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.

Penn Treaty School

Governance	DISTRICT	Report Type	Middlehigh
Address	600 E. Thompson St.	Enrollment	559
	Philadelphia, Pa 19125	Grade Range	'06-12'
Phone/Fax	215-291-4715 / 215-291-5172	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Penntreaty	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	**47.92%**	**$35,632,485**	**$74,352,318**
Building	47.64 %	$35,229,520	$73,953,178
Grounds	100.96 %	$402,964	$399,140

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.27 %	$1,517,914	$1,700,288
Exterior Walls (Shows condition of the structural condition of the exterior facade)	17.99 %	$1,134,453	$6,304,320
Windows (Shows functionality of exterior windows)	178.80 %	$5,510,020	$3,081,600
Exterior Doors (Shows condition of exterior doors)	78.51 %	$163,932	$208,800
Interior Doors (Classroom doors)	41.10 %	$207,713	$505,440
Interior Walls (Paint and Finishes)	115.26 %	$2,788,289	$2,419,200
Plumbing Fixtures	23.83 %	$463,859	$1,946,880
Boilers	00.00 %	$0	$2,688,480
Chillers/Cooling Towers	59.93 %	$2,112,739	$3,525,120
Radiators/Unit Ventilators/HVAC	109.53 %	$6,780,739	$6,190,560
Heating/Cooling Controls	132.68 %	$2,579,242	$1,944,000
Electrical Service and Distribution	71.01 %	$991,906	$1,396,800
Lighting	50.66 %	$2,530,012	$4,993,920
Communications and Security (Cameras, Pa System and Fire Alarm)	15.13 %	$283,090	$1,870,560

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

S511001;Penn Treaty

Final

Site Assessment Report

January 31, 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):	144,000
Year Built:	1928
Last Renovation:	
Replacement Value:	$74,352,318
Repair Cost:	$35,632,484.50
Total FCI:	47.92 %
Total RSLI:	69.86 %

Description:

Facility assessment, July 2015

School District of Philadelphia

Penn Treaty Middle School

600 E. Thompson Street

Philadelphia, PA 19125

144,000 SF / 1,113 Students / LN 03

The Penn Treaty Middle School building is located at 600 E. Thompson Street in Philadelphia, PA. The 5 story, 144,000 square foot building was originally constructed in 1928. The building has a basement partially above ground and various penthouses on the roof, some partially open to roof area.

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

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

STRUCTURAL/ EXTERIOR CLOSURE:

The building typically rests on concrete foundations and bearing walls that are not showing signs of settlement. Foundation walls do not show signs of deterioration. The basement slab does not show signs of heaving.

The main structure consists typically of cast-in-place concrete columns, beams and one-way concrete slabs. Long slab spans are supported with steel truss girders. Above ground floor slabs are generally in good condition, however, the penthouse floor slab, partially exposed to weather, shows substantial structural deterioration including spalled concrete and exposed, rusting reinforcement.

The building envelope is typically masonry with face brick with decorative stone water table and window sills. In general, masonry is in fair to poor condition with deteriorated and missing mortar from joints (approximately 40%); the penthouses' walls show substantial cracks and wythes separation.

The original windows were replaced in late 1970's with extruded aluminum double hung windows, single glazed. Basement and first floor windows are fitted with security screens attached to adjacent masonry. All windows and screens are generally in poor condition and beyond their useful life.

Exterior doors and frames are typically hollow metal in fair to good condition; most of the service doors are in poor condition, some rusting and missing hardware.

Roofing is typically built-up. All roofing and flashing is typically in poor condition with deterioration of the built-up system including water ponding and soft spots; several leaks have been reported.

Generally, the building is not accessible per ADA requirements due to first floor- grade separation without ramps or lifts.

INTERIORS:

Partition wall types include plastered ceramic hollow blocks and painted CMU. The interior wall finishes are generally painted plaster or drywall and some painted brick with marble and glazed brick wainscot in stairways and toilets. Generally, paint is in fair condition with some deterioration in stairways and auditorium. Some of the wainscot marble panels are missing. Most ceilings are 2x4 suspended acoustical panels and exposed, painted. The suspension system and tile are old and approaching the end of their useful life. Paint on exposed ceilings is deteriorated. Flooring in classrooms, gym and auditorium is generally hardwood; and patterned concrete in most corridors and toilets. Most flooring is original and in poor condition, however, is often uneven creating possible tripping hazard; cove base is typically in fair condition. Some areas in basement have VCT tile, generally in fair condition. However, about 60% of tiles are VAT tiles (containing asbestos), in poor condition. Some tiles are missing creating a possibility of ACM exposure. Interior doors are generally rail and stile wood doors, some glazed with matching wood frame side lights and transoms, some doors are missing closers. Door finishes are typically in poor condition. Most doors are fitted with door knobs and are not ADA compliant. The doors leading to exit stairways are hollow metal doors and frames in good condition.

Fittings include original chalk boards, generally in poor condition; toilet accessories in poor condition with substantial number damaged or missing; toilet partitions, generally in very poor condition; handrails and ornamental metals, generally in good condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in poor condition.

Stair construction is generally concrete with cast iron non-slip treads in good condition.

Institutional and Commercial equipment includes: stage equipment, generally in poor condition; A/V equipment in fair condition; gym equipment – basketball backstops, scoreboards, etc.; generally in poor condition. Other equipment includes kitchen equipment, generally in good condition.

Furnishings include fixed casework in classrooms, corridors and library, generally in fair to poor condition; window shades/blinds, generally in poor condition; fixed auditorium seating is original, generally in fair condition with some damaged seats.

Conveying systems - The building has 3 original elevators, manually operated, in very poor condition. One elevator is not operational

PLUMBING:

Plumbing Fixtures - Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. A few of the fixtures were leaking during the site visit. With repairs these fixtures should provide reliable service for the next 5-10 years. However, the older units should be replaced as part of any renovation of the spaces.

Drinking fountains in the corridors and at the restrooms are a mixture of wall hung with integral refrigerated coolers and porcelain fixtures. Most are not accessible type, are beyond their service life, and should be replaced.

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

The Kitchen has two sinks; both are two compartment stainless steel sinks with lever operated faucets and integral grease traps. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution - A 4" city water service enters the building from E. Thompson Street near the intersection with E. Montgomery Avenue. The 3" meter and valves are located in the basement boiler room. A reduced pressure backflow preventer is installed. A Penn Pump duplex domestic water booster pump system with expansion tank is installed. The domestic hot and cold water distribution piping consists of copper piping with sweat fittings and was recently replaced. The building engineer reports no significant problems with scale build up in the domestic piping.

One Bradford White Eco-Magnum gas fired, 100 gallon, vertical hot water heater with circulating pump and expansion tank supplies hot water for domestic use. The unit is located in the boiler room. The hot water heater is equipped with a T&P relief valve. The water heater is within its service life and should provide reliable service for the next 8-10 years. A chemical water softening system is installed.

Sanitary Waste - The storm and sanitary sewer piping is threaded galvanized piping. Downspouts from the roof run down the interior of the building and connect to the storm sewer system in the basement.

A duplex sewage ejector, with control box, located in the boiler room receives water from the basement area. It has a sealed top and was recently installed.

The maintenance staff reported no problems with the sanitary waste piping systems. However, the sewer piping has been in service for nearly 40 years and will require more frequent attention from the maintenance staff as time passes. The District should hire a qualified contractor to examine the sanitary waste piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Rain Water Drainage - The rain water drains from the roof are routed through mechanical chases in the building and appear to be original. The drain piping should be inspected and repaired as necessary.

Energy Supply - A 10" city gas service enters the building from E. Thompson Street near the intersection with E. Montgomery Avenue. The meter is 8" and located the former coal/ash room. Dual gas booster pumps ensure adequate gas supply for the building. A second gas service, 6" incoming down to a 2" main with a 2" meter, enters the mechanical room from E. Thompson Street near the middle of the block.

The reserve oil supply is stored in an underground storage tank (UST), size unknown, located in the parking area off of E. Montgomery Avenue. Duplex pumps located in the boiler room circulate oil through the system. Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. The current supply has been in storage for some time and should be tested for quality on a regular schedule. USTs have an anticipated service life of 20 years.

MECHANICAL:

Heat Generating Systems - Low pressure steam is generated at a maximum of 15 lbs/sq. in., typically 5-7 lbs/sq. in., by three net AHRI 4,781MBH Weil-McLain Model 94 cast iron sectional boilers installed in 2014. Each boiler is equipped with a Webster burner designed to operate on natural gas or fuel oil. Combustion makeup air is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with electronic ignition, digital flame sensing and pressure atomization on oil. Burner oil pumps are loose and not driven by the fan motor. Cast iron sectional boilers have an anticipated service life of 35 years or more. These units are new and should provide reliable service for the next 30 plus years.

The condensate receiver, boiler feed pump, and tank assembly are installed in the basement level boiler room. As the system is new, no serious problems were reported.

Distribution Systems - Steam piping is black steel (ASTM A53) with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. Steam and condensate piping mains from the basement level run up through the building to the radiators on all five floors. The distribution piping and control valves have been recently replaced and reinsulated. The distribution piping should provide reliable service for the next 25-30 years.

Two pipe cast iron radiators provide heating for the classrooms, offices, and hallways. These radiators are well beyond their service life and are original to the building. Ventilation for the building is provided by opening windows, which does not meet current codes for outdoor air ventilation. A new heating distribution system should be installed to meet ventilation requirements and achieve more efficient operation. The new units should be designed for quiet operation and equipped with hot water coils, chilled water coils, and integral heat exchangers, where applicable, to introduce outdoor air to the building.

A kitchen hood with integral fire suppression system is installed above the gas fired cooking equipment. An automatic gas shutoff valve was installed with kitchen hood equipment. The equipment looks well within its service life.

The school has no operable mechanical ventilation, except in some of the restrooms. The existing building ventilation system is inoperable, but was going through asbestos abatement during the site visit.

A small exhaust fan in the Kitchen provided exhaust with a transfer duct to the exterior of the building for OA makeup. Provide ventilation for the Cafeteria by installing a constant volume air handling unit with distribution ductwork and registers. For the administrative offices provide a fan coil air handling unit hung from the ceiling with outdoor air ducted to the unit from louvers in the window openings. Provide ventilation for the Auditorium by installing a constant volume air handling unit with distribution ductwork and registers. Provide ventilation for the two Gymnasiums by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings. These units would be equipped with hot water heating coils and chilled water cooling coils. Steam converters could be installed in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

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 375 ton air-cooled chiller on the roof with pumps located in a mechanical room and chilled water distribution piping could supply more reliable air conditioning for the building with a much longer service life.

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

Three gas fired Modine unit heaters ensure the boiler room and former coal/ash room maintain a minimum temperature in the winter.

Controls & Instrumentation - Heating control is achieved via the boilers. Other equipment is operated on an on/off basis via wall switches. A DDC control system should be installed.

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 school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure. The building does have standpipe in the stairwells. The kitchen hood is protected by a Range Guard wet chemical system.

ELECTRICAL:

Electrical Service - The electrical service is an underground primary to a pair of 167 kVA vault mounted transformers located below grade on the north side of the school. The primary originates from an overhead on wooden poles along E Thompson St. The service enters the building underground to a 240V, 2 phase, 4 pole, 1200A disconnect switch located in the basement.

Distribution System and Raceway System- The facility has an old antiquated open blade, open bus switchgear that is original to the building. This switchgear then distributes the power to various panels located throughout the school. Each floor contains panels to provide branch circuit power to receptacles and lights on that floor. The switchgear has surpassed its useful life, and due to its open bus configuration, is a safety issue. Most of the panels throughout the building have exceeded their useful life as well and should be replaced due to the availability of parts. Some of the panels are open bus as well, and pose a safety issue. There are some 2 phase

to 3 phase transformers providing 3 phase power to various parts of the building.

Receptacles- Classrooms are typically supplied with 3 to 4 duplex receptacles. A minimum of 2 receptacles per wall should be added to each classroom. The receptacles located in the food prep area are not GFI protected. All receptacles in this area should be replaced with GFI protected receptacles. One of the computer rooms had power poles to provide power and data to the middle of the classroom. Another computer classroom had computers spread along the perimeter of the room, and used extension cords and power strips. Surface mounted raceway is recommended for this room.

Lighting- The facility has a mix of both T12 lamps and T8 lamps in its fluorescent fixtures, with T12 being the norm. Corridors typically have 4 lamp lay in grid type 2X4 fixtures. Typical classrooms contain 1X4, 2 lamp pendant mounted fixtures and are controlled by a single switch. Cafeteria lighting is by 2X4 surface mounted fixtures. Lighting levels were found to be around 30 fc in classrooms that have the T12 lamps. In areas with updated T8 lamps (computer rooms, admin areas) lighting levels were above the 50 fc mark. The gymnasium has 10 metal halide high bay type fixtures providing 20 fc. The auditorium uses circular surface mounted decorative fixtures with screw in type compact fluorescent lamps. Fire towers are incandescent in general with some screw in fluorescent type. The lighting upgrade should be completed throughout the school. The lighting in the basement mechanical areas was updated during the mechanical upgrades.

Fire Alarm System – The fire alarm system is an antiquated 120V system with pull stations and bells located in the corridors only. It is recommended that a new addressable fire alarm system be installed with full audio or visual annunciating devices.

Telephone/LAN – The present telephone/LAN system is adequate.

Theatrical lighting and sound – The existing theatrical lighting and sound system have exceeded their useful life. Both the light dimming panel and the sound board are antiquated and should be replaced.

Public Address/Intercom/Paging – The paging system is adequate and in good condition. Each classroom contains a ceiling mounted speaker. Two way communication is not available through the public announcement system. Communication back to the office is through a wall mounted phone located in each classroom.

Clock and Program System – The clock system is in adequate condition. The programmed bell system is by Simplex and is in adequate condition.

Television System - The present television system is adequate. All classrooms have been wired for CATV. Televisions have been provided in classrooms.

Security System - The facility is equipped with a security system. All exterior doors are provided with magnetic door contacts for intrusion detection.

Emergency Power System – An emergency generator does exist for this facility. Located in the basement is an Onan 18.5 kW natural gas generator. The generator has exceeded it useful life and will not be able to carry the load of an elevator.

Emergency Lighting System / Exit Lighting- The emergency lighting is provided by both ceiling mounted and wall mounted light fixtures that have either incandescent or screw in compact fluorescent type lamps. These fixtures do not provide adequate emergency lighting. Exit lighting is partially adequate with some newer EXIT fixtures being installed in areas. It is recommended to complete the EXIT lighting replacement.

Lightning Protection System- A lightning protection system does not exists for this facility.

Site Lighting - Site lighting is provided by building mounted HID flood lights installed around the entire perimeter of the school. The fixtures are beyond their service life. Recommend the fixtures be replaced.

Video Surveillance – There are exterior cameras and cameras located on the first floor for video surveillance. The system is in adequate condition.

Site Paging – There are exterior speakers located on the western and eastern side of the building for site paging. Site paging is adequate.

ACCESSIBILITY:

The building does not have accessible entrance, and accessible routes. None of the toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars and accessible partitions. None of the doors in the building have ADA required door handles.

RECOMMENDATIONS:

- Repair deteriorated structural roof slabs above open penthouses
- Repair cracks in penthouses' masonry, tuck-point all walls
- Install all new roofing system including insulation; tear-down existing roofing; install flashing, counter flashing and reglets
- Replace all windows
- Replace exterior service doors, including penthouses; provide weather-stripping
- Replace all suspended acoustical ceilings
- Repair and repaint exposed ceilings
- Repair and repaint interior walls (50% area)
- Replace stone wainscot
- Repair & refinish hardwood flooring
- Replace all VAT floor tiles
- Install new signage throughout the building
- Replace/ refurbish 3 original elevators serving all floors and basement
- Provide ADA compliant ramp at one entrance (location TBD)
- Repair and refinish all original interior doors
- Provide ADA compliant hardware on interior doors
- Replace original chalk boards
- Reconfigure toilets on each floor for accessibility, provide new toilet partitions
- Provide new toilet accessories including grab bars
- Replace picket fence
- Replace the lavatories in the restrooms with new code compliant fixtures.
- Replace the urinals in the restrooms with new fixtures.
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- 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.
- The drain piping should be inspected and repaired as necessary.
- Remove the existing cast iron steam radiators and install units with steam and chilled water coils and integral heat exchangers to introduce outdoor air to the building.
- Remove the window air conditioning units and install a 375 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room to supply more reliable air conditioning for the building with a much longer service life.
- Provide adequate ventilation for the Cafeteria by installing a constant volume air handling unit with distribution ductwork and registers.
- Provide ventilation for the administration offices by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Provide ventilation for the Auditorium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Provide ventilation for the west Gymnasium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Provide ventilation for the east Gymnasium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Replace four existing exhaust fans located on the second floor and attic serving the restrooms and utilize the existing ductwork.
- Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.
- Replace existing emergency generator with one of sufficient size to support an elevator and emergency lighting.
- Replace existing service with new 480/277V three phase service.
- Provide a new distribution system to replace old panels.
- Provide new emergency fixtures for emergency egress.
- Upgrade lighting system to T8 fluorescent fixtures.
- Replace 120V fire alarms system with low voltage addressable system.

- Provide minimum 2 receptacles per wall in classrooms.
- Provide surface mounted raceway in computer classroom.
- Replace theatrical light dimming panel.
- Replace theatrical sound system.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S511001		

Site Condition Summary

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

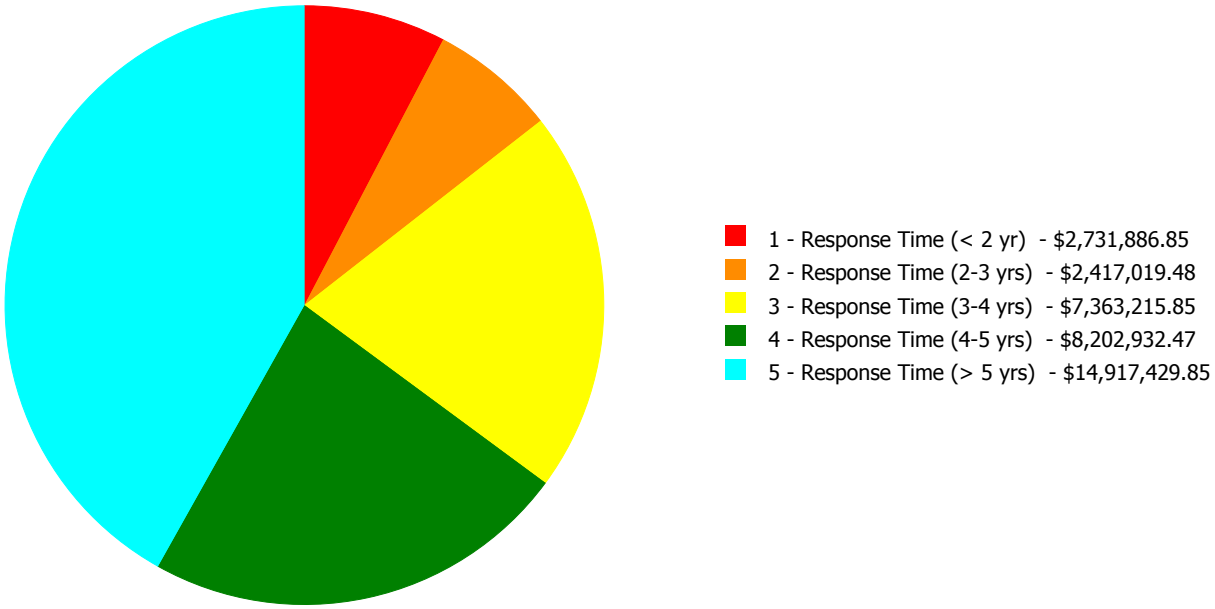
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	4.90 %	$671,902.56
B20 - Exterior Enclosure	63.49 %	70.96 %	$6,808,404.56
B30 - Roofing	99.66 %	89.27 %	$1,517,914.10
C10 - Interior Construction	33.76 %	14.33 %	$506,377.24
C20 - Stairs	37.00 %	0.00 %	$0.00
C30 - Interior Finishes	93.55 %	78.60 %	$5,829,962.23
D10 - Conveying	114.29 %	239.76 %	$1,229,083.96
D20 - Plumbing	39.90 %	39.19 %	$1,131,004.09
D30 - HVAC	76.27 %	71.62 %	$11,472,720.32
D40 - Fire Protection	94.26 %	177.49 %	$2,059,984.29
D50 - Electrical	110.11 %	46.93 %	$3,972,706.52
E10 - Equipment	169.72 %	1.29 %	$29,460.36
E20 - Furnishings	75.00 %	0.00 %	$0.00
G20 - Site Improvements	0.00 %	135.41 %	$389,560.61
G40 - Site Electrical Utilities	97.52 %	12.03 %	$13,403.66
Totals:	**69.86 %**	**47.92 %**	**$35,632,484.50**

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)
B511001;Penn Treaty	144,000	47.64	$2,731,886.85	$2,109,273.79	$7,363,215.85	$8,189,528.81	$14,835,614.93
G511001:Grounds	14,000	100.96	$0.00	$307,745.69	$0.00	$13,403.66	$81,814.92
Total:		**47.92**	**$2,731,886.85**	**$2,417,019.48**	**$7,363,215.85**	**$8,202,932.47**	**$14,917,429.85**

Deficiencies By Priority



Budget Estimate Total: $35,632,484.50

Executive Summary

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

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

Function:	Middle School
Gross Area (SF):	144,000
Year Built:	1928
Last Renovation:	
Replacement Value:	$73,953,178
Repair Cost:	$35,229,520.23
Total FCI:	47.64 %
Total RSLI:	70.09 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B511001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S511001		

Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
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B30 - Roofing	99.66 %	89.27 %	$1,517,914.10
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C20 - Stairs	37.00 %	0.00 %	$0.00
C30 - Interior Finishes	93.55 %	78.60 %	$5,829,962.23
D10 - Conveying	114.29 %	239.76 %	$1,229,083.96
D20 - Plumbing	39.90 %	39.19 %	$1,131,004.09
D30 - HVAC	76.27 %	71.62 %	$11,472,720.32
D40 - Fire Protection	94.26 %	177.49 %	$2,059,984.29
D50 - Electrical	110.11 %	46.93 %	$3,972,706.52
E10 - Equipment	169.72 %	1.29 %	$29,460.36
E20 - Furnishings	75.00 %	0.00 %	$0.00
Totals:	**70.09 %**	**47.64 %**	**$35,229,520.23**

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.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$3,335,040
A1030	Slab on Grade	$5.17	S.F.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$744,480
A2010	Basement Excavation	$4.36	S.F.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$627,840
A2020	Basement Walls	$10.05	S.F.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$1,447,200
B1010	Floor Construction	$85.94	S.F.	144,000	100	1928	2028	2052	37.00 %	5.43 %	37		$671,902.56	$12,375,360
B1020	Roof Construction	$9.26	S.F.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$1,333,440
B2010	Exterior Walls	$43.78	S.F.	144,000	100	1928	2028	2052	37.00 %	17.99 %	37		$1,134,452.51	$6,304,320
B2020	Exterior Windows	$21.40	S.F.	144,000	40	1980	2020	2060	112.50 %	178.80 %	45		$5,510,020.28	$3,081,600
B2030	Exterior Doors	$1.45	S.F.	144,000	25	1990	2015	2050	140.00 %	78.51 %	35		$163,931.77	$208,800
B3010105	Built-Up	$37.76	S.F.	44,800	20	1995	2015	2035	100.00 %	89.73 %	20		$1,517,914.10	$1,691,648
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.	144,000	30	1995	2025		33.33 %	0.00 %	10			$8,640
C1010	Partitions	$17.91	S.F.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$2,579,040
C1020	Interior Doors	$3.51	S.F.	144,000	40	1928	1968	2025	25.00 %	41.10 %	10		$207,712.86	$505,440
C1030	Fittings	$3.12	S.F.	144,000	40	1928	1968	2025	25.00 %	66.48 %	10		$298,664.38	$449,280
C2010	Stair Construction	$1.41	S.F.	144,000	100	1928	2028	2052	37.00 %	0.00 %	37			$203,040

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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	$8.40	S.F.	144,000	10	2000	2010	2025	100.00 %	201.60 %	10		$2,438,595.72	$1,209,600
C3010231	Vinyl Wall Covering	$0.00	S.F.	144,000	15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$8.40	S.F.	144,000	30	1928	1958	2030	50.00 %	28.91 %	15		$349,693.17	$1,209,600
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	8,000	50	1995	2045	2095	160.00 %	0.00 %	80			$604,160
C3020413	Vinyl Flooring	$9.68	S.F.	59,000	20	1970	1990	2037	110.00 %	94.01 %	22		$536,900.05	$571,120
C3020414	Wood Flooring	$22.27	S.F.	35,000	25	1928	1953	2042	108.00 %	97.99 %	27		$763,802.08	$779,450
C3020415	Concrete Floor Finishes	$0.97	S.F.	24,000	50	1980	2030	2080	130.00 %	0.00 %	65			$23,280
C3030	Ceiling Finishes	$20.97	S.F.	144,000	25	1990	2015	2037	88.00 %	57.65 %	22		$1,740,971.21	$3,019,680
D1010	Elevators and Lifts	$3.56	S.F.	144,000	35	1928	1963	2055	114.29 %	239.76 %	40		$1,229,083.96	$512,640
D2010	Plumbing Fixtures	$13.52	S.F.	144,000	35	1928	1963	2025	28.57 %	23.83 %	10		$463,858.56	$1,946,880
D2020	Domestic Water Distribution	$1.68	S.F.	144,000	25	1928	1953	2025	40.00 %	0.00 %	10			$241,920
D2030	Sanitary Waste	$2.52	S.F.	144,000	30	1928	1958	2047	106.67 %	168.52 %	32		$611,511.30	$362,880
D2040	Rain Water Drainage	$2.32	S.F.	144,000	30	1928	1958	2025	33.33 %	16.65 %	10		$55,634.23	$334,080
D3020	Heat Generating Systems	$18.67	S.F.	144,000	35	2014	2049	2049	97.14 %	0.00 %	34			$2,688,480
D3030	Cooling Generating Systems	$24.48	S.F.	144,000	20			2037	110.00 %	59.93 %	22		$2,112,739.08	$3,525,120
D3040	Distribution Systems	$42.99	S.F.	144,000	25	1928	1953	2025	40.00 %	109.53 %	10		$6,780,739.29	$6,190,560
D3050	Terminal & Package Units	$11.60	S.F.	144,000	15	2010	2025	2025	66.67 %	0.00 %	10			$1,670,400
D3060	Controls & Instrumentation	$13.50	S.F.	144,000	20	1970	1990	2037	110.00 %	132.68 %	22		$2,579,241.95	$1,944,000
D4010	Sprinklers	$7.05	S.F.	144,000	35			2052	105.71 %	202.91 %	37		$2,059,984.29	$1,015,200
D4020	Standpipes	$1.01	S.F.	144,000	35	1985	2020	2020	14.29 %	0.00 %	5			$145,440
D5010	Electrical Service/Distribution	$9.70	S.F.	144,000	30	1928	1958	2047	106.67 %	71.01 %	32		$991,905.84	$1,396,800
D5020	Lighting and Branch Wiring	$34.68	S.F.	144,000	20	1928	1948	2037	110.00 %	50.66 %	22		$2,530,011.76	$4,993,920
D5030	Communications and Security	$12.99	S.F.	144,000	15	2010	2025	2032	113.33 %	15.13 %	17		$283,090.17	$1,870,560
D5090	Other Electrical Systems	$1.41	S.F.	144,000	30	1928	1958	2047	106.67 %	82.59 %	32		$167,698.75	$203,040
E1020	Institutional Equipment	$4.82	S.F.	144,000	35	1980	2015	2050	100.00 %	4.24 %	35		$29,460.36	$694,080
E1090	Other Equipment	$11.10	S.F.	144,000	35	1995	2030	2085	200.00 %	0.00 %	70			$1,598,400
E2010	Fixed Furnishings	$2.13	S.F.	144,000	40	1990	2030	2045	75.00 %	0.00 %	30			$306,720
								Total	**70.09 %**	**47.64 %**			**$35,229,520.23**	**$73,953,178**

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 50%
Tile 20%
Glazed brick 30%

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

Note: Hardwood 30%
VCT 50%
Concrete 20%

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

Note: Acoustical lay-in 60%
Exposed painted 40%

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

Note: 3 distribution dry type transformers:
1- 10 kVA 240V, 2 phase to 208/120V 3 phase,
1- 25 kVA 240V, 2 phase to 208/120V 3 phase,
1- 100 kVA 240V, 2 phase to 208/120V 3 phase

Renewal Schedule

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

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$35,229,520**	**$0**	**$0**	**$0**	**$0**	**$185,465**	**$0**	**$0**	**$0**	**$0**	**$18,562,818**	**$53,977,804**
*** 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	$671,903	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$671,903**
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	$1,134,453	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,134,453**
B2020 - Exterior Windows	$5,510,020	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,510,020**
B2030 - Exterior Doors	$163,932	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$163,932**
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	$1,517,914	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,517,914**
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	$12,773	**$12,773**
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**

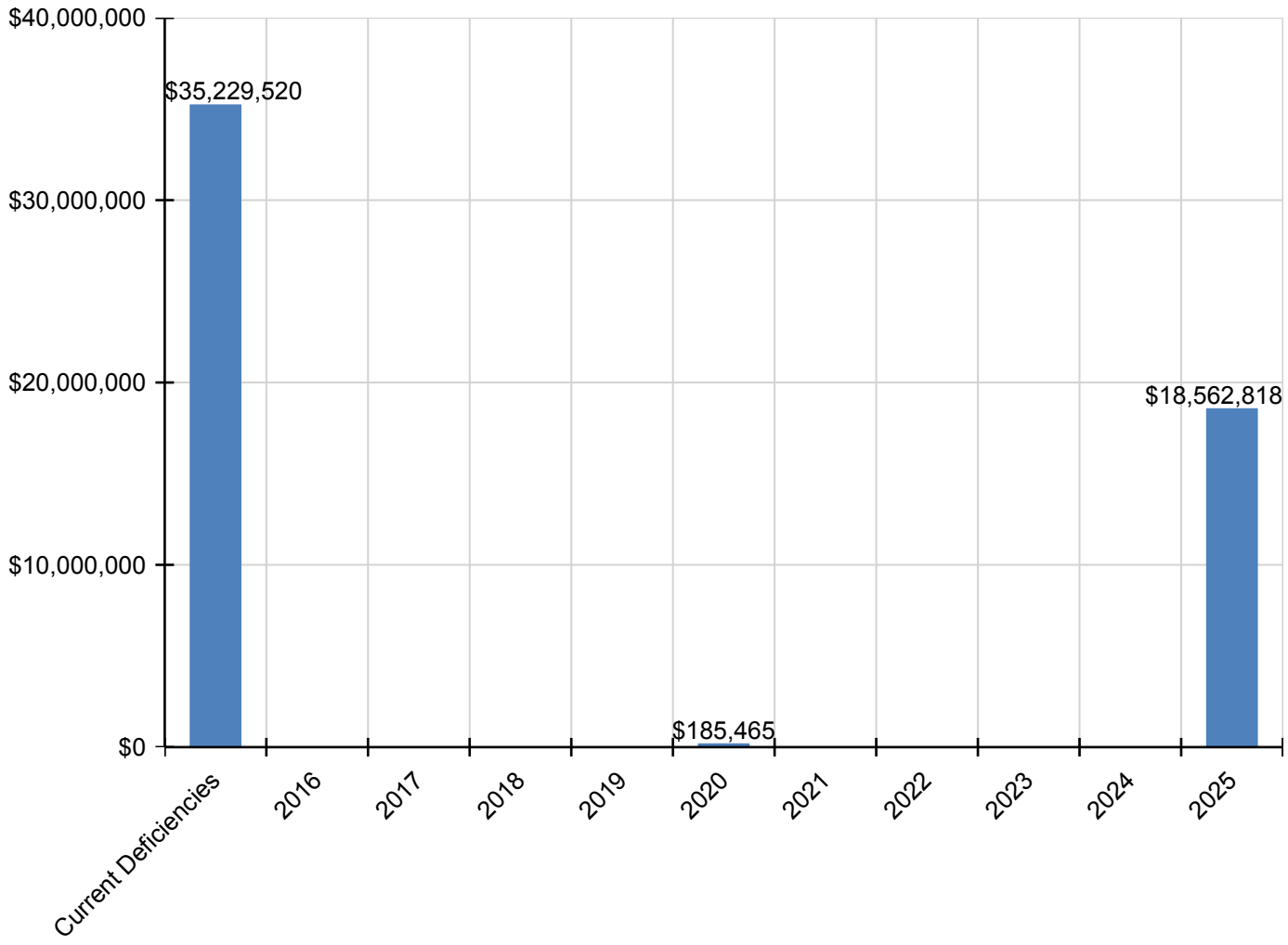
C1020 - Interior Doors	$207,713	$0	$0	$0	$0	$0	$0	$0	$0	$0	$747,196	**$954,909**
C1030 - Fittings	$298,664	$0	$0	$0	$0	$0	$0	$0	$0	$0	$664,174	**$962,839**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$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	$2,438,596	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,788,161	**$4,226,757**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$349,693	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$349,693**
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	$536,900	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$536,900**
C3020414 - Wood Flooring	$763,802	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$763,802**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$1,740,971	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,740,971**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$1,229,084	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,229,084**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$463,859	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,878,088	**$3,341,947**
D2020 - Domestic Water Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$357,632	**$357,632**
D2030 - Sanitary Waste	$611,511	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$611,511**
D2040 - Rain Water Drainage	$55,634	$0	$0	$0	$0	$0	$0	$0	$0	$0	$493,873	**$549,507**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3030 - Cooling Generating Systems	$2,112,739	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,112,739**
D3040 - Distribution Systems	$6,780,739	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,151,554	**$15,932,294**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,469,366	**$2,469,366**
D3060 - Controls & Instrumentation	$2,579,242	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,579,242**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$2,059,984	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,059,984**
D4020 - Standpipes	$0	$0	$0	$0	$0	$185,465	$0	$0	$0	$0	$0	**$185,465**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$991,906	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$991,906**
D5020 - Lighting and Branch Wiring	$2,530,012	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,530,012**
D5030 - Communications and Security	$283,090	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$283,090**
D5090 - Other Electrical Systems	$167,699	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$167,699**
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	$29,460	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$29,460**
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

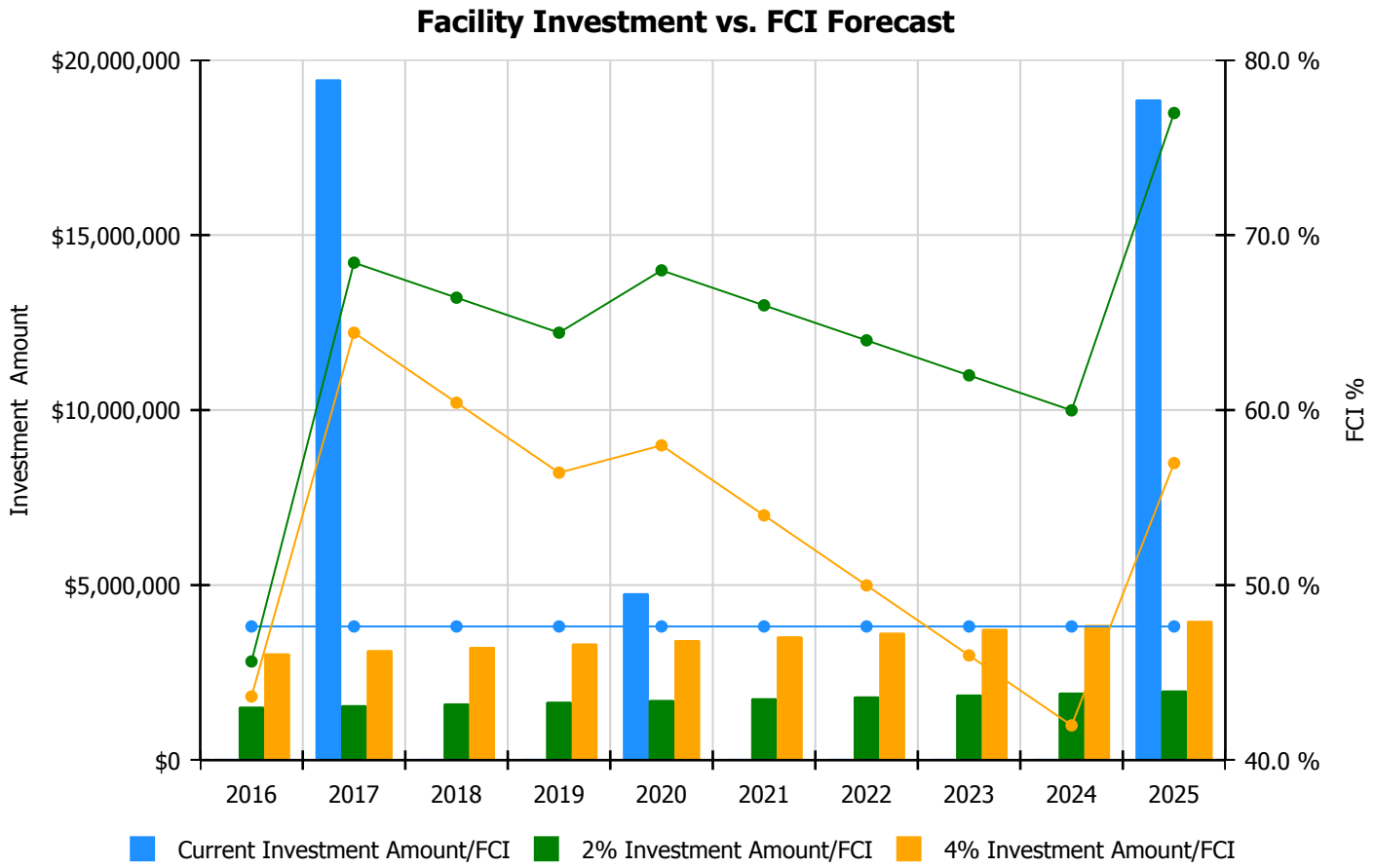
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

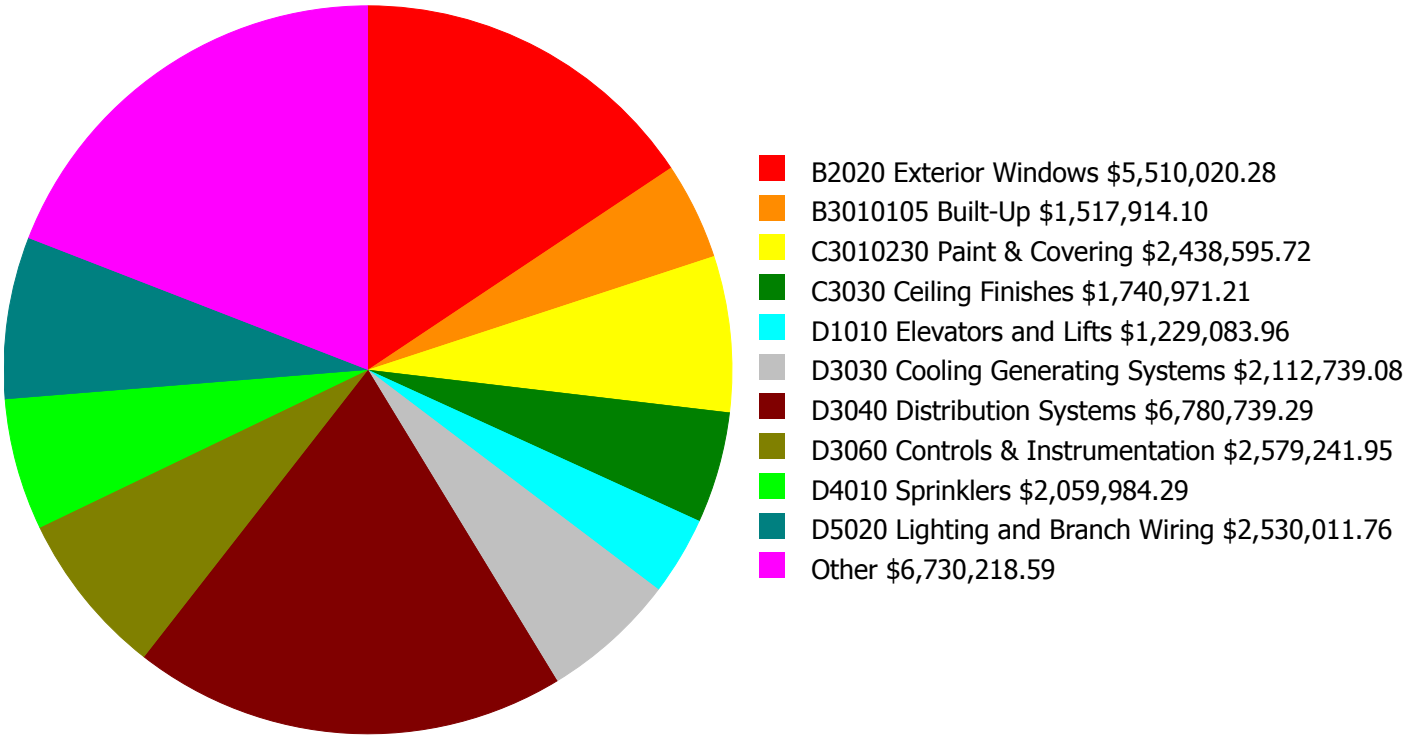
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 47.64%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,523,435.00	45.64 %	$3,046,871.00	43.64 %
2017	$19,444,492	$1,569,139.00	68.42 %	$3,138,277.00	64.42 %
2018	$0	$1,616,213.00	66.42 %	$3,232,425.00	60.42 %
2019	$0	$1,664,699.00	64.42 %	$3,329,398.00	56.42 %
2020	$4,768,845	$1,714,640.00	67.98 %	$3,429,280.00	57.98 %
2021	$0	$1,766,079.00	65.98 %	$3,532,158.00	53.98 %
2022	$0	$1,819,062.00	63.98 %	$3,638,123.00	49.98 %
2023	$0	$1,873,633.00	61.98 %	$3,747,267.00	45.98 %
2024	$0	$1,929,842.00	59.98 %	$3,859,685.00	41.98 %
2025	$18,871,489	$1,987,738.00	76.97 %	$3,975,475.00	56.97 %
Total:	**$43,084,827**	**$17,464,480.00**		**$34,928,959.00**	

Deficiency Summary by System

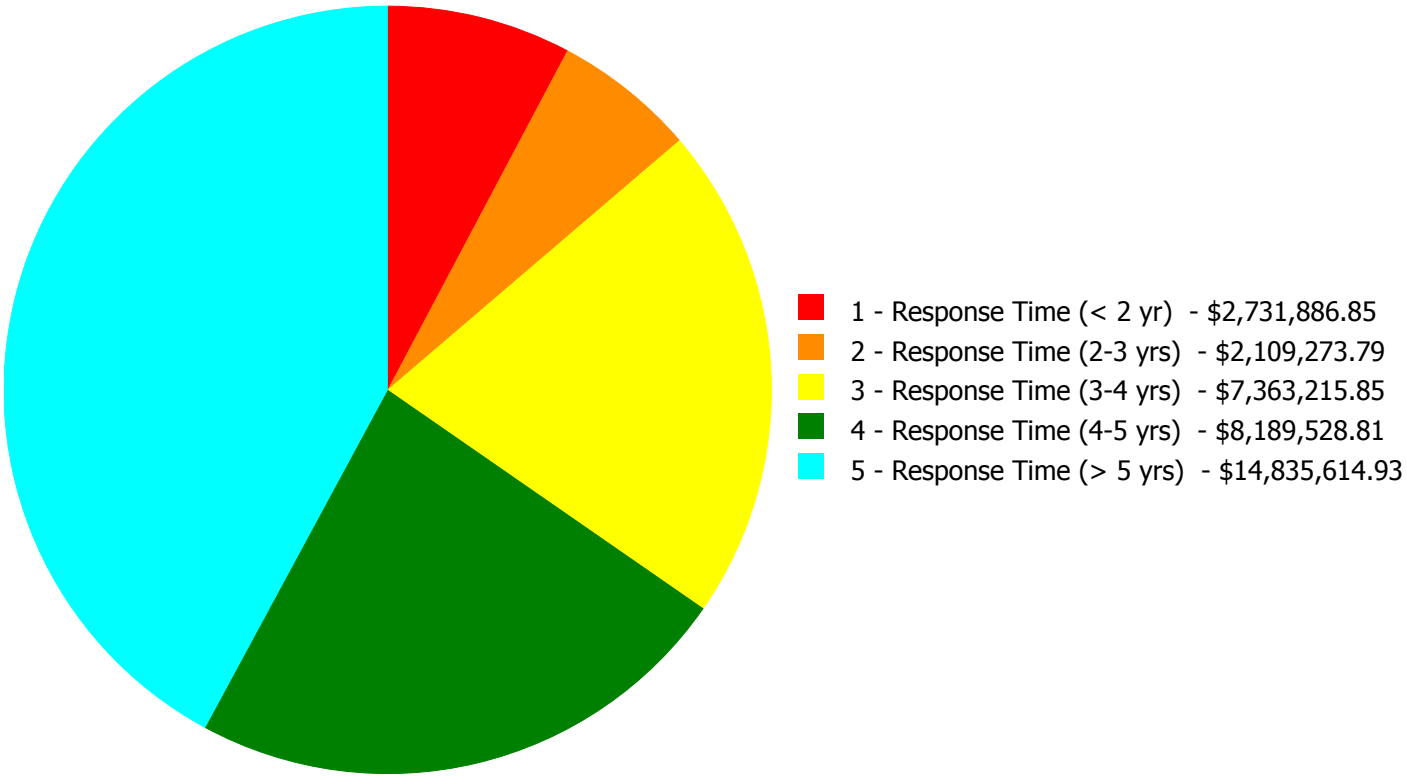
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $35,229,520.23

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: $35,229,520.23

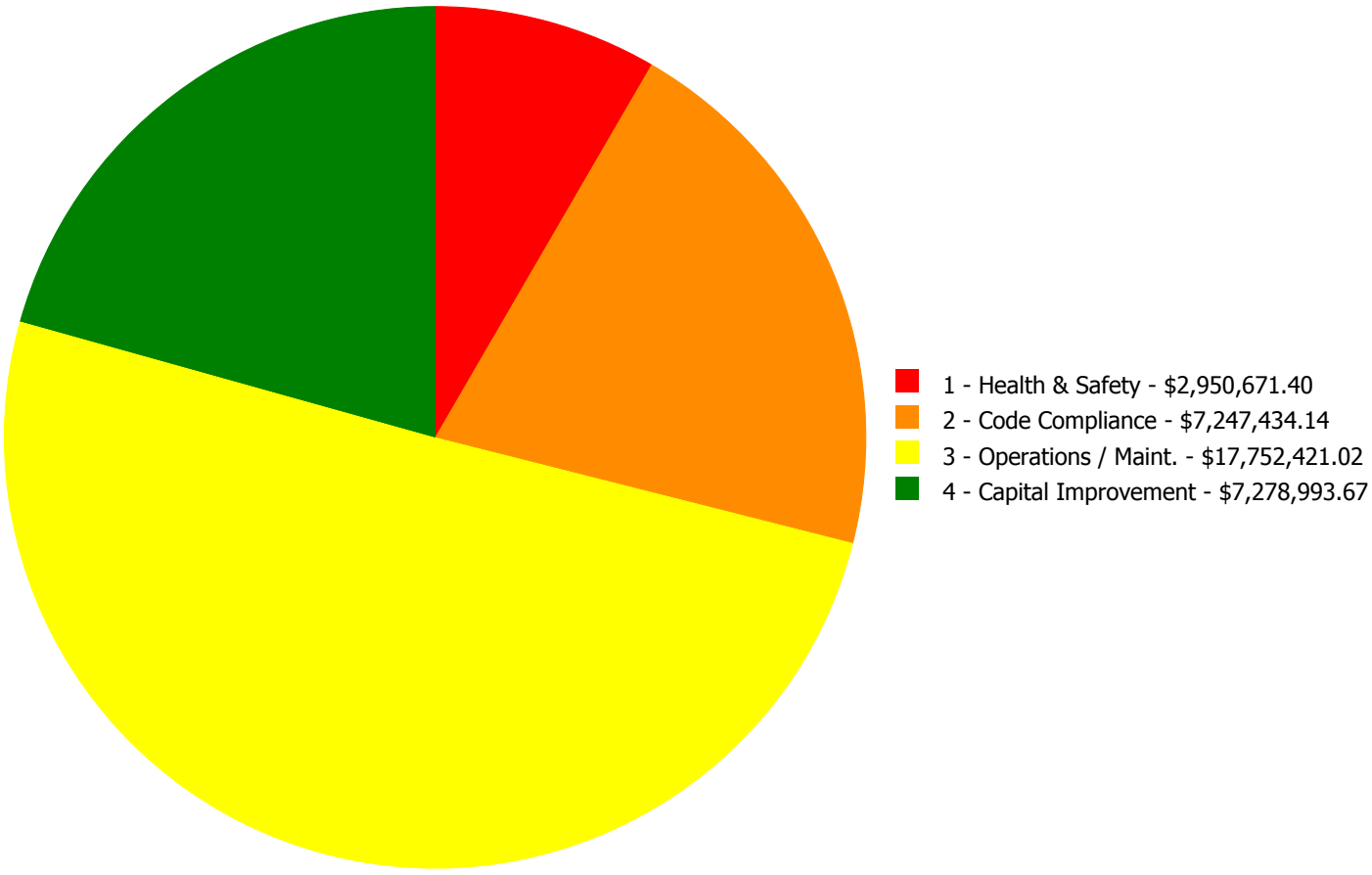
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B1010	Floor Construction	$671,902.56	$0.00	$0.00	$0.00	$0.00	$671,902.56
B2010	Exterior Walls	$0.00	$1,134,452.51	$0.00	$0.00	$0.00	$1,134,452.51
B2020	Exterior Windows	$0.00	$0.00	$0.00	$5,510,020.28	$0.00	$5,510,020.28
B2030	Exterior Doors	$0.00	$0.00	$0.00	$163,931.77	$0.00	$163,931.77
B3010105	Built-Up	$0.00	$0.00	$1,517,914.10	$0.00	$0.00	$1,517,914.10
C1020	Interior Doors	$0.00	$83,485.42	$0.00	$124,227.44	$0.00	$207,712.86
C1030	Fittings	$0.00	$90,628.20	$181,883.36	$26,152.82	$0.00	$298,664.38
C3010230	Paint & Covering	$0.00	$0.00	$0.00	$0.00	$2,438,595.72	$2,438,595.72
C3010232	Wall Tile	$0.00	$0.00	$0.00	$0.00	$349,693.17	$349,693.17
C3020413	Vinyl Flooring	$0.00	$0.00	$536,900.05	$0.00	$0.00	$536,900.05
C3020414	Wood Flooring	$0.00	$0.00	$0.00	$0.00	$763,802.08	$763,802.08
C3030	Ceiling Finishes	$0.00	$0.00	$311,156.82	$1,429,814.39	$0.00	$1,740,971.21
D1010	Elevators and Lifts	$0.00	$0.00	$1,229,083.96	$0.00	$0.00	$1,229,083.96
D2010	Plumbing Fixtures	$0.00	$0.00	$463,858.56	$0.00	$0.00	$463,858.56
D2030	Sanitary Waste	$0.00	$611,511.30	$0.00	$0.00	$0.00	$611,511.30
D2040	Rain Water Drainage	$0.00	$0.00	$55,634.23	$0.00	$0.00	$55,634.23
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$2,112,739.08	$2,112,739.08
D3040	Distribution Systems	$0.00	$189,196.36	$0.00	$0.00	$6,591,542.93	$6,780,739.29
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$2,579,241.95	$2,579,241.95
D4010	Sprinklers	$2,059,984.29	$0.00	$0.00	$0.00	$0.00	$2,059,984.29
D5010	Electrical Service/Distribution	$0.00	$0.00	$98,610.45	$893,295.39	$0.00	$991,905.84
D5020	Lighting and Branch Wiring	$0.00	$0.00	$2,521,299.76	$8,712.00	$0.00	$2,530,011.76
D5030	Communications and Security	$0.00	$0.00	$279,175.81	$3,914.36	$0.00	$283,090.17
D5090	Other Electrical Systems	$0.00	$0.00	$167,698.75	$0.00	$0.00	$167,698.75
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$29,460.36	$0.00	$29,460.36
	Total:	$2,731,886.85	$2,109,273.79	$7,363,215.85	$8,189,528.81	$14,835,614.93	$35,229,520.23

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: $35,229,520.23

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: B1010 - Floor Construction

Location: Penthouse

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove and replace elevated concrete deck with one way concrete beams and slab

Qty: 2,500.00

Unit of Measure: S.F.

Estimate: $671,902.56

Assessor Name: System

Date Created: 08/26/2015

Notes: Repair deteriorated structural roof slabs above open penthouses

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System: D4010 - Sprinklers

Location: Throughout bulding

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 144,000.00

Unit of Measure: S.F.

Estimate: $2,059,984.29

Assessor Name: System

Date Created: 08/04/2015

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

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

System: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

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: 16,000.00

Unit of Measure: S.F.

Estimate: $1,134,452.51

Assessor Name: System

Date Created: 08/26/2015

Notes: Repair cracks in penthouses' masonry, tuck-point all walls

System: C1020 - Interior Doors

Location: Interiors

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 150.00

Unit of Measure: Ea.

Estimate: $83,485.42

Assessor Name: System

Date Created: 08/31/2015

Notes: Provide ADA compliant hardware on interior doors

System: C1030 - Fittings

Location: Interiors

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 300.00

Unit of Measure: Ea.

Estimate: $90,628.20

Assessor Name: System

Date Created: 08/31/2015

Notes: Install new signage throughout the building to meet ADA and accessibility requirements

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 144,000.00

Unit of Measure: S.F.

Estimate: $611,511.30

Assessor Name: System

Date Created: 08/04/2015

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: D3040 - Distribution Systems

Location:	Throughout building
Distress:	Building / MEP Codes
Category:	2 - Code Compliance
Priority:	2 - Response Time (2-3 yrs)
Correction:	Replace utility set exhaust fan (5 HP)
Qty:	4.00
Unit of Measure:	Ea.
Estimate:	$189,196.36
Assessor Name:	System
Date Created:	08/04/2015

Notes: Replace four existing exhaust fans located on the second floor and attic serving the restrooms and utilize the existing ductwork.

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

System: B3010105 - Built-Up

Location: Exterior/ Roof

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 44,800.00

Unit of Measure: S.F.

Estimate: $1,517,914.10

Assessor Name: System

Date Created: 08/26/2015

Notes: Install all new roofing system including insulation; tear-down existing roofing; install flashing, counter flashing and reglets

System: C1030 - Fittings

Location: Interiors

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 56.00

Unit of Measure: Ea.

Estimate: $181,883.36

Assessor Name: System

Date Created: 08/31/2015

Notes: Reconfigure toilets on each floor for accessibility, provide new toilet partitions

System: C3020413 - Vinyl Flooring

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 35,400.00

Unit of Measure: S.F.

Estimate: $536,900.05

Assessor Name: System

Date Created: 09/01/2015

Notes: Replace all VAT floor tiles

System: C3030 - Ceiling Finishes

Location: Interiors

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Re-paint ceilings - SF of ceilings

Qty: 65,000.00

Unit of Measure: S.F.

Estimate: $311,156.82

Assessor Name: System

Date Created: 08/31/2015

Notes: Repair and repaint exposed ceilings

System: D1010 - Elevators and Lifts

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Elevator - 4 to 6 stop electric traction - add to the estimate for the number of stops over 4

Qty: 3.00

Unit of Measure: Ea.

Estimate: $1,229,083.96

Assessor Name: System

Date Created: 08/31/2015

Notes: Replace 3 original elevators serving all floors and basement

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 40.00

Unit of Measure: Ea.

Estimate: $285,094.43

Assessor Name: System

Date Created: 08/04/2015

Notes: Replace the lavatories in the restrooms with new code compliant fixtures.

System: D2010 - Plumbing Fixtures

Location: B511001;Penn Treaty

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 30.00

Unit of Measure: Ea.

Estimate: $102,972.23

Assessor Name: System

Date Created: 08/04/2015

Notes: Replace the lavatories in the restrooms with new code compliant fixtures.

System: D2010 - Plumbing Fixtures

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 10.00

Unit of Measure: Ea.

Estimate: $75,791.90

Assessor Name: System

Date Created: 08/04/2015

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

System: D2040 - Rain Water Drainage

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace roof drains - per drain including piping

Qty: 5.00

Unit of Measure: Ea.

Estimate: $55,634.23

Assessor Name: System

Date Created: 08/06/2015

Notes: The drain piping should be inspected and repaired as necessary.

System: D5010 - Electrical Service/Distribution

Location: Basement

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $98,610.45

Assessor Name: System

Date Created: 08/10/2015

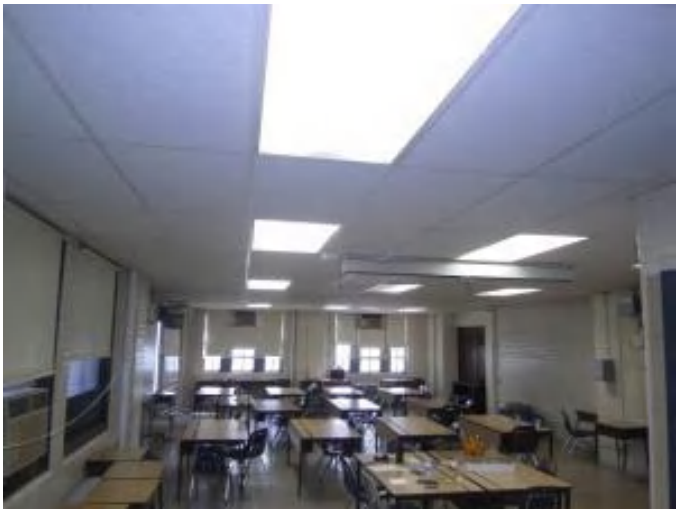
Notes: Replace existing service with new 480/277V three phase service.

System: D5020 - Lighting and Branch Wiring

Location: Throughout Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Lighting Fixtures (SF)
Qty: 0.00
Unit of Measure: S.F.
Estimate: $2,326,123.80
Assessor Name: System
Date Created: 08/10/2015

Notes: Upgrade lighting system to T8 fluorescent fixtures.

System: D5020 - Lighting and Branch Wiring



Location: Throughout Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add wiring device
Qty: 1.00
Unit of Measure: Ea.
Estimate: $195,175.96
Assessor Name: System
Date Created: 08/10/2015

Notes: Provide minimum 2 receptacles per wall in classrooms.

System: D5030 - Communications and Security

Location: Throughout Building
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace fire alarm system
Qty: 1.00
Unit of Measure: S.F.
Estimate: $279,175.81
Assessor Name: System
Date Created: 08/10/2015

Notes: Replace 120V fire alarms system with low voltage addressable system.

System: D5090 - Other Electrical Systems

Location: Basement
Distress: Building / MEP Codes
Category: 2 - Code Compliance
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace standby generator system
Qty: 1.00
Unit of Measure: Ea.
Estimate: $110,697.87
Assessor Name: System
Date Created: 08/10/2015

Notes: Replace existing emergency generator with one of sufficient size to support an elevator and emergency lighting.

System: D5090 - Other Electrical Systems

Location:	Throughout Building
Distress:	Inadequate
Category:	4 - Capital Improvement
Priority:	3 - Response Time (3-4 yrs)
Correction:	Replace Emergency/Exit Lighting
Qty:	1.00
Unit of Measure:	Ea.
Estimate:	$57,000.88
Assessor Name:	System
Date Created:	08/10/2015

Notes: Provide new emergency fixtures for emergency egress.

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

System: B2020 - Exterior Windows

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace aluminum windows - pick the appropriate size and style and insert the number of units

Qty: 1,000.00

Unit of Measure: Ea.

Estimate: $5,510,020.28

Assessor Name: System

Date Created: 08/27/2015

Notes: Replace all windows

System: B2030 - Exterior Doors

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 18.00

Unit of Measure: Ea.

Estimate: $163,931.77

Assessor Name: System

Date Created: 08/27/2015

Notes: Replace exterior service doors, including penthouses; provide weather-stripping

System: C1020 - Interior Doors

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 150.00

Unit of Measure: Ea.

Estimate: $124,227.44

Assessor Name: System

Date Created: 08/31/2015

Notes: Repair and refinish all original interior doors

System: C1030 - Fittings

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 38.00

Unit of Measure: Ea.

Estimate: $26,152.82

Assessor Name: System

Date Created: 08/31/2015

Notes: Replace original chalk boards

System: C3030 - Ceiling Finishes

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 94,800.00

Unit of Measure: S.F.

Estimate: $1,429,814.39

Assessor Name: System

Date Created: 08/27/2015

Notes: Replace all suspended acoustical ceilings

System: D5010 - Electrical Service/Distribution

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Electrical DIstribution System (U1)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $893,295.39

Assessor Name: System

Date Created: 08/10/2015

Notes: Provide a new distribution system to replace old panels.

System: D5020 - Lighting and Branch Wiring

Location: Computer Classroom

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 1.00

Unit of Measure: L.F.

Estimate: $8,712.00

Assessor Name: System

Date Created: 08/10/2015

Notes: Provide surface mounted raceway in computer classroom.

System: D5030 - Communications and Security

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: $3,914.36

Assessor Name: System

Date Created: 08/10/2015

Notes:

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $29,460.36

Assessor Name: System

Date Created: 08/10/2015

Notes: Replace theatrical light dimming panel.

Priority 5 - Response Time (> 5 yrs):

System: C3010230 - Paint & Covering

Location: Interiors

Distress: Appearance

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 360,000.00

Unit of Measure: S.F.

Estimate: $2,438,595.72

Assessor Name: System

Date Created: 08/31/2015

Notes: Repair and repaint interior walls (50% area)

System: C3010232 - Wall Tile

Location: Interiors

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace wall tile

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $349,693.17

Assessor Name: System

Date Created: 08/31/2015

Notes: Replace stone wainscot

System: C3020414 - Wood Flooring

Location: Interiors

Distress: Appearance

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace partial area of wood flooring and refinish entire floor - set replacement area

Qty: 47,000.00

Unit of Measure: S.F.

Estimate: $763,802.08

Assessor Name: System

Date Created: 08/31/2015

Notes: Repair refinish hardwood flooring

System: D3030 - Cooling Generating Systems

Location: Roof

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install chilled water system with distribution piping and pumps. (+150KSF)

Qty: 144,000.00

Unit of Measure: S.F.

Estimate: $2,112,739.08

Assessor Name: System

Date Created: 08/04/2015

Notes: Remove the window air conditioning units and install a 375 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Provide classroom FC units and dedicated OA ventilation system. (20 clsrms)

Qty: 53.00

Unit of Measure: C

Estimate: $4,402,232.44

Assessor Name: System

Date Created: 08/04/2015

Notes: Remove the existing cast iron steam radiators and install fan coil units with hot and chilled water coils and dedicated outdoor air system to introduce outdoor air to the building.

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 400.00

Unit of Measure: Seat

Estimate: $570,170.82

Assessor Name: System

Date Created: 08/04/2015

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

System: D3040 - Distribution Systems

Location: Cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 1,113.00

Unit of Measure: Pr.

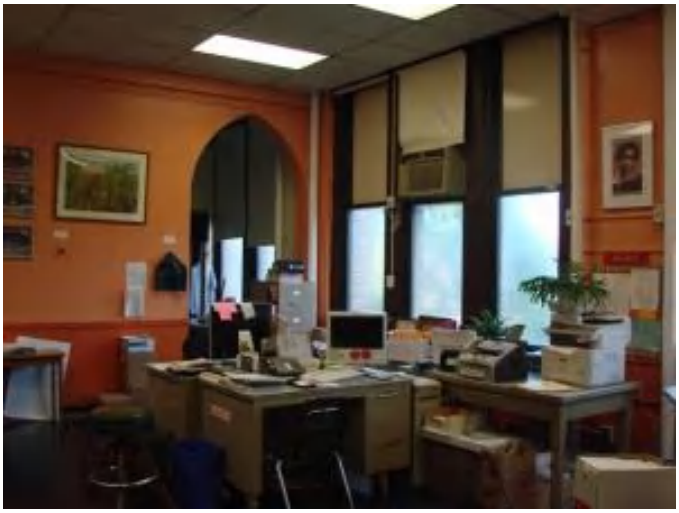
Estimate: $520,372.00

Assessor Name: System

Date Created: 08/04/2015

Notes: Provide adequate ventilation for the Cafeteria by installing a constant volume air handling unit with distribution ductwork and registers.

System: D3040 - Distribution Systems



Location: Administration

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install HVAC unit for Administration (2000 students).

Qty: 1,114.00

Unit of Measure: Pr.

Estimate: $482,165.59

Assessor Name: System

Date Created: 08/04/2015

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

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6,000.00

Unit of Measure: Ea.

Estimate: $308,301.04

Assessor Name: System

Date Created: 08/04/2015

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

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6,000.00

Unit of Measure: Ea.

Estimate: $308,301.04

Assessor Name: System

Date Created: 08/04/2015

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

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (150KSF)

Qty: 144,000.00

Unit of Measure: S.F.

Estimate: $2,579,241.95

Assessor Name: System

Date Created: 08/04/2015

Notes: 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
D2020 Domestic Water Distribution	Pump, pressure booster system, 5 HP pump, includes diaphragm tank, control and pressure switch	2.00	Ea.	Boiler Room					25	2014	2039	$10,972.50	$24,139.50
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler Room	Wheil-McLain	Model-94-2294			35	2014	2049	$122,870.00	$405,471.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler Room	Wheil-McLain	Model-94-2294			35	2014	2049	$122,870.00	$405,471.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler Room	Wheil-McLain	Model-94-2294			35	2014	2049	$122,870.00	$405,471.00
D5010 Electrical Service/Distribution	Circuit breaker, 3 pole, 600 volt, 1200 amp, enclosed (NEMA 1)	1.00	Ea.	Basement	ITE	KC			30			$13,662.00	$15,028.20
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 0 stories, 0' horizontal	1.00	Ea.	Basement	Eaton				30	2014	2044	$7,824.60	$8,607.06
D5010 Electrical Service/Distribution	Switchboards, fused switch, 4 wire, 120/208 V, 1200 amp, incl CT compartment, excl CT's or PT's	1.00	Ea.	Basement					30			$22,604.40	$24,864.84
												Total:	**$1,289,052.60**

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):	14,000
Year Built:	1928
Last Renovation:	
Replacement Value:	$399,140
Repair Cost:	$402,964.27
Total FCI:	100.96 %
Total RSLI:	27.23 %

Description:

Attributes:

General Attributes:

Bldg ID:	S511001	Site ID:	S511001

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	0.00 %	135.41 %	$389,560.61
G40 - Site Electrical Utilities	97.52 %	12.03 %	$13,403.66
Totals:	**27.23 %**	**100.96 %**	**$402,964.27**

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	$16.19	S.F.	14,000	40				0.00 %	135.77 %			$307,745.69	$226,660
G2040	Site Development	$4.36	S.F.	14,000	25				0.00 %	134.03 %			$81,814.92	$61,040
G2050	Landscaping & Irrigation	$4.36	S.F.		15				0.00 %	0.00 %				$0
G4020	Site Lighting	$4.84	S.F.	14,000	30	1980	2010	2047	106.67 %	19.78 %	32		$13,403.66	$67,760
G4030	Site Communications & Security	$3.12	S.F.	14,000	30	2010	2040		83.33 %	0.00 %	25			$43,680
								Total	**27.23 %**	**100.96 %**			**$402,964.27**	**$399,140**

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.

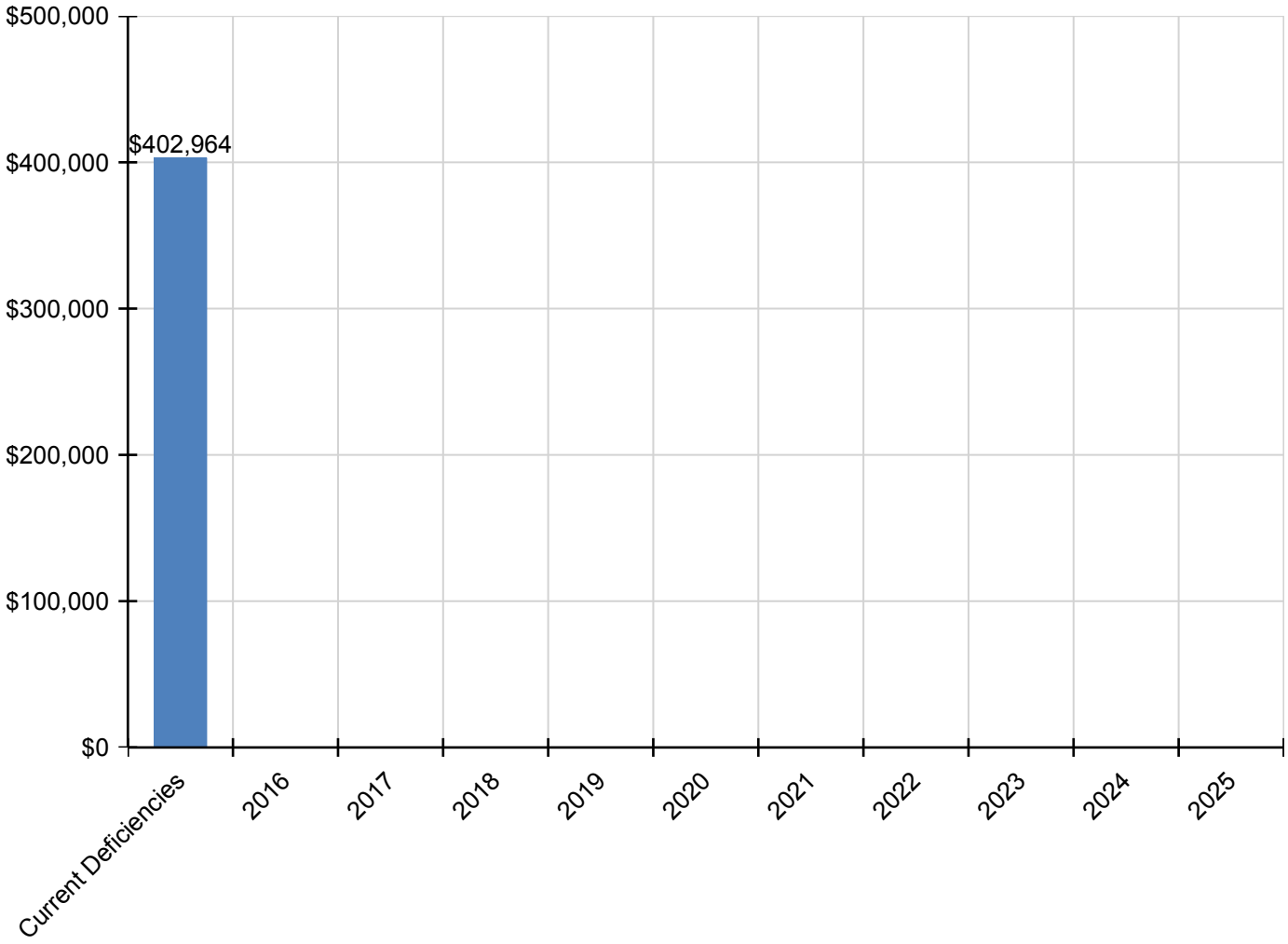
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$402,964**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$402,964**
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	$307,746	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$307,746**
G2040 - Site Development	$81,815	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$81,815**
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	$13,404	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,404**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

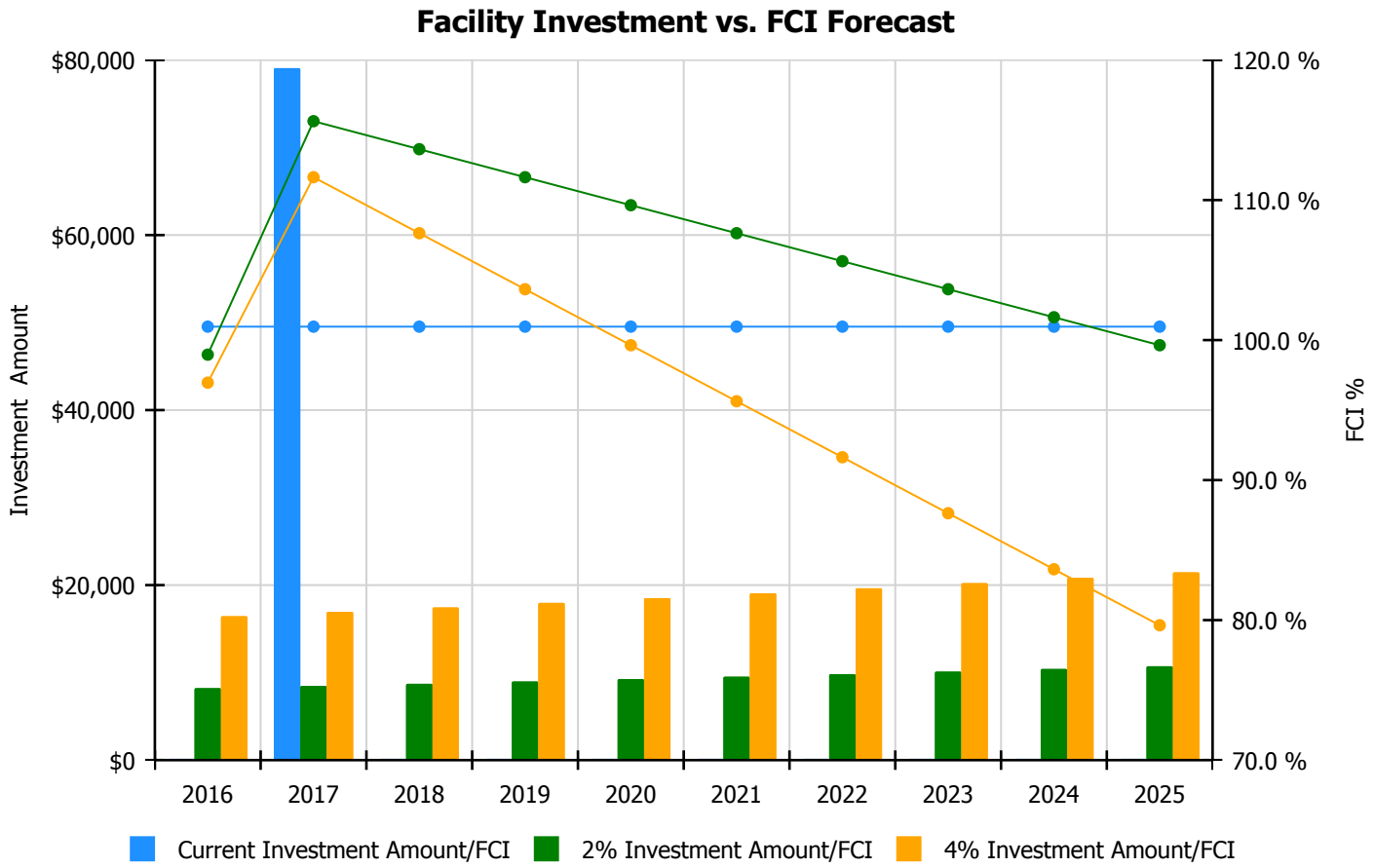
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

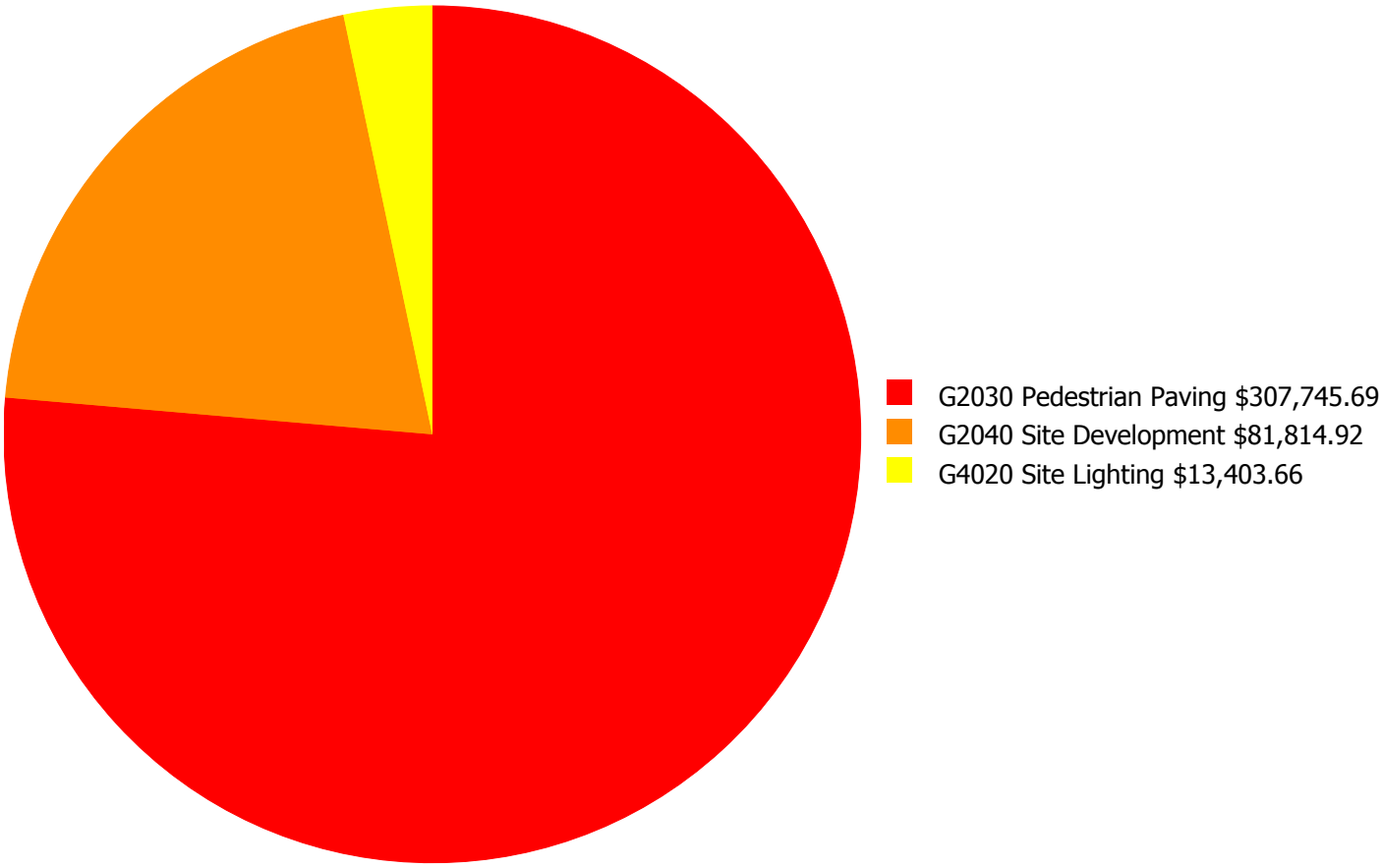
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 100.96%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$8,222.00	98.96 %	$16,445.00	96.96 %
2017	$79,075	$8,469.00	115.63 %	$16,938.00	111.63 %
2018	$0	$8,723.00	113.63 %	$17,446.00	107.63 %
2019	$0	$8,985.00	111.63 %	$17,969.00	103.63 %
2020	$0	$9,254.00	109.63 %	$18,509.00	99.63 %
2021	$0	$9,532.00	107.63 %	$19,064.00	95.63 %
2022	$0	$9,818.00	105.63 %	$19,636.00	91.63 %
2023	$0	$10,112.00	103.63 %	$20,225.00	87.63 %
2024	$0	$10,416.00	101.63 %	$20,831.00	83.63 %
2025	$0	$10,728.00	99.63 %	$21,456.00	79.63 %
Total:	**$79,075**	**$94,259.00**		**$188,519.00**	

Deficiency Summary by System

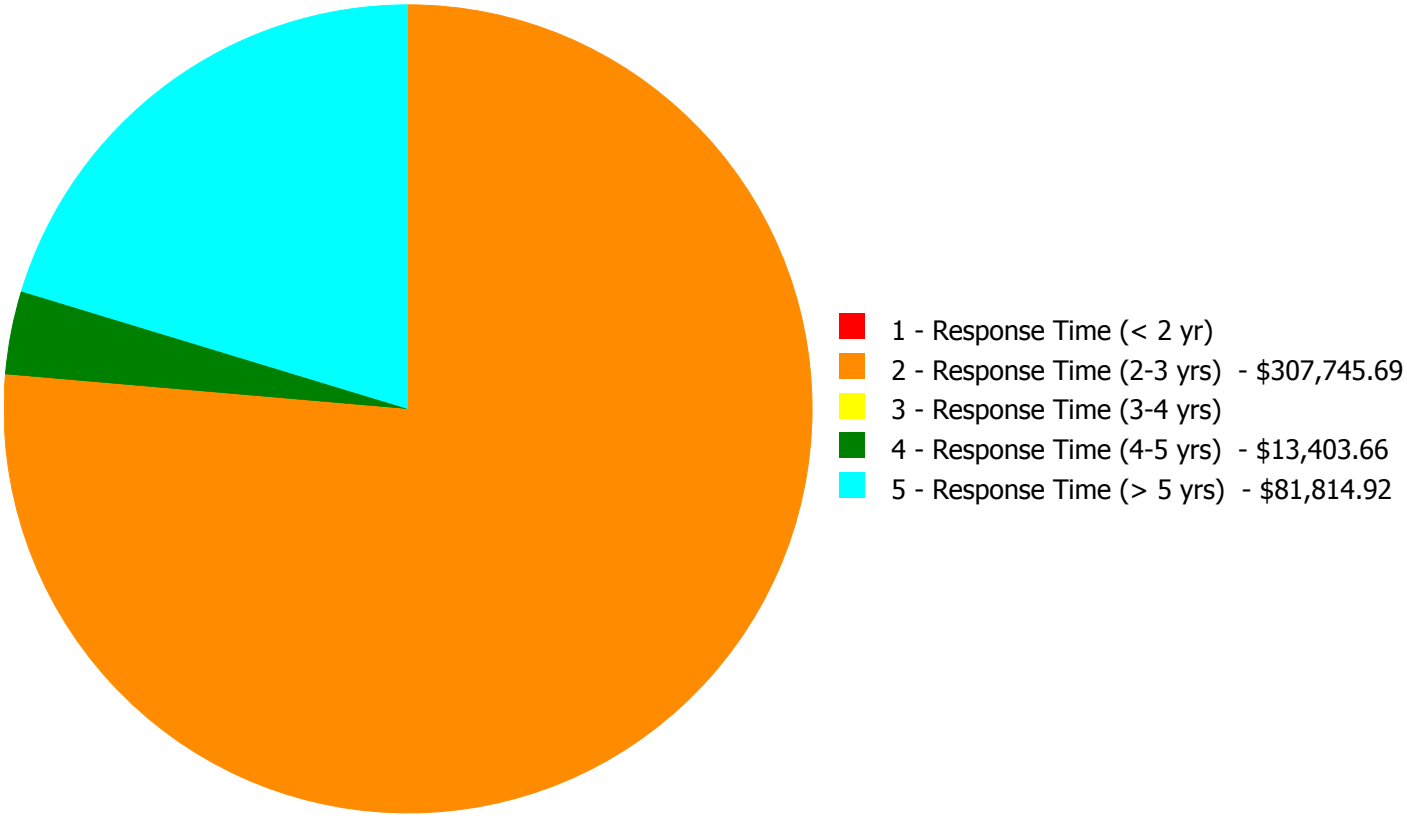
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $402,964.27

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: $402,964.27

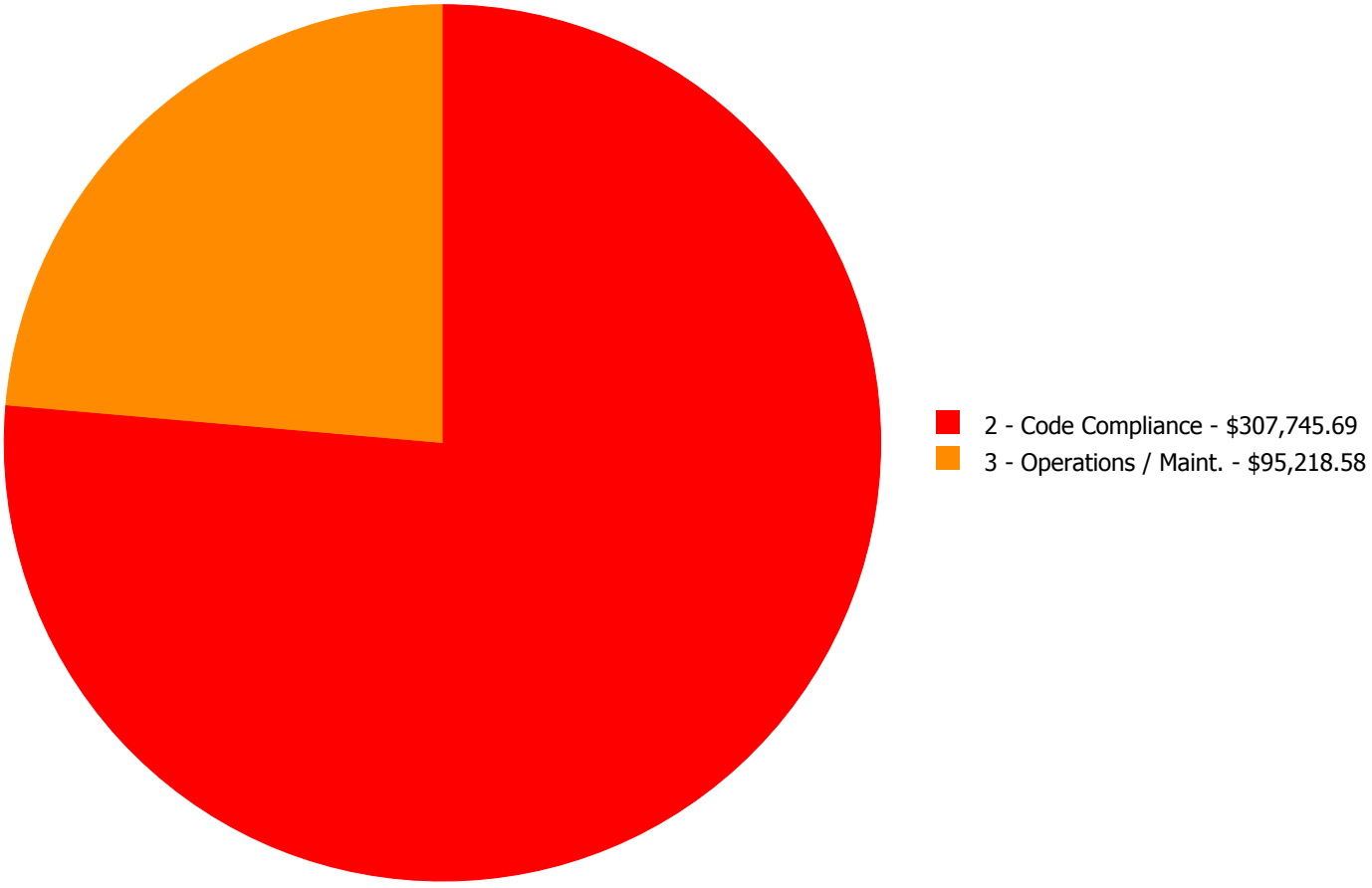
Deficiency By Priority Investment Table

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	$307,745.69	$0.00	$0.00	$0.00	$307,745.69
G2040	Site Development	$0.00	$0.00	$0.00	$0.00	$81,814.92	$81,814.92
G4020	Site Lighting	$0.00	$0.00	$0.00	$13,403.66	$0.00	$13,403.66
	Total:	$0.00	$307,745.69	$0.00	$13,403.66	$81,814.92	$402,964.27

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: $402,964.27

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: G2030 - Pedestrian Paving

This deficiency has no image.

Location: Grounds/ Site

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 130.00

Unit of Measure: L.F.

Estimate: $307,745.69

Assessor Name: Craig Anding

Date Created: 09/01/2015

Notes: Provide ADA compliant ramp at one entrance (location TBD)

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

System: G4020 - Site Lighting

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Maintain Site Lighting Fixture

Qty: 0.00

Unit of Measure: Ea.

Estimate: $13,403.66

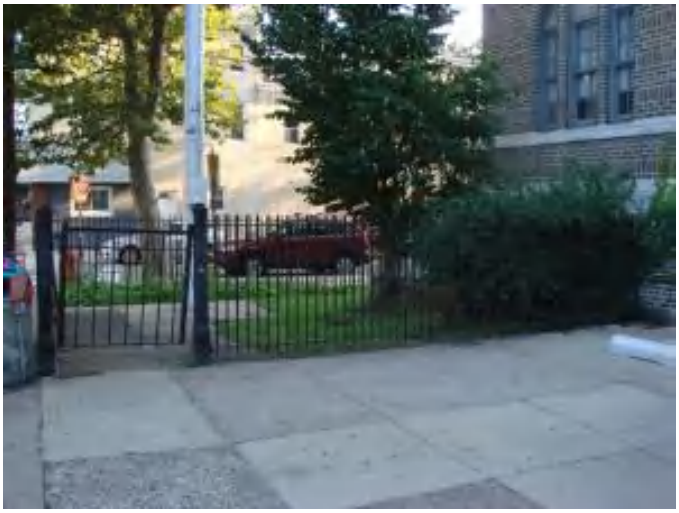
Assessor Name: Craig Anding

Date Created: 08/10/2015

Notes: Replace exterior flood lights.

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: Remove and replace metal picket fence - input number of gates

Qty: 435.00

Unit of Measure: L.F.

Estimate: $81,814.92

Assessor Name: Craig Anding

Date Created: 09/01/2015

Notes: Replace picket fence

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