Qty: 0.00

Unit of Measure: Ea.

Estimate: $157,584.31

Assessor Name: Craig Anding

Date Created: 11/20/2015

Notes: Install a new Clock System.

Priority 5 - Response Time (> 5 yrs):

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Inspect sanitary waste piping and replace damaged sections. (+300KSF)

Qty: 316,000.00

Unit of Measure: S.F.

Estimate: $1,388,454.33

Assessor Name: Craig Anding

Date Created: 11/25/2015

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

System: D2040 - Rain Water Drainage

This deficiency has no image.

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 316,000.00

Unit of Measure: S.F.

Estimate: $1,401,279.91

Assessor Name: Craig Anding

Date Created: 11/25/2015

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

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace chilled water distribution piping (75KSF)

Qty: 158,000.00

Unit of Measure: S.F.

Estimate: $2,124,090.34

Assessor Name: Craig Anding

Date Created: 11/25/2015

Notes: Hire a qualified contractor to examine the chilled water distribution piping, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace hydronic heating piping (150KSF)

Qty: 158,000.00

Unit of Measure: S.F.

Estimate: $1,391,741.40

Assessor Name: Craig Anding

Date Created: 02/18/2016

Notes: Hire a qualified contractor to examine the hot water distribution piping, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

Location: Mechanical Room A

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace Indoor Air Handling Unit (25T) VAV and air terminals

Qty: 25.00

Unit of Measure: TonAC

Estimate: $808,709.82

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace AH-1, located in Mechanical Room A, serving the second floor SW which is beyond its service life and most likely has inefficient pressured dependent VAV boxes.

System: D3040 - Distribution Systems

Location: Mechanical Room A

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace Indoor Air Handling Unit (25T) VAV and air terminals

Qty: 25.00

Unit of Measure: TonAC

Estimate: $808,709.82

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace AH-2, located in Mechanical Room A, serving the third floor SW which is beyond its service life and most likely has inefficient pressured dependent VAV boxes.

System: D3040 - Distribution Systems

Location: Mechanical Room B

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace Indoor Air Handling Unit (25T) VAV and air terminals

Qty: 25.00

Unit of Measure: TonAC

Estimate: $808,709.82

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace AH-7, located in Mechanical Room B, serving the kitchen hoods which is beyond its service life.

System: D3040 - Distribution Systems

Location: Mechanical Room D

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace Indoor Air Handling Unit (25T) VAV and air terminals

Qty: 25.00

Unit of Measure: TonAC

Estimate: $808,709.82

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace AH-11, located in Mechanical Room D, serving the third floor NE which is beyond its service life and most likely has inefficient pressured dependent VAV boxes.

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (350KSF)

Qty: 316,000.00

Unit of Measure: S.F.

Estimate: $5,821,808.86

Assessor Name: Craig Anding

Date Created: 11/25/2015

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

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, freight elevators (class"B"), 10,000 lb, 5 floors, 100 FPM	1.00	Ea.	interior					30	1988	2047	$302,400.00	$332,640.00
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2500 lb, 5 floors, 100 FPM	1.00	Ea.	Interior					30	1988	2047	$142,170.00	$156,387.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 5256 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Mechanical Room	Weil-McLain	AH-1894			35	1988	2023	$112,817.00	$372,296.10
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 5256 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Mechanical Room	Weil-McLain	AH-1894			35	1988	2023	$112,817.00	$372,296.10
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 5256 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Mechanical Room	Weil-McLain	AH-1894			35	1988	2023	$112,817.00	$372,296.10
D3030 Cooling Generating Systems	Cooling tower, packaged unit, galvanized steel, blow through, centrifugal type, 900 ton, includes standard controls, excludes pumps and piping	1.00	Ea.	Parking Lot	BAC	VXT	868234		18	1988	2006	$139,639.50	$153,603.45
D3030 Cooling Generating Systems	Water chiller, centrifugal liquid chiller, packaged unit, water cooled, 500 ton, includes standard controls, excludes water tower	2.00	Ea.	Mechanical Room	Trane	CVHE-045N-AL	L86D37481		28	1988	2016	$212,784.00	$468,124.80
D3030 Cooling Generating Systems	Water chiller, centrifugal liquid chiller, packaged unit, water cooled, 500 ton, includes standard controls, excludes water tower	2.00	Ea.	Mechanical Room	Trane	CVHE-050N-AL	L86D37480		28	1988	2016	$212,784.00	$468,124.80
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Mech Room B	Trane	C8D	K86C99440		25			$30,178.50	$33,196.35
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 16,500 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Mech Room D	Trane	C8D	K86C99441		25			$44,193.60	$48,612.96
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 16,500 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Mech Room D	Trane	C8D	K86C99442		25			$44,193.60	$48,612.96
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 16,500 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Mech Room D	Trane	CCD	K-85D99963		25			$44,193.60	$48,612.96
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 10 H.P., to 600 GPM, 5" size	2.00	Ea.	Mechanical Room	Aurora Pumps	344A-BF	85-16667-1		25			$19,608.00	$43,137.60

D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 10 H.P., to 600 GPM, 5" size	2.00	Ea.	Mechanical Room	Aurora Pumps	344A-BF	85-16667-1		25			$19,608.00	$43,137.60
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 6" size	2.00	Ea.	Mechanical Room	Aurora Pumps	344A-BF	85-16568-2		25			$26,334.00	$57,934.80
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 6" size	2.00	Ea.	Mechanical Room	Aurora Pumps	344A-BF	85-16568-1		25			$26,334.00	$57,934.80
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 2000 GPM, 75 H.P., 8" discharge, includes drip proof motor	2.00	Ea.	Mechanical Room	Aurora Pumps				25			$30,780.00	$67,716.00
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 2000 GPM, 75 H.P., 8" discharge, includes drip proof motor	2.00	Ea.	Mechanical Room	Aurora Pumps				25			$30,780.00	$67,716.00
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 750 GPM, 30 H.P., 4" discharge, includes drip proof motor	3.00	Ea.	Mechanical Room	Aurora Pump	344A-BF	85-16565-3		25			$9,832.50	$32,447.25
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 750 GPM, 30 H.P., 4" discharge, includes drip proof motor	3.00	Ea.	Mechanical Room	Aurora Pump	344A-BF	85-16565-2		25			$9,832.50	$32,447.25
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 750 GPM, 30 H.P., 4" discharge, includes drip proof motor	3.00	Ea.	Mechanical Room	Aurora Pump	344A-BF	85-16565-1		25			$9,832.50	$32,447.25
D5010 Electrical Service/Distribution	Circuit breaker, 3 pole, 600 volt, 1200 amp, enclosed (NEMA 1)	1.00	Ea.	Electrical Room					30	2000	2030	$13,662.00	$15,028.20
D5010 Electrical Service/Distribution	Motor control center, starters, class 1, type B, combination MCP, FVNR, with control XFMR, size 2, 25 HP, 18" high, incl starters & structures	1.00	Ea.	Electrical Room					30	2000	2030	$3,073.95	$3,381.35
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 3000 amp, excl breakers	1.00	Ea.	Electrical Room					30	2000	2030	$10,743.30	$11,817.63
D5010 Electrical Service/Distribution	Switchboards, pressure switch, 4 wire, 120/208 V, 4000 amp, incl CT compartment, excl CT's or PT's	1.00	Ea.	Electrical Room					30	2000	2030	$69,552.00	$76,507.20
D5090 Other Electrical Systems	Generator set, diesel, 3 phase 4 wire, 277/480 V, 125 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	Ea.	Electrical room					30	2010	2040	$50,797.80	$55,877.58
												Total:	**$3,472,334.09**

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):	735,300
Year Built:	1985
Last Renovation:	
Replacement Value:	$10,977,255
Repair Cost:	$6,420,243.11
Total FCI:	58.49 %
Total RSLI:	68.94 %

Description:

Attributes:

General Attributes:

Bldg ID:	S502001	Site ID:	S502001

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	76.73 %	80.82 %	$6,286,784.99
G40 - Site Electrical Utilities	50.00 %	4.17 %	$133,458.12
Totals:	**68.94 %**	**58.49 %**	**$6,420,243.11**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.	28,500	30	1988	2018	2047	106.67 %	0.00 %	32			$328,320
G2020	Parking Lots	$7.65	S.F.	74,800	30	1988	2018	2047	106.67 %	158.30 %	32		$905,831.33	$572,220
G2030	Pedestrian Paving	$11.52	S.F.	165,800	40	1988	2028	2057	105.00 %	0.00 %	42			$1,910,016
G2040	Site Development	$4.36	S.F.	735,300	25	1988	2013	2032	68.00 %	8.04 %	17		$257,812.58	$3,205,908
G2050	Landscaping & Irrigation	$3.78	S.F.	466,200	15	1988	2003	2022	46.67 %	290.72 %	7		$5,123,141.08	$1,762,236
G4020	Site Lighting	$3.58	S.F.	735,300	30	2000	2030	2030	50.00 %	3.48 %	15		$91,597.42	$2,632,374
G4030	Site Communications & Security	$0.77	S.F.	735,300	30	2000	2030	2030	50.00 %	7.39 %	15		$41,860.70	$566,181
								Total	**68.94 %**	**58.49 %**			**$6,420,243.11**	**$10,977,255**

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.

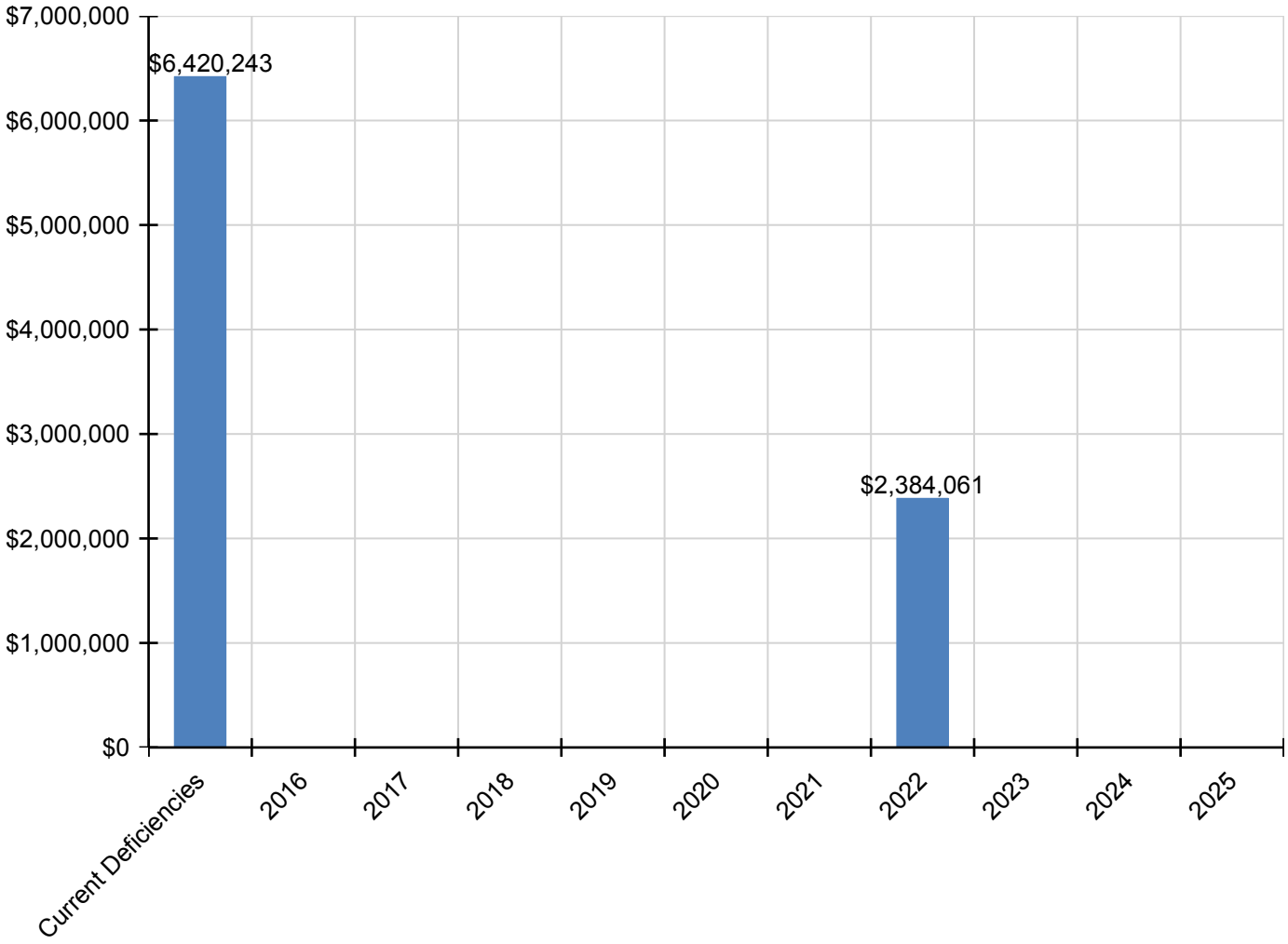
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$6,420,243**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,384,061**	**$0**	**$0**	**$0**	**$8,804,304**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$905,831	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$905,831**
G2030 - Pedestrian Paving	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$257,813	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$257,813**
G2050 - Landscaping & Irrigation	$5,123,141	$0	$0	$0	$0	$0	$0	$2,384,061	$0	$0	$0	**$7,507,202**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$91,597	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$91,597**
G4030 - Site Communications & Security	$41,861	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$41,861**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

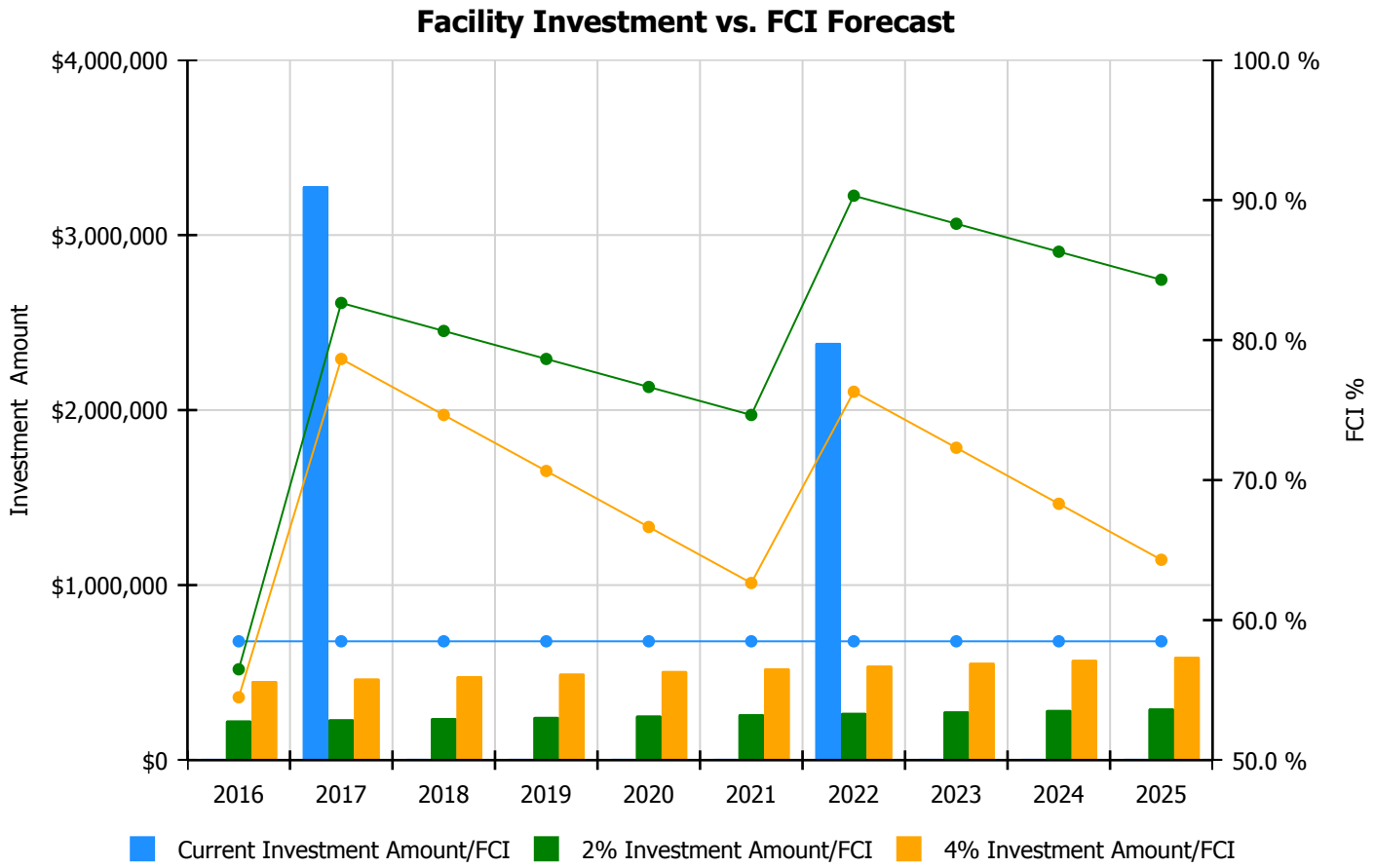
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

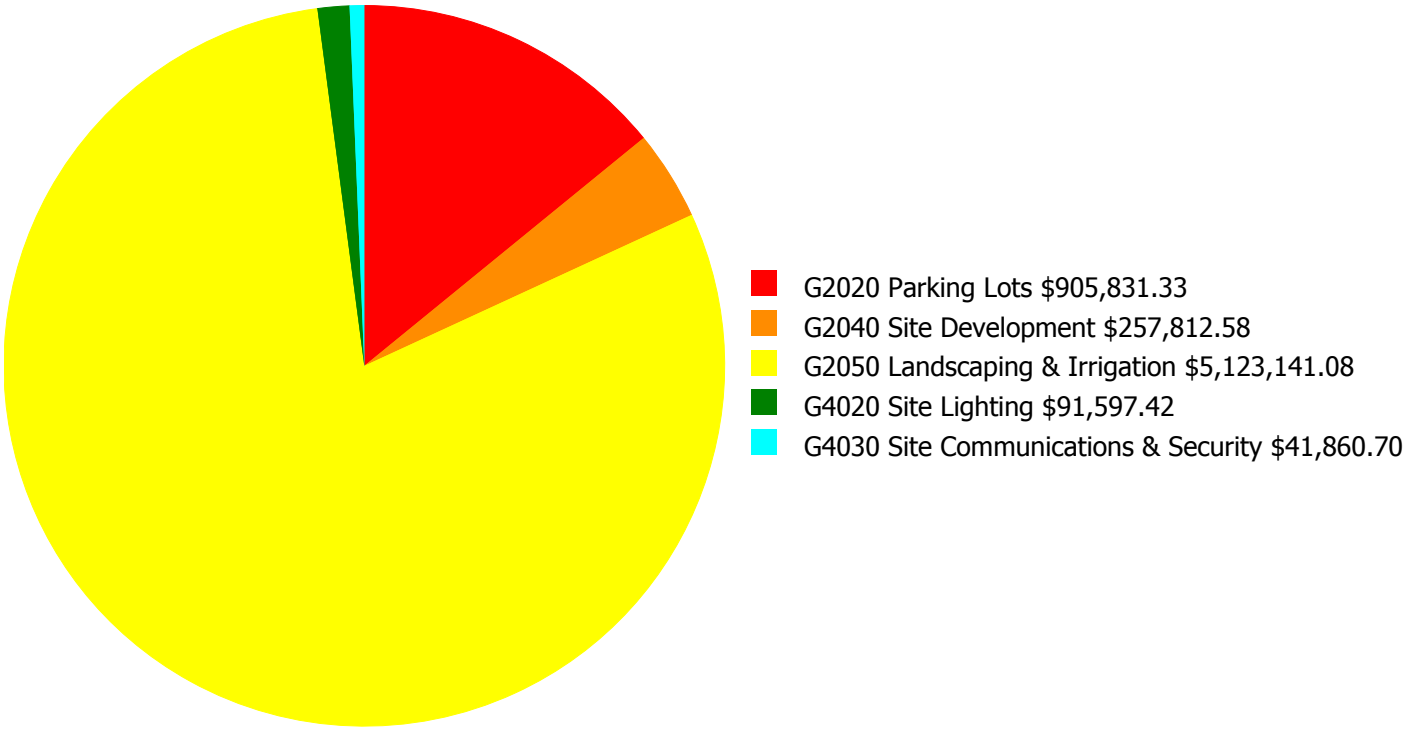
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 58.49%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$226,131.00	56.49 %	$452,263.00	54.49 %
2017	$3,279,891	$232,915.00	82.65 %	$465,831.00	78.65 %
2018	$0	$239,903.00	80.65 %	$479,806.00	74.65 %
2019	$0	$247,100.00	78.65 %	$494,200.00	70.65 %
2020	$0	$254,513.00	76.65 %	$509,026.00	66.65 %
2021	$0	$262,148.00	74.65 %	$524,297.00	62.65 %
2022	$2,384,061	$270,013.00	90.31 %	$540,026.00	76.31 %
2023	$0	$278,113.00	88.31 %	$556,226.00	72.31 %
2024	$0	$286,457.00	86.31 %	$572,913.00	68.31 %
2025	$0	$295,050.00	84.31 %	$590,101.00	64.31 %
Total:	**$5,663,952**	**$2,592,343.00**		**$5,184,689.00**	

Deficiency Summary by System

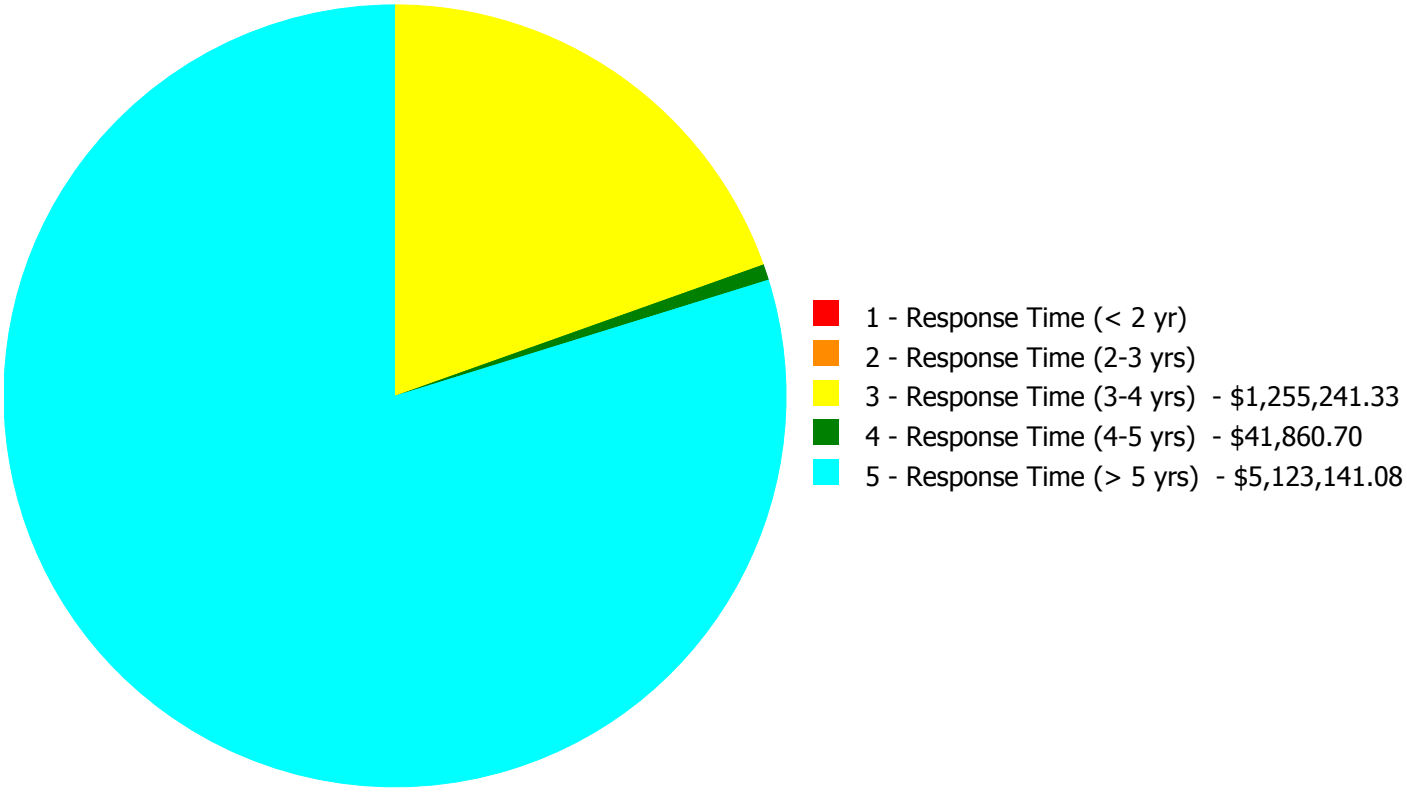
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $6,420,243.11

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: $6,420,243.11

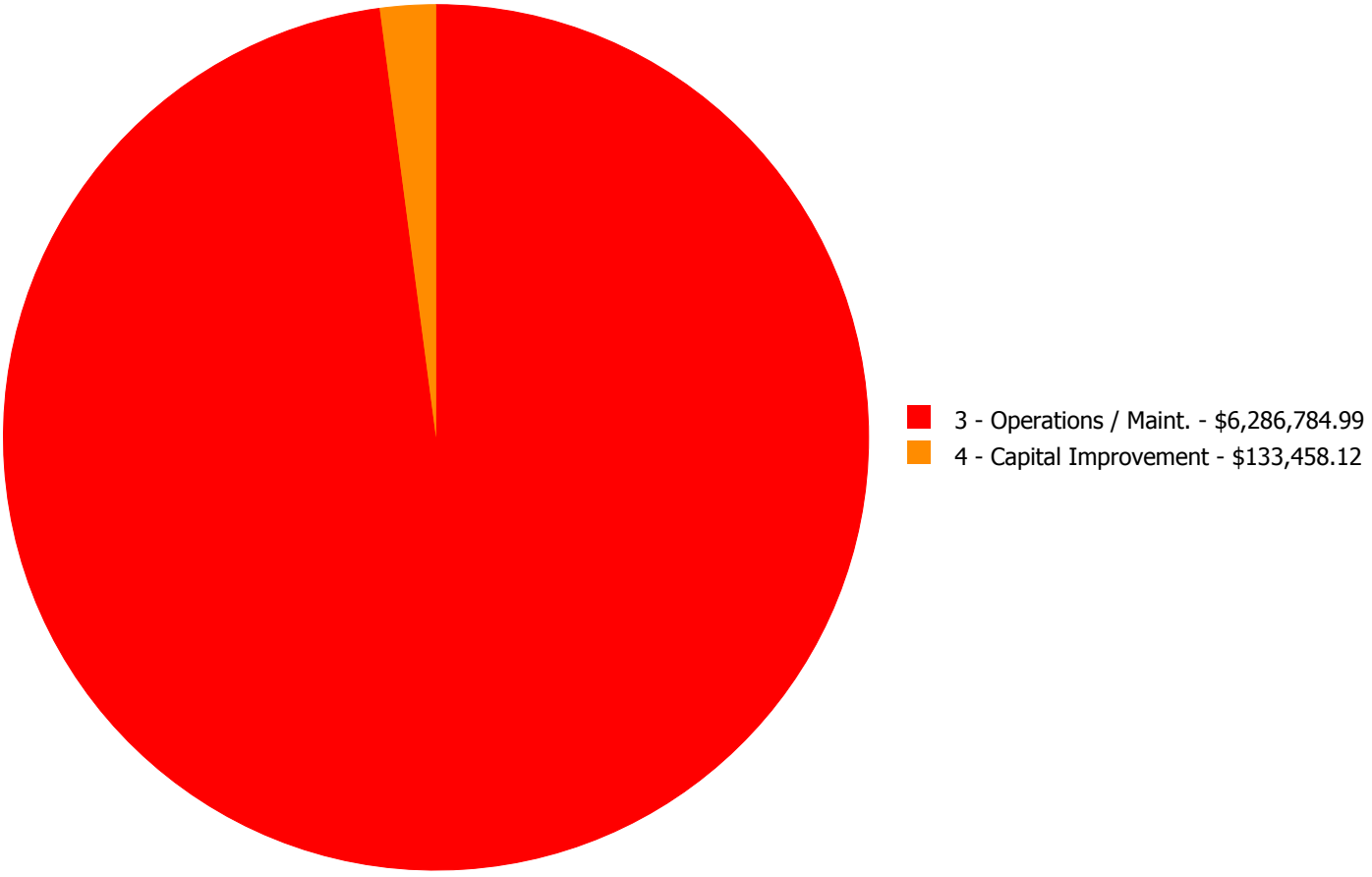
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$905,831.33	$0.00	$0.00	$905,831.33
G2040	Site Development	$0.00	$0.00	$257,812.58	$0.00	$0.00	$257,812.58
G2050	Landscaping & Irrigation	$0.00	$0.00	$0.00	$0.00	$5,123,141.08	$5,123,141.08
G4020	Site Lighting	$0.00	$0.00	$91,597.42	$0.00	$0.00	$91,597.42
G4030	Site Communications & Security	$0.00	$0.00	$0.00	$41,860.70	$0.00	$41,860.70
	Total:	$0.00	$0.00	$1,255,241.33	$41,860.70	$5,123,141.08	$6,420,243.11

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: $6,420,243.11

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: Grounds/ site
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Remove and replace concrete paving
Qty: 41,200.00
Unit of Measure: S.F.
Estimate: $867,107.88
Assessor Name: Wlodek Pieczonka
Date Created: 12/16/2015

Notes: Replace parking paving in visitor's lot

System: G2020 - Parking Lots

Location: Grounds/ site
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Stripe parking stalls, install parking bumpers, provide handicap symbol and handicap post mounted sign - insert proper quantities in estimate
Qty: 204.00
Unit of Measure: Ea.
Estimate: $38,723.45
Assessor Name: Wlodek Pieczonka
Date Created: 12/16/2015

Notes: Restripe visitor's and staff parking

System: G2040 - Site Development

Location: Grounds/ site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair exterior brick retaining wall - per LF of wall - up to 4' tall

Qty: 500.00

Unit of Measure: L.F.

Estimate: $257,812.58

Assessor Name: Wlodek Pieczonka

Date Created: 12/16/2015

Notes: Rebuild damaged retaining/ knee walls

System: G4020 - Site Lighting

Location: Grounds

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Site Lighting - pole mounted - select the proper light and pole

Qty: 1.00

Unit of Measure: Ea.

Estimate: $91,597.42

Assessor Name: Wlodek Pieczonka

Date Created: 11/20/2015

Notes: Install new site lighting for safety of the people and security of property.

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

System: G4030 - Site Communications & Security

Location: Grounds

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Site Paging System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $41,860.70

Assessor Name: Wlodek Pieczonka

Date Created: 11/20/2015

Notes: Install additional site paging on building exterior walls.

Priority 5 - Response Time (> 5 yrs):

System: G2050 - Landscaping & Irrigation

Location:	Grounds/ site
Distress:	Beyond Service Life
Category:	3 - Operations / Maint.
Priority:	5 - Response Time (> 5 yrs)
Correction:	Remove and replace or replace sod
Qty:	345,000.00
Unit of Measure:	S.F.
Estimate:	$5,123,141.08
Assessor Name:	Wlodek Pieczonka
Date Created:	12/16/2015

Notes: Re-sod grass areas at play field and visitor's parking

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