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.

The LINC (Clemente Middle) School

Governance	DISTRICT	Report Type	High
Address	122 W. Erie Ave.	Enrollment	240
	Philadelphia, Pa 19140	Grade Range	'09-11'
Phone/Fax	215-291-5432 / 215-291-5449	Admissions Category	Citywide
Website	www.philasd.org/schools/thelinc	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**13.62%**	**$16,659,342**	**$122,359,756**
Building	12.22 %	$14,612,527	$119,539,308
Grounds	72.57 %	$2,046,816	$2,820,448

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	01.76 %	$56,217	$3,193,361
Exterior Walls (Shows condition of the structural condition of the exterior facade)	05.36 %	$545,925	$10,192,641
Windows (Shows functionality of exterior windows)	00.00 %	$0	$4,982,241
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$337,582
Interior Doors (Classroom doors)	00.00 %	$0	$817,181
Interior Walls (Paint and Finishes)	00.00 %	$0	$3,913,620
Plumbing Fixtures	00.00 %	$0	$3,147,659
Boilers	16.27 %	$707,279	$4,346,656
Chillers/Cooling Towers	20.09 %	$1,144,917	$5,699,311
Radiators/Unit Ventilators/HVAC	46.33 %	$4,637,330	$10,008,717
Heating/Cooling Controls	136.09 %	$4,277,255	$3,143,003
Electrical Service and Distribution	00.00 %	$0	$2,258,306
Lighting	00.00 %	$0	$8,074,024
Communications and Security (Cameras, Pa System and Fire Alarm)	27.85 %	$842,336	$3,024,267

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

S773001;Clemente

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):	232,815
Year Built:	1994
Last Renovation:	
Replacement Value:	$122,359,756
Repair Cost:	$16,659,342.49
Total FCI:	13.62 %
Total RSLI:	69.98 %

Description:

Facility Assessment
August, 2015

School District of Philadelphia
Clemente Middle School
122 W. Erie Avenue
Philadelphia, PA 19140

186,252 SF / 1512 Students / LN 05

The Clemente Middle School building is located at 122 W. Erie Avenue in Philadelphia, PA. The 3 story, 186,252 square foot building was constructed in 1994. The building consists of connected four wings around an inner courtyard. North and east wings are 3 story and contain classrooms and administrative offices. West and south wings are 1 story and contain auditorium theatre, gymnasium, cafeteria with kitchen and specialized classrooms. The building has partial basement containing mechanical spaces.

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

planned renovation projects. Mr. Michael McGinley, Building Engineer, accompanied us on our tour of the school and provided us with detailed information on the building systems and recent maintenance history. The school principal, Ms. Lisette Agosto-Cintron provided additional information about building condition.

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, except gym slab which is cracked across the middle, possibly due to too shallow location of electrical conduit. The main structure is typically a steel frame, columns and girders; floors and flat roofs are typically precast concrete planks. The superstructure is generally in very good condition.

The building envelope typically comprises of face brick and glazed block over CMU with portions of auditorium walls and roof clerestories covered with prefinished metal panels; walls are insulated cavity type. While face brick and metal panels are typically in good condition, the gazed block portions of walls exhibit substantial mortar joint deterioration and missing expansion joints sealant.

Flat roofs structure is similar to floor construction (precast plank). The roof structure of the 1 story portion of the building and sloping clerestories is typically metal deck supported by bar joists and wide flange framing.

Exterior windows are typically anodized aluminum curtain wall, double insulated units with tilt-in operating sections covered with integral security screens; in very good condition.

Exterior doors are hollow metal glazed and part of the curtain wall system; service doors are typically hollow metal in hollow metal frames; two overhead roll-up doors are installed at loading dock and storage room; doors are generally in fair to poor condition.

Roofing typically consists of built-up system over rigid insulation, on both, flat roofs and over sloped clerestories. All roofing is generally in good condition. No leaks have been reported, however, portions of the auditorium perimeter coping are missing. Main roof access hatch located less than 10 feet from the roof edge is in good condition; no safety guard rails are installed.

INTERIORS:

Partition wall types include painted CMU, glazed CMU, glazed hollow metal borrowed light partitions, and drywall, in very good condition. Portions of Gym walls are acoustic CMU; walls in auditorium theatre are typically CMU with acoustic baffles. The interior wall finishes are generally painted drywall and CMU.

Most ceilings are 2x4 suspended acoustical panels; ceiling in gym and clerestories is exposed metal deck, painted. Ceiling in the auditorium theatre is exposed with suspended acoustical baffles. All ceilings are in very good condition; however, some ceiling and drywall soffits damage was observed in corridor near cafeteria, and in the library.

Flooring in most areas is generally vinyl composition tile, in very good condition. Gym has resilient sheet flooring in very good condition. Flooring in toilets and kitchen area is typically ceramic and quarry tiles in good condition.

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.

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 phenolic resin panels, ADA compliant, in very good condition, Accessories are in very good condition.

Institutional equipment includes library equipment; stage equipment; A/V equipment; and laboratory equipment; gym equipment – basketball backstops, scoreboards, etc. Other equipment includes kitchen equipment. All equipment is in very good condition.

CONVEYING EQUIPMENT:

The building does have a 3000 lb hydraulic elevator, in good condition.

ACCESSIBILITY:

The building does have accessible entrance and accessible routes, including walkways not exceeding 5% slope, per requirement. Toilets are generally in compliance with ADA.

GROUNDS (SITE):

There are two parking lots at the site, in good condition. Visitor's parking for 20 vehicles has 1 accessible space and aisle; staff parking for 60 vehicles has 3 spaces designated as accessible. Compliant accessible signage is in fair condition. Striping on both parking lots is faded; most of the wheel stops in the visitor's parking are damaged. Asphalt paving is generally in good condition with the exception of a service drive on the south side of the building – paving is cracked and deteriorating.

A paved playground is located in the courtyard, in good condition. There is a large grass play field south of the building with a baseball amenities; grass is in poor condition. Original perimeter chain link fences are generally in poor condition. Building engineer reported that a sliding gate leading from visitor's parking to courtyard is very difficult and sometimes impossible to operate in winter due to freezing.

The portion of the parking facing Erie Street is landscaped with trees, and grass areas, generally in poor condition; trees and shrubs are not fully mature.

PLUMBING:

Plumbing Fixtures - The original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted push button flush valve water closets, wall hung urinals and lavatories with both wheel-handle and lever faucets. The restrooms on each floor are equipped with at least one handicap accessible stall. No major issues with the plumbing fixtures were reported. The units appear to be in good condition and should provide reliable service for the next 12-15 years.

Drinking fountains in the corridors and at the restrooms consist of wall hung fixtures with integral refrigerated coolers; they are accessible type. No major issues with the drinking fountains were reported. The drinking fountains appear to be in good condition and should provide reliable service for the next 5-10 years.

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

The Kitchen has three (3) sinks; one (1) three-compartment stainless steel sink with lever operated faucets and garbage disposal, one (1) two-compartment stainless steel sink with lever operated faucets, and one (1) one-compartment stainless steel sink. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution - A 5" city water service enters the basement mechanical room. The 4" meter and valves are located in the mechanical room and a reduced pressure backflow preventer is installed. Duplex skid mounted 7.5HP domestic pressure booster pumps with expansion tank are installed on the domestic water line to ensure adequate pressure throughout the building. The booster pump system appears to be in good condition but is approaching the end of its service life; the District should provide reliable service the next 2-5 years. The domestic hot and cold water distribution piping is copper piping and sweat fittings. The maintenance staff reports problems with scale build up in the domestic piping due to poor chemical treatment which leads to clogged pipes and leaks. A water treatment system should be installed on the domestic water line. The supply is adequate to the fixtures.

Two (2) Bradford White gas fired vertical domestic hot water heaters with circulating pump are installed. Both water heaters were installed in 2008, have a 65 gallon capacity, and are within their service life. Both units are located in the basement mechanical room. The hot water heaters are equipped with T&P relief valves.

Sanitary Waste - The sanitary sewer piping is steel with no-hub fittings and is within its service life. The majority of

sanitary piping is located 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.

A sewage ejector pit located in the basement mechanical room receives water from the basement area. The pit has submerged pumps and is sealed. The system appeared to be in good condition and the Building Engineer reported no issues with the pumps.

Rain Water Drainage - Rain water drains from the roof are routed through a combination of internal and external rain leaders. The internal roof drains are steel piping with no-hub fittings and routed through mechanical chases in the building. Other drains lead to external rain leaders with aluminum downspouts that run down the side of the building and connect to steel piping approximately eight (8) feet above the ground. The system is original to the building and is within its service life. No issues were reported with the roof drains or rain leaders

MECHANICAL:

Energy Supply - An 8” city gas service enters the building in the basement mechanical room. The gas meter is 6” and located in the basement mechanical room.

Heat Generating Systems - Building heating hot water is generated by two (2) 90HP Weil McLain model 88 cast iron sectional boilers with gross output of 3,000MBH. Each boiler is equipped with a Power Flame burner designed to operate on natural gas. Combustion air makeup is supplied by louvers equipped with motorized dampers. The gas train serving the boilers appears to 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 35 years or more; these units have been in service 21 years. The District should provide reliable service for the next 10 to 15 years.

Cooling Generating Systems - Chilled glycol is generated by one (1) Carrier 30XAB air-cooled screw chiller located on the roof at the South East corner of the building. The chiller provides a nominal 280 tons of cooling, has two (2) compressors, and utilizes R-134a refrigerant. The chiller was installed in 2015 to replace the original chiller, according to the Building Engineer. Screw chillers have an anticipated service life of 20 years; this unit has been in service 1 year. The District should provide reliable service for the next 18-20 years.

A Fafco IceStore ice thermal storage system is installed in the basement mechanical room. Six (6) thermal storage tanks are meant to be frozen at night and used to provide chilled water during the day without the use of the chiller during peak load conditions. According to the Building Engineer the system has never functioned properly and it is not used.

Distribution Systems - A two pipe, dual temperature distribution system supplies building heating or cooling water to the unit ventilators in classrooms. Two (2) 15HP and two (2) 1.5HP in-line Armstrong dual temperature supply pumps, CP-11, CP-12, CP-13, and CP-14, circulate building heating or cooling water to the unit ventilators. The pumps are covered in rust, in poor condition, and need to be replaced. The piping is a mixture of black steel and copper; all piping is covered in insulation.

A four pipe distribution system supplies building heating and cooling water to the air handling units (AHU) located throughout the building. Heating water is supplied to the heating and ventilation units and fin tube radiators in the stairwells by the hot water piping. The distribution system is configured for primary/secondary operation. Armstrong 15HP end-suction heating water supply pumps, CP-1 and CP-2, circulate heating water from the boilers in the primary loop. These pumps are approaching the end of their service life and should be replaced within the next 5 years.

Two (2) 3HP Armstrong in-line heating water supply pumps, CP-3 and CP-4, circulate building heating water to the heating and ventilation units serving the Gymnasium and fin tube radiators in the stairwells. Two (2) 1.5HP Armstrong in-line heating water supply pumps, CP-5 and CP-6, circulate building heating water to AHU-3 and AHU-6. Two (2) 5HP Armstrong in-line heating water supply pumps, CP-7 and CP-8, circulate building heating water to AHU-1, AHU-2, AHU-7, and AHU-9. Two (2) 5HP Armstrong in-line heating water supply pumps, CP-9 and CP-10, circulate building heating water to AHU-4, AHU-5, and AHU-8. An expansion tank, air separator, and chemical treatment are installed on the heating water distribution system. All of the in-line pumps are beyond their service life; many are damaged from rust, and should be replaced.

A two pipe glycol water loop serves the chiller and heat exchanger. There are two (2) 40HP end-suction Armstrong glycol supply pumps; CP-15 and CP-16. One pump is primary and the other is secondary. An Alfa Laval model 115-BFG plate and frame heat exchanger transfers heat from the building chilled water to the chilled glycol. The pumps are in poor condition, nearing the end of their service life, and should be replaced within the next 2-5 years.

Two (2) 20HP end-suction Armstrong primary chilled water supply pumps, CP-17 and CP-18, circulate building chilled water between the heat exchanger and secondary distribution pumps. These pumps are approaching the end of their service life and should be replaced within the next 5 years. There are six (6) chilled water supply pumps serving the air handling units within the building. The chilled water pumps are all in-line Armstrong pumps. Two (2) 1HP pumps, CP-19 and CP-20, circulate building chilled water to AHU-1 and AHU-2. Two (2) 7.5HP pumps, CP-21 and CP-22, circulate building chilled water to AHU-3, AHU-6, AHU-7, and AHU-9. Two (2) 5HP pumps, CP-23 and CP-24, circulate building chilled water to AHU-4, AHU-5, and AHU-8. An expansion tank and air separator is installed on the chilled water side. All of the in-line pumps are beyond their service life, many are damaged from rust, and should be replaced.

All pumps are original to the building, appear to be in poor condition, and are beyond or approaching the end of their anticipated service. All main piping is black steel, covered with insulation, and appears to be in decent condition. Smaller branch piping is copper and covered in insulation. Several fittings were not insulated and covered in rust; the distribution piping should be inspected and repaired as necessary.

Nine (9) McQuay model LSL air handling units provide heating, cooling, and outdoor air intake to specific spaces within the building. Three (3) heating and ventilation units provide heat and fresh air for the Gymnasium and are located in the Gymnasium; these units were not accessible during the site visit. All AHUs are connected to a four pipe system for building hot and chilled water. AHU-1 serves the main office suite, is located in the first floor mechanical room, and has a 1.5HP fan motor. AHU-2 serves the IMC and Health Center, is located in the first floor mechanical room, and has a 1.5HP fan motor. AHU-3 serves the first floor classrooms and corridor, is located in the basement mechanical room, and has a 7.5HP fan motor. AHU-4 serves the “S-wing”, is located in the first floor mechanical room, and has a 7.5HP fan motor. AHU-5 serves the Lobby, is located in the penthouse mechanical room, and has a 5HP fan motor. AHU-6 serves the Cafeteria and corridor, is located in the basement mechanical room, and has a 10HP fan motor. AHU-7 serves the second floor classrooms and corridor, is located in the second floor mechanical room, and has a 7.5HP fan motor. AHU-8 serves the Auditorium, is located in the penthouse mechanical room, and has a 15HP fan motor. AHU-9 serves the third floor classrooms and corridor, is located in the third floor mechanical room, and has a 7.5HP fan motor. All units were operational during the site visit, are original to the building, and are within their service life. Reliable service should be provided for the next 5-8 years.

Unit ventilators provide heating and cooling for the classrooms and offices. The unit ventilators are original to the building and are within their service life. Outdoor air for the building is provided by wall openings in the unit ventilators and the air handling units. No major issues were reported with the unit ventilators. Fin tube radiators provide heating for hallways and stairwells. All radiators appeared to be in good condition.

Terminal & Package Units - The building is exhausted by a total of twenty-eight (28) roof mounted exhaust fans and four (4) powered roof ventilators located on the two (2) roof levels. The lower roof has twenty-three (23) exhaust fans serving the corridors, restrooms, and Kitchen. The upper roof has five (5) exhaust fans serving the stairwells, mechanical room, and restrooms. Three (3) power ventilators are also installed on the upper roof. The Building Engineer did not report any major problems with the exhaust system. The exhaust fans remove air from the ceiling plenum above the drop ceiling. Roof mounted exhaust fans have an anticipated service life of twenty (20) years; these units have been in service 21 years and should be replaced within the next 1-3 years.

Three (3) Avtec kitchen hoods with integral fire suppression and outdoor air make-up systems are installed above the gas fired cooking equipment. An automatic gas shutoff valve is installed with the kitchen hood equipment. The equipment is within its service life and no issues were reported by the Building Engineer.

One (1) roof mounted Sterling gas fired make-up air unit is intended to provide make-up air for the Kitchen when the exhaust hoods are in operation. This unit has been decommissioned and is no longer in use. An equipment tag was not visible on the unit.

A Sanyo split system air conditioning system provides cooling to the LAN room located on the first floor. The survey team did not have access to the LAN room. 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 - A building management system (BMS) with DDC modules and communications network is installed in this building. The Building Engineer reported that the BMS, installed when the building was built, is no longer operational; the system only provides temperature readings and on/off capability for unit ventilators. The Building Engineer operates all equipment manually and must change over the valves between heating and cooling season. All major mechanical equipment (chillers, boilers, air handling units, pumps, fans, etc.) should be monitored and controlled by the system. The controls are at the end of their service life and should be replaced with new controls system.

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 dry type sprinkler system only within certain spaces of the building. The spaces covered by the sprinkler system include the Kitchen, Cafeteria, loading dock, boiler room/basement mechanical room, and mechanical rooms containing AHUs. A duplex Landis and Gyr air compressor ensures the system is properly pressurized. An 8" sprinkler line enters the building in the basement mechanical room along the same wall as the domestic water. The fire suppression system is the originally installed equipment and should not need replacement within the next 10 years.

The building does have not have fire standpipes installed.

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 indoor transformer (13.2KV – 120V/208V). The electrical service is fairly new (1994) 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 (PECO 76613704) is also located inside the electrical room. The service entrance and the main building electrical distribution systems have ample capacity for future growth. There is no deficiency in this area.

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. They meet the requirement of having a minimum of two receptacles on each wall of the classrooms.

Lighting - Interior building is illuminated by various types of fixtures. They include fluorescent lighting (with T-5 & T-8 lamp) 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 fixtures. The majority of interior lighting fixtures is in good condition and has not reached the end of their useful service.

Fire alarm - The present Fire Alarm system (AFP-200) is an intelligent fire detection and alarm system, fully automatic/addressable, and is in compliance with safety codes. There are manual pulls stations throughout the building. There are sufficient number of horn/strobes installed in the classrooms, corridors, offices and other areas in the school.

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

Public Address - Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately. The present Intercom System is functioning fine. Each class room is provided with intercom telephone service. The system permits paging and intercom communication between main office to classrooms, and vice versa (classrooms to main office), and communication between classrooms to other classrooms.

Clock and Program system - Clock and program systems are not working adequately. Classrooms are provided with 12-

inch wall mounted round clock. 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 inadequate video surveillance system. The system is old and has reached the end of its useful service. There are not enough cameras at exit doors, corridors, exterior, and other critical areas. These cameras should be 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 are sufficient emergency lighting fixtures in corridors, library and other 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 are correctly bonded to the ground.

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

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

RECOMMENDATIONS:

- Repair cracks in gym slab
- Replace portion of resilient sheet flooring in gym
- Tuck-point gazed CMU masonry
- Replace sealant in masonry control joints
- Replace coping at auditorium roof perimeter
- Install safety guard rails at roof access hatch per OSHA requirements
- Replace damaged acoustical ceilings
- Repair drywall soffits
- Restripe visitors and staff parking
- Resurface service drive on the south side of the building
- Replace wheel stops at visitor's parking stalls
- Replace perimeter chain link fence
- Install heat tracing in sill of sliding gate leading to courtyard
- Re-sod grass areas at play field and visitor's parking
- Install a water treatment system on the building domestic hot water and building heating water lines to reduce the rate of scale buildup within the domestic water piping.
- Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for over twenty years and with reports of scale build up from the Building Engineer, and replace any damaged piping.
- Replace the skid mounted 7.5HP duplex domestic water pump system that is approaching the end of its service life with a new skid mounted pressure booster system.
- 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.
- Replace two (2) 1HP in-line chilled water supply pumps, CP-19 and CP-20, in the basement mechanical room which are damaged from rust and beyond their service life.
- Replace four (4) 1.5HP in-line dual temperature and heating water supply pumps, CP-5, CP-6, CP-11, and CP-12, in the basement mechanical room which are damaged from rust and beyond their service life.
- Replace two (2) 3HP in-line heating water supply pumps, CP-3 and CP-4, in the basement mechanical room which

are damaged from rust and beyond their service life.
- Replace four (4) 5HP in-line heating water supply pumps, CP-7, CP-8, CP-9, and CP-10, in the basement mechanical room which are damaged from rust and beyond their service life.
- Replace two (2) 5HP in-line chilled water supply pumps, CP-23 and CP-24, in the basement mechanical room which are damaged from rust and beyond their service life.
- Replace two (2) 7.5HP in-line chilled water supply pumps, CP-21 and CP-22, in the basement mechanical room which are damaged from rust and beyond their service life.
- Replace two (2) 15HP in-line dual temperature supply pumps, CP-13 and CP-14, in the basement mechanical room which are damaged from rust and beyond their service life.
- Replace two (2) 15HP end-suction heating water supply pumps, CP-1 and CP-2, in the basement which are approaching the end of their service life.
- Replace two (2) 20HP end-suction chilled water supply pumps, CP-17 and CP-18, in the basement which are approaching the end of their service life.
- Replace two (2) 40HP end-suction glycol supply pumps, CP-15 and CP-16, in the basement which are approaching the end of their service life.
- Hire a qualified contractor to examine the chilled water, hot water and dual temperature distribution piping which is showing signs of rust damage, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace twenty-eight (28) roof mounted exhaust fans which are beyond their service life.
- Replace four (4) roof mounted power ventilators which are beyond their service life.
- Replace the decommissioned roof mounted gas fired make-up air unit serving the Kitchen.
- 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.
- Install a new Clock System.
- Install new Security cameras and monitoring.
- Install new site lighting for safety of the people and security of property.
- Install new site paging on building exterior walls.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S773001		

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.

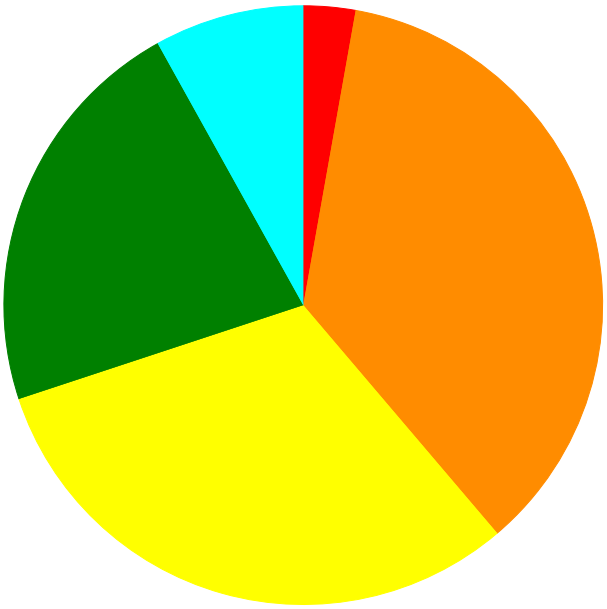
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	79.00 %	0.84 %	$55,457.49
A20 - Basement Construction	79.00 %	0.00 %	$0.00
B10 - Superstructure	79.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	69.51 %	3.52 %	$545,924.78
B30 - Roofing	109.65 %	1.76 %	$56,217.18
C10 - Interior Construction	70.49 %	0.00 %	$0.00
C20 - Stairs	79.00 %	0.00 %	$0.00
C30 - Interior Finishes	96.89 %	1.78 %	$213,655.01
D10 - Conveying	40.00 %	0.00 %	$0.00
D20 - Plumbing	52.93 %	45.70 %	$2,132,154.64
D30 - HVAC	65.83 %	41.57 %	$10,766,781.21
D40 - Fire Protection	34.99 %	0.00 %	$0.00
D50 - Electrical	45.47 %	6.16 %	$842,336.29
E10 - Equipment	40.00 %	0.00 %	$0.00
E20 - Furnishings	47.50 %	0.00 %	$0.00
G20 - Site Improvements	76.66 %	80.97 %	$1,664,105.93
G40 - Site Electrical Utilities	30.00 %	50.02 %	$382,709.96
Totals:	**69.98 %**	**13.62 %**	**$16,659,342.49**

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)
B773001;Clemente	232,815	12.22	$466,935.64	$5,365,410.81	$4,839,413.99	$3,561,314.87	$379,451.29
G773001;Grounds	175,900	72.57	$0.00	$628,833.45	$349,174.91	$102,839.85	$965,967.68
Total:		**13.62**	**$466,935.64**	**$5,994,244.26**	**$5,188,588.90**	**$3,664,154.72**	**$1,345,418.97**

Deficiencies By Priority



Budget Estimate Total: $16,659,342.49

Executive Summary

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

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

Function:	Middle Secondary
Gross Area (SF):	232,815
Year Built:	1994
Last Renovation:	
Replacement Value:	$119,539,308
Repair Cost:	$14,612,526.60
Total FCI:	12.22 %
Total RSLI:	70.12 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B773001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S773001		

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	79.00 %	0.84 %	$55,457.49
A20 - Basement Construction	79.00 %	0.00 %	$0.00
B10 - Superstructure	79.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	69.51 %	3.52 %	$545,924.78
B30 - Roofing	109.65 %	1.76 %	$56,217.18
C10 - Interior Construction	70.49 %	0.00 %	$0.00
C20 - Stairs	79.00 %	0.00 %	$0.00
C30 - Interior Finishes	96.89 %	1.78 %	$213,655.01
D10 - Conveying	40.00 %	0.00 %	$0.00
D20 - Plumbing	52.93 %	45.70 %	$2,132,154.64
D30 - HVAC	65.83 %	41.57 %	$10,766,781.21
D40 - Fire Protection	34.99 %	0.00 %	$0.00
D50 - Electrical	45.47 %	6.16 %	$842,336.29
E10 - Equipment	40.00 %	0.00 %	$0.00
E20 - Furnishings	47.50 %	0.00 %	$0.00
Totals:	**70.12 %**	**12.22 %**	**$14,612,526.60**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$23.16	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$5,391,995
A1030	Slab on Grade	$5.17	S.F.	232,815	100	1994	2094		79.00 %	4.61 %	79		$55,457.49	$1,203,654
A2010	Basement Excavation	$4.36	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$1,015,073
A2020	Basement Walls	$10.05	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$2,339,791
B1010	Floor Construction	$85.94	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$20,008,121
B1020	Roof Construction	$9.26	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$2,155,867
B2010	Exterior Walls	$43.78	S.F.	232,815	100	1994	2094		79.00 %	5.36 %	79		$545,924.78	$10,192,641
B2020	Exterior Windows	$21.40	S.F.	232,815	40	1994	2034		47.50 %	0.00 %	19			$4,982,241
B2030	Exterior Doors	$1.45	S.F.	232,815	25	1994	2019	2042	108.00 %	0.00 %	27			$337,582
B3010105	Built-Up	$37.76	S.F.	84,200	20	1994	2014	2037	110.00 %	1.35 %	22		$42,795.28	$3,179,392
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	232,815	30	1994	2024		30.00 %	96.08 %	9		$13,421.90	$13,969
C1010	Partitions	$17.91	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$4,169,717
C1020	Interior Doors	$3.51	S.F.	232,815	40	1994	2034		47.50 %	0.00 %	19			$817,181
C1030	Fittings	$3.12	S.F.	232,815	40	1994	2034		47.50 %	0.00 %	19			$726,383
C2010	Stair Construction	$1.41	S.F.	232,815	100	1994	2094		79.00 %	0.00 %	79			$328,269

Site Assessment Report - B773001;Clemente

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	232,815	10	1994	2004	2027	120.00 %	0.00 %	12			$3,075,486
C3010231	Vinyl Wall Covering	$0.97	S.F.	232,815	15				0.00 %	0.00 %				$225,831
C3010232	Wall Tile	$2.63	S.F.	232,815	30	1994	2024		30.00 %	0.00 %	9			$612,303
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	26,100	50	1994	2044		58.00 %	0.00 %	29			$1,971,072
C3020413	Vinyl Flooring	$9.68	S.F.	123,000	20	1994	2014	2037	110.00 %	0.00 %	22			$1,190,640
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	37,260	50	1994	2044		58.00 %	0.00 %	29			$36,142
C3030	Ceiling Finishes	$20.97	S.F.	232,815	25	1994	2019	2042	108.00 %	4.38 %	27		$213,655.01	$4,882,131
D1010	Elevators and Lifts	$1.53	S.F.	232,815	35	1994	2029		40.00 %	0.00 %	14			$356,207
D2010	Plumbing Fixtures	$13.52	S.F.	232,815	35	1994	2029		40.00 %	0.00 %	14			$3,147,659
D2020	Domestic Water Distribution	$1.68	S.F.	232,815	25	1994	2019	2042	108.00 %	286.80 %	27		$1,121,743.65	$391,129
D2030	Sanitary Waste	$2.52	S.F.	232,815	30	1994	2024	2047	106.67 %	172.22 %	32		$1,010,410.99	$586,694
D2040	Rain Water Drainage	$2.32	S.F.	232,815	30	1994	2024		30.00 %	0.00 %	9			$540,131
D3020	Heat Generating Systems	$18.67	S.F.	232,815	35	1994	2029		40.00 %	16.27 %	14		$707,279.08	$4,346,656
D3030	Cooling Generating Systems	$24.48	S.F.	232,815	20	2015	2035		100.00 %	20.09 %	20		$1,144,917.17	$5,699,311
D3040	Distribution Systems	$42.99	S.F.	232,815	25	1994	2019	2027	48.00 %	46.33 %	12		$4,637,329.68	$10,008,717
D3050	Terminal & Package Units	$11.60	S.F.	232,815	20	2005	2025		50.00 %	0.00 %	10			$2,700,654
D3060	Controls & Instrumentation	$13.50	S.F.	232,815	20	1994	2014	2037	110.00 %	136.09 %	22		$4,277,255.28	$3,143,003
D4010	Sprinklers	$7.05	S.F.	232,815	35	1994	2029		40.00 %	0.00 %	14			$1,641,346
D4020	Standpipes	$1.01	S.F.	232,815	35				0.00 %	0.00 %				$235,143
D5010	Electrical Service/Distribution	$9.70	S.F.	232,815	30	1994	2024	2024	30.00 %	0.00 %	9			$2,258,306
D5020	Lighting and Branch Wiring	$34.68	S.F.	232,815	20	2000	2020	2020	25.00 %	0.00 %	5			$8,074,024
D5030	Communications and Security	$12.99	S.F.	232,815	15	1994	2009	2032	113.33 %	27.85 %	17		$842,336.29	$3,024,267
D5090	Other Electrical Systems	$1.41	S.F.	232,815	30	1994	2024	2024	30.00 %	0.00 %	9			$328,269
E1020	Institutional Equipment	$4.82	S.F.	232,815	35	1994	2029		40.00 %	0.00 %	14			$1,122,168
E1090	Other Equipment	$11.10	S.F.	232,815	35	1994	2029		40.00 %	0.00 %	14			$2,584,247
E2010	Fixed Furnishings	$2.13	S.F.	232,815	40	1994	2034		47.50 %	0.00 %	19			$495,896
								Total	**70.12 %**	**12.22 %**			**$14,612,526.60**	**$119,539,308**

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 or Drywall) 90% Glazed CMU 10%	
System:	C3020 - Floor Finishes	This system contains no images
Note:	VCT 66% Ceramic tile 14% Concrete 20%	
System:	C3030 - Ceiling Finishes	This system contains no images
Note:	ACT 40% Exposed or drywall, painted 60%	

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:	**$14,612,527**	**$0**	**$0**	**$0**	**$0**	**$10,296,008**	**$0**	**$0**	**$0**	**$5,386,464**	**$3,992,398**	**$34,287,396**
*** 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	$55,457	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$55,457**
*** 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	$545,925	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$545,925**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$42,795	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$42,795**
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	$13,422	$0	$0	$0	$0	$0	$0	$0	$0	$20,049	$0	**$33,471**
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**

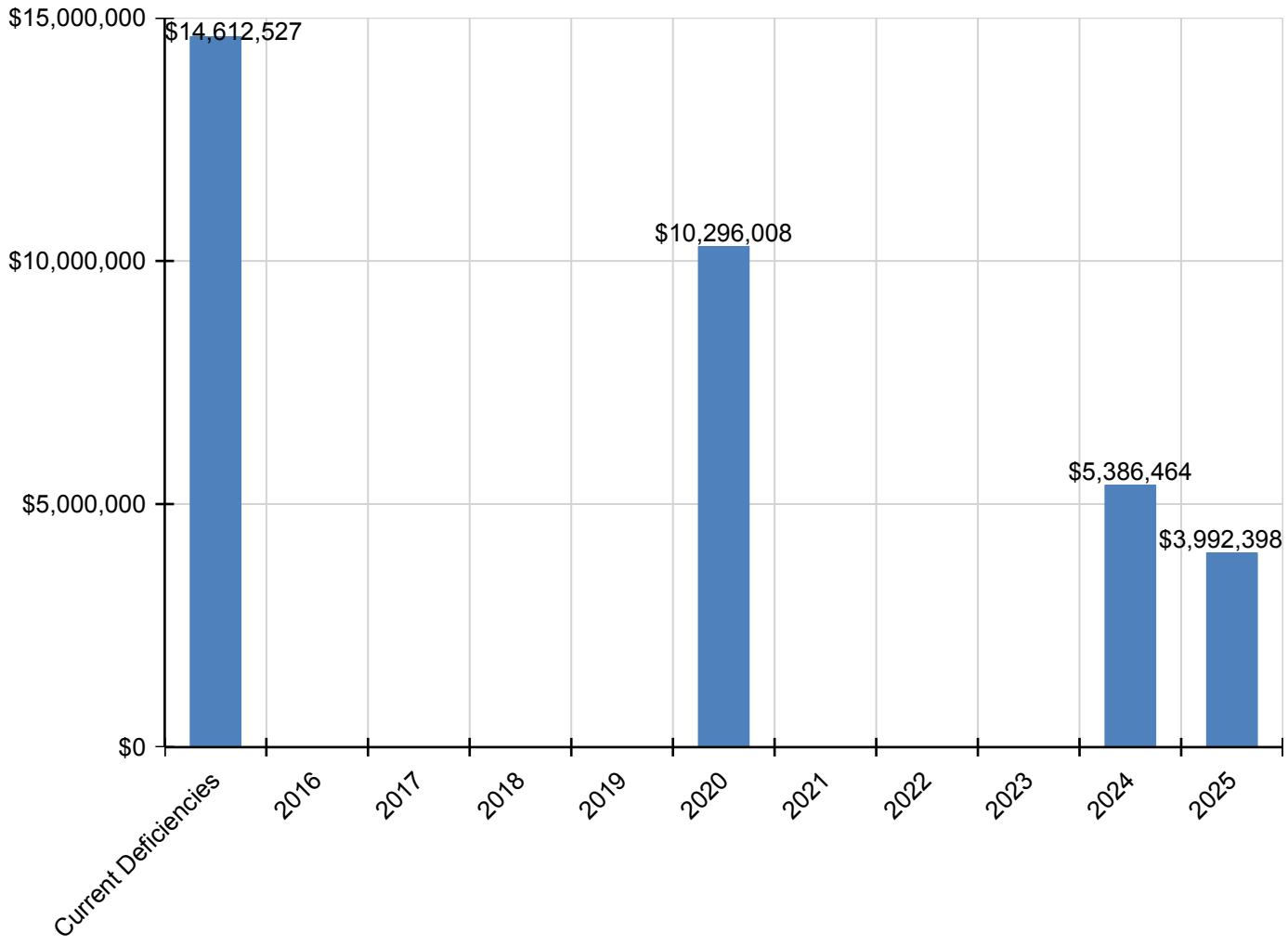
C1020 - Interior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$878,809	$0	**$878,809**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$213,655	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$213,655**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$1,121,744	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,121,744**
D2030 - Sanitary Waste	$1,010,411	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,010,411**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$775,223	$0	**$775,223**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$707,279	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$707,279**
D3030 - Cooling Generating Systems	$1,144,917	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,144,917**
D3040 - Distribution Systems	$4,637,330	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,637,330**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,992,398	**$3,992,398**
D3060 - Controls & Instrumentation	$4,277,255	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,277,255**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$3,241,234	$0	**$3,241,234**
D5020 - Lighting and Branch Wiring	$0	$0	$0	$0	$0	$10,296,008	$0	$0	$0	$0	$0	**$10,296,008**
D5030 - Communications and Security	$842,336	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$842,336**
D5090 - Other Electrical Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$471,148	$0	**$471,148**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

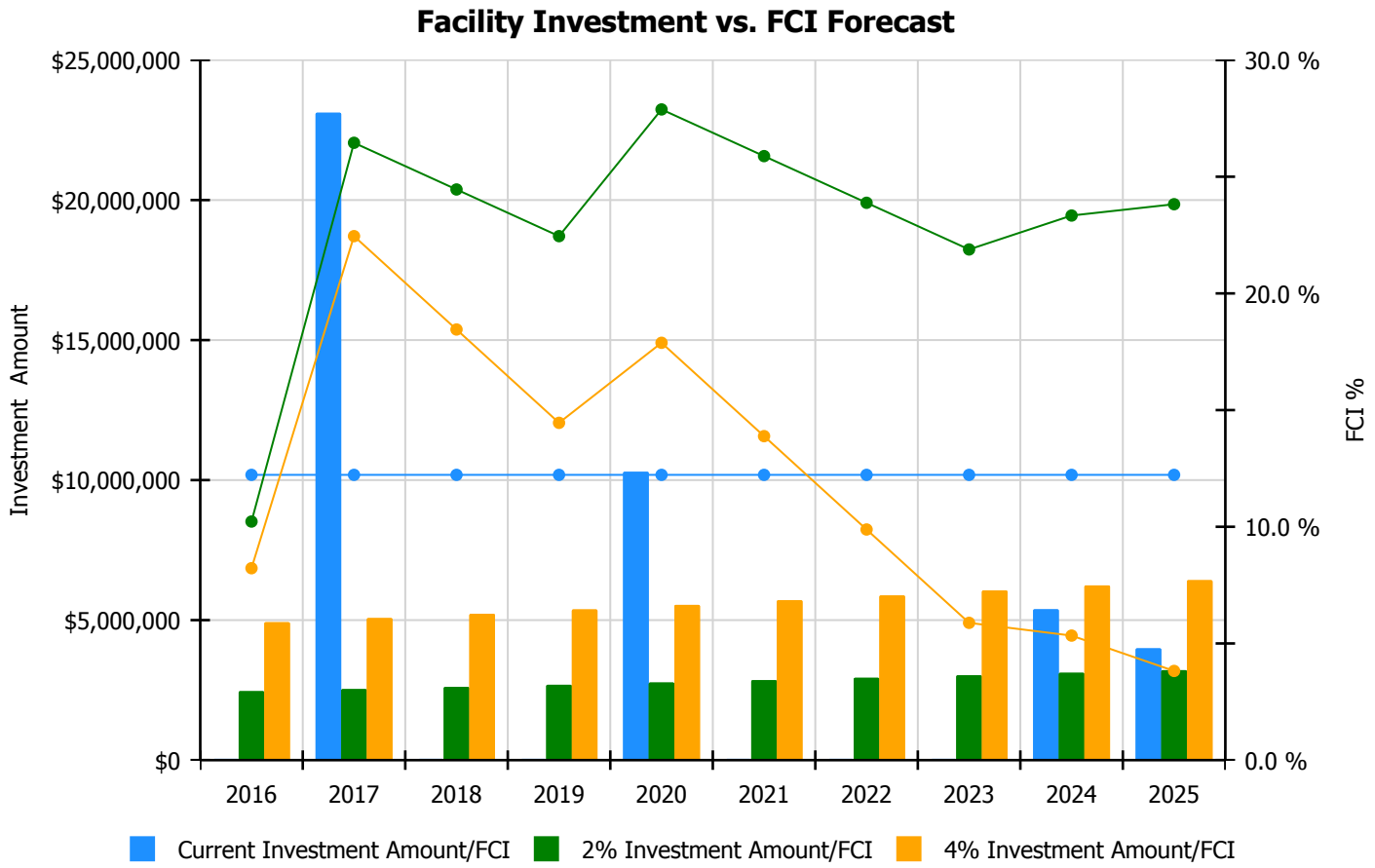
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

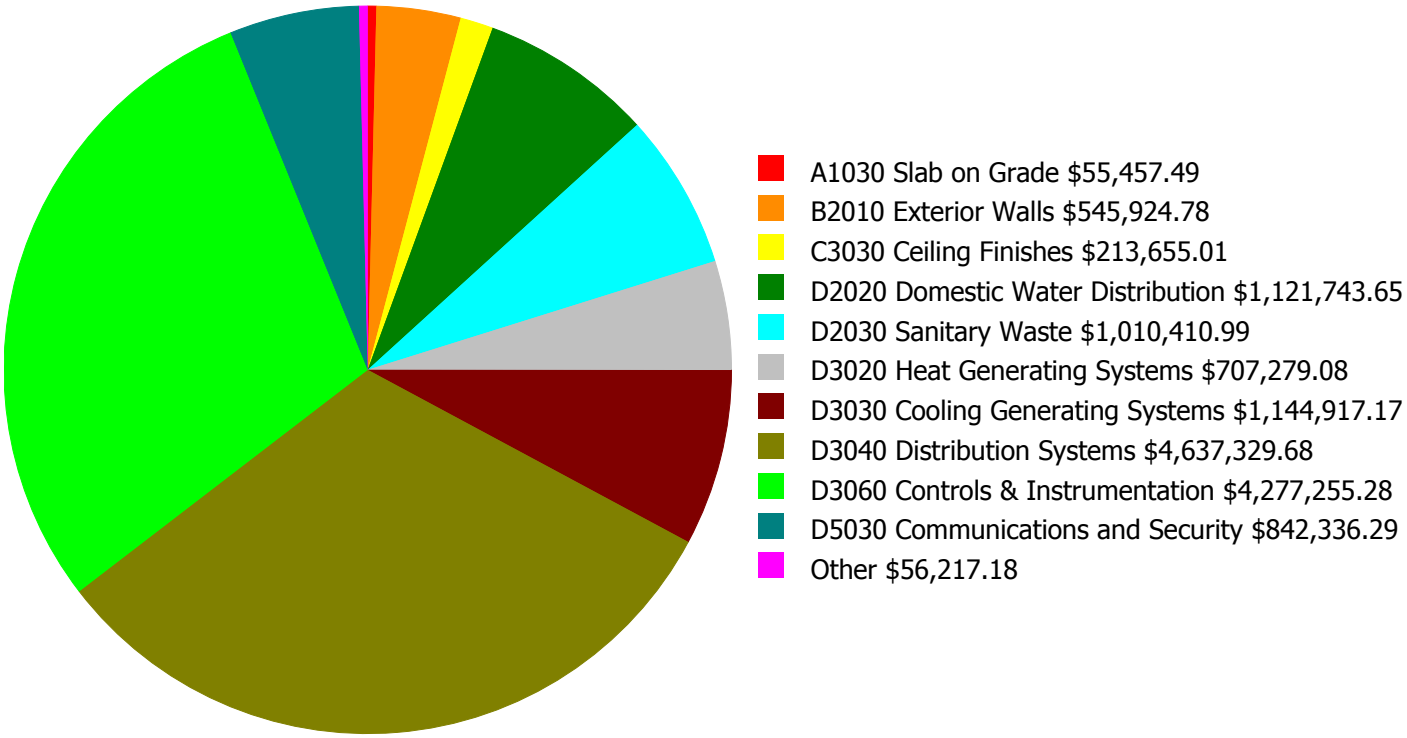
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 12.22%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$2,462,510.00	10.22 %	$4,925,019.00	8.22 %
2017	$23,118,450	$2,536,385.00	26.45 %	$5,072,770.00	22.45 %
2018	$0	$2,612,477.00	24.45 %	$5,224,953.00	18.45 %
2019	$0	$2,690,851.00	22.45 %	$5,381,702.00	14.45 %
2020	$10,296,008	$2,771,576.00	27.88 %	$5,543,153.00	17.88 %
2021	$0	$2,854,724.00	25.88 %	$5,709,447.00	13.88 %
2022	$0	$2,940,365.00	23.88 %	$5,880,731.00	9.88 %
2023	$0	$3,028,576.00	21.88 %	$6,057,153.00	5.88 %
2024	$5,386,464	$3,119,434.00	23.34 %	$6,238,867.00	5.34 %
2025	$3,992,398	$3,213,017.00	23.82 %	$6,426,033.00	3.82 %
Total:	**$42,793,319**	**$28,229,915.00**		**$56,459,828.00**	

Deficiency Summary by System

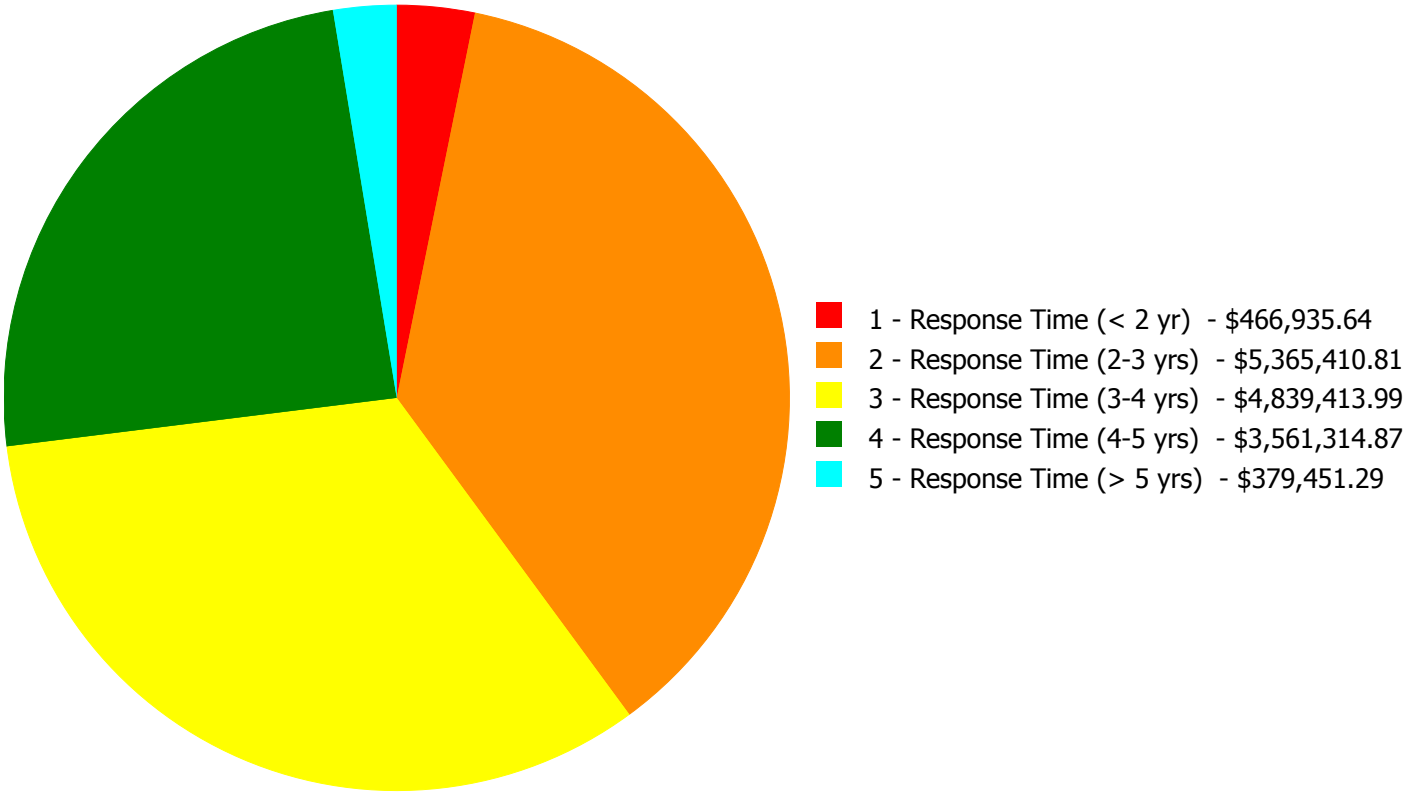
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $14,612,526.60

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: $14,612,526.60

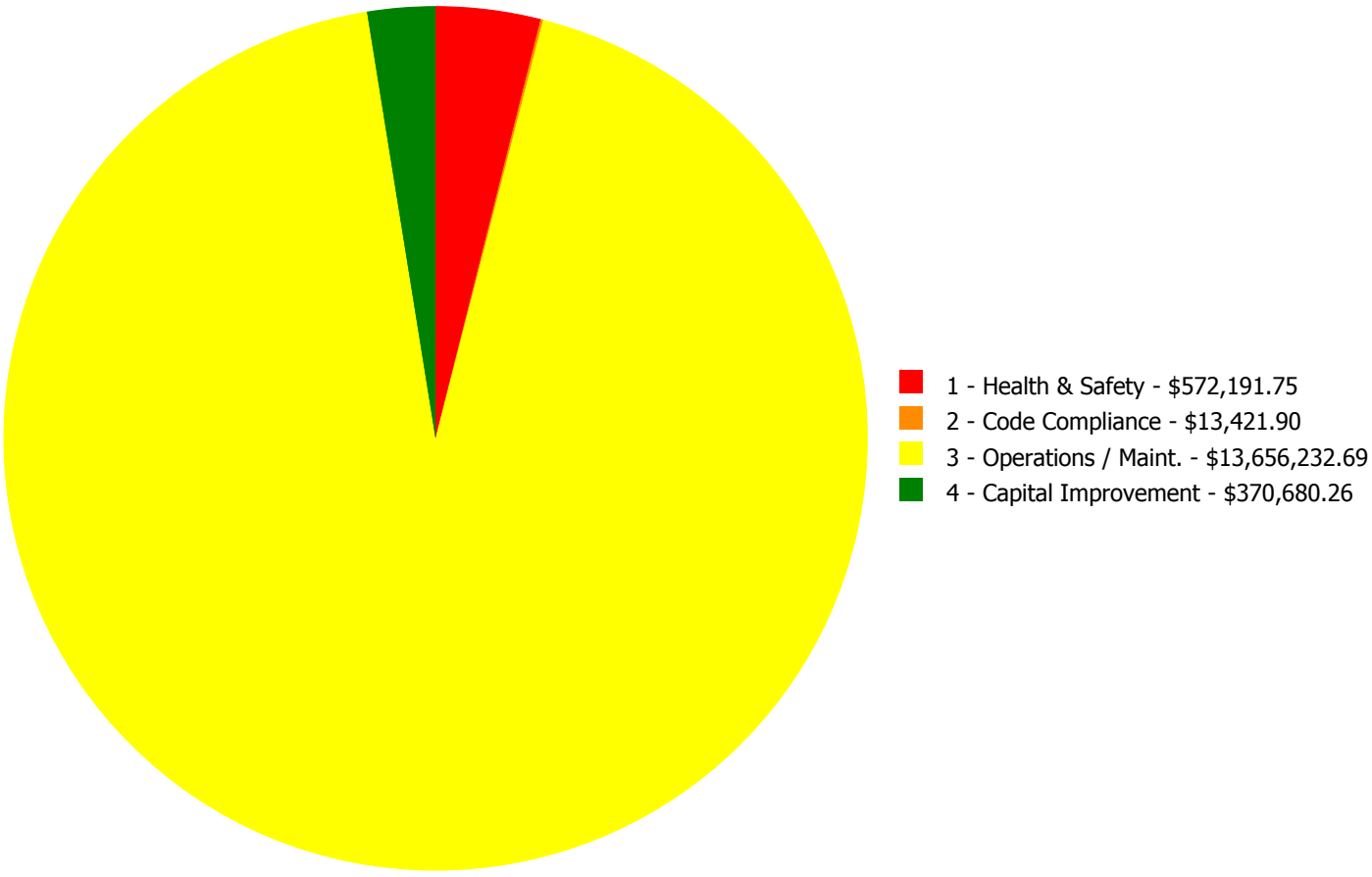
Deficiency By Priority Investment Table

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
A1030	Slab on Grade	$0.00	$55,457.49	$0.00	$0.00	$0.00	$55,457.49
B2010	Exterior Walls	$0.00	$545,924.78	$0.00	$0.00	$0.00	$545,924.78
B3010105	Built-Up	$0.00	$42,795.28	$0.00	$0.00	$0.00	$42,795.28
B3020	Roof Openings	$13,421.90	$0.00	$0.00	$0.00	$0.00	$13,421.90
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$138,242.86	$75,412.15	$213,655.01
D2020	Domestic Water Distribution	$0.00	$100,535.72	$52,907.04	$968,300.89	$0.00	$1,121,743.65
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$1,010,410.99	$0.00	$1,010,410.99
D3020	Heat Generating Systems	$178,281.16	$266,900.82	$0.00	$262,097.10	$0.00	$707,279.08
D3030	Cooling Generating Systems	$275,232.58	$76,541.44	$453,216.41	$339,926.74	$0.00	$1,144,917.17
D3040	Distribution Systems	$0.00	$0.00	$4,333,290.54	$0.00	$304,039.14	$4,637,329.68
D3060	Controls & Instrumentation	$0.00	$4,277,255.28	$0.00	$0.00	$0.00	$4,277,255.28
D5030	Communications and Security	$0.00	$0.00	$0.00	$842,336.29	$0.00	$842,336.29
	Total:	$466,935.64	$5,365,410.81	$4,839,413.99	$3,561,314.87	$379,451.29	$14,612,526.60

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: $14,612,526.60

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: Exterior

Distress: OSHA

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: 20.00

Unit of Measure: L.F.

Estimate: $13,421.90

Assessor Name: Craig Anding

Date Created: 12/05/2015

Notes: Install safety guard rails at roof access hatch per OSHA requirements

---

System: D3020 - Heat Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace pump, inline HHW (5 HP)

Qty: 4.00

Unit of Measure: Ea.

Estimate: $178,281.16

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace four (4) 5HP in-line heating water supply pumps, CP-7, CP-8, CP-9, and CP-10, in the basement mechanical room which are damaged from rust and beyond their service life.

System: D3030 - Cooling Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace inline CHW pump (15 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $186,092.00

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 15HP in-line dual temperature supply pumps, CP-13 and CP-14, in the basement mechanical room which are damaged from rust and beyond their service life.

System: D3030 - Cooling Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace inline CHW pump (5 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $89,140.58

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 5HP in-line chilled water supply pumps, CP-23 and CP-24, in the basement mechanical room which are damaged from rust and beyond their service life.

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

System: A1030 - Slab on Grade

Location: Interior/ Gym

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair cracks in slab on grade floor - based on SF of floor and LF of crack repair - insert proper quantities in the estimate

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $55,457.49

Assessor Name: Craig Anding

Date Created: 12/05/2015

Notes: Repair cracks in gym slab

System: B2010 - Exterior Walls

Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 13,800.00

Unit of Measure: S.F.

Estimate: $445,594.71

Assessor Name: Craig Anding

Date Created: 12/05/2015

Notes: Tuck-point gazed CMU masonry

System: B2010 - Exterior Walls

Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Re-caulk exterior control joints and other caulk joints

Qty: 5,000.00

Unit of Measure: L.F.

Estimate: $100,330.07

Assessor Name: Craig Anding

Date Created: 12/05/2015

Notes: Replace sealant in masonry control joints

System: B3010105 - Built-Up

Location: Exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace parapet caps - BUR

Qty: 500.00

Unit of Measure: L.F.

Estimate: $42,795.28

Assessor Name: Craig Anding

Date Created: 12/05/2015

Notes: Replace coping at auditorium roof perimeter

System: D2020 - Domestic Water Distribution

This deficiency has no image.

Location: Basement mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Remove and replace water softener - 5" incoming water line

Qty: 1.00

Unit of Measure: Ea.

Estimate: $100,535.72

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Install a water treatment system on the building domestic hot water and building heating hot water lines to reduce the rate of scale buildup within the domestic water piping.

System: D3020 - Heat Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace pump, inline HHW (1 HP)

Qty: 4.00

Unit of Measure: Ea.

Estimate: $153,082.88

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace four (4) 1.5HP in-line dual temperature and heating water supply pumps, CP-5, CP-6, CP-11, and CP-12, in the basement mechanical room which are damaged from rust and beyond their service life.

System: D3020 - Heat Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace pump, inline HHW (3 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $113,817.94

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 3HP in-line heating water supply pumps, CP-3 and CP-4, in the basement mechanical room which are damaged from rust and beyond their service life.

System: D3030 - Cooling Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace inline CHW pump (1 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $76,541.44

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 1HP in-line chilled water supply pumps, CP-19 and CP-20, in the basement mechanical room which are damaged from rust and beyond their service life.

System: D3060 - Controls & Instrumentation

This deficiency has no image.

Location: Throughout building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (250KSF)

Qty: 232,815.00

Unit of Measure: S.F.

Estimate: $4,277,255.28

Assessor Name: Craig Anding

Date Created: 12/16/2015

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.

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

System: D2020 - Domestic Water Distribution

Location: Basement 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: 1.00

Unit of Measure: Ea.

Estimate: $52,907.04

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace the skid mounted 7.5HP duplex domestic water pump system that is approaching the end of its service life with a new skid mounted pressure booster system.

System: D3030 - Cooling Generating Systems

Location: Basement mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $346,420.06

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 40HP end-suction glycol supply pumps, CP-15 and CP-16, in the basement which are approaching the end of their service life.

System: D3030 - Cooling Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace inline CHW pump (7.5 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $106,796.35

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 7.5HP in-line chilled water supply pumps, CP-21 and CP-22, in the basement mechanical room which are damaged from rust and beyond their service life.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Replace chilled water distribution piping (75KSF)

Qty: 232,000.00

Unit of Measure: S.F.

Estimate: $3,118,918.09

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Hire a qualified contractor to examine the chilled water, hot water and dual temperature distribution piping which is showing signs of rust damage, 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: Roof
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace utility set exhaust fan (5 HP)
Qty: 28.00
Unit of Measure: Ea.
Estimate: $1,093,058.04
Assessor Name: Craig Anding
Date Created: 12/16/2015

Notes: Replace twenty-eight (28) roof mounted exhaust fans which are beyond their service life.

System: D3040 - Distribution Systems

Location: Roof
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace power roof ventilator (24" dia.)
Qty: 4.00
Unit of Measure: Ea.
Estimate: $121,314.41
Assessor Name: Craig Anding
Date Created: 12/16/2015

Notes: Replace four (4) roof mounted power ventilators which are beyond their service life.

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

System: C3030 - Ceiling Finishes

Location: Interior
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace gypsum board ceilings
Qty: 6,000.00
Unit of Measure: S.F.
Estimate: $138,242.86
Assessor Name: Craig Anding
Date Created: 12/05/2015

Notes: Repair drywall soffits

System: D2020 - Domestic Water Distribution

Location: Throughout building
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace domestic water piping (250 KSF)
Qty: 232,815.00
Unit of Measure: S.F.
Estimate: $968,300.89
Assessor Name: Craig Anding
Date Created: 12/16/2015

Notes: Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for over twenty years and with reports of scale build up from the Building Engineer, and replace any damaged piping.

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+200KSF)

Qty: 232,815.00

Unit of Measure: S.F.

Estimate: $1,010,410.99

Assessor Name: Craig Anding

Date Created: 12/16/2015

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: D3020 - Heat Generating Systems

Location: Basement mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $262,097.10

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 15HP end-suction heating water supply pumps, CP-1 and CP-2, in the basement which are approaching the end of their service life.

System: D3030 - Cooling Generating Systems

Location: Basement mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $339,926.74

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace two (2) 20HP end-suction chilled water supply pumps, CP-17 and CP-18, in the basement which are approaching the end of their service life.

System: D5030 - Communications and Security

Location: Throughout the building

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add/Replace Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $572,191.75

Assessor Name: Craig Anding

Date Created: 11/26/2015

Notes: Install new Security cameras and monitoring.

System: D5030 - Communications and Security

Location: throughout the building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Clock System or Components

Qty: 0.00

Unit of Measure: Ea.

Estimate: $270,144.54

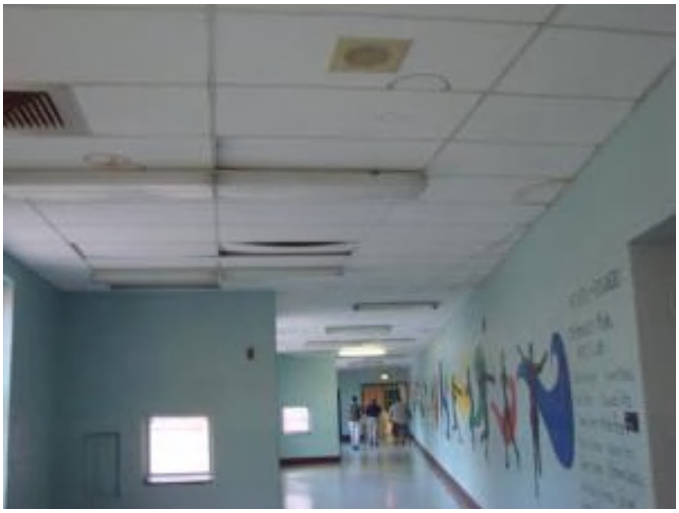
Assessor Name: Craig Anding

Date Created: 11/26/2015

Notes: Install a new Clock System.
Note: A multiplier of 2.4 was used due to the school SF, and to cover the additional cost of related construction.

Priority 5 - Response Time (> 5 yrs):

System: C3030 - Ceiling Finishes



Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $75,412.15

Assessor Name: Craig Anding

Date Created: 12/05/2015

Notes: Replace damaged acoustical ceilings

System: D3040 - Distribution Systems

Location: Roof

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace GF rooftop makeup air unit for kitchen exhaust hood (single 10 ft hood)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $304,039.14

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Replace the decommissioned roof mounted gas fired make-up air unit serving the Kitchen.

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, passenger elevator, 3000 lb, 2 floors, 100 FPM	1.00	Ea.	Building Interior					30	1994	2024	$73,815.00	$81,196.50
D2020 Domestic Water Distribution	Pump, pressure booster system, 7-1/2 HP pump, includes diaphragm tank, control and pressure switch	1.00	Ea.	Basement Mechanical Room					25	1994	2019	$12,198.00	$13,417.80
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, steam, gross output, 3060 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Basement Mechanical Room	Weil McLain	P-1288-W			35	1994	2029	$52,610.70	$115,743.54
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, air cooled, insulated evaporator, 270 ton, includes standard controls	1.00	Ea.	Roof	Carrier	30XAB282	1815Q94297		20	2015	2035	$202,554.00	$222,809.40
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	4.00	Ea.	Mechanical Rooms	McQuay	LSL122			30	1994	2024	$27,007.20	$118,831.68
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	4.00	Ea.	Mechanical Rooms	McQuay				30	1994	2024	$27,007.20	$118,831.68
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	4.00	Ea.	Mechanical Rooms	McQuay	LSL114	3Z001560-04		30	1994	2024	$27,007.20	$118,831.68
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	4.00	Ea.	Mechanical Rooms	McQuay	LSL122	3Z001559-04		30	1994	2024	$27,007.20	$118,831.68
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 16,500 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Basement Mechanical Room	McQuay	LSL			30	1994	2024	$38,157.90	$41,973.69
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 22,000 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Basement Mechanical Room	McQuay	LSL122	3ZE00109-04		30	1994	2024	$50,945.40	$56,039.94
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 15 H.P., to 1000 GPM, 5" size	2.00	Ea.	Basement Mechanical Room	Armstrong	4030	14560		25	1994	2019	$21,432.00	$47,150.40
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 15 H.P., to 1000 GPM, 5" size	2.00	Ea.	Basement Mechanical Room	Armstrong	4030	14559		25	1994	2019	$21,432.00	$47,150.40
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	2.00	Ea.	Basement Mechanical Room	Armstrong	4030			25	1994	2019	$23,598.00	$51,915.60

D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	2.00	Ea.	Basement Mechanical Room	Armstrong	4030			25	1994	2019	$23,598.00	$51,915.60
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 1000 GPM, 40 H.P., 5" discharge, includes drip proof motor	2.00	Ea.	Basement Mechanical Room	Armstrong	4030	14564		25	1994	2019	$19,380.00	$42,636.00
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 1000 GPM, 40 H.P., 5" discharge, includes drip proof motor	2.00	Ea.	Basement Mechanical Room	Armstrong	4030	14563		25	1994	2019	$19,380.00	$42,636.00
D3040 Distribution Systems	Pump, general utility, centrifugal, in-line, vertical mount, iron body, 125 lb. flanged, 1800 RPM, single stage, 15 H.P., 8" suction and discharge, includes TEFC motor	2.00	Ea.	Basement Mechanical Room	Armstrong	4380	14550		25	1994	2019	$12,768.00	$28,089.60
D3040 Distribution Systems	Pump, general utility, centrifugal, in-line, vertical mount, iron body, 125 lb. flanged, 1800 RPM, single stage, 15 H.P., 8" suction and discharge, includes TEFC motor	2.00	Ea.	Basement Mechanical Room	Armstrong	4380	14549		25	1994	2019	$12,768.00	$28,089.60
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Electrical Room					30	1994	2024	$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Motor control center, starters, class 1, type B, combination MCP, FVNR, with control XFMR, size 6, 400 HP, 72" high, incl starters & structures	1.00	Ea.	Electrical Room					30	1994	2024	$24,343.20	$26,777.52
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	1994	2024	$10,743.30	$11,817.63
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	1994	2024	$50,797.80	$55,877.58
												Total:	**$1,487,697.42**

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):	175,900
Year Built:	1994
Last Renovation:	
Replacement Value:	$2,820,448
Repair Cost:	$2,046,815.89
Total FCI:	72.57 %
Total RSLI:	64.00 %

Description:

Attributes:

General Attributes:

Bldg ID:	S773001	Site ID:	S773001

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	76.66 %	80.97 %	$1,664,105.93
G40 - Site Electrical Utilities	30.00 %	50.02 %	$382,709.96
Totals:	**64.00 %**	**72.57 %**	**$2,046,815.89**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30	1994	2024		30.00 %	0.00 %	9			$0
G2020	Parking Lots	$7.65	S.F.	39,500	30	1994	2024		30.00 %	213.47 %	9		$645,056.13	$302,175
G2030	Pedestrian Paving	$11.52	S.F.	60,800	40	1994	2034		47.50 %	0.00 %	19			$700,416
G2040	Site Development	$4.36	S.F.	175,900	25	1994	2019	2042	108.00 %	24.44 %	27		$187,467.47	$766,924
G2050	Landscaping & Irrigation	$3.78	S.F.	75,600	15	1994	2009	2032	113.33 %	291.00 %	17		$831,582.33	$285,768
G4020	Site Lighting	$3.58	S.F.	175,900	30	1994	2024		30.00 %	47.02 %	9		$296,092.79	$629,722
G4030	Site Communications & Security	$0.77	S.F.	175,900	30	1994	2024		30.00 %	63.95 %	9		$86,617.17	$135,443
								Total	**64.00 %**	**72.57 %**			**$2,046,815.89**	**$2,820,448**

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.

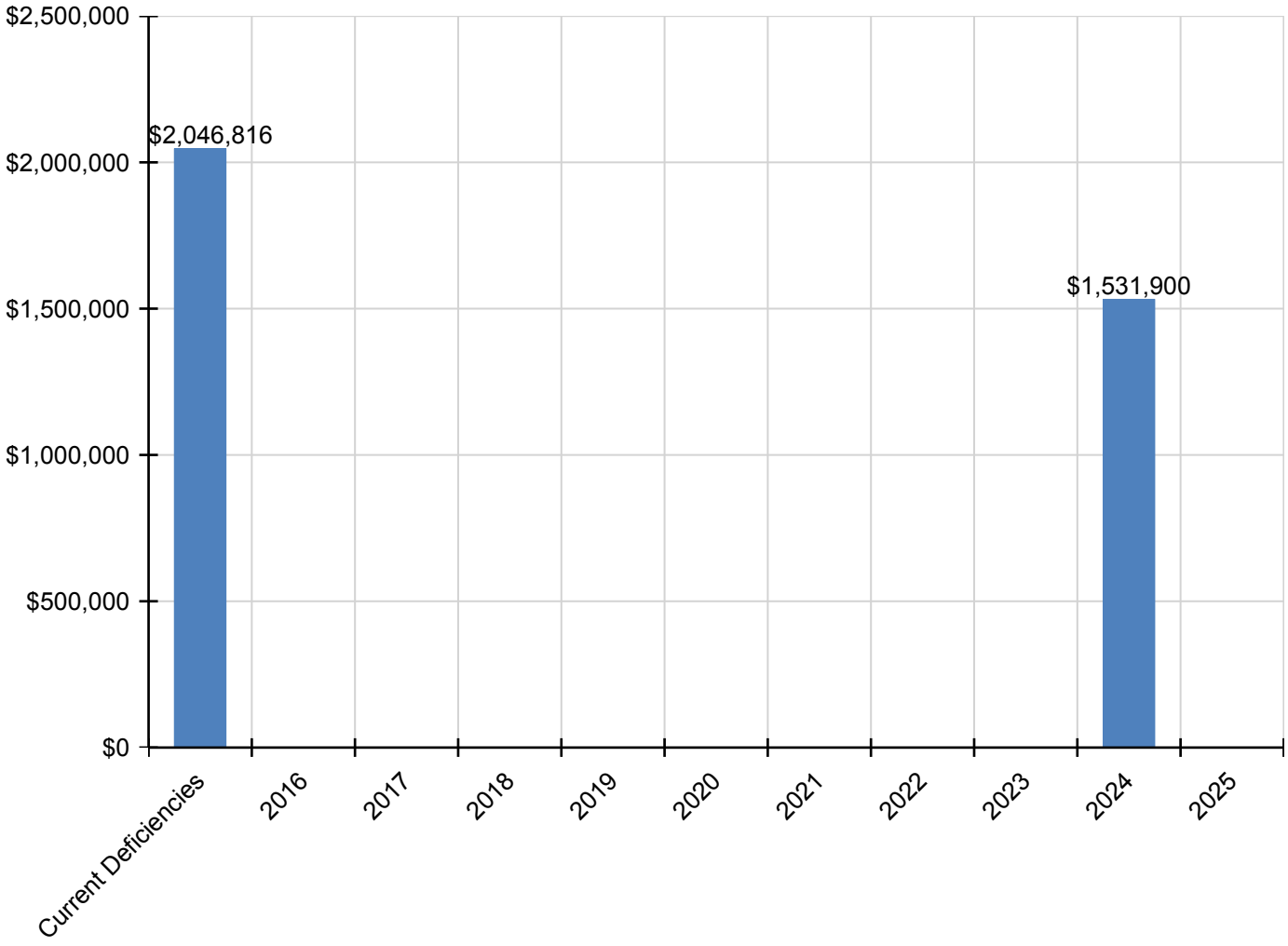
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$2,046,816**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,531,900**	**$0**	**$3,578,716**
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	$645,056	$0	$0	$0	$0	$0	$0	$0	$0	$433,697	$0	**$1,078,754**
G2030 - Pedestrian Paving	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$187,467	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$187,467**
G2050 - Landscaping & Irrigation	$831,582	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$831,582**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$296,093	$0	$0	$0	$0	$0	$0	$0	$0	$903,809	$0	**$1,199,901**
G4030 - Site Communications & Security	$86,617	$0	$0	$0	$0	$0	$0	$0	$0	$194,394	$0	**$281,011**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

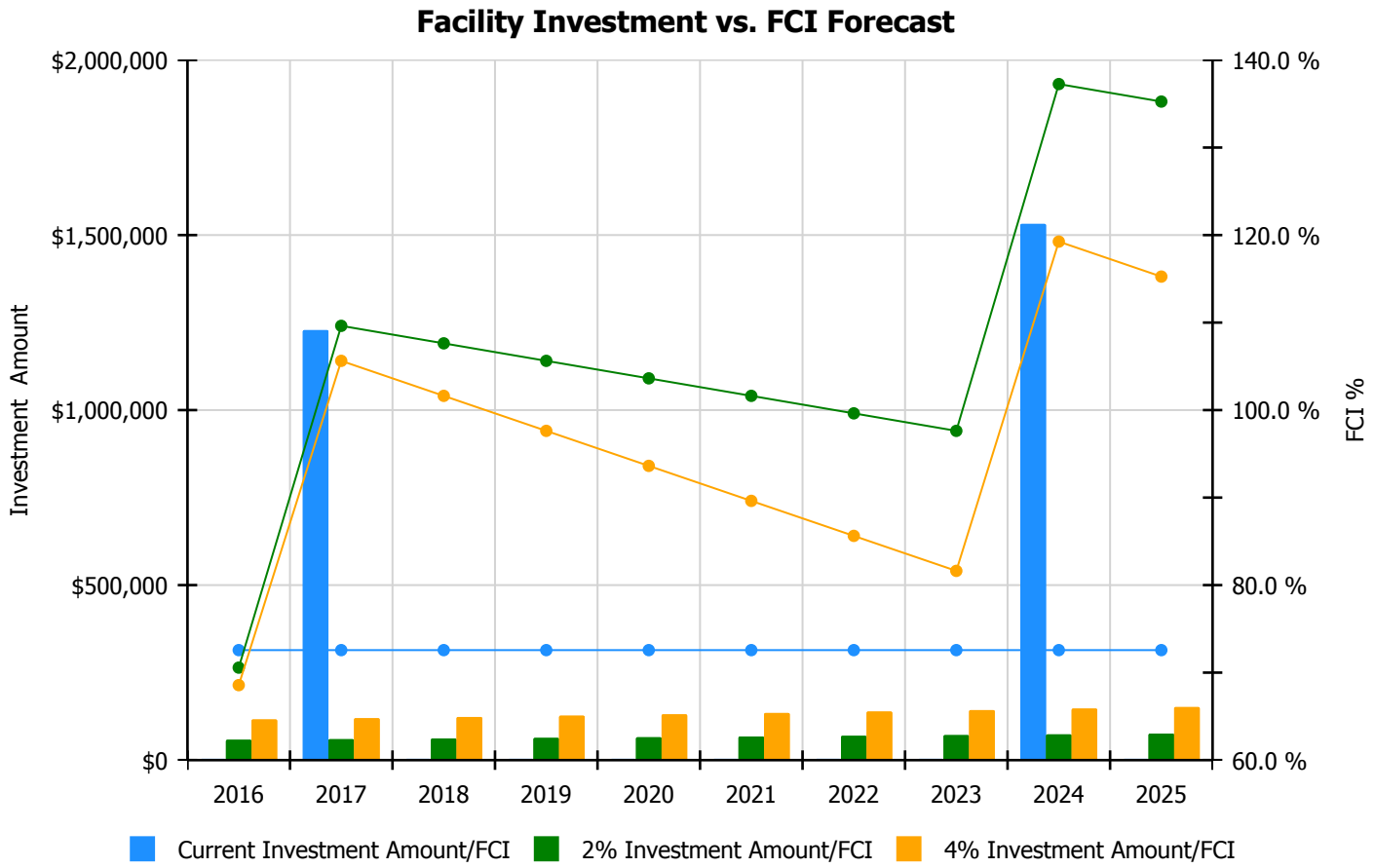
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

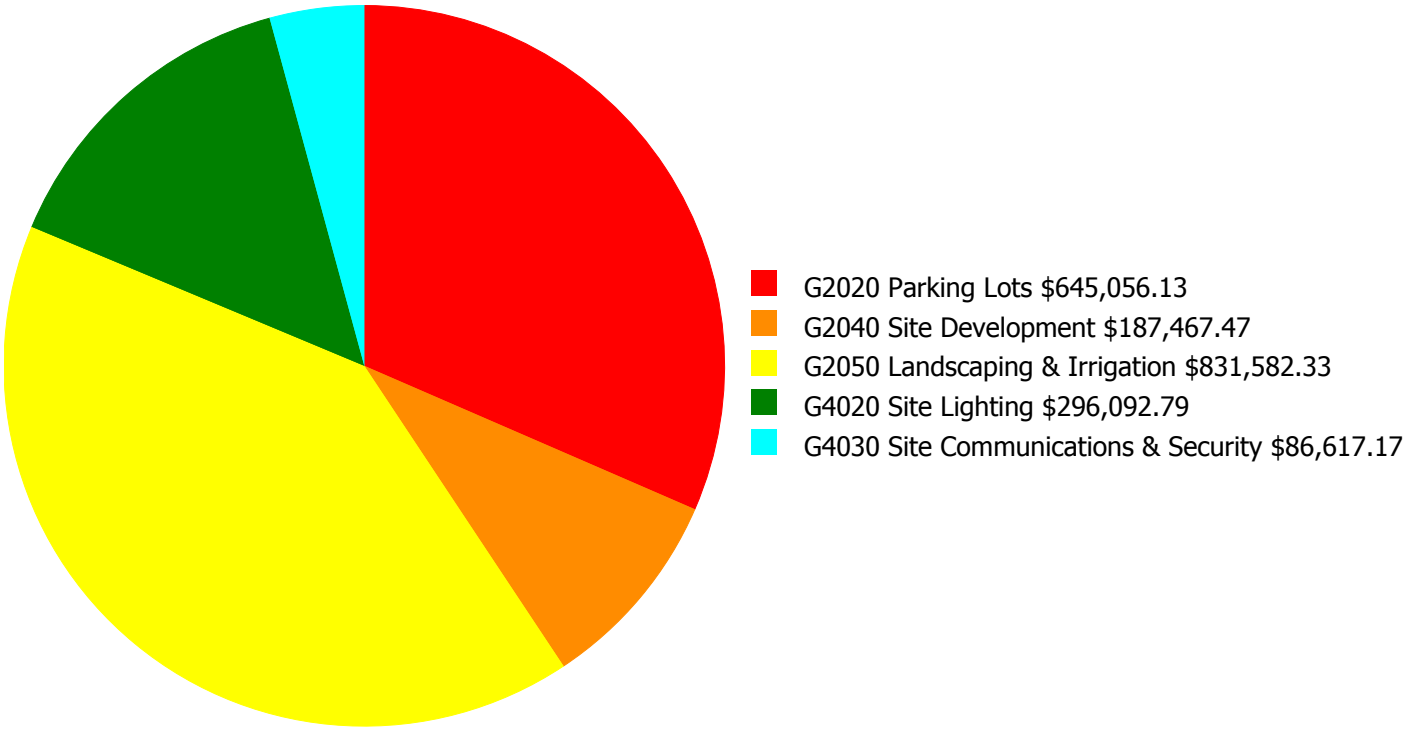
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 72.57%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$58,101.00	70.57 %	$116,202.00	68.57 %
2017	$1,228,481	$59,844.00	109.63 %	$119,689.00	105.63 %
2018	$0	$61,640.00	107.63 %	$123,279.00	101.63 %
2019	$0	$63,489.00	105.63 %	$126,978.00	97.63 %
2020	$0	$65,393.00	103.63 %	$130,787.00	93.63 %
2021	$0	$67,355.00	101.63 %	$134,710.00	89.63 %
2022	$0	$69,376.00	99.63 %	$138,752.00	85.63 %
2023	$0	$71,457.00	97.63 %	$142,914.00	81.63 %
2024	$1,531,900	$73,601.00	137.25 %	$147,202.00	119.25 %
2025	$0	$75,809.00	135.25 %	$151,618.00	115.25 %
Total:	**$2,760,381**	**$666,065.00**		**$1,332,131.00**	

Deficiency Summary by System

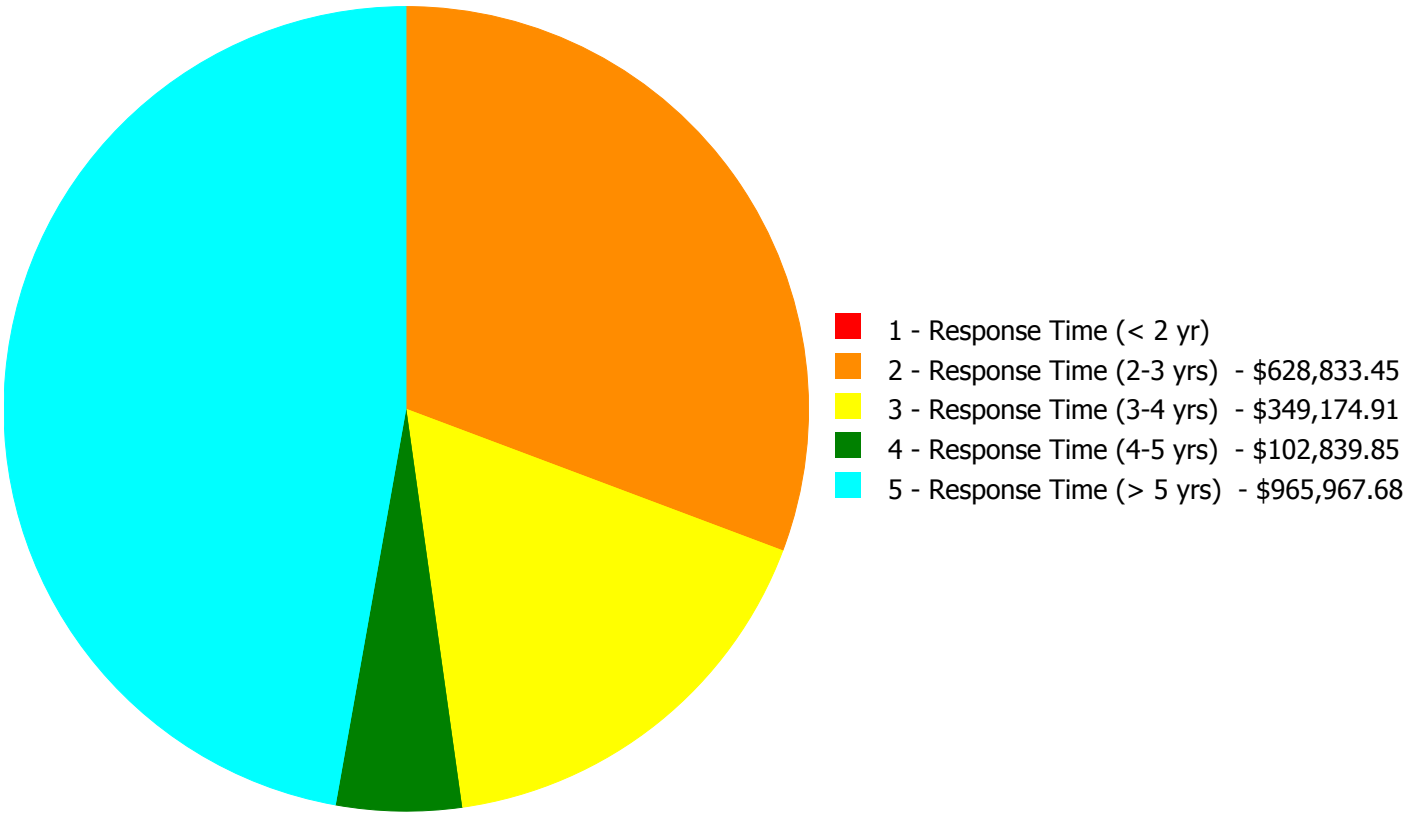
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $2,046,815.89

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: $2,046,815.89

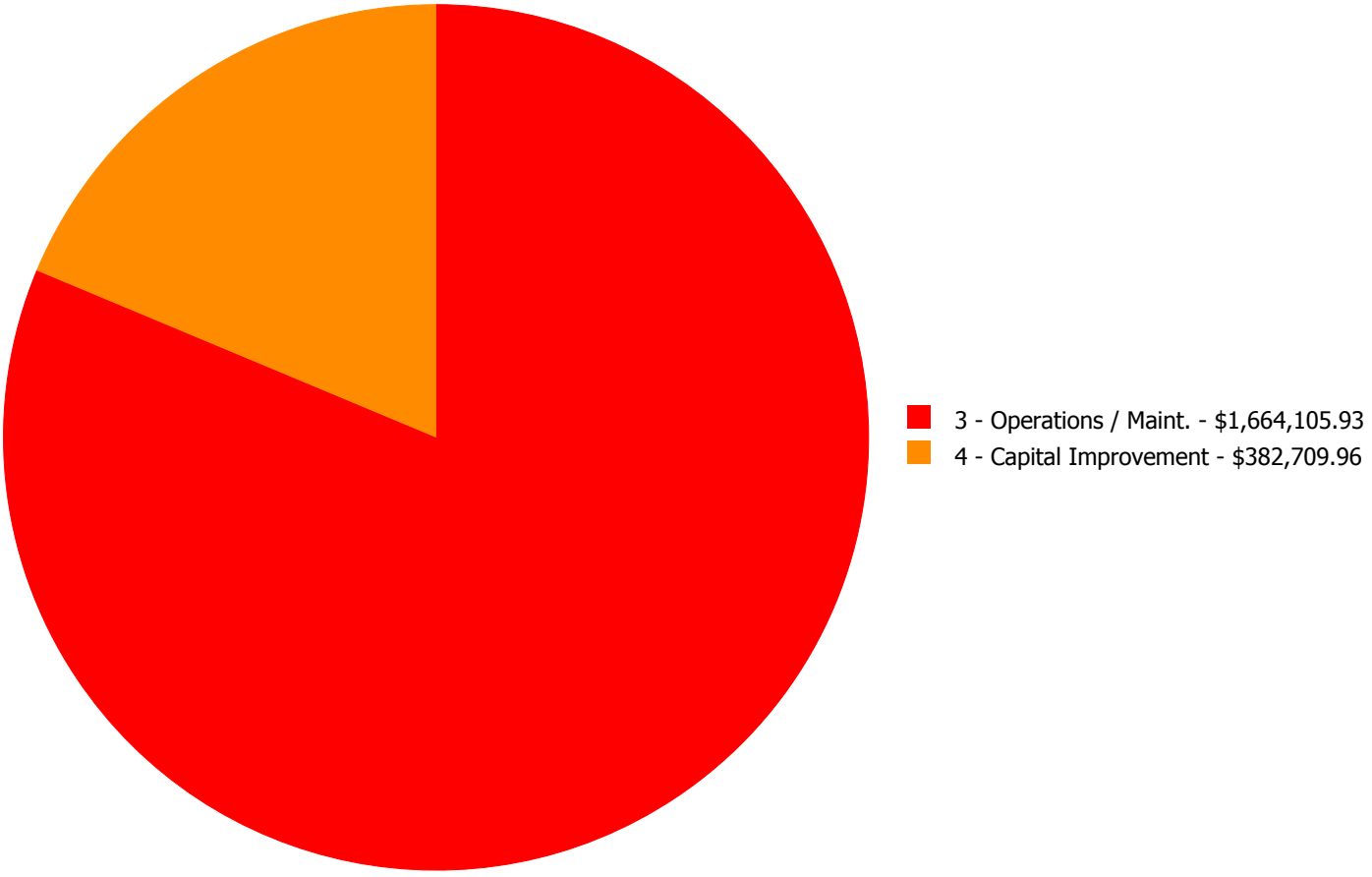
Deficiency By Priority Investment Table

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	$628,833.45	$0.00	$16,222.68	$0.00	$645,056.13
G2040	Site Development	$0.00	$0.00	$53,082.12	$0.00	$134,385.35	$187,467.47
G2050	Landscaping & Irrigation	$0.00	$0.00	$0.00	$0.00	$831,582.33	$831,582.33
G4020	Site Lighting	$0.00	$0.00	$296,092.79	$0.00	$0.00	$296,092.79
G4030	Site Communications & Security	$0.00	$0.00	$0.00	$86,617.17	$0.00	$86,617.17
	Total:	$0.00	$628,833.45	$349,174.91	$102,839.85	$965,967.68	$2,046,815.89

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: $2,046,815.89

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace concrete paving

Qty: 30,700.00

Unit of Measure: S.F.

Estimate: $628,833.45

Assessor Name: Ben Nixon

Date Created: 12/06/2015

Notes: Resurface service drive on the south side of the building

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

System: G2040 - Site Development

Location: Grounds/ site

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Add heat strip along side embedded sliding site gate track - per LF of track - based on about 35 LF, insert the number of 100' feeds for the underground service to the gate in the estimate

Qty: 60.00

Unit of Measure: L.F.

Estimate: $53,082.12

Assessor Name: Ben Nixon

Date Created: 12/06/2015

Notes: Install heat tracing in sill of sliding gate leading to courtyard

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: $296,092.79

Assessor Name: Ben Nixon

Date Created: 11/26/2015

Notes: Install Additional pole-mounted outdoor lights

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

System: G2020 - Parking Lots

Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Stripe parking stalls, install parking bumpers, provide handicap symbol and handicap post mounted sign - insert proper quantities in estimate

Qty: 80.00

Unit of Measure: Ea.

Estimate: $16,222.68

Assessor Name: Ben Nixon

Date Created: 12/06/2015

Notes: Restripe visitor's and staff parking
Replace wheel stops at visitor's parking stalls

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: $86,617.17

Assessor Name: Ben Nixon

Date Created: 11/26/2015

Notes: Install Additional Speakers on the exterior walls

Priority 5 - Response Time (> 5 yrs):

System: G2040 - Site Development

Location: Grounds/ site
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace chain link fence - 8' high
Qty: 1,200.00
Unit of Measure: L.F.
Estimate: $134,385.35
Assessor Name: Ben Nixon
Date Created: 12/06/2015

Notes: Replace perimeter chain link fence

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: 56,000.00
Unit of Measure: S.F.
Estimate: $831,582.33
Assessor Name: Ben Nixon
Date Created: 12/06/2015

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