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.

Cayuga School

Governance	DISTRICT	Report Type	Elementary
Address	4344-4358 N. 5Th St.	Enrollment	468
	Philadelphia, Pa 19140	Grade Range	'00-05'
Phone/Fax	215-456-3167 / 215-456-5622	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Cayuga	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	**17.79%**	**$4,397,634**	**$24,713,148**
Building	17.29 %	$4,208,679	$24,346,768
Grounds	51.57 %	$188,955	$366,380

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	87.01 %	$474,348	$545,160
Exterior Walls (Shows condition of the structural condition of the exterior facade)	22.53 %	$410,981	$1,824,166
Windows (Shows functionality of exterior windows)	00.00 %	$0	$890,090
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$71,662
Interior Doors (Classroom doors)	00.00 %	$0	$173,471
Interior Walls (Paint and Finishes)	04.00 %	$33,268	$830,784
Plumbing Fixtures	00.00 %	$0	$668,185
Boilers	15.66 %	$144,538	$922,709
Chillers/Cooling Towers	61.03 %	$738,358	$1,209,851
Radiators/Unit Ventilators/HVAC	00.00 %	$0	$2,124,652
Heating/Cooling Controls	158.90 %	$1,060,207	$667,197
Electrical Service and Distribution	00.00 %	$0	$479,393
Lighting	00.00 %	$0	$1,713,955
Communications and Security (Cameras, Pa System and Fire Alarm)	28.34 %	$181,955	$641,992

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.

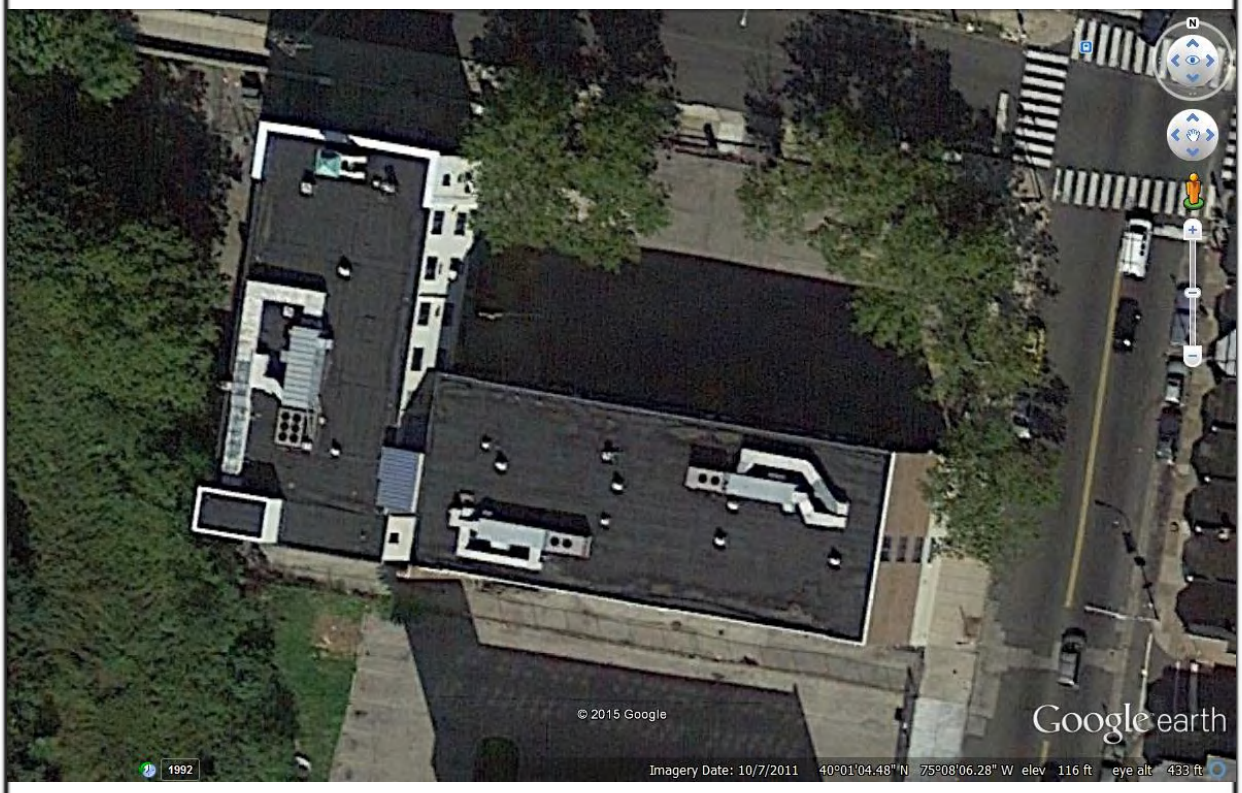
School District of Philadelphia

S549001;Cayuga

Final

Site Assessment Report

January 30, 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):	49,422
Year Built:	1916
Last Renovation:	1996
Replacement Value:	$24,713,148
Repair Cost:	$4,397,633.55
Total FCI:	17.79 %
Total RSLI:	53.79 %

Description:

Facility Assessment, August 2015

School District of Philadelphia

Cayuga Elementary School

4344-4358 N. 5th Street

Philadelphia, PA 19140

49,422 SF / 517 Students / LN 05

The Cayuga Elementary school building is located at 4344-4358 N. 5th Street in Philadelphia, PA. The original 2 story with basement, approximately 18,000 square foot building was constructed in 1916. A new wing, approximately 31,422 square feet was added in 1956. The school was completely renovated in 1996 with major improvements to its features and systems.

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

renovation projects. Mr. Terrence Marsh, building engineer, accompanied us on our tour of the school and provided us with as much information as he could on the building systems and recent maintenance history.

STRUCTURAL/ EXTERIOR CLOSURE:

The original building typically rests on concrete foundations and stone bearing walls that are not showing signs of settlement. The added wing has strip footings and concrete foundation walls.

The wing structure consists typically of cast-in-place concrete columns, beams and concrete slabs. The original building structure consists of stone lad bearing walls, heavy timber columns and girders. The original roof structure consists of heavy timber framing similar to floor construction; the new wing roof structure consists of galvanized steel structural deck supported by steel truss joists.

The original building envelope is typically exposed stone basement walls and plastered masonry on first and second floor. The plaster, especially on west wall is severely damaged allowing moisture penetration into the building. The new addition exterior walls are face brick with CMU backup, in good condition; however some cracks were observed in the transition between original building and new wing.

The building windows were replaced in 1996 with extruded aluminum double hung windows single glazed with tempered glazing. All windows are generally in good condition. Basement windows have security screens in good condition. The windows are generally not energy efficient. Stairways windows are typically glass block in good condition.

The building's exterior doors are typically hollow metal doors and frames, painted. The doors are generally in fair condition; no weather-stripping is installed; some doors have vision glazing with security screens.

Roofing system on the building is built-up, and in poor condition. Flashing is dereriorated and pulling away from mechanical equipment curbs, multiple soft spots have been observed. Multiple leaks have been reported. The transition between original building and added wing has sloping prefinished standing seam roof in good condition.

INTERIORS:

The original building partition wall types include glazed blocks and drywall over metal studs; in the new addition partitions are generally painted CMU. The multipurpose room has a movable partition which is deteriorated.

Interior doors in the building are typically solid core wood doors, some glazed with hollow metal frames and glazed transoms. Doors leading to exit stairways are hollow metal doors and frames in good condition. Doors are generally in good condition.

Fittings include: toilet accessories and toilet partitions, generally in good condition – replaced in 1996 and fully upgraded for accessibility. Handrails and ornamental metals are generally in good condition. Interior identifying signage is typically directly applied on wall near doors surfaces generally in good condition. Chalk boards and tack boards in classrooms are in good condition.

The interior wall finishes in the original building are generally painted plaster or drywall and glazed block in stairways; toilets. Interior face of the exterior wall in the original building is plaster, severely damaged. Generally, paint is in good condition throughout the building.

Most ceilings in the original building are 2x4 suspended acoustical panels with some pressed metal tiles and exposed, painted. The suspension system and tile are old and approaching the end of their useful life.

Flooring throughout the building is typically VCT and ceramic tile in toilets. Most flooring is in fair condition; however some VCT tiles are damaged or missing.

Stair construction is generally steel stringers with concrete filled steel pan covered with non-slip vinyl treads; in good condition.

Institutional and Commercial equipment includes: stage equipment, generally in good condition; A/V equipment in fair condition. Other equipment includes kitchen equipment, generally in good condition.

Furnishings include fixed casework in classrooms, corridors and library, generally in good condition; window shades/blinds, generally in good condition.

CONVEYING SYSTEMS:

The building has a 2500 lb hydraulic elevator serving all floors, in good condition.

PLUMBING:

Plumbing Fixtures - The original plumbing fixtures have been replaced. Fixtures in the restrooms on each floor consist of floor mounted flush valve water closets, wall hung urinals, and lavatories with both lever and wheel handle faucets. It is estimated that these fixtures were installed during a major renovation of the building in 1996. Many of the restrooms are handicap accessible. With proper maintenance these fixtures should provide reliable service for the next 20-25 years.

Drinking fountains in the corridors and at the restrooms are wall hung with integral refrigerated coolers. They are within their service life, should provide reliable service for the next 5-10 years, and are accessible type.

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

The Kitchen, located behind the Cafeteria, has one sink; a three compartment, stainless steel sink with lever operated faucets, and integral grease trap. Chemicals are injected manually into the sanitizing basins. Premade meals are served at the school and no cooking is done in the Kitchen.

Domestic Water Distribution - A 4" city water service enters the building from N. 5th Street near the intersection with St. Luke Street. The 4" meter and valves are located in the basement pump room on the east side of the building. Dual reduced pressure backflow preventers are installed in parallel. Duplex Alyan domestic water booster pumps, located in the pump room, ensure adequate water pressure for the building. These pumps are damaged from rust and should be replaced. The original domestic hot and cold water distribution piping was replaced with copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures.

One Bradford White gas fired, 75 gallon, vertical hot water heater with circulating pump, installed in 2013, supplies hot water for domestic use. The unit is located in the boiler room on the basement level. The hot water heater is equipped with a T&P relief valve, and expansion tank. The domestic hot water heater is within its service life and should provide reliable service for the next 6-8 years. No water softener was seen in the boiler room.

Sanitary Waste - The original storm and sanitary sewer piping has been replaced with HDPE piping with no-hub fittings. Downspouts from the roof run down the interior of the building and connect to the storm sewer system in the basement. An 8" sanitary line leaves the south side of the building through the boiler room.

A sewage ejector pit located in basement boiler room receives water from the basement area. It has two pumps that are beyond their service life. Both pumps and motors should be replaced. The pit is sealed.

The maintenance staff reported no major issues with the sanitary waste piping systems. As the piping was replaced it should provide reliable service for at least the next 7-10 years.

MECHANICAL:

Energy Supply - A 3" city gas service enters the building in the basement boiler room on the south side of the building. The meter is 3" and located in the basement boiler room. Gas is the primary fuel for the boilers.

The reserve oil supply is stored in a 5,000 gallon underground storage tank (UST), according to the Building Engineer. Duplex pumps located in the boiler room circulate oil through the system. The pumps are estimated to be 20 years old and should be replaced. Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. The current supply has been in storage for some time and should be tested for quality on a regular schedule. USTs have an anticipated service life of 20 years.

Heat Generating Systems - Building heating hot water is generated by two 43HP HB Smith Series 28A-6 cast iron sectional boilers installed in 1997. One boiler can handle the load in normal winter weather conditions; two units are required to bring the building up to temperature on very cold days. Each boiler is equipped with a PowerFlame burner designed to operate on natural gas or fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. No major issues with the boilers were reported by the Building Engineer. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service 18 years. The boilers appear to have been well maintained. The District should provide reliable service for the next 15 to 20 years. The burners should be replaced as they are at the end of their service life and new, more efficient technologies are available.

The heating hot water system is equipped with an expansion tank and air separator located in the boiler room. The copper hot water piping is covered with insulation and appears to be in good condition.

Distribution Systems - A two pipe distribution system supplies building heating water. The piping is copper with sweat fittings; all piping in the boiler room was covered with insulation and appears to be in good condition. Four (4) Amtrol hot water pumps circulate the water throughout the building. One pump serves the Gymnasium and Cafeteria, one serves the west side of the building, one serves the east side of the building, and one is a backup pump. Each pump produces about 90 gallons per minute of flow. The Building Engineer did not report any issues with the distribution piping.

Unit ventilators and fin tube radiators provide heating for the entire building. The unit ventilators were replaced during the 1997 renovation and are within their service life. Outdoor air for the building is provided by wall openings in the unit ventilators.

The school has mechanical ventilation in each classroom via unit ventilators and roof mounted exhaust fans serving the restrooms. Conditioned air is provided to several spaces in the building by three (3) roof mounted air handling units and one (1) heating and ventilation unit. Heating and ventilation unit HV-1, located behind the Auditorium, serves the Auditorium. All air handling units are custom manufactured by Racan, were installed on the roof in 2001, and provide cooling and outdoor air ventilation. Each unit is ducted to the space it serves. Air handling unit AHU-1, with 70 ton condensing unit, serves the Cafeteria. AHU-2, with 30 ton condensing unit, serves the Gymnasium. AHU-3, with 30 ton condensing unit, serves the Auditorium. Each air handling unit has a supply and return fan and an integral Carrier split system air-cooled condensing unit to provide cool air. These units are within their service life of 25 years and appear to be in good condition.

Exhaust for the restrooms is provided by roof mounted exhaust fans; the fans are within their service life. Roof mounted exhaust fans also serve the Gymnasium, Kitchen, Auditorium, and return plenum for the classrooms. There are a total of twelve (12) roof mounted exhaust fans.

Terminal & Package Units - Several of the classrooms in the school building have window air conditioning units that have an anticipated service life of only 10 years. Installing a 75 ton air-cooled chiller on the roof, with pumps located in the mechanical room, and converting the existing heating water piping to a dual temperature system would supply more reliable air conditioning for the classrooms with a much longer service life.

Three (3) roof mounted condensing units provide cooling for unit ventilators in the Administration offices and computer room. These three units are beyond their service life and should be replaced.

A Mitsubishi split air conditioning system provided cooling to the LAN. 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) was installed during the 1997 renovation. The BMS is no longer operational, according to the Building Engineer, and should be replaced. This system is beyond its service life and is not operational. All of the HVAC equipment is currently operated manually by the Building Engineer.

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

Sprinklers - The building is equipped with a wet pipe sprinkler system. An 8" fire water line enters the building in the pump room from 5th Street near the intersection with St. Luke Street. A 25HP inline, vertical mount, electric fire pump is installed in the pump room to ensure adequate pressure to the system. The fire suppression system appears to have been installed in 1997 and the pump is damaged from rust. The 25HP electric fire pump and motor should be replaced.

The building is also equipped with fire stand pipe in the stairwells.

ELECTRICAL:

Site electrical service - An underground medium voltage (13.2 KV) cable drop from the utility power poles along Cayuga Street feeds a pad mounted utility company Dry-type transformer (7500 KVA, 13.2KV – 120V/208V, 3-Phase). The PECO metering (PECO 004394654) is located inside the electrical room. The school's main service switchgear is located in the main electrical room. The main service is 2000 Amp at 120 V, three phase. The main 120 V switchgear consists of 2000A (Frame size) adjustable main Breaker, and several 600 A frame 120V feeder circuit breakers. There is a 75 KVA emergency generator on the campus for the emergency loads. Service entrance and the main building electrical distribution systems are fairly new and in a good condition (built in 1995), and have

ample capacity. No deficiencies were noted for the electrical service.

Distribution system - The electrical distribution is accomplished with a 120 V distribution switchboards. Switchboard A feeds the distribution panelboard. There are four 208/120V sub-panels. These panels are located throughout the building. All distribution transformers, panels, etc. are in good condition.

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 pendent mounted industrial fluorescent used in mechanical and electrical. Gymnasium is illuminated by metal halide enclosed glass fixture. All interior lighting fixtures are in a good condition and building illumination is sufficient.

Fire alarm - The present Fire Alarm system is fully automatic, addressable, and in compliance with safety code. Smoke is monitored by duct smoke detectors, area smoke detectors in corridors. 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. No major deficiencies with FA System were observed during the assessment.

Telephone/LAN- The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along with a telephone PBX system servicing the communication system of the building. School 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.

Intercom System and paging - The present Intercom System is functioning fine. Each class room is provided by with intercom telephone service. The system is permit paging and intercom communication between main office phone to classroom phones, and classroom to main office, classroom to classroom, and to office.

Clock and Program system - Clock and program system are working adequately. Classrooms are provided with 12 inches, wall mounted, round clock. The clocks are controlled by central master control panel. The master control is also programmed for class change.

Television System - There is no Television system in the school. Also, classes are not provided with smart board.

Security Systems-access control, video surveillance- The school is provided with video surveillance system. They are controlled by a Closed Circuit Television system (CCTV). There sufficient number of cameras installed on the first floor; however, there are no cameras on the second and other floors.

Emergency Power System - School is provided with a 75 KVA emergency generator and dedicated emergency panel.

Emergency lighting system, including exit lighting - sufficient emergency lighting fixtures is instated in corridors, library and other exit ways. All exit signs are equipped with adequate batteries.

Lightning Protection System - There is no lightning protection system installed in the school.

Grounding - The present grounding system is adequate.

Site Lighting - Campus and building perimeters are adequately lighted for safety of the people and security of property.

Site Paging – The present Site paging System is adequate. Sufficient numbers of speaker are located on building exterior walls.

Auditorium lighting and sound system – No major deficiencies were observed during the assessment.

GROUNDS (SITE):

There is no parking lot at the site.

Playground paving adjacent to the building is in good condition. There is no playground equipment. Service yard paving on west side of the building is deteriorated. Original perimeter fence is wrought iron picket with stone posts and base, generally in good condition. Fences along service yard are chain link, generally in poor condition and rusting. The landscaping consists of several mature trees along north side of the playground.

ACCESSIBILITY:

Generally, the building is fully accessible per ADA requirements. Toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars dispensers, etc.

RECOMMENDATIONS:

- Repair damaged stucco plaster on original building walls
- Repair cracks in masonry, replace missing mortar, tuck-point
- Install all new roofing system including insulation within next 3 to 4 years; tear-down existing roofing; install flashing, counter flashing and reglets
- Replace folding partition in multipurpose room
- Replace damaged VCT flooring including cove base (approx10%)
- Replace all suspended acoustical ceilings in original building
- Repair and repaint interior face of exterior walls in the original building
- Replace chain link fence along service yard
- Replace service yard paving
- Replace the existing duplex domestic constant pressure pump system in the pump room as it is damaged from rust.
- Replace existing sewage ejector pump system and piping in the basement as it is beyond its useful service life.
- Replace the existing duplex fuel oil pumping system and associated controls.
- Replace the existing dual fuel burners on the boilers, which are at the end of their service life, with more efficient new burners.
- Remove the window air conditioning units and install a 75 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in the mechanical room to supply more reliable air conditioning for the classrooms with a much longer service life.
- Replace three (3) existing rooftop mounted condensing units serving unit ventilators in the computer room and Administration offices.
- Replace the existing, non-functioning, controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Replace the 25HP electric fire pump and motor due to rust damage on the pump.
- Install additional cameras on second and third floor

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S549001		

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.

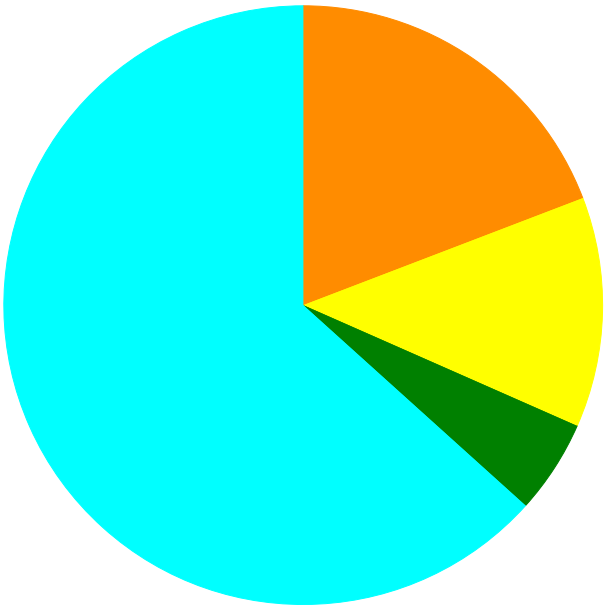
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	41.00 %	0.00 %	$0.00
A20 - Basement Construction	41.00 %	0.00 %	$0.00
B10 - Superstructure	41.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	44.24 %	14.75 %	$410,981.07
B30 - Roofing	108.18 %	87.01 %	$474,348.15
C10 - Interior Construction	44.11 %	26.19 %	$317,610.01
C20 - Stairs	41.00 %	0.00 %	$0.00
C30 - Interior Finishes	53.50 %	25.62 %	$592,962.73
D10 - Conveying	45.71 %	0.00 %	$0.00
D20 - Plumbing	43.40 %	7.80 %	$78,681.06
D30 - HVAC	50.32 %	35.34 %	$1,943,103.42
D40 - Fire Protection	48.57 %	52.48 %	$209,036.85
D50 - Electrical	96.88 %	6.26 %	$181,955.28
E10 - Equipment	45.71 %	0.00 %	$0.00
E20 - Furnishings	52.50 %	0.00 %	$0.00
G20 - Site Improvements	92.53 %	70.30 %	$188,954.98
G40 - Site Electrical Utilities	36.67 %	0.00 %	$0.00
Totals:	**53.79 %**	**17.79 %**	**$4,397,633.55**

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)
B549001;Cayuga	49,422	17.29	$0.00	$804,305.97	$546,546.89	$222,814.89	$2,635,010.82
G549001;Grounds	16,800	51.57	$0.00	$39,195.73	$0.00	$0.00	$149,759.25
Total:		**17.79**	**$0.00**	**$843,501.70**	**$546,546.89**	**$222,814.89**	**$2,784,770.07**

Deficiencies By Priority



1 - Response Time (< 2 yr)
2 - Response Time (2-3 yrs) - $843,501.70
3 - Response Time (3-4 yrs) - $546,546.89
4 - Response Time (4-5 yrs) - $222,814.89
5 - Response Time (> 5 yrs) - $2,784,770.07

Budget Estimate Total: $4,397,633.55

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):	49,422
Year Built:	1916
Last Renovation:	
Replacement Value:	$24,346,768
Repair Cost:	$4,208,678.57
Total FCI:	17.29 %
Total RSLI:	53.43 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B549001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S549001		

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	41.00 %	0.00 %	$0.00
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C20 - Stairs	41.00 %	0.00 %	$0.00
C30 - Interior Finishes	53.50 %	25.62 %	$592,962.73
D10 - Conveying	45.71 %	0.00 %	$0.00
D20 - Plumbing	43.40 %	7.80 %	$78,681.06
D30 - HVAC	50.32 %	35.34 %	$1,943,103.42
D40 - Fire Protection	48.57 %	52.48 %	$209,036.85
D50 - Electrical	96.88 %	6.26 %	$181,955.28
E10 - Equipment	45.71 %	0.00 %	$0.00
E20 - Furnishings	52.50 %	0.00 %	$0.00
Totals:	**53.43 %**	**17.29 %**	**$4,208,678.57**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$909,365
A1030	Slab on Grade	$7.73	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$382,032
A2010	Basement Excavation	$6.55	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$323,714
A2020	Basement Walls	$12.70	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$627,659
B1010	Floor Construction	$75.10	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$3,711,592
B1020	Roof Construction	$13.88	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$685,977
B2010	Exterior Walls	$36.91	S.F.	49,422	100	1956	2056		41.00 %	22.53 %	41		$410,981.07	$1,824,166
B2020	Exterior Windows	$18.01	S.F.	49,422	40	1996	2036		52.50 %	0.00 %	21			$890,090
B2030	Exterior Doors	$1.45	S.F.	49,422	25	1996	2021		24.00 %	0.00 %	6			$71,662
B3010105	Built-Up	$37.76	S.F.	14,000	20	1996	2016	2037	110.00 %	89.73 %	22		$474,348.15	$528,640
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.	250	30	1996	2026		36.67 %	0.00 %	11			$13,555
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	49,422	20	1996	2016	2037	110.00 %	0.00 %	22			$2,965
C1010	Partitions	$17.91	S.F.	49,422	100	1956	2056		41.00 %	35.88 %	41		$317,610.01	$885,148
C1020	Interior Doors	$3.51	S.F.	49,422	40	1996	2036		52.50 %	0.00 %	21			$173,471
C1030	Fittings	$3.12	S.F.	49,422	40	1996	2036		52.50 %	0.00 %	21			$154,197
C2010	Stair Construction	$1.41	S.F.	49,422	100	1956	2056		41.00 %	0.00 %	41			$69,685

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	49,422	10	2005	2015	2027	120.00 %	5.10 %	12		$33,267.52	$652,865
C3010231	Vinyl Wall Covering	$0.97	S.F.	49,422	15				0.00 %	0.00 %				$47,939
C3010232	Wall Tile	$2.63	S.F.	49,422	30	1996	2026		36.67 %	0.00 %	11			$129,980
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	1,600	50	1996	2046		62.00 %	0.00 %	31			$120,832
C3020413	Vinyl Flooring	$9.68	S.F.	33,200	20	1996	2016	2020	25.00 %	12.71 %	5		$40,859.61	$321,376
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	5,700	50	1996	2046		62.00 %	0.00 %	31			$5,529
C3030	Ceiling Finishes	$20.97	S.F.	49,422	25	1996	2021		24.00 %	50.06 %	6		$518,835.60	$1,036,379
D1010	Elevators and Lifts	$1.53	S.F.	49,422	35	1996	2031		45.71 %	0.00 %	16			$75,616
D2010	Plumbing Fixtures	$13.52	S.F.	49,422	35	1996	2031		45.71 %	0.00 %	16			$668,185
D2020	Domestic Water Distribution	$1.68	S.F.	49,422	25	1996	2021	2025	40.00 %	57.81 %	10		$47,995.11	$83,029
D2030	Sanitary Waste	$2.90	S.F.	49,422	25	1996	2021	2025	40.00 %	21.41 %	10		$30,685.95	$143,324
D2040	Rain Water Drainage	$2.32	S.F.	49,422	30	1996	2026		36.67 %	0.00 %	11			$114,659
D3020	Heat Generating Systems	$18.67	S.F.	49,422	35	1997	2032	2032	48.57 %	15.66 %	17		$144,538.21	$922,709
D3030	Cooling Generating Systems	$24.48	S.F.	49,422	30				0.00 %	61.03 %			$738,358.07	$1,209,851
D3040	Distribution Systems	$42.99	S.F.	49,422	25	2001	2026		44.00 %	0.00 %	11			$2,124,652
D3050	Terminal & Package Units	$11.60	S.F.	49,422	15	1997	2012	2032	113.33 %	0.00 %	17			$573,295
D3060	Controls & Instrumentation	$13.50	S.F.	49,422	20	1997	2017	2037	110.00 %	158.90 %	22		$1,060,207.14	$667,197
D4010	Sprinklers	$7.05	S.F.	49,422	35	1997	2032	2032	48.57 %	59.99 %	17		$209,036.85	$348,425
D4020	Standpipes	$1.01	S.F.	49,422	35	1997	2032		48.57 %	0.00 %	17			$49,916
D5010	Electrical Service/Distribution	$9.70	S.F.	49,422	30	1996	2026	2026	36.67 %	0.00 %	11			$479,393
D5020	Lighting and Branch Wiring	$34.68	S.F.	49,422	20	1996	2016	2037	110.00 %	0.00 %	22			$1,713,955
D5030	Communications and Security	$12.99	S.F.	49,422	15	1996	2011	2032	113.33 %	28.34 %	17		$181,955.28	$641,992
D5090	Other Electrical Systems	$1.41	S.F.	49,422	30	1996	2026	2026	36.67 %	0.00 %	11			$69,685
E1020	Institutional Equipment	$4.82	S.F.	49,422	35	1996	2031		45.71 %	0.00 %	16			$238,214
E1090	Other Equipment	$11.10	S.F.	49,422	35	1996	2031		45.71 %	0.00 %	16			$548,584
E2010	Fixed Furnishings	$2.13	S.F.	49,422	40	1996	2036		52.50 %	0.00 %	21			$105,269
								Total	**53.43 %**	**17.29 %**			**$4,208,678.57**	**$24,346,768**

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 90%
Ceramic Tile 10%

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

Note: VCT 72%
Ceramic Tile 4%
Concrete 14%

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

Note: ACT 80%
Painted 20%

Renewal Schedule

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

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$4,208,679**	**$0**	**$0**	**$0**	**$0**	**$409,820**	**$1,455,365**	**$0**	**$0**	**$0**	**$334,619**	**$6,408,482**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$410,981	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$410,981**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$94,125	$0	$0	$0	$0	**$94,125**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$474,348	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$474,348**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$317,610	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$317,610**

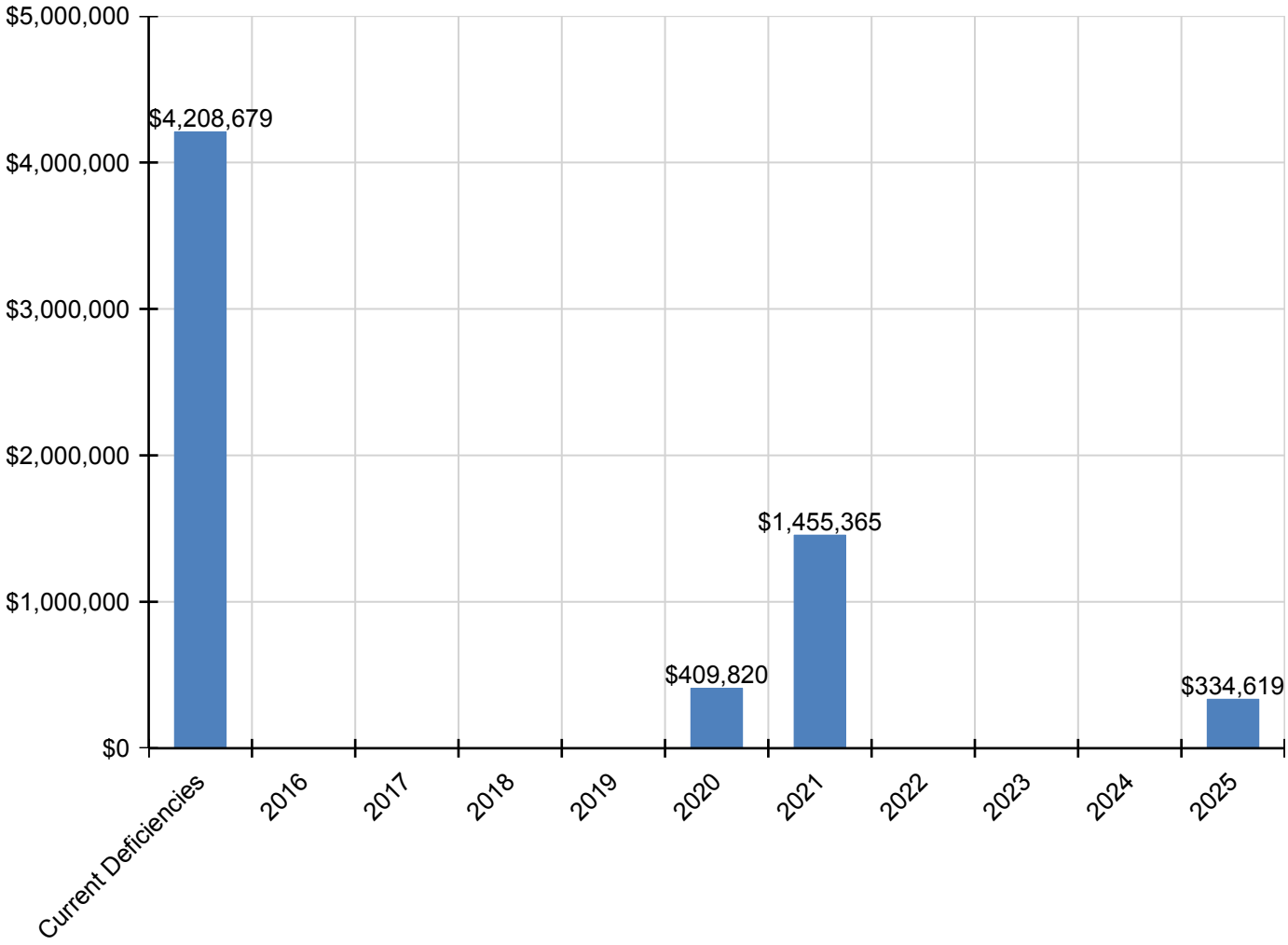
C1020 - Interior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$33,268	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$33,268**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$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	$40,860	$0	$0	$0	$0	$409,820	$0	$0	$0	$0	$0	**$450,679**
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	$518,836	$0	$0	$0	$0	$0	$1,361,240	$0	$0	$0	$0	**$1,880,076**
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	$47,995	$0	$0	$0	$0	$0	$0	$0	$0	$0	$122,743	**$170,738**
D2030 - Sanitary Waste	$30,686	$0	$0	$0	$0	$0	$0	$0	$0	$0	$211,876	**$242,562**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$144,538	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$144,538**
D3030 - Cooling Generating Systems	$738,358	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$738,358**
D3040 - Distribution Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,060,207	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,060,207**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$209,037	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$209,037**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5030 - Communications and Security	$181,955	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$181,955**
D5090 - Other Electrical Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$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

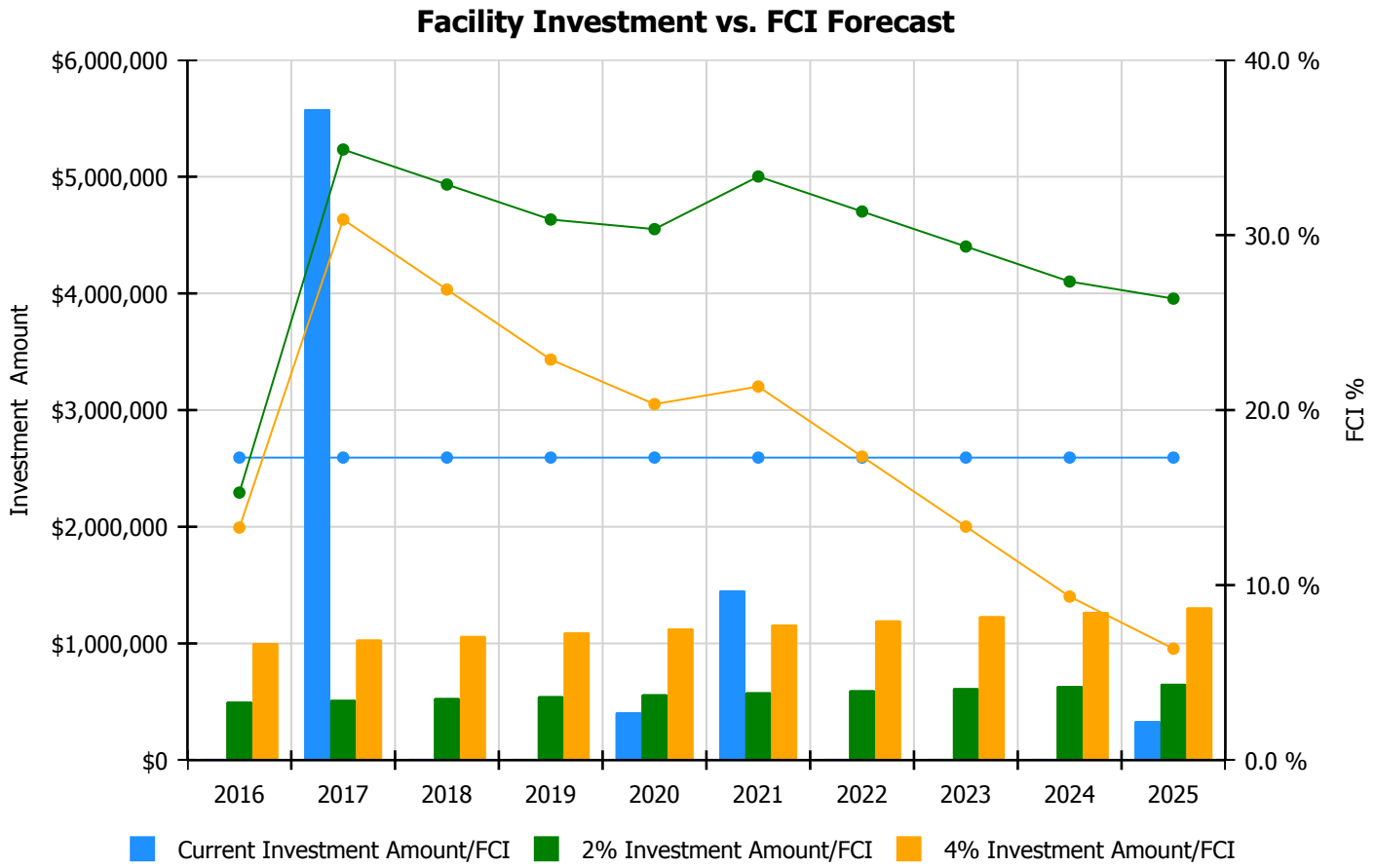
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

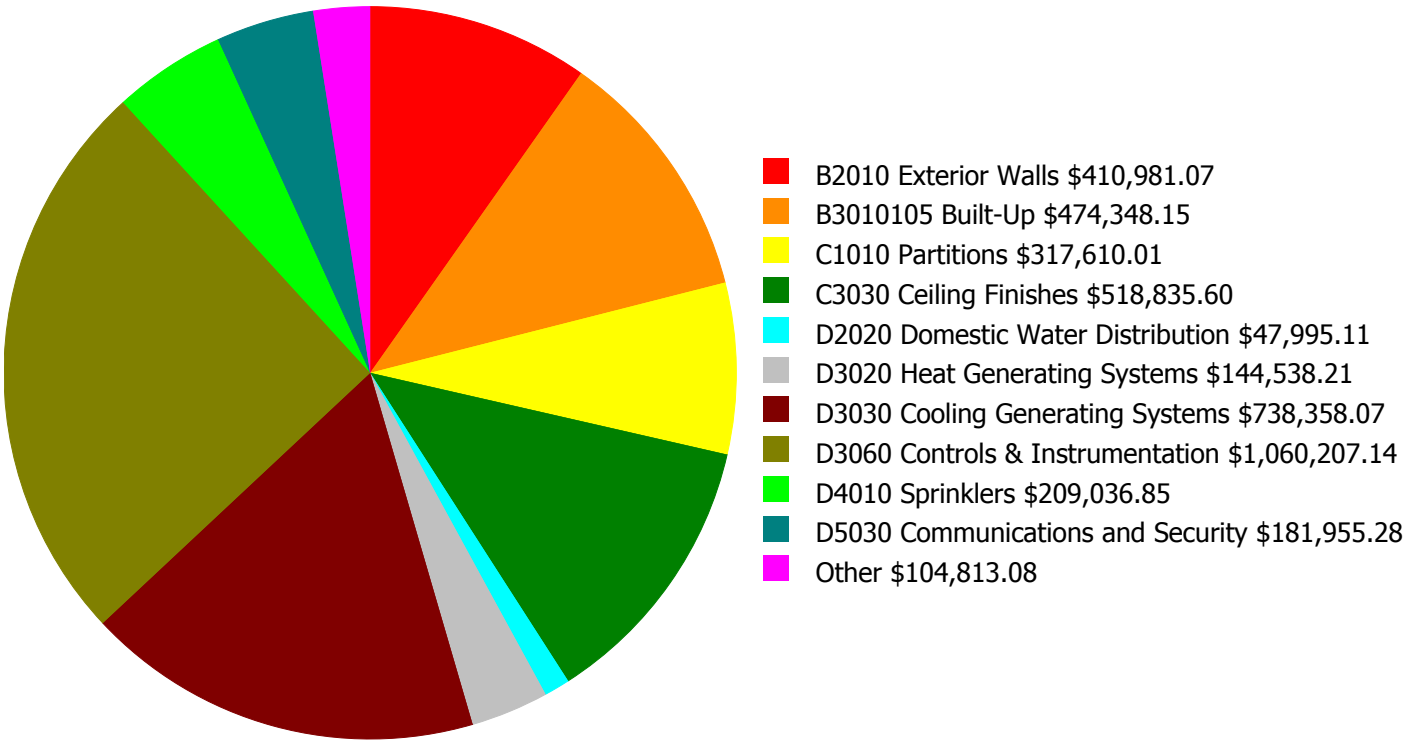
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 17.29%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$501,543.00	15.29 %	$1,003,087.00	13.29 %
2017	$5,579,273	$516,590.00	34.89 %	$1,033,179.00	30.89 %
2018	$0	$532,087.00	32.89 %	$1,064,175.00	26.89 %
2019	$0	$548,050.00	30.89 %	$1,096,100.00	22.89 %
2020	$409,820	$564,492.00	30.34 %	$1,128,983.00	20.34 %
2021	$1,455,365	$581,426.00	33.34 %	$1,162,853.00	21.34 %
2022	$0	$598,869.00	31.34 %	$1,197,738.00	17.34 %
2023	$0	$616,835.00	29.34 %	$1,233,670.00	13.34 %
2024	$0	$635,340.00	27.34 %	$1,270,680.00	9.34 %
2025	$334,619	$654,400.00	26.37 %	$1,308,801.00	6.37 %
Total:	**$7,779,076**	**$5,749,632.00**		**$11,499,266.00**	

Deficiency Summary by System

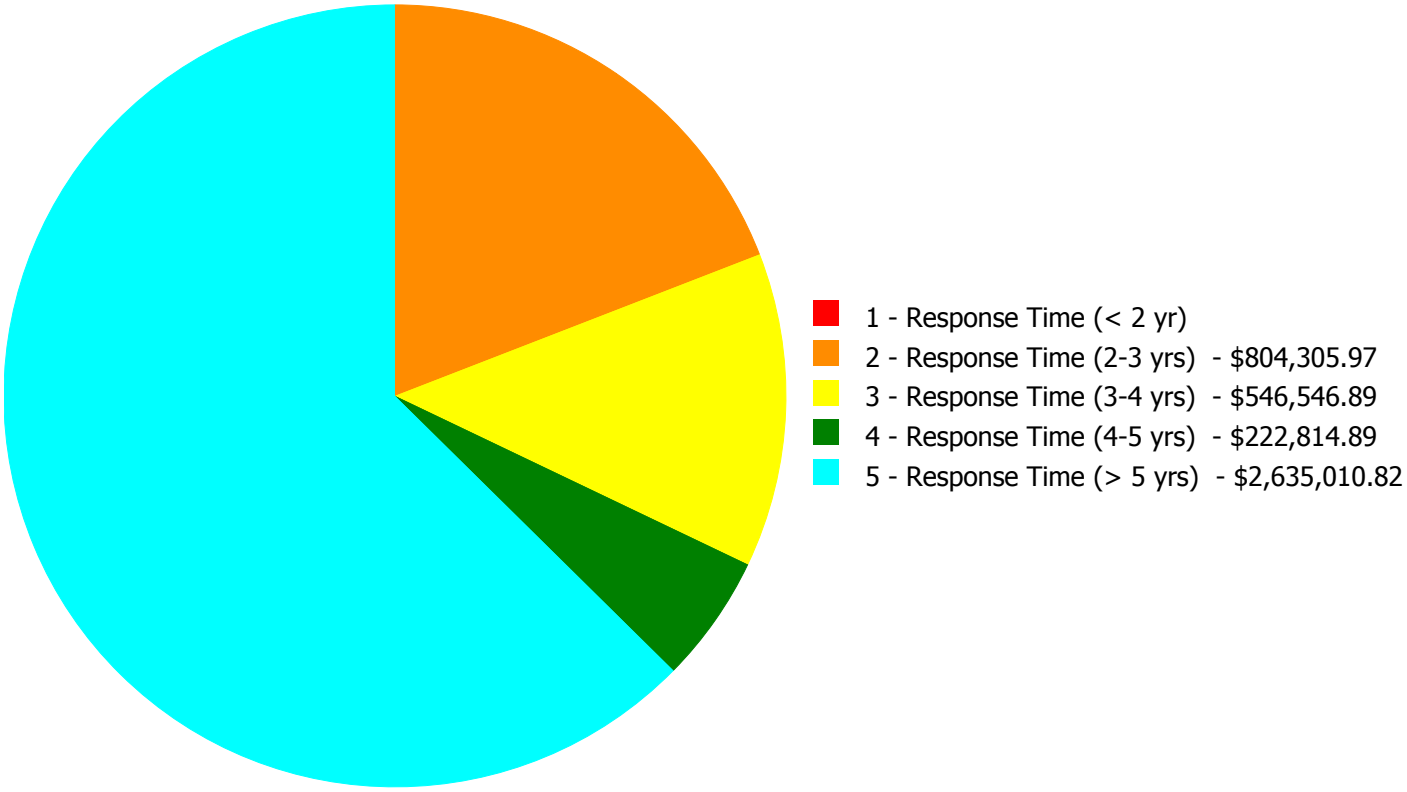
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $4,208,678.57

Deficiency Summary by Priority

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



Budget Estimate Total: $4,208,678.57

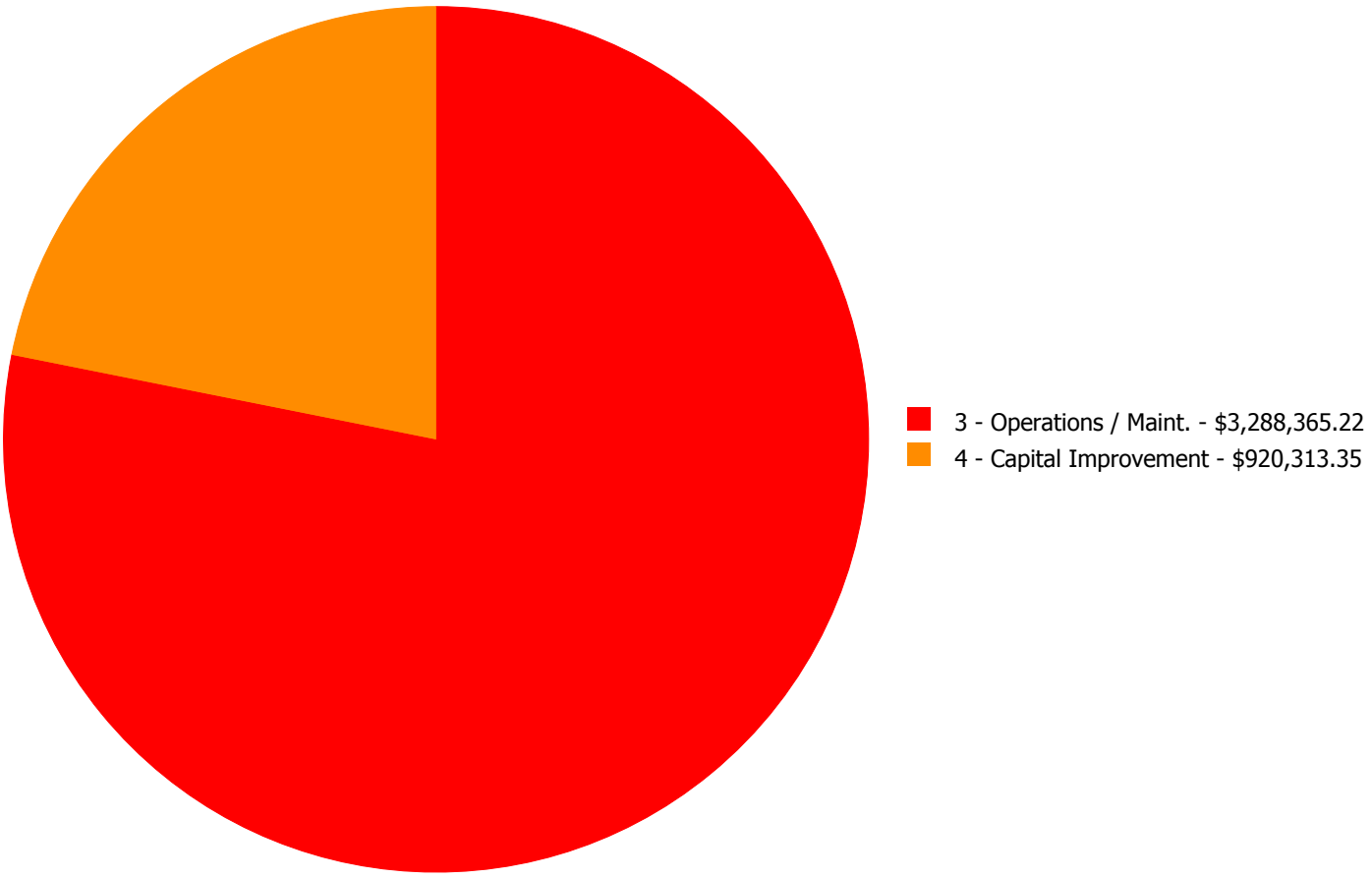
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$0.00	$410,981.07	$0.00	$0.00	$410,981.07
B3010105	Built-Up	$0.00	$474,348.15	$0.00	$0.00	$0.00	$474,348.15
C1010	Partitions	$0.00	$0.00	$0.00	$0.00	$317,610.01	$317,610.01
C3010230	Paint & Covering	$0.00	$0.00	$33,267.52	$0.00	$0.00	$33,267.52
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$40,859.61	$0.00	$40,859.61
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$0.00	$518,835.60	$518,835.60
D2020	Domestic Water Distribution	$0.00	$0.00	$47,995.11	$0.00	$0.00	$47,995.11
D2030	Sanitary Waste	$0.00	$0.00	$30,685.95	$0.00	$0.00	$30,685.95
D3020	Heat Generating Systems	$0.00	$120,920.97	$23,617.24	$0.00	$0.00	$144,538.21
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$738,358.07	$738,358.07
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$1,060,207.14	$1,060,207.14
D4010	Sprinklers	$0.00	$209,036.85	$0.00	$0.00	$0.00	$209,036.85
D5030	Communications and Security	$0.00	$0.00	$0.00	$181,955.28	$0.00	$181,955.28
	Total:	$0.00	$804,305.97	$546,546.89	$222,814.89	$2,635,010.82	$4,208,678.57

Deficiency Summary by Category

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



Budget Estimate Total: $4,208,678.57

Deficiency Details by Priority

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

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

System: B3010105 - Built-Up

Location: Exterior
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and Replace Built Up Roof
Qty: 14,000.00
Unit of Measure: S.F.
Estimate: $474,348.15
Assessor Name: System
Date Created: 11/18/2015

Notes: Install all new roofing system including insulation within next 3 to 4 years; tear-down existing roofing; install flashing, counter flashing and reglets

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System: D3020 - Heat Generating Systems

Location: Boiler room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Replace power burner, gas/oil (50 HP)
Qty: 2.00
Unit of Measure: Ea.
Estimate: $120,920.97
Assessor Name: System
Date Created: 09/11/2015

Notes: Replace the two (2) existing 1800MBH dual fuel burners on the boilers, which are at the end of their service life, with more efficient new burners.

System: D4010 - Sprinklers

Location: Pump room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace fire pump, electric, 500 GPM

Qty: 1.00

Unit of Measure: Ea.

Estimate: $209,036.85

Assessor Name: System

Date Created: 09/11/2015

Notes: Replace the 25HP electric fire pump and motor due to rust damage on the pump.

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

System: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Exterior plaster or stucco repair and refinishing - based on SF of wall surface

Qty: 6,900.00

Unit of Measure: S.F.

Estimate: $359,317.92

Assessor Name: System

Date Created: 11/18/2015

Notes: Repair damaged stucco plaster on original building walls

System: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

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

Qty: 1,600.00

Unit of Measure: S.F.

Estimate: $51,663.15

Assessor Name: System

Date Created: 11/18/2015

Notes: Repair cracks in masonry, replace missing mortar, tuck-point

System: C3010230 - Paint & Covering

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1,800.00

Unit of Measure: S.F.

Estimate: $33,267.52

Assessor Name: System

Date Created: 11/18/2015

Notes: Repair and repaint interior face of exterior walls in the original building

System: D2020 - Domestic Water Distribution

Location: Pump room

Distress: Damaged

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: $47,995.11

Assessor Name: System

Date Created: 09/11/2015

Notes: Replace the existing duplex domestic constant pressure pump system in the pump room as it is damaged from rust.

System: D2030 - Sanitary Waste

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace sanitary sewage ejector pit and pumps. (48" dia.)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $30,685.95

Assessor Name: System

Date Created: 09/11/2015

Notes: Replace existing sewage ejector pump system and piping in the basement as it is beyond its useful service life.

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace fuel oil pumps

Qty: 1.00

Unit of Measure: Ea.

Estimate: $23,617.24

Assessor Name: System

Date Created: 09/11/2015

Notes: Replace the existing duplex fuel oil pumping system and associated controls.

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

System: C3020413 - Vinyl Flooring

Location: Interior
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace VCT
Qty: 3,400.00
Unit of Measure: S.F.
Estimate: $40,859.61
Assessor Name: System
Date Created: 11/18/2015

Notes: Replace damaged VCT flooring including cove base (approx10%)

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 Video Surveillance System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $181,955.28
Assessor Name: System
Date Created: 09/28/2015

Notes: Install new cameras on 2nd floor and other floors. There are sufficient number of cameras installed on the first floor.

Priority 5 - Response Time (> 5 yrs):

System: C1010 - Partitions

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Folding partition inoperable - remove and replace - select quality

Qty: 1,160.00

Unit of Measure: S.F.

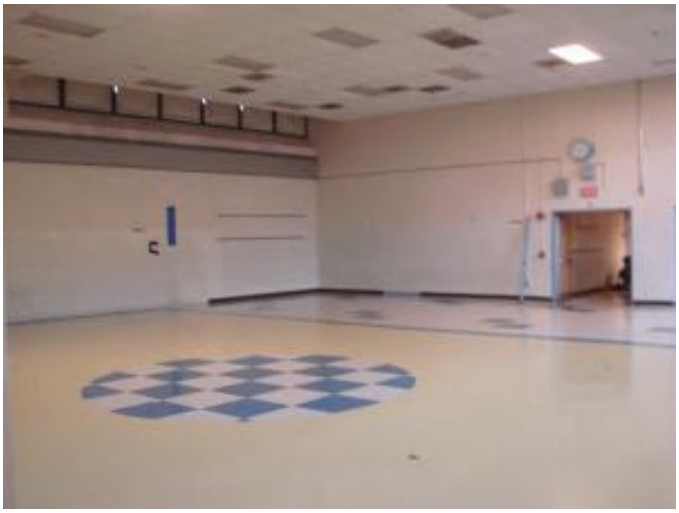
Estimate: $317,610.01

Assessor Name: System

Date Created: 11/18/2015

Notes: Replace folding partition in multipurpose room

System: C3030 - Ceiling Finishes



Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 34,400.00

Unit of Measure: S.F.

Estimate: $518,835.60

Assessor Name: System

Date Created: 11/18/2015

Notes: Replace all suspended acoustical ceilings in original building

System: D3030 - Cooling Generating Systems

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 49,422.00

Unit of Measure: S.F.

Estimate: $738,358.07

Assessor Name: System

Date Created: 09/11/2015

Notes: Remove the window air conditioning units and install a 75 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in the mechanical room to supply more reliable air conditioning for the classrooms with a much longer service life.

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 49,422.00

Unit of Measure: S.F.

Estimate: $1,060,207.14

Assessor Name: System

Date Created: 09/11/2015

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

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2500 lb, 5 floors, 100 FPM	1.00	Ea.	Interior					30	1996	2026	$142,170.00	$156,387.00
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 1530 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	HB Smith	Series 28A-6	N97-481		35	1997	2032	$32,393.00	$71,264.60
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 1530 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Boiler Room	HB Smith	Series 28A-6	N97-480		35	1997	2032	$32,393.00	$71,264.60
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	3.00	Ea.	Roof	Racan	A2D-89/80-D0	701079-001-F805		25	2001	2026	$30,178.50	$99,589.05
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	3.00	Ea.	Roof	Racan	A2D-55/72-D0	701079-003-F809		25	2001	2026	$30,178.50	$99,589.05
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	3.00	Ea.	Roof	Racan	A2D-55/72-D0	701079-002-F807		25	2001	2026	$30,178.50	$99,589.05
D4010 Sprinklers	Fire pumps, electric, 500 GPM, 50 psi, 27 HP, 1,770 RPM, 4" pump, including controller, fittings and relief valve	1.00	Ea.	Pump Room					35	1997	2032	$22,805.80	$25,086.38
												Total:	**$622,769.73**

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):	16,800
Year Built:	1916
Last Renovation:	
Replacement Value:	$366,380
Repair Cost:	$188,954.98
Total FCI:	51.57 %
Total RSLI:	77.65 %

Description:

Attributes:

General Attributes:

Bldg ID:	S549001	Site ID:	S549001

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	92.53 %	70.30 %	$188,954.98
G40 - Site Electrical Utilities	36.67 %	0.00 %	$0.00
Totals:	**77.65 %**	**51.57 %**	**$188,954.98**

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				0.00 %	0.00 %				$0
G2020	Parking Lots	$8.50	S.F.		30				0.00 %	0.00 %				$0
G2030	Pedestrian Paving	$12.30	S.F.	15,400	40	1956	1996	2057	105.00 %	79.06 %	42		$149,759.25	$189,420
G2040	Site Development	$4.36	S.F.	16,800	25	1996	2021	2032	68.00 %	53.51 %	17		$39,195.73	$73,248
G2050	Landscaping & Irrigation	$4.36	S.F.	1,400	15				0.00 %	0.00 %				$6,104
G4020	Site Lighting	$4.84	S.F.	16,800	30	1996	2026	2026	36.67 %	0.00 %	11			$81,312
G4030	Site Communications & Security	$0.97	S.F.	16,800	30	1996	2026	2026	36.67 %	0.00 %	11			$16,296
								Total	**77.65 %**	**51.57 %**			**$188,954.98**	**$366,380**

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.

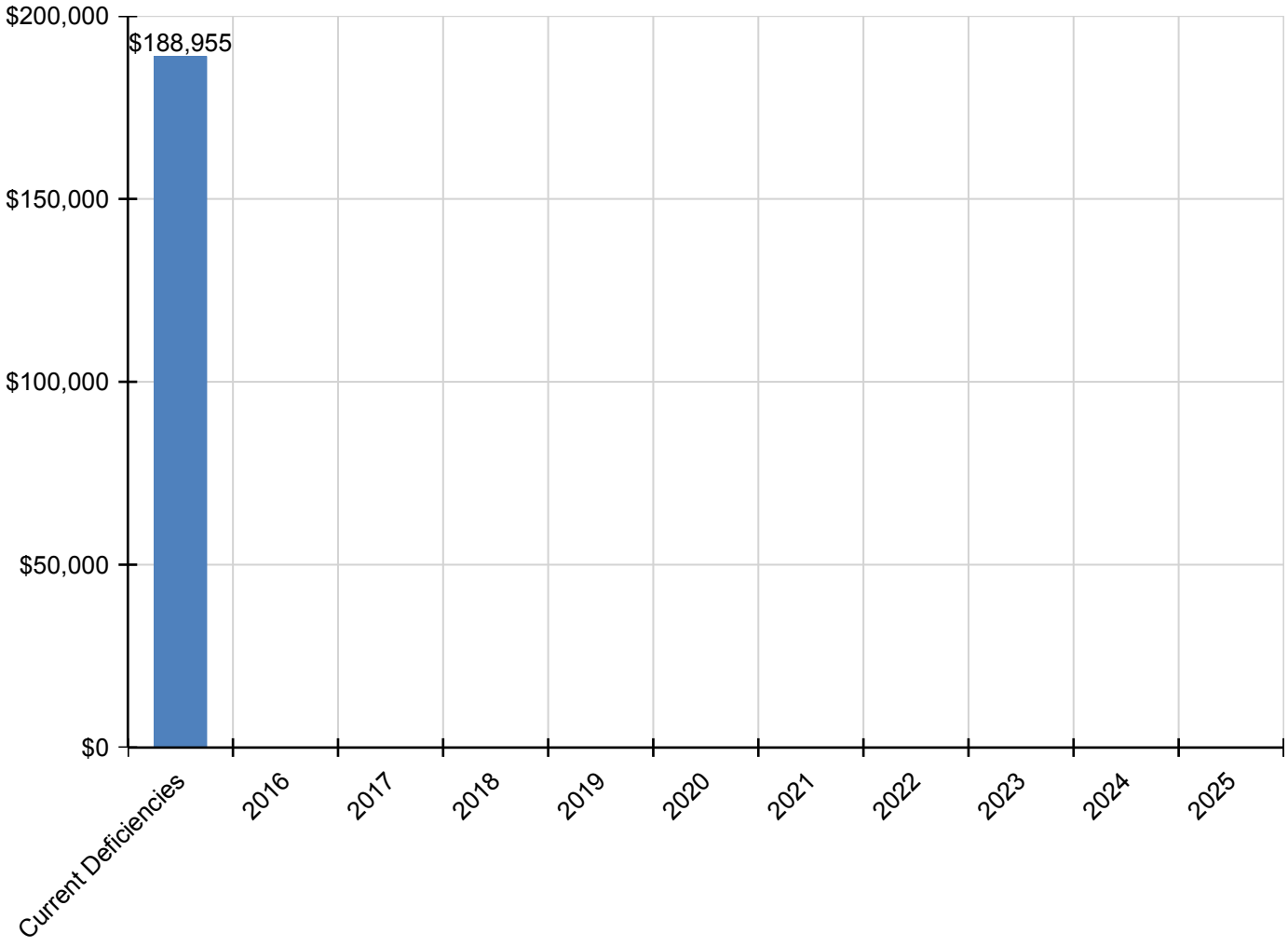
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$188,955**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$188,955**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$149,759	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$149,759**
G2040 - Site Development	$39,196	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$39,196**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

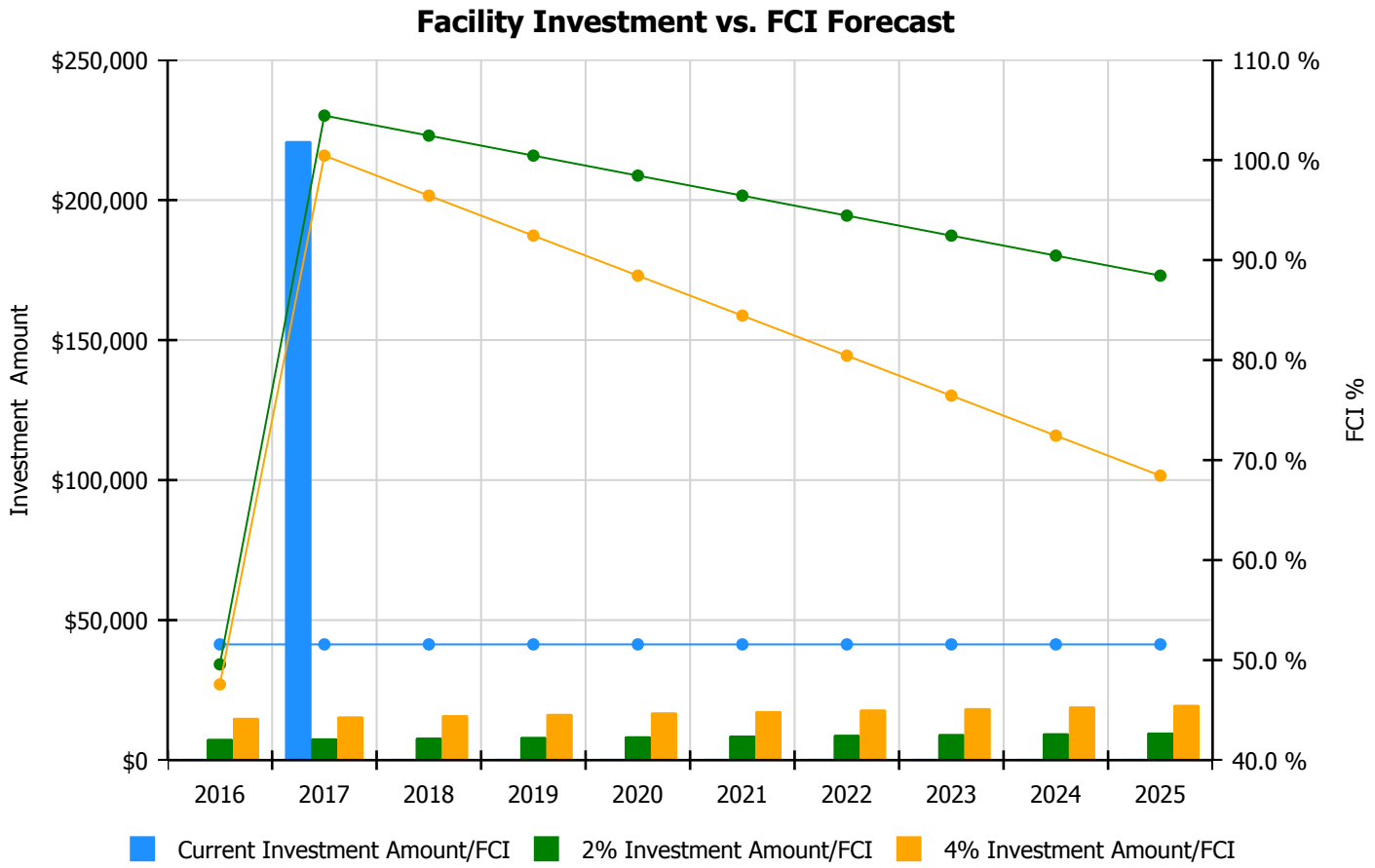
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

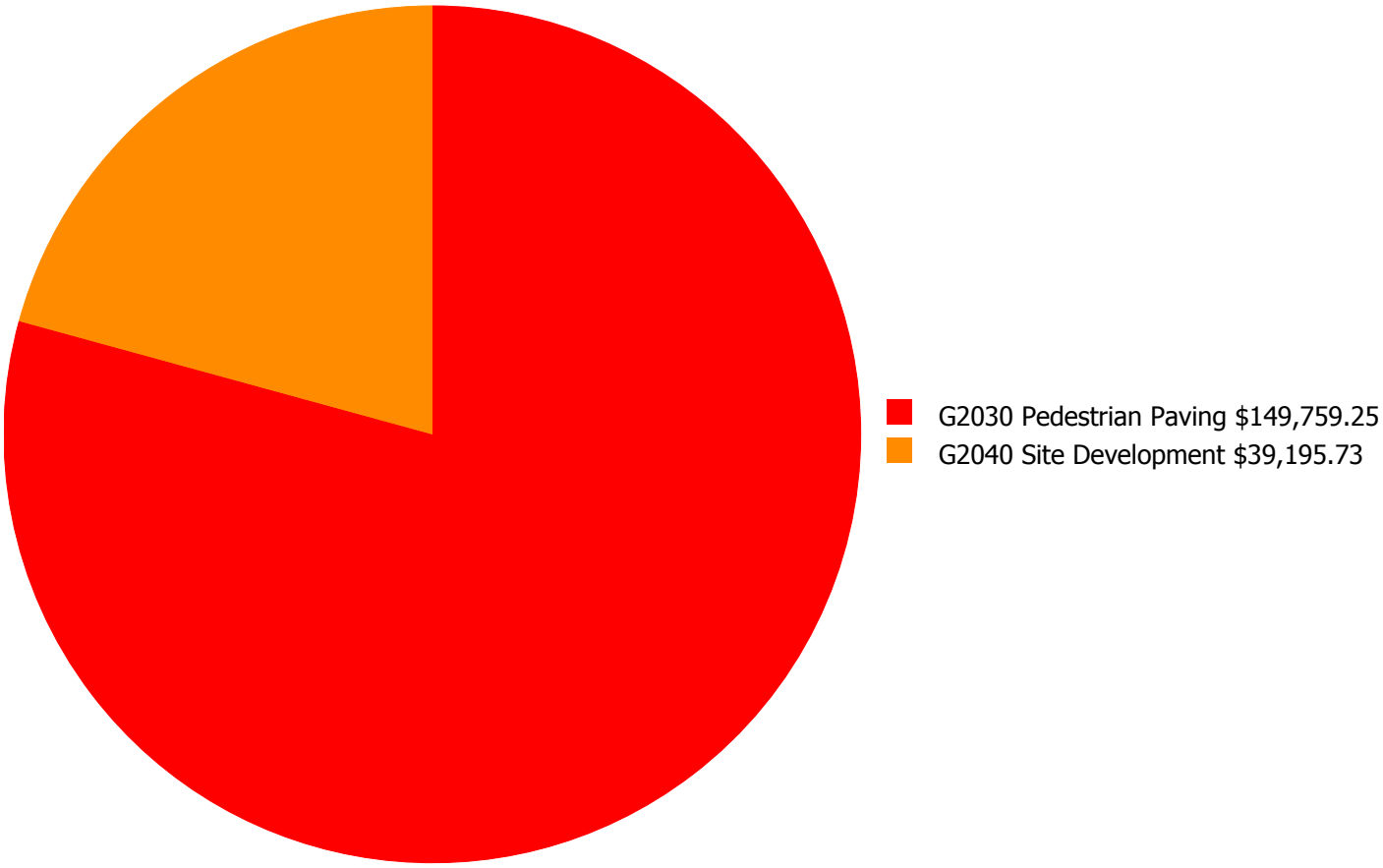
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 51.57%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$7,547.00	49.57 %	$15,095.00	47.57 %
2017	$221,051	$7,774.00	104.44 %	$15,548.00	100.44 %
2018	$0	$8,007.00	102.44 %	$16,014.00	96.44 %
2019	$0	$8,247.00	100.44 %	$16,495.00	92.44 %
2020	$0	$8,495.00	98.44 %	$16,989.00	88.44 %
2021	$0	$8,750.00	96.44 %	$17,499.00	84.44 %
2022	$0	$9,012.00	94.44 %	$18,024.00	80.44 %
2023	$0	$9,282.00	92.44 %	$18,565.00	76.44 %
2024	$0	$9,561.00	90.44 %	$19,122.00	72.44 %
2025	$0	$9,848.00	88.44 %	$19,695.00	68.44 %
Total:	**$221,051**	**$86,523.00**		**$173,046.00**	

Deficiency Summary by System

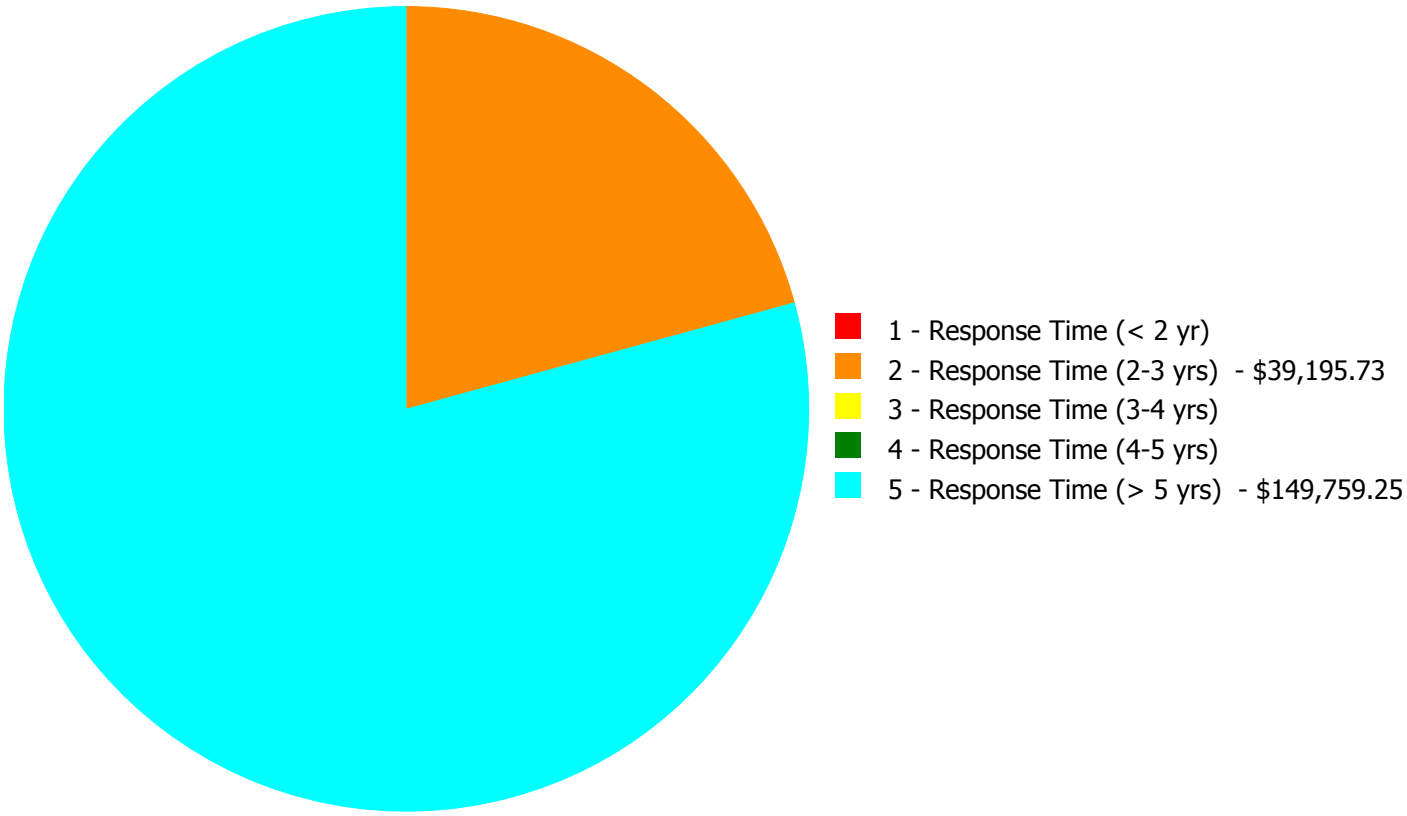
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $188,954.98

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: $188,954.98

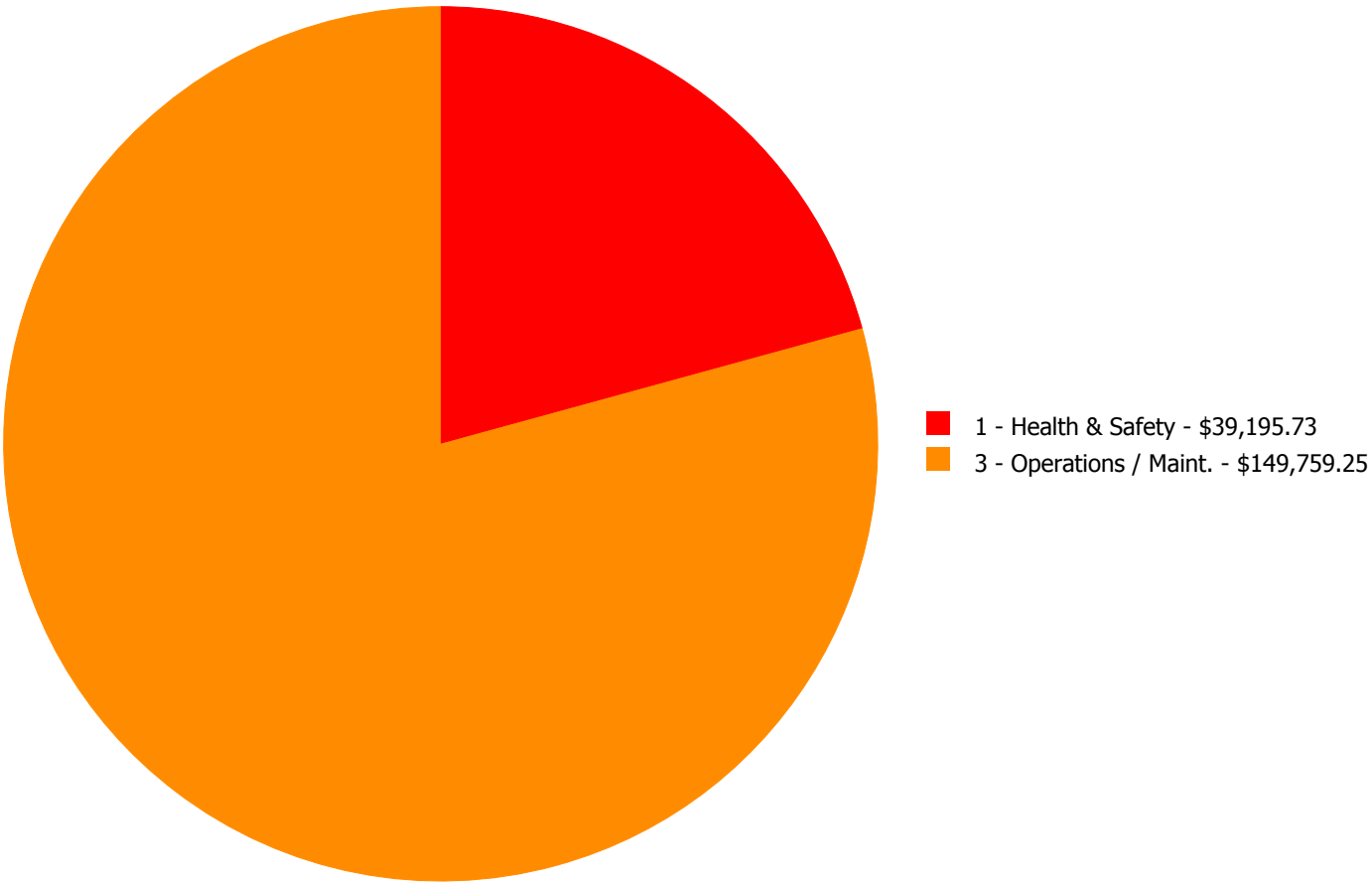
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$0.00	$0.00	$0.00	$149,759.25	$149,759.25
G2040	Site Development	$0.00	$39,195.73	$0.00	$0.00	$0.00	$39,195.73
	Total:	$0.00	$39,195.73	$0.00	$0.00	$149,759.25	$188,954.98

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: $188,954.98

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: G2040 - Site Development

Location: Grounds/ site

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Replace chain link fence - 8' high

Qty: 350.00

Unit of Measure: L.F.

Estimate: $39,195.73

Assessor Name: Craig Anding

Date Created: 11/18/2015

Notes: Replace chain link fence along service yard

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving

Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace concrete paving - pedestrian or parking - 8" concrete thickness

Qty: 5,700.00

Unit of Measure: S.F.

Estimate: $149,759.25

Assessor Name: Tom Moe

Date Created: 11/18/2015

Notes: Replace service yard paving

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