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.

Rhoads, J School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	4901 Parrish St.	Enrollment	566
	Philadelphia, Pa 19139	Grade Range	'00-08'
Phone/Fax	215-581-5504 / 215-581-3405	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Rhoads	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	**45.23%**	**$16,236,244**	**$35,900,408**
Building	45.83 %	$15,958,296	$34,817,613
Grounds	25.67 %	$277,948	$1,082,795

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.34 %	$857,757	$960,132
Exterior Walls (Shows condition of the structural condition of the exterior facade)	16.55 %	$427,585	$2,583,700
Windows (Shows functionality of exterior windows)	217.92 %	$2,747,298	$1,260,700
Exterior Doors (Shows condition of exterior doors)	188.99 %	$191,822	$101,500
Interior Doors (Classroom doors)	163.33 %	$401,295	$245,700
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,376,900
Plumbing Fixtures	25.93 %	$245,369	$946,400
Boilers	00.00 %	$0	$1,306,900
Chillers/Cooling Towers	49.20 %	$843,118	$1,713,600
Radiators/Unit Ventilators/HVAC	95.26 %	$2,866,571	$3,009,300
Heating/Cooling Controls	158.90 %	$1,501,644	$945,000
Electrical Service and Distribution	94.24 %	$639,859	$679,000
Lighting	26.95 %	$654,243	$2,427,600
Communications and Security (Cameras, Pa System and Fire Alarm)	49.37 %	$448,958	$909,300

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

S141001;Rhoads, J

Final

Site Assessment Report

January 30, 2017

PARSONS

Table of Contents

Site Executive Summary

The organization of this report, as displayed in the Table of Contents, follows the structure of the associated eCOMET database. The overall node for each school campus begins with the letter "S", which indicates the "Site" label. Each Site is comprised of separate "Building" and "Grounds" nodes; their asset names begin with the letters "B" and "G" respectively. Information rolls up to the Site node from the Building and Grounds nodes. This Site report combines facility information with subsections for the Buildings And Grounds nodes.

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

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

Gross Area (SF):	70,000
Year Built:	1960
Last Renovation:	
Replacement Value:	$35,900,408
Repair Cost:	$16,236,244.07
Total FCI:	45.23 %
Total RSLI:	76.43 %

Description:

Facility Assessment

November 2015

School District of Philadelphia

James Rhoads Elementary School

4901 Parrish Street

Philadelphia, PA 19139

70,000 SF / 676 Students / LN 02

The James Rhoads Elementary School building is located at 4901 Parrish Street in Philadelphia, PA. The 4 story, 70,000 square foot building was originally constructed in 1960. There have been no additions. The building has a partial basement housing the boiler room and other mechanical spaces, with crawl spaces under the remainder of the first floor.

The school capacity is approximately 676 students with 2015/16 enrollment of 495 serving grades K-8.

The school plan is rectangular with the long axis running E/W. A one story area on the west side of the building houses an auditorium and gym/cafeteria.

Ms. Novella Garnes, Building Engineer, accompanied the team on its tour of the school and provided information on building systems and maintenance history. Mr. Joe Dixon, principal, provided input to the Parsons assessment team on current problems.

ARCHITECTURAL/STRUCTURAL SYSTEMS

The building bears on concrete foundations and basement walls that are not showing signs of significant settlement or damage. The basement floor is slab on grade. The main structure is cast in place concrete framing. The roof structure over the gym and auditorium is concrete plank on steel bar joists. Exterior walls are brick masonry on CMU. Brick at the 1st floor is painted to mask graffiti. Murals are painted on the exterior walls of the auditorium, and at the first floor walls facing the playground. In general, masonry is in fair condition with some recommended. There is a flagpole attached to the building at the auditorium facing Parrish St. Windows are single pane glass and acrylic glazing in aluminum frames. Operable units are hopper style. Windows are in poor condition with failed gaskets, discolored glazing. Spandrel panels dividing ribbons of windows are ribbed metal panels in poor condition with denting and detachment problems. All windows have security grilles. Exterior doors are typically hollow metal in hollow metal frames with glazing, in somewhat functional condition. Thresholds swell during rains and door stick. Door appearance is poor. Roofing is low slope built-up with a reflective coating. Roofs are in poor condition with splitting and bubbling of the membrane and considerable patching; several leaks were reported and evidence of roof leaks was observed at the interior. Drainage is via interior roof drains with no overflow drains or scuppers. Roof access is via stairwell to the main roof, fixed ladder to the elevator equipment room roof, and door from the special ed toilet room to first floor roofs. There is no fixed ladder to the small lower roof over the kitchen. Generally, the building is not accessible per ADA requirements.

Partition walls are CMU in good condition. Walls at the office have glazing in hollow metal frames. Interior classroom and office doors are generally original solid core wood veneer in hollow metal frames with gun slot lights and transom lights. Front vestibule doors are aluminum clad with glazing. Doors do not have ADA hardware and are in poor condition with damaged veneer. Wardrobe doors are removed. Doors leading to exit stairways are hollow metal doors and frames with panic hardware in functional condition. Doors swing in the direction of exit; however classroom doors are not recessed, swinging into the corridor.

Fittings include: toilet accessories in poor condition; toilet partitions are a mixture of baked enamel and plastic in fair condition; marker boards are present in all classrooms; obsolete chalk are present in classrooms; and bulletin boards are present in classrooms and corridors; lockers in poor condition in the kitchen staff area; interior identifying signage is typically directly painted on wall or door surfaces and is inadequate.

Stair construction is concrete filled steel pans with steel nosings fair condition. Treads and landings are concrete. Handrails are painted tubular steel. Handrails do not meet modern codes for configuration with no extensions at landings, and improper mounting height. Barrier rails at landings and stairs are too low.

Interior wall finishes are typically paint in generally good condition. Paint is in poor condition in the basement mechanical rooms. Granite panels are installed in the vestibule. Flooring is mostly 9" VAT, occurring at typical classrooms, corridors, and the auditorium. Carpeting is installed at the IMC, in fair condition, and at one classroom on the second floor in poor condition. The café/gym, office, and a few classrooms have 12" VCT in good condition. Toilet rooms and service areas have concrete floors. Ceilings are typically painted structure in classrooms and the café/gym. Some staining from roof leaks occurs at the 4th floor. Ceiling paint in the basement mechanical rooms is peeling. 2x4 suspended acoustical panels in good condition are installed in the IMC. Corridors, the auditorium, and offices have 12" glued on acoustical tile that is in fair to poor condition. Many water damaged and yellowed tiles were observed.

The building has one passenger elevator.

Institutional Equipment includes; stage draperies beyond their expected life and in worn condition; stage lighting that is obsolete; a motorized projection screen at the stage that is adequate; approximately half of the classrooms have Smartboards installed; and library shelving that is adequate. Auditorium sound equipment is portable and that is satisfactory to the principal. Other equipment includes limited kitchen equipment in fair condition and basketball backstops in the gym in fair condition.

Furnishings include: fixed casework in classrooms, generally in fair condition for its age; window roller shades, generally in worn condition; auditorium window drapes; and auditorium seating in generally well maintained but aged condition.

MECHANICAL

Toilet room plumbing fixtures are a mixture of original and replacement equipment including modern low flow fixtures. Fixtures in the restrooms on each floor consist of wall hung water closets, urinals, and lavatories. Flush valves are installed in pipe chases. Lavatories have separate hot and cold faucets with momentary action valves. Multiple fixtures are out of order and many are stained. The district should budget to replace one third of toilet room fixtures. The cafeteria kitchen is located beside the gymnasium and has a two basin, floor standing, stainless steel sink without grease trap or disposal and two lavatories for food service personnel. Service sinks are located both in corridor niches and in cleaning closets. Sinks are wall mounted cast iron with integral backsplash, stainless steel rim, and vacuum breaker spout. The autism support classroom has a residential kitchen sink and clothes washer connection with hot and cold water and air gap drain pipe. There is a shower in the basement engineer's toiler room in poor condition. Showers in the ground floor locker rooms have been removed and replaced with water closets and urinals. Drinking fountains in the corridors are floor standing, painted steel, refrigerated, and non-accessible. They are well beyond their service life showing signs of rust and should be replaced with accessible type.

A 4" city water service enters the building from Parrish Street. The 4" meter and valves are located in the basement mechanical room. There is no backflow preventer for the entire building and one should be installed. There is a backflow preventer for boiler makeup water. The original pressure booster equipment is installed but unused: two water pumps, one air pump, and pressure vessel. The domestic hot and cold water distribution piping is copper piping and soldered connections. Portions of domestic pipe show severe corrosion, and the entire system should be inspected and repaired or replaced as needed. The water heater is a State Industries natural gas burning 70 gallon tank type manufactured in 2002 located in the boiler room. It is beyond its useful life and should be replaced. There is no circulation pump or thermal expansion tank and these should be installed with the new heater.

The sanitary sewer piping is threaded galvanized pipe. There is no sewage ejector. Many toilets were out of order, some perhaps due to drainage issues. The sewer piping is likely original, and it should be inspected in detail and repaired or replaced as needed.

Rain water discharge pipes are threaded galvanized steel and run inside the building. The roof does not have overflow drains. Rain water drain pipes are likely original, but should run well for 10 more years.

HVAC -Steam is generated by two 6,112 MBH (183 HP) Smith model 6500A-S/W-16 cast iron section boilers installed in 1995. A third boiler has been dismantled. Each boiler is equipped with a Power Flame burner manufactured in 1995 operating oil only. Burners were plumbed for gas but the building does not have a gas meter installed and the gas solenoids have been removed from the burners. There is an unused 6 inch gas booster still installed. Gas solenoids are stored in the old coal storage room along with boiler sections from the third boiler and its burner. The building has a 10,000 gallon underground oil storage tank with two circulation pumps. Oil pumps were running quietly at the time of inspection. Combustion air makeup is supplied by louvers equipped with automatic dampers. The district should not need to replace these boilers in 15 years. Condensate is collected in the feedwater tank. The tank is equipped with 4 pumps, one for each boiler including the demolished one and one spare. Each pump has its own feed line. A water softener is installed for the makeup water in boiler room near the feedwater tank. No problems were reported with steam traps. Steam and condensate piping is black steel with welded and threaded fittings.

The building has no central cooling generating equipment. There are 14 window unit air conditioners and 1 ductless split system, totaling approximately 30 tons. These serve the school office, IMC, network room, and a few classrooms. A 175 ton system should be installed for the entire building.

Classrooms have unit ventilators for heating and ventilation. They are mid-20th century style, likely original. Classroom excess air discharges to the corridors through transfer ducts in the closets, then to a vertical duct leading to the penthouse exhaust. Gym and auditorium each have two small air handlers with intake and exhaust hoods on their roof. The auditorium equipment has a maintenance label dated 1981. Unit vents and air handlers have surpassed the end of their lifespan and lack cooling capability and should be replaced when air conditioning is added to the building (if not before). Toilet rooms originally exhausted into the pipe chases with exhaust fans installed in adjacent service closets. The 4th floor exhaust fan has been removed. All bathroom exhaust fans should be replaced due to age. The cafeteria kitchen has no gas burning equipment, no fume hood, and no fire suppression system.

Finned tube convection units heat toilets, closets, corridors, offices, and supplement unit vents in the classrooms and air handlers in the gym and auditorium. Classroom convectors match the unit vents in style and age, i.e. convection units are original 1959 equipment. Convectors should be replaced due to age and physical damage when other HVAC changes are made.

The original Robert Shaw pneumatic system still exists in the building although it is obsolete. Convection units have pneumatic steam flow control valves (and thermostatic traps). Classrooms have pneumatic thermostats. The air compressor is installed in the basement with a tank mounted air pump and refrigerated filter dryer. 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.

Fire Protection - The school building does not have stand pipes or sprinklers. A fire protection sprinkler system should be installed to increase occupant safety. A fire pump may be required depending on the available city water pressure.

ELECTRICAL SYSTEMS

A Medium Voltage underground feeder and a transformer vault in the basement serves this facility. The transformer vault is housing a utility transformer with 120/240 secondary voltage. The electrical service entrance is located in the basement and is composed of pull box, meter section, main disconnect and distribution section. The electrical service rating is 120/240V, 600A (estimated). The utility meter is wall mounted No PECO 225MUC 30602. The existing service has no extra capacity for expansion or new Heating, Ventilation, Air Conditioning (HVAC) system. The electrical service entrance needs to be upgraded. The new service will be 480V/277V, 3 phase power, 1200 Amperes. The new electrical service would feed a 480V Motor Control Center (MCC) and HVAC (Heating, Ventilation and Air Conditioning) equipment, and a 480V 3 phase to 120V/208V 3 phase 300 KVA step-down transformer to feed receptacles, lighting and other smaller loads.

There are panel-boards new and original in each floor for lighting and receptacles. The original panelboards are recessed mounted and have exceeded the end of their useful life. The new panels are approximately 5 years old but they cannot be reused with the proposed system voltage. Therefore replace all panelboards.

The number of receptacles in 40% of the classrooms are inadequate. Teachers use extension cords. The teacher's whiteboard wall and the opposite of it need to be provided with double compartment surface raceways, the other two walls with minimum two duplex outlets each, when feasible.

Most of the classrooms, corridors and stairways are illuminated with surface mounted, wraparound lens, fluorescent fixtures, the IMC is illuminated with 2'x4' recessed, acrylic lens fluorescent fixtures, the auditorium is illuminated with 4'x4',recessed, acrylic lens fluorescent fixtures, the gymnasium/cafeteria is illuminated with pendant mounted HID fixtures. Corridors and stairways fluorescent fixtures are provided with T-8 lamps, all other areas fluorescent fixtures are provided with T-12 lamps.T-12 lamps are becoming more expensive, consume more energy and are difficult to find. Lighting fixtures with T-12 lamps must be replaced which represent, approximately 70% of the fluorescent fixtures in this facility.

The Fire Alarm system is manufactured by S.H. Couch Inc. The system is approximately 30 years old. The present Fire Alarm system does not meet current code and needs to be replaced. Fire alarm system is tested every day in the morning

The present telephone system is adequate. During the assessment, randomly, we verified that each wall mounted handset is provided with a dial tone.

An independent and separate PA system does not exist. School uses the telephone systems for public announcement. System is working adequately for most part.

The present clock control system is manufactured by STANDARD. Most of the clocks are inoperative. Provide a new clock system, wireless, synchronized, battery operated.

There is not television system.

The security system consists of surveillance CCTV cameras. The first floor is provided with (3) surveillance CCTV cameras, the second floor, the third floor and the fourth floor is provided with (2) surveillance CCTV cameras each. System is approximately 5 years old and is expected to provide 10 more years of useful service life. Additional surveillance CCTV cameras are required to provide complete coverage of the interior of the school.

The emergency power system consists of a gas powered generator, manufactured by Generac, 16KW/16KVA, 120/240V. The gas powered generator is approximately 10 years old and is expected to provide 20 more years of useful service life. The present emergency system does not have capacity to absorb future emergency loads, therefore provide an outdoor, diesel powered generator.

There is adequate UPS in the IT room.

The emergency lighting is obtained with dedicated fixtures connected to the emergency generator. Exit signs are located at each exit door and corridors and are connected to the school emergency system.

The school lightning protection is accomplished with air terminals mounted on the school chimney. A study needs to be conducted to verify that the air terminals provide the proper protection.

The school has a traction power elevator rated 75HP at 240V. The elevator motor is manufactured by Digital Elevator. Elevator Controller cabinet was closed/locked. Elevator motor appears to be part of the original installation and has already exceeded its useful service life. Replace elevator motor, cables and controller.

The stage theatrical lighting is composed of two rows of pendant mounted theatrical lighting. Theatrical lighting are original installation and are controlled from a local panelboard. Modern school auditorium requires front, upstage, high side, back, theatrical lighting and to create different scenes theatrical lighting fixtures are controlled by a dimming system. Provide theatrical lighting and dimming control system.

The stage sound system is portable type. Provide a permanent installed sound system.

The school exterior is illuminated using wall mounted HID lighting fixtures. The paved/play area is well illuminated with 4 wall mounted lighting fixtures. The street perimeter is illuminated with public lights. There were no indication that additional lighting fixtures are required

There are (3) outdoor, surveillance CCTV cameras around the building perimeter. Provide additional surveillance CCTV cameras for complete coverage of the building perimeter.

There is one wall mounted loud speaker facing the play area. There was no indication that additional loud speaker is required.

GROUNDS SYSTEMS

The asphalt parking lot is located at the east end of the site with access from Parrish Street. Striping is faded and there are no parking bumpers, signage, or designated handicap parking. The asphalt is in fair to poor condition with some settled areas, ponding, alligatoring, deeper cracking and vegetation in the asphalt. The entrance is gated, however the gates are damaged – a work order for repair was pending at the time of assessment. The parking lot is not segregated from playground areas, creating a safety concern. Pedestrian paving is concrete along city streets with some damaged sections. Playgrounds are asphalt surfaced is in fair to poor condition with some settled areas, ponding, and alligatoring.

Fence surrounds the east end of the site from building corner to building corner. Antique wrought iron fencing is present around the east end of the site and is in fair condition. The remainder of the fencing is chain link in fair to good condition.

Landscaping consists of one mature street tree on 50th St. and a strip of garden plot on the north side of the parking lot. There are several street tree cut-outs in the sidewalk w/o plantings. There is no irrigation system.

RECOMMENDATIONS:

- Replace roofing
- Repair exterior walls – repoint mortar joints, replace metal panels between window sections
- Replace exterior windows
- Replace exterior doors
- Install new egress door from auditorium in exterior wall. Currently the only exits from the auditorium are at the rear. The stage double door exit is not visible from the main floor seating area.
- Reconfigure toilet rooms on each floor for accessibility; provide new toilet partitions and toilet accessories including grab bars. Provide unisex accessible toilets on each floor for faculty/staff and in the nurse office.
- Replace interior doors in existing frames
- Replace/install interior signage
- Replace lockers
- Replace 12” acoustical tile ceilings where they occur throughout
- Paint 4th floor classroom ceilings
- Replace 9”VAT with 12” VCT. Replace treat/nosings covers on stage steps
- Replace carpet in one classroom
- Replace sink base cabinets in 1st floor classrooms
- Replace exterior window shades
- Replace worn stage drapes
- Provide ADA compliant ramps at main/visitor entrance on Parrish Street, one interior and one exterior

- Resurface asphalt parking lot / playground
- Install fencing to segregate parking and playground areas

- Remove/fill in coal and ash scuttles that allow weather and debris into the basement, and create tripping hazards on the playground.

MECHANICAL

- Replace one third of water closets due to failures, stains, and age, 20
- Replace one third of urinals due to failures, stains, and age, 9
- Replace drinking fountains in the corridors with accessible type, 4 pairs
- Install 4 inch back flow preventer at water entry
- Inspect and repair domestic water distribution pipe
- Replace 70 gallon domestic water heater including new circulation pump and expansion tank
- Inspect and repair sanitary drain pipe
- Install a 175 ton air-conditioning system for the entire building
- Replace unit vents due to age and lack of cooling coils, 42
- Replace HVAC for gym due to age, 4,200 s.f.
- Replace HVAC for auditorium due to age, 434 seats
- Replace toilet exhaust fans, 8 each
- Replace finned tube convection units, 800 l.f.
- Convert HVAC controls to digital
- Install a fire protection sprinkler system, including fire pump if needed

ELECTRICAL

- Provide a new electrical service rated 1200A, 480/277V with 300KVA step-down transformer
- Replace original panelboards and associated feeders. Approximate (10) 208/120V panel boards.
- Provide (2)25FT of surface raceways with receptacles spaced 24" on center and 4 wall mount receptacles per classroom. Approximate 256 receptacles
- Replace 70% of the existing fluorescent fixtures. Approximate 650 fixtures.
- Provide a new fire alarm system with audio/visual devices in public areas and classrooms. Approximate 100 devices.
- Provide wireless, synchronized, battery operated clock system. Approximate 70
- Provide additional surveillance CCTV cameras for a complete coverage of the interior of the school. Approximate 15
- Provide an outdoor 70KW diesel powered generator.
- Prepare a study to verify that the air terminals mounted on the chimney provide the proper protection.
- Replace elevator motor, cables and controller
- Provide theatrical lighting and dimming control system.
- Replace the auditorium portable sound system with permanent installed sound system.
- Provide additional outdoor surveillance CCTV cameras. Approximate 4

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 4 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S141001		

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.

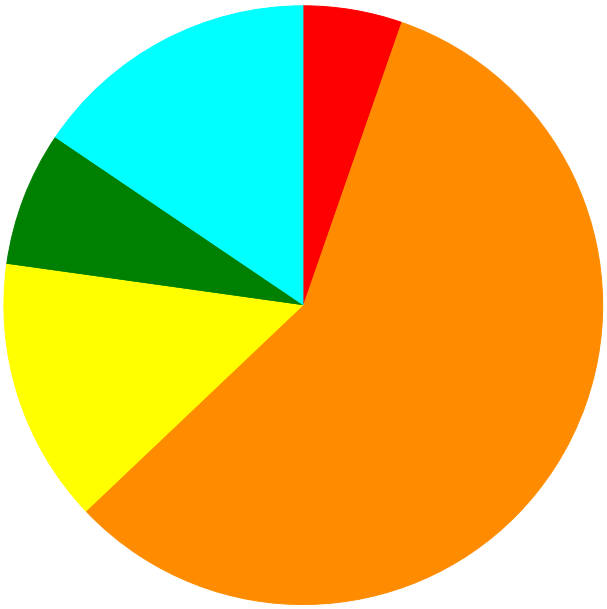
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	45.00 %	2.30 %	$42,155.30
A20 - Basement Construction	45.00 %	0.00 %	$0.00
B10 - Superstructure	45.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	65.79 %	85.32 %	$3,366,704.85
B30 - Roofing	109.52 %	89.34 %	$857,756.99
C10 - Interior Construction	61.21 %	51.54 %	$885,304.63
C20 - Stairs	45.00 %	0.00 %	$0.00
C30 - Interior Finishes	96.69 %	32.84 %	$1,124,458.34
D10 - Conveying	91.43 %	75.44 %	$80,795.91
D20 - Plumbing	80.79 %	70.89 %	$1,013,364.96
D30 - HVAC	97.22 %	66.93 %	$5,211,332.66
D40 - Fire Protection	92.47 %	177.49 %	$1,001,382.68
D50 - Electrical	110.11 %	46.34 %	$1,906,836.68
E10 - Equipment	51.93 %	26.35 %	$293,594.70
E20 - Furnishings	37.50 %	117.11 %	$174,608.63
G20 - Site Improvements	64.88 %	26.41 %	$204,196.76
G40 - Site Electrical Utilities	45.58 %	23.82 %	$73,750.98
Totals:	**76.43 %**	**45.23 %**	**$16,236,244.07**

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)
B141001;Rhoads, J	70,000	45.83	$857,756.99	$9,311,016.40	$2,089,440.25	$1,178,033.91	$2,522,048.78
G141001;Grounds	53,300	25.67	$6,495.47	$39,773.93	$231,678.34	$0.00	$0.00
Total:		**45.23**	**$864,252.46**	**$9,350,790.33**	**$2,321,118.59**	**$1,178,033.91**	**$2,522,048.78**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $864,252.46
- 2 - Response Time (2-3 yrs) - $9,350,790.33
- 3 - Response Time (3-4 yrs) - $2,321,118.59
- 4 - Response Time (4-5 yrs) - $1,178,033.91
- 5 - Response Time (> 5 yrs) - $2,522,048.78

Budget Estimate Total: $16,236,244.07

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	70,000
Year Built:	1960
Last Renovation:	
Replacement Value:	$34,817,613
Repair Cost:	$15,958,296.33
Total FCI:	45.83 %
Total RSLI:	76.96 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B141001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S141001		

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	45.00 %	2.30 %	$42,155.30
A20 - Basement Construction	45.00 %	0.00 %	$0.00
B10 - Superstructure	45.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	65.79 %	85.32 %	$3,366,704.85
B30 - Roofing	109.52 %	89.34 %	$857,756.99
C10 - Interior Construction	61.21 %	51.54 %	$885,304.63
C20 - Stairs	45.00 %	0.00 %	$0.00
C30 - Interior Finishes	96.69 %	32.84 %	$1,124,458.34
D10 - Conveying	91.43 %	75.44 %	$80,795.91
D20 - Plumbing	80.79 %	70.89 %	$1,013,364.96
D30 - HVAC	97.22 %	66.93 %	$5,211,332.66
D40 - Fire Protection	92.47 %	177.49 %	$1,001,382.68
D50 - Electrical	110.11 %	46.34 %	$1,906,836.68
E10 - Equipment	51.93 %	26.35 %	$293,594.70
E20 - Furnishings	37.50 %	117.11 %	$174,608.63
Totals:	**76.96 %**	**45.83 %**	**$15,958,296.33**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	70,000	100	1960	2060		45.00 %	0.00 %	45			$1,288,000
A1030	Slab on Grade	$7.73	S.F.	70,000	100	1960	2060		45.00 %	7.79 %	45		$42,155.30	$541,100
A2010	Basement Excavation	$6.55	S.F.	70,000	100	1960	2060		45.00 %	0.00 %	45			$458,500
A2020	Basement Walls	$12.70	S.F.	70,000	100	1960	2060		45.00 %	0.00 %	45			$889,000
B1010	Floor Construction	$75.10	S.F.	70,000	100	1960	2060		45.00 %	0.00 %	45			$5,257,000
B1020	Roof Construction	$13.88	S.F.	70,000	100	1960	2060		45.00 %	0.00 %	45			$971,600
B2010	Exterior Walls	$36.91	S.F.	70,000	100	1960	2060		45.00 %	16.55 %	45		$427,584.86	$2,583,700
B2020	Exterior Windows	$18.01	S.F.	70,000	40	1960	2000	2057	105.00 %	217.92 %	42		$2,747,298.32	$1,260,700
B2030	Exterior Doors	$1.45	S.F.	70,000	25	1990	2015	2042	108.00 %	188.99 %	27		$191,821.67	$101,500
B3010105	Built-Up	$37.76	S.F.	25,316	20	1992	2012	2037	110.00 %	89.73 %	22		$857,756.99	$955,932
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.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	70,000	20				0.00 %	0.00 %				$4,200
C1010	Partitions	$17.91	S.F.	70,000	100	1960	2060		45.00 %	28.05 %	45		$351,629.86	$1,253,700
C1020	Interior Doors	$3.51	S.F.	70,000	40	1960	2000	2057	105.00 %	163.33 %	42		$401,294.93	$245,700
C1030	Fittings	$3.12	S.F.	70,000	40	1960	2000	2057	105.00 %	60.61 %	42		$132,379.84	$218,400
C2010	Stair Construction	$1.41	S.F.	70,000	100	1960	2060		45.00 %	0.00 %	45			$98,700

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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	$19.46	S.F.	70,000	10	2013	2023		80.00 %	0.00 %	8			$1,362,200
C3010231	Vinyl Wall Covering	$0.00	S.F.	70,000	15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$0.21	S.F.	70,000	50	1960	2010	2030	30.00 %	0.00 %	15			$14,700
C3020411	Carpet	$7.30	S.F.	2,800	10	2010	2020	2027	120.00 %	24.64 %	12		$5,035.85	$20,440
C3020412	Terrazzo & Tile	$75.52	S.F.		50				0.00 %	0.00 %				$0
C3020413	Vinyl Flooring	$9.68	S.F.	56,700	20	1960	1980	2037	110.00 %	145.74 %	22		$799,923.22	$548,856
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	10,500	50	1960	2010	2030	30.00 %	0.00 %	15			$10,185
C3030	Ceiling Finishes	$20.97	S.F.	70,000	25	1960	1985	2042	108.00 %	21.77 %	27		$319,499.27	$1,467,900
D1010	Elevators and Lifts	$1.53	S.F.	70,000	35	1960	1995	2047	91.43 %	75.44 %	32		$80,795.91	$107,100
D2010	Plumbing Fixtures	$13.52	S.F.	70,000	35	1960	1995	2045	85.71 %	25.93 %	30		$245,369.04	$946,400
D2020	Domestic Water Distribution	$1.68	S.F.	70,000	25	1960	1985	2042	108.00 %	361.05 %	27		$424,593.45	$117,600
D2030	Sanitary Waste	$2.90	S.F.	70,000	25	1960	1985	2035	80.00 %	169.16 %	20		$343,402.47	$203,000
D2040	Rain Water Drainage	$2.32	S.F.	70,000	30	1960	1990	2025	33.33 %	0.00 %	10			$162,400
D3020	Heat Generating Systems	$18.67	S.F.	70,000	35	1995	2030		42.86 %	0.00 %	15			$1,306,900
D3030	Cooling Generating Systems	$24.48	S.F.	70,000	30			2047	106.67 %	49.20 %	32		$843,118.17	$1,713,600
D3040	Distribution Systems	$42.99	S.F.	70,000	25	1960	1985	2042	108.00 %	95.26 %	27		$2,866,570.59	$3,009,300
D3050	Terminal & Package Units	$11.60	S.F.	70,000	20	1960	1980	2037	110.00 %	0.00 %	22			$812,000
D3060	Controls & Instrumentation	$13.50	S.F.	70,000	20	1960	1980	2037	110.00 %	158.90 %	22		$1,501,643.90	$945,000
D4010	Sprinklers	$7.05	S.F.	70,000	35			2052	105.71 %	202.91 %	37		$1,001,382.68	$493,500
D4020	Standpipes	$1.01	S.F.	70,000	35				0.00 %	0.00 %				$70,700
D5010	Electrical Service/Distribution	$9.70	S.F.	70,000	30	1960	1990	2047	106.67 %	94.24 %	32		$639,858.93	$679,000
D5020	Lighting and Branch Wiring	$34.68	S.F.	70,000	20	1960	1980	2037	110.00 %	26.95 %	22		$654,242.53	$2,427,600
D5030	Communications and Security	$12.99	S.F.	70,000	15	1960	1975	2032	113.33 %	49.37 %	17		$448,957.50	$909,300
D5090	Other Electrical Systems	$1.41	S.F.	70,000	30	1960	1990	2047	106.67 %	165.93 %	32		$163,777.72	$98,700
E1020	Institutional Equipment	$4.82	S.F.	70,000	35	1960	1995	2052	105.71 %	87.02 %	37		$293,594.70	$337,400
E1090	Other Equipment	$11.10	S.F.	70,000	35	1960	1995	2025	28.57 %	0.00 %	10			$777,000
E2010	Fixed Furnishings	$2.13	S.F.	70,000	40	1960	2000	2030	37.50 %	117.11 %	15		$174,608.63	$149,100
								Total	**76.96 %**	**45.83 %**			**$15,958,296.33**	**$34,817,613**

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 99%
Granite Panel 1%

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

Note:
Carpet4%
Vinyl 81%
Concrete 15%

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

Note:
Painted structure 66%
12" Acoustical tile 30%
2 x 4 Acoustical tile 4%

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:	**$15,958,296**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,898,154**	**$0**	**$1,388,723**	**$19,245,173**
*** 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	$42,155	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$42,155**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$427,585	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$427,585**
B2020 - Exterior Windows	$2,747,298	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,747,298**
B2030 - Exterior Doors	$191,822	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$191,822**
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	$857,757	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$857,757**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$351,630	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$351,630**

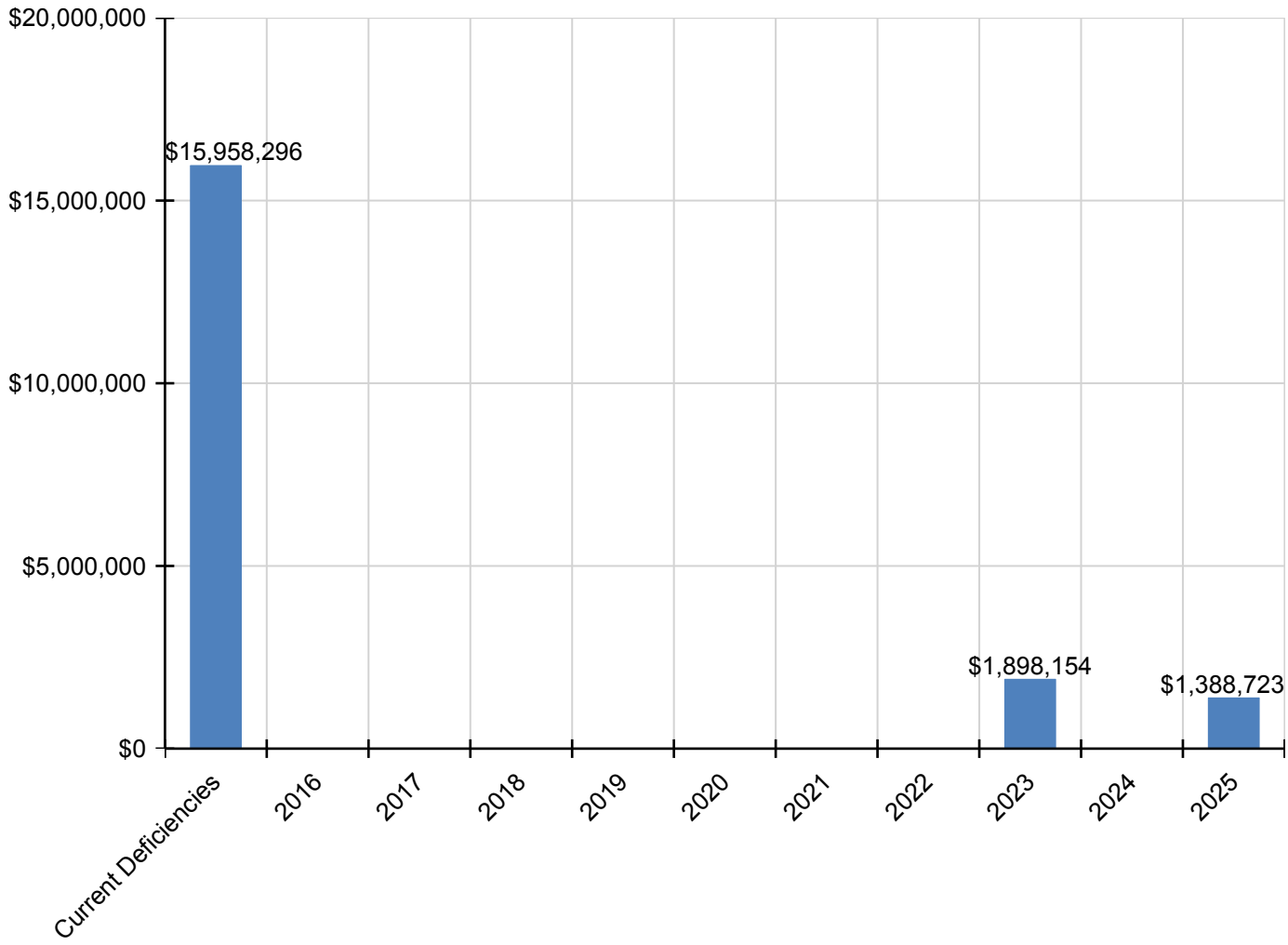
C1020 - Interior Doors	$401,295	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$401,295**
C1030 - Fittings	$132,380	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$132,380**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$0	$0	$1,898,154	$0	$0	**$1,898,154**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$5,036	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,036**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$799,923	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$799,923**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$319,499	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$319,499**
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	$80,796	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$80,796**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$245,369	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$245,369**
D2020 - Domestic Water Distribution	$424,593	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$424,593**
D2030 - Sanitary Waste	$343,402	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$343,402**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$240,077	**$240,077**
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	$843,118	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$843,118**
D3040 - Distribution Systems	$2,866,571	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,866,571**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,501,644	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,501,644**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,001,383	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,001,383**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$639,859	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$639,859**
D5020 - Lighting and Branch Wiring	$654,243	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$654,243**
D5030 - Communications and Security	$448,958	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$448,958**
D5090 - Other Electrical Systems	$163,778	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$163,778**
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	$293,595	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$293,595**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,148,645	**$1,148,645**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$174,609	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$174,609**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

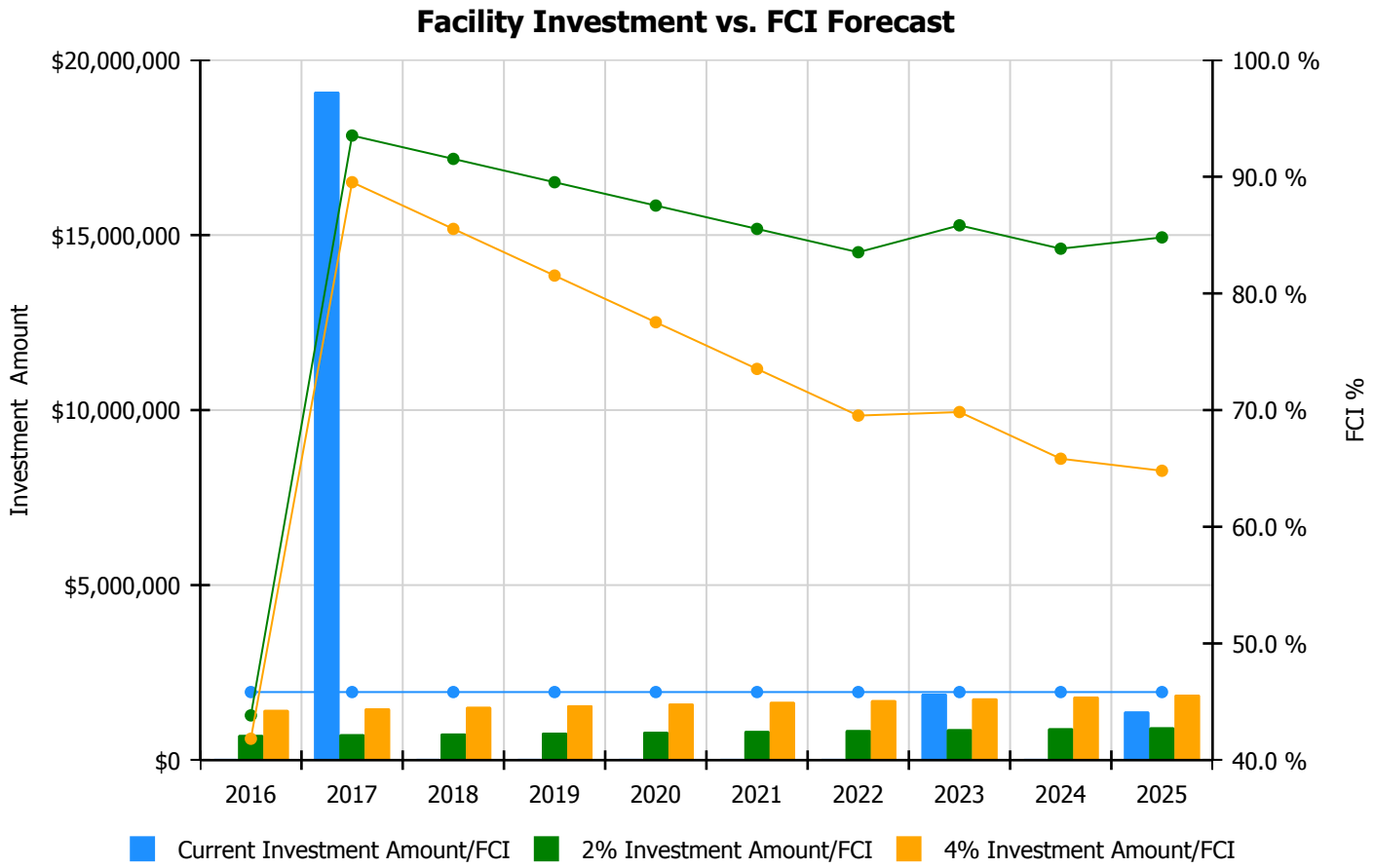
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

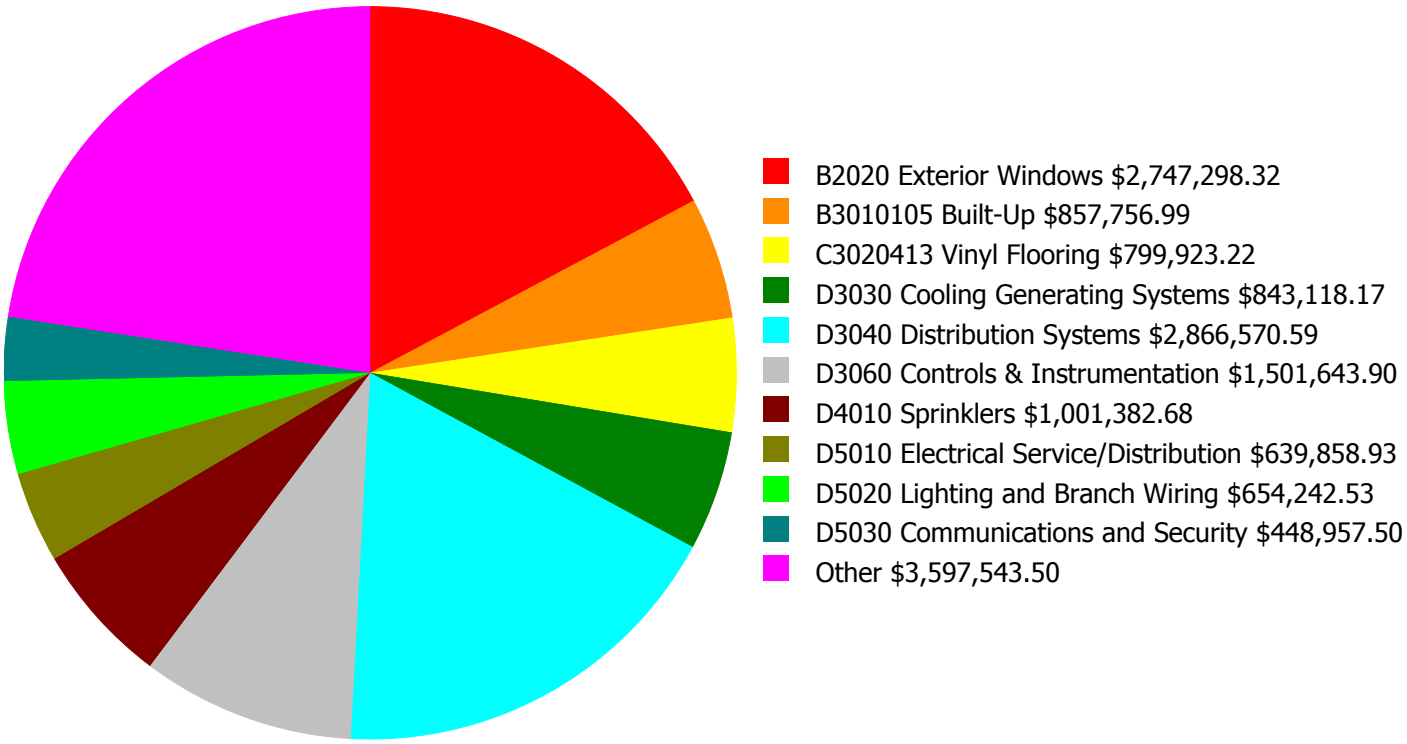
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 45.83%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$717,243.00	43.83 %	$1,434,486.00	41.83 %
2017	$19,094,790	$738,760.00	93.53 %	$1,477,520.00	89.53 %
2018	$0	$760,923.00	91.53 %	$1,521,846.00	85.53 %
2019	$0	$783,751.00	89.53 %	$1,567,501.00	81.53 %
2020	$0	$807,263.00	87.53 %	$1,614,526.00	77.53 %
2021	$0	$831,481.00	85.53 %	$1,662,962.00	73.53 %
2022	$0	$856,425.00	83.53 %	$1,712,851.00	69.53 %
2023	$1,898,154	$882,118.00	85.83 %	$1,764,236.00	69.83 %
2024	$0	$908,582.00	83.83 %	$1,817,164.00	65.83 %
2025	$1,388,723	$935,839.00	84.80 %	$1,871,678.00	64.80 %
Total:	**$22,381,666**	**$8,222,385.00**		**$16,444,770.00**	

Deficiency Summary by System

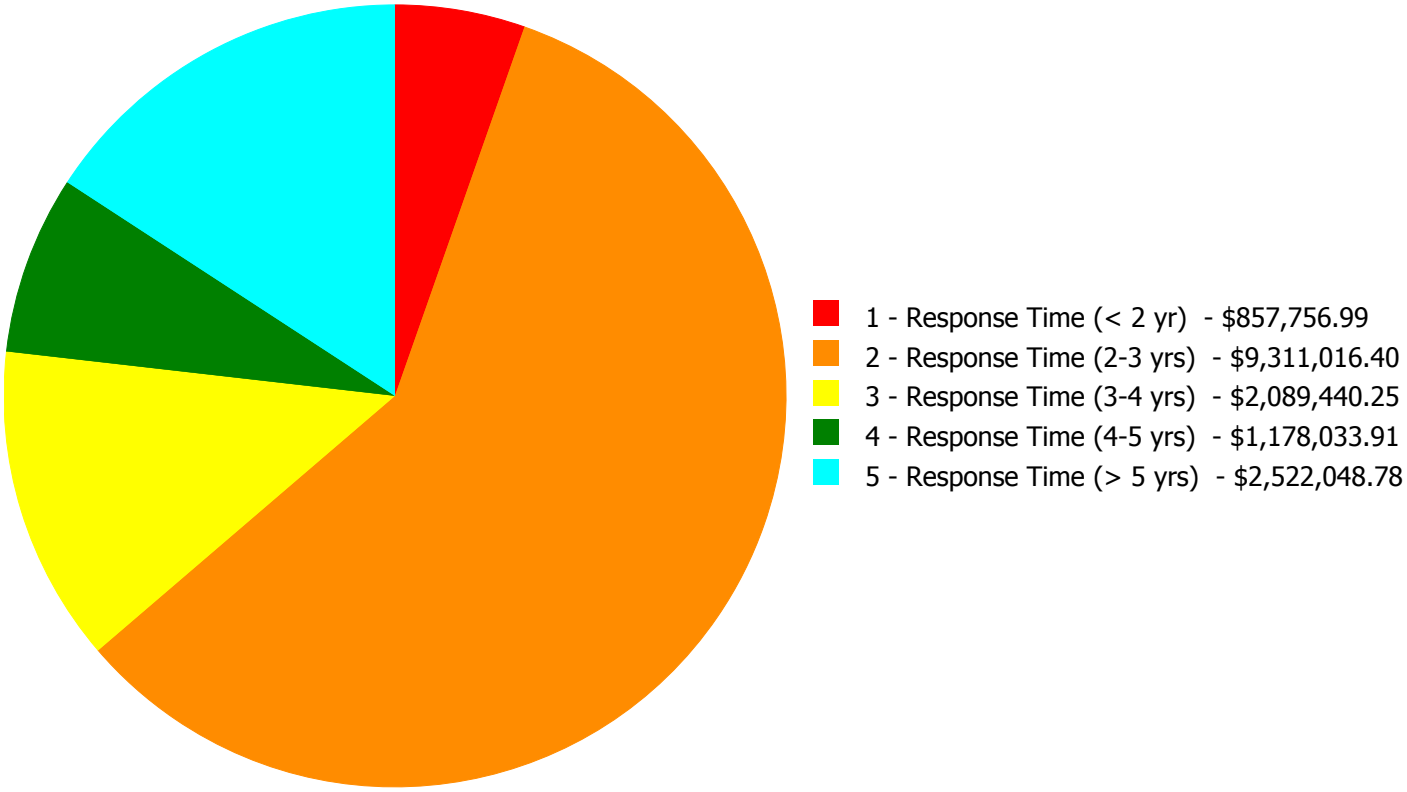
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $15,958,296.33

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: $15,958,296.33

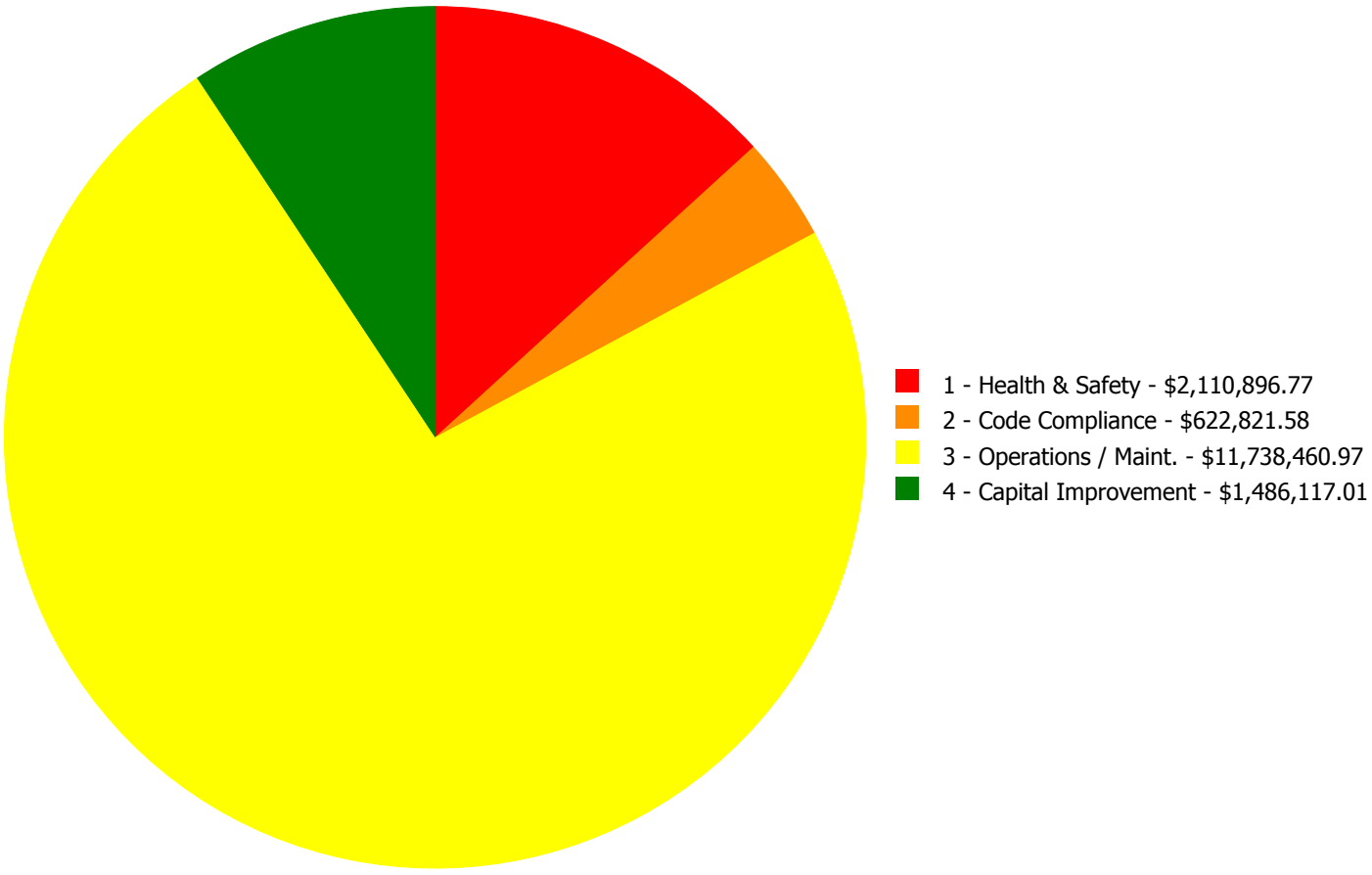
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
A1030	Slab on Grade	$0.00	$0.00	$42,155.30	$0.00	$0.00	$42,155.30
B2010	Exterior Walls	$0.00	$427,584.86	$0.00	$0.00	$0.00	$427,584.86
B2020	Exterior Windows	$0.00	$2,747,298.32	$0.00	$0.00	$0.00	$2,747,298.32
B2030	Exterior Doors	$0.00	$191,821.67	$0.00	$0.00	$0.00	$191,821.67
B3010105	Built-Up	$857,756.99	$0.00	$0.00	$0.00	$0.00	$857,756.99
C1010	Partitions	$0.00	$351,629.86	$0.00	$0.00	$0.00	$351,629.86
C1020	Interior Doors	$0.00	$401,294.93	$0.00	$0.00	$0.00	$401,294.93
C1030	Fittings	$0.00	$124,524.00	$0.00	$7,855.84	$0.00	$132,379.84
C3020411	Carpet	$0.00	$5,035.85	$0.00	$0.00	$0.00	$5,035.85
C3020413	Vinyl Flooring	$0.00	$799,923.22	$0.00	$0.00	$0.00	$799,923.22
C3030	Ceiling Finishes	$0.00	$262,054.93	$57,444.34	$0.00	$0.00	$319,499.27
D1010	Elevators and Lifts	$0.00	$0.00	$80,795.91	$0.00	$0.00	$80,795.91
D2010	Plumbing Fixtures	$0.00	$245,369.04	$0.00	$0.00	$0.00	$245,369.04
D2020	Domestic Water Distribution	$0.00	$15,271.94	$54,606.72	$0.00	$354,714.79	$424,593.45
D2030	Sanitary Waste	$0.00	$0.00	$343,402.47	$0.00	$0.00	$343,402.47
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$843,118.17	$843,118.17
D3040	Distribution Systems	$0.00	$2,162,612.81	$381,124.64	$0.00	$322,833.14	$2,866,570.59
D3060	Controls & Instrumentation	$0.00	$1,501,643.90	$0.00	$0.00	$0.00	$1,501,643.90
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$1,001,382.68	$1,001,382.68
D5010	Electrical Service/Distribution	$0.00	$0.00	$639,858.93	$0.00	$0.00	$639,858.93
D5020	Lighting and Branch Wiring	$0.00	$0.00	$94,046.97	$560,195.56	$0.00	$654,242.53
D5030	Communications and Security	$0.00	$0.00	$222,253.27	$226,704.23	$0.00	$448,957.50
D5090	Other Electrical Systems	$0.00	$0.00	$163,777.72	$0.00	$0.00	$163,777.72
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$293,594.70	$0.00	$293,594.70
E2010	Fixed Furnishings	$0.00	$74,951.07	$9,973.98	$89,683.58	$0.00	$174,608.63
	Total:	$857,756.99	$9,311,016.40	$2,089,440.25	$1,178,033.91	$2,522,048.78	$15,958,296.33

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: $15,958,296.33

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: B3010105 - Built-Up

Location: Roofs

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove and Replace Built Up Roof

Qty: 25,316.00

Unit of Measure: S.F.

Estimate: $857,756.99

Assessor Name: System

Date Created: 02/05/2016

Notes: Roofs are beyond their expected life, are in visibly poor condition, and leak.

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

System: B2010 - Exterior Walls

Location: Exterior walls

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: 12,000.00

Unit of Measure: S.F.

Estimate: $387,473.67

Assessor Name: System

Date Created: 02/05/2016

Notes: Repair brick, particularly mortar joints, at various locations around the building.

System: B2010 - Exterior Walls

Location: Metal panels between windows

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and replace insulated metal exterior wall panels

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $37,892.12

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace metal panels between window sections

System: B2010 - Exterior Walls

Location: Gym roof to low roof

Distress: OSHA

Category: 2 - Code Compliance

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

Correction: Add fixed ladders to wall

Qty: 8.00

Unit of Measure: V.L.F.

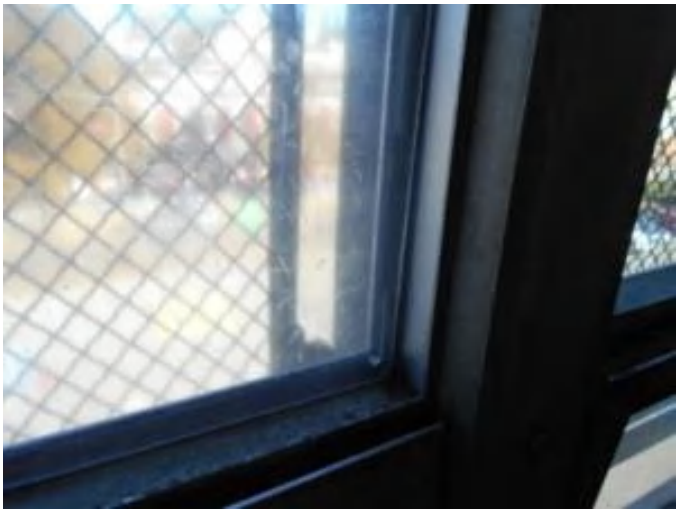
Estimate: $2,219.07

Assessor Name: System

Date Created: 02/05/2016

Notes: Provide access ladder between gym roof and low roof.

System: B2020 - Exterior Windows



Location: Exterior windows

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

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

Qty: 465.00

Unit of Measure: Ea.

Estimate: $2,747,298.32

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace expired original exterior windows in poor condition.

System: B2030 - Exterior Doors

Location: Exterior doors

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 22.00

Unit of Measure: Ea.

Estimate: $178,113.77

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace exterior doors

System: B2030 - Exterior Doors

Location: Auditorium

Distress: Life Safety / NFPA / PFD

Category: 4 - Capital Improvement

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

Correction: Add an exterior door in an exterior wall for safety and egress

Qty: 2.00

Unit of Measure: Ea.

Estimate: $13,707.90

Assessor Name: System

Date Created: 02/05/2016

Notes: Install a pair of new egress doors from auditorium in exterior wall. Currently the only exits from the auditorium are at the rear. The stage double door exit is not visible from the main floor seating area.

System: C1010 - Partitions

Location: Each floor TBD

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Build new single restroom to meet code requirements

Qty: 5.00

Unit of Measure: Ea.

Estimate: $351,629.86

Assessor Name: System

Date Created: 02/08/2016

Notes: Provide unisex accessible toilet rooms for faculty and staff on each floor of the building. Reconfigure restroom at nurse office for accessibility.

System: C1020 - Interior Doors

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace interior doors - wood doors with hollow metal frames - per leaf

Qty: 114.00

Unit of Measure: Ea.

Estimate: $401,294.93

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace interior doors in existing hollow metal frames. Doors do not have code compliant hardware, are beyond their expected life, and are in generally worn condition.

System: C1030 - Fittings

Location: Student restrooms

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 36.00

Unit of Measure: Ea.

Estimate: $97,432.75

Assessor Name: System

Date Created: 02/08/2016

Notes: Reconfigure toilet partitions to allow one accessible partition per student restroom. Coordinate with plumbing fixture upgrades.

System: C1030 - Fittings

Location: Throughout the building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 100.00

Unit of Measure: Ea.

Estimate: $27,091.25

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace/install code compliant signage throughout the building.

System: C3020411 - Carpet

Location: Classroom 207
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace carpet
Qty: 450.00
Unit of Measure: S.F.
Estimate: $5,035.85
Assessor Name: System
Date Created: 02/05/2016

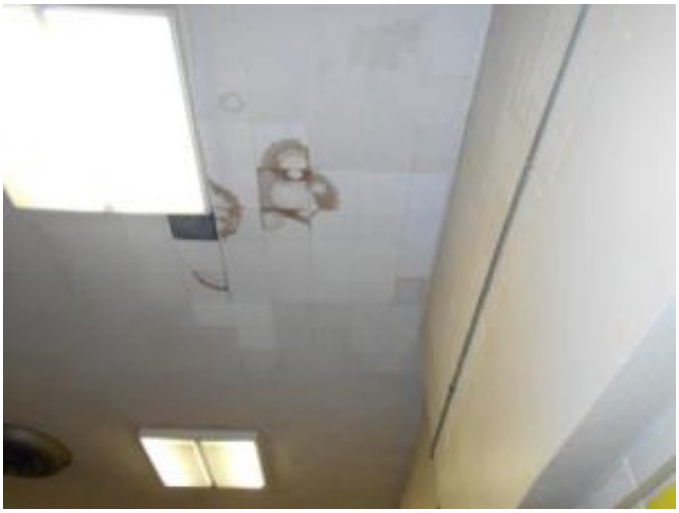
Notes: Replace carpet that is in half of this room.

System: C3020413 - Vinyl Flooring

Location: Throughout the building
Distress: Health Hazard / Risk
Category: 1 - Health & Safety
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove VAT and replace with VCT - SF of area
Qty: 52,000.00
Unit of Measure: S.F.
Estimate: $799,923.22
Assessor Name: System
Date Created: 02/05/2016

Notes: Replace 9" VAT with 12" VCT throughout the building. Damaged and delaminating stair tread/nosing covers create a tripping hazard at the stage.

System: C3030 - Ceiling Finishes



Location: Throughout the building

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace glued on or mechanically attached acoustical ceiling tiles

Qty: 21,000.00

Unit of Measure: S.F.

Estimate: $262,054.93

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace 12" acoustical tile ceilings throughout the building. These ceilings are original to the building and are well beyond their expected life. Many areas are damaged. Tiles are yellowed or otherwise discolored. Paint weakens the acoustical properties of tile.

System: D2010 - Plumbing Fixtures

Location: Toilet rooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 20.00

Unit of Measure: Ea.

Estimate: $149,242.96

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace one third of water closets due to failures, stains, and age

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace water fountains to meet ADA - includes high and low fountains and new recessed alcove

Qty: 4.00

Unit of Measure: Ea.

Estimate: $62,771.59

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace drinking fountains in the corridors with accessible type

System: D2010 - Plumbing Fixtures

Location: Toilet rooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 9.00

Unit of Measure: Ea.

Estimate: $33,354.49

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace one third of urinals due to failures, stains, and age

System: D2020 - Domestic Water Distribution

Location: Basement

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $15,271.94

Assessor Name: System

Date Created: 02/15/2016

Notes: Install 4 inch back flow preventer at water entry

System: D3040 - Distribution Systems

Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace classroom unit ventilator (htg/clg coils, 5 tons, 2,000 CFM)

Qty: 42.00

Unit of Measure: Ea.

Estimate: $2,094,904.25

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace unit vents due to age and lack of cooling coils

System: D3040 - Distribution Systems

Location: Toilet rooms

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (8 plbg fixtures)

Qty: 8.00

Unit of Measure: Ea.

Estimate: $67,708.56

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace toilet exhaust fans

System: D3060 - Controls & Instrumentation

Location: Entire building

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 70,000.00

Unit of Measure: S.F.

Estimate: $1,501,643.90

Assessor Name: System

Date Created: 02/15/2016

Notes: Convert HVAC controls to digital

System: E2010 - Fixed Furnishings

Location:	Classrooms and offices
Distress:	Beyond Service Life
Category:	3 - Operations / Maint.
Priority:	2 - Response Time (2-3 yrs)
Correction:	Replace or add roller shades
Qty:	4,600.00
Unit of Measure:	S.F.
Estimate:	$74,951.07
Assessor Name:	System
Date Created:	02/05/2016

Notes: Replace window shades throughout the building.

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

System: A1030 - Slab on Grade

Location: Front entry

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install interior handicap ramp - per LF 5' wide - insert the LF in the quantity

Qty: 21.00

Unit of Measure: L.F.

Estimate: $42,155.30

Assessor Name: System

Date Created: 02/08/2016

Notes: Provide ramp at front entry.

System: C3030 - Ceiling Finishes

Location: 4th Floor painted ceilings

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Re-paint ceilings - SF of ceilings

Qty: 12,000.00

Unit of Measure: S.F.

Estimate: $57,444.34

Assessor Name: System

Date Created: 02/05/2016

Notes: Repaint 4th floor ceilings after roof replacement.

System: D1010 - Elevators and Lifts

Location: Elevator Machine Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace elevator motor and controller

Qty: 1.00

Unit of Measure: Ea.

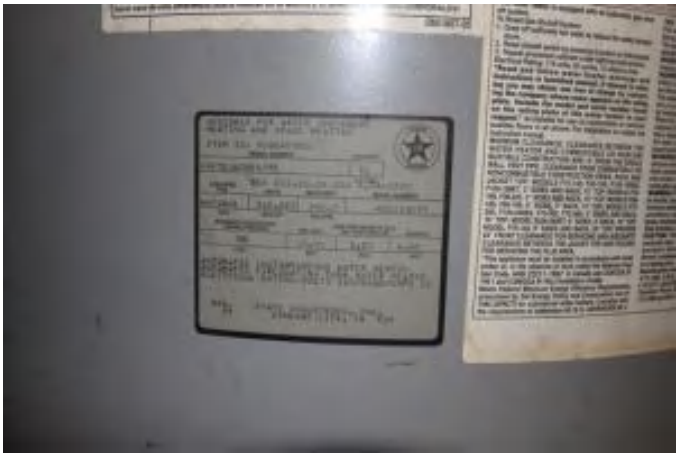
Estimate: $80,795.91

Assessor Name: System

Date Created: 01/21/2016

Notes: Replace elevator motor, cables and controller

System: D2020 - Domestic Water Distribution



Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace vertical tank type gas-fired water heater (75 gal)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $54,606.72

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace 70 gallon domestic water heater including new circulation pump and expansion tank

System: D2030 - Sanitary Waste

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+50KSF)

Qty: 70,000.00

Unit of Measure: S.F.

Estimate: $343,402.47

Assessor Name: System

Date Created: 02/15/2016

Notes: Inspect and repair sanitary drain pipe

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 434.00

Unit of Measure: Seat

Estimate: $221,891.88

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace HVAC for auditorium due to age

System: D3040 - Distribution Systems

Location: Gym

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 4,200.00

Unit of Measure: S.F.

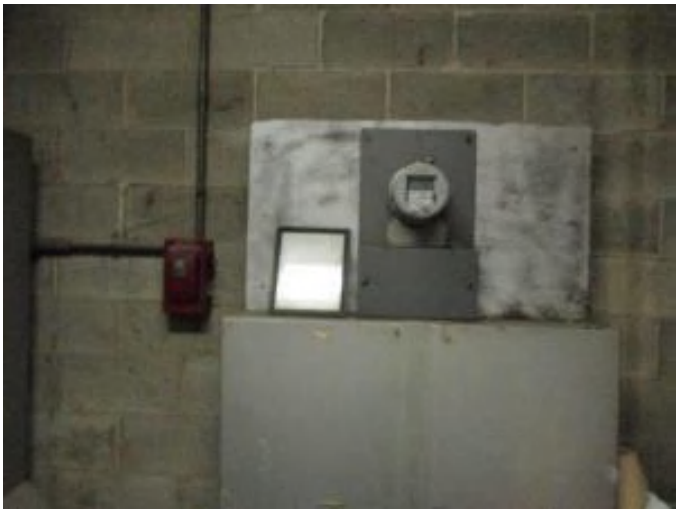
Estimate: $159,232.76

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace HVAC for gym due to age

System: D5010 - Electrical Service/Distribution



Location: Basement

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $368,909.66

Assessor Name: System

Date Created: 01/21/2016

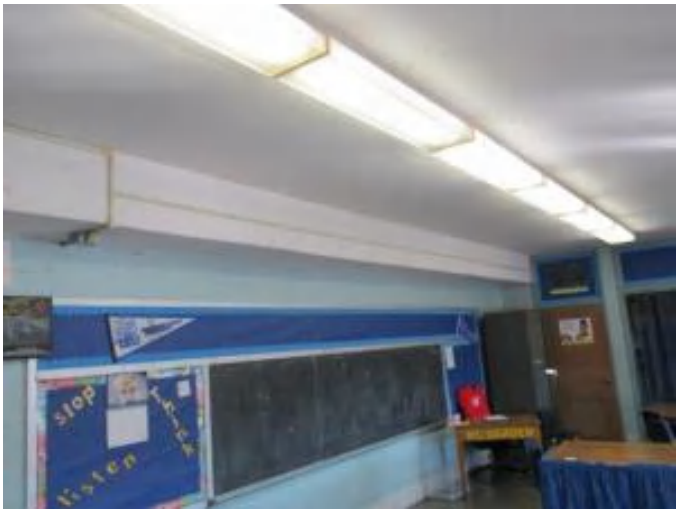
Notes: Provide a new electrical service rated 1200A, 480/277V with 300KVA step-down transformer

System: D5010 - Electrical Service/Distribution

Location: Entire Building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Electrical Distribution System (U)
Qty: 1.00
Unit of Measure: Ea.
Estimate: $270,949.27
Assessor Name: System
Date Created: 01/21/2016

Notes: Replace original panelboards and associated feeders. Approximate (10) 208/120V panel boards.

System: D5020 - Lighting and Branch Wiring



Location: Entire Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add wiring device
Qty: 256.00
Unit of Measure: Ea.
Estimate: $94,046.97
Assessor Name: System
Date Created: 01/21/2016

Notes: Provide (2)25FT of surface raceways with receptacles spaced 24” on center and 4 wall mount receptacles per classroom. Approximate 256 receptacles

System: D5030 - Communications and Security

Location: Entire 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: $222,253.27
Assessor Name: System
Date Created: 01/21/2016

Notes: Provide a new fire alarm system with audio/visual devices in public areas and classrooms. Approximate 100 devices.

System: D5090 - Other Electrical Systems

Location: Outdoor
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add Standby Generator System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $139,527.90
Assessor Name: System
Date Created: 01/21/2016

Notes: Provide an outdoor 70KW diesel powered generator.

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $24,249.82

Assessor Name: System

Date Created: 01/21/2016

Notes: Prepare a study to verify that the air terminals mounted on the chimney provide the proper protection.

System: E2010 - Fixed Furnishings

Location: Kindergarten classrooms

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace casework - per LF - insert quantities for cabinets in the estimate

Qty: 12.00

Unit of Measure: L.F.

Estimate: $9,973.98

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace sink base cabinets and counters in kindergarten classrooms.

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

System: C1030 - Fittings

Location: Kitchen
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace lockers - select size
Qty: 12.00
Unit of Measure: Ea.
Estimate: $7,855.84
Assessor Name: System
Date Created: 02/05/2016

Notes: Replace worn out damaged lockers.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add Lighting Fixtures
Qty: 650.00
Unit of Measure: Ea.
Estimate: $560,195.56
Assessor Name: System
Date Created: 01/21/2016

Notes: Replace 70% of the existing fluorescent fixtures. Approximate 650 fixtures.

System: D5030 - Communications and Security

Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Clock System or Components
Qty: 70.00
Unit of Measure: Ea.
Estimate: $112,560.22
Assessor Name: System
Date Created: 01/21/2016

Notes: Provide wireless, synchronized, battery operated clock system. Approximate 70

System: D5030 - Communications and Security

Location: Entire Building
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 15.00
Unit of Measure: Ea.
Estimate: $87,337.60
Assessor Name: System
Date Created: 01/21/2016

Notes: Provide additional surveillance CCTV cameras for a complete coverage of the interior of the school. Approximate 15

System: D5030 - Communications and Security

Location: Auditorium
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Sound System
Qty: 1.00
Unit of Measure: LS
Estimate: $26,806.41
Assessor Name: System
Date Created: 01/21/2016

Notes: Replace the auditorium portable sound system with permanent installed sound system.

System: E1020 - Institutional Equipment

Location: Auditorium
Distress: Obsolete
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: $293,594.70
Assessor Name: System
Date Created: 01/21/2016

Notes: Provide theatrical lighting and dimming control system.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 3.00

Unit of Measure: Ea.

Estimate: $89,683.58

Assessor Name: System

Date Created: 02/08/2016

Notes: Replace worn/torn stage curtains.

Priority 5 - Response Time (> 5 yrs):

System: D2020 - Domestic Water Distribution

Location: Entire building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace domestic water piping (75 KSF)
Qty: 70,000.00
Unit of Measure: S.F.
Estimate: $354,714.79
Assessor Name: System
Date Created: 02/15/2016

Notes: Inspect and repair domestic water distribution pipe

System: D3030 - Cooling Generating Systems

Location: Entire building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 5 - Response Time (> 5 yrs)
Correction: Install chilled water system with distribution piping and pumps. (+75KSF)
Qty: 52,500.00
Unit of Measure: S.F.
Estimate: $843,118.17
Assessor Name: System
Date Created: 02/15/2016

Notes: Install a 175 ton air-conditioning system for the entire building

System: D3040 - Distribution Systems

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace finned tube radiation terminals (per 100 LF)

Qty: 800.00

Unit of Measure: L.F.

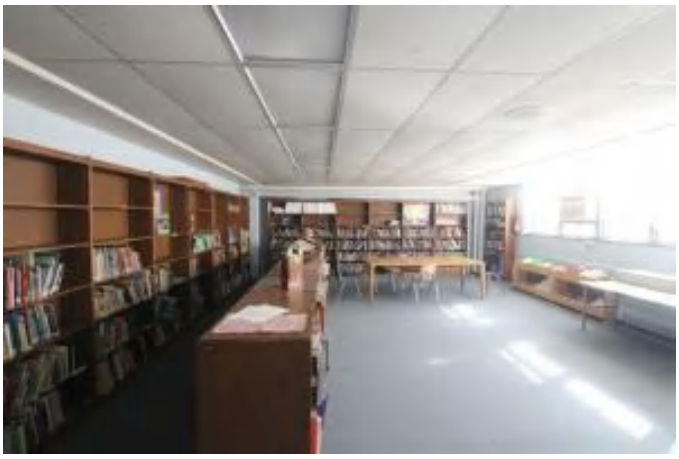
Estimate: $322,833.14

Assessor Name: System

Date Created: 02/15/2016

Notes: Replace finned tube convection units

System: D4010 - Sprinklers



Location: Entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 70,000.00

Unit of Measure: S.F.

Estimate: $1,001,382.68

Assessor Name: System

Date Created: 02/15/2016

Notes: Install a fire protection sprinkler system, including fire pump if needed

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Electric traction residential elevators, cab type, 2 floor, 3 stop, custom model, max	1.00	Ea.	Roof- elevator machine room					35	1960	2047	$63,562.00	$69,918.20
D2020 Domestic Water Distribution	Pump, pressure booster system, 3 HP pump, includes diaphragm tank, control and pressure switch	1.00	Ea.	Mechanical room					25	1960	2025	$9,861.00	$10,847.10
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 6390 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler room					35	1995	2030	$147,444.00	$324,376.80
D5010 Electrical Service/Distribution	Load centers, 1 phase, 3 wire, main lugs, rainproof, 120/240 V, 400 amp, 42 circuits, incl 20 A 1 pole plug-in breakers	1.00	Ea.	Basement electrical room					30	1960	2047	$3,663.90	$4,030.29
												Total:	**$409,172.39**

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):	53,300
Year Built:	1960
Last Renovation:	
Replacement Value:	$1,082,795
Repair Cost:	$277,947.74
Total FCI:	25.67 %
Total RSLI:	59.36 %

Description:

Attributes:

General Attributes:

Bldg ID:	S141001	Site ID:	S141001

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	64.88 %	26.41 %	$204,196.76
G40 - Site Electrical Utilities	45.58 %	23.82 %	$73,750.98
Totals:	**59.36 %**	**25.67 %**	**$277,947.74**

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	1960	1990		0.00 %	0.00 %	-25			$0
G2020	Parking Lots	$8.50	S.F.	27,300	30	1980	2010	2034	63.33 %	48.80 %	19		$113,239.66	$232,050
G2030	Pedestrian Paving	$12.30	S.F.	24,600	40	1980	2020	2028	32.50 %	25.46 %	13		$77,025.92	$302,580
G2040	Site Development	$4.36	S.F.	53,300	25	1980	2005	2042	108.00 %	5.99 %	27		$13,931.18	$232,388
G2050	Landscaping & Irrigation	$4.36	S.F.	1,400	15	1980	1995	2028	86.67 %	0.00 %	13			$6,104
G4020	Site Lighting	$4.84	S.F.	53,300	30	1960	1990	2025	33.33 %	0.00 %	10			$257,972
G4030	Site Communications & Security	$0.97	S.F.	53,300	30	1960	1990	2047	106.67 %	142.65 %	32		$73,750.98	$51,701
								Total	**59.36 %**	**25.67 %**			**$277,947.74**	**$1,082,795**

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.

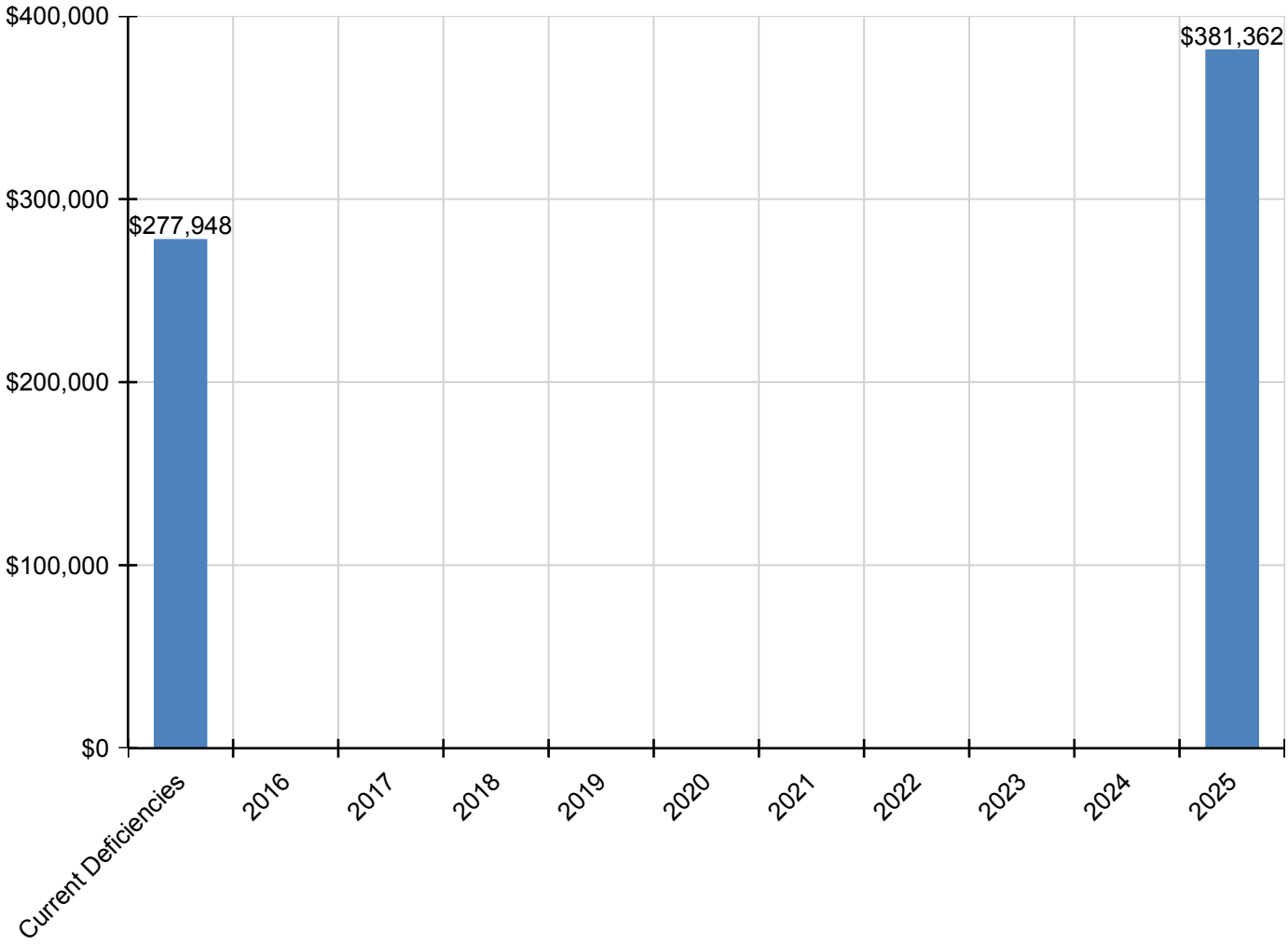
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$277,948**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$381,362**	**$659,310**
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	$113,240	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$113,240**
G2030 - Pedestrian Paving	$77,026	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$77,026**
G2040 - Site Development	$13,931	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,931**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$381,362	**$381,362**
G4030 - Site Communications & Security	$73,751	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$73,751**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

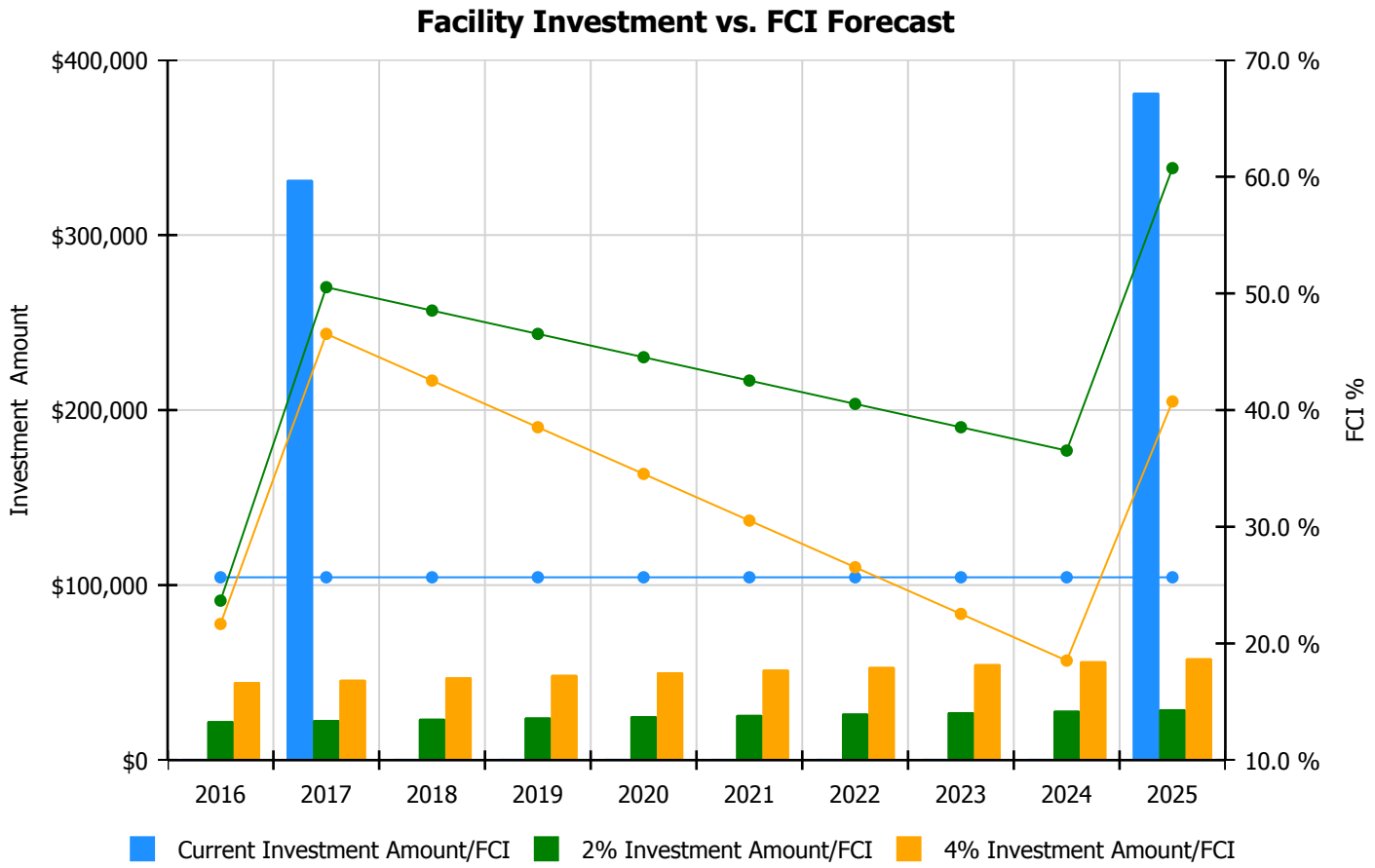
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

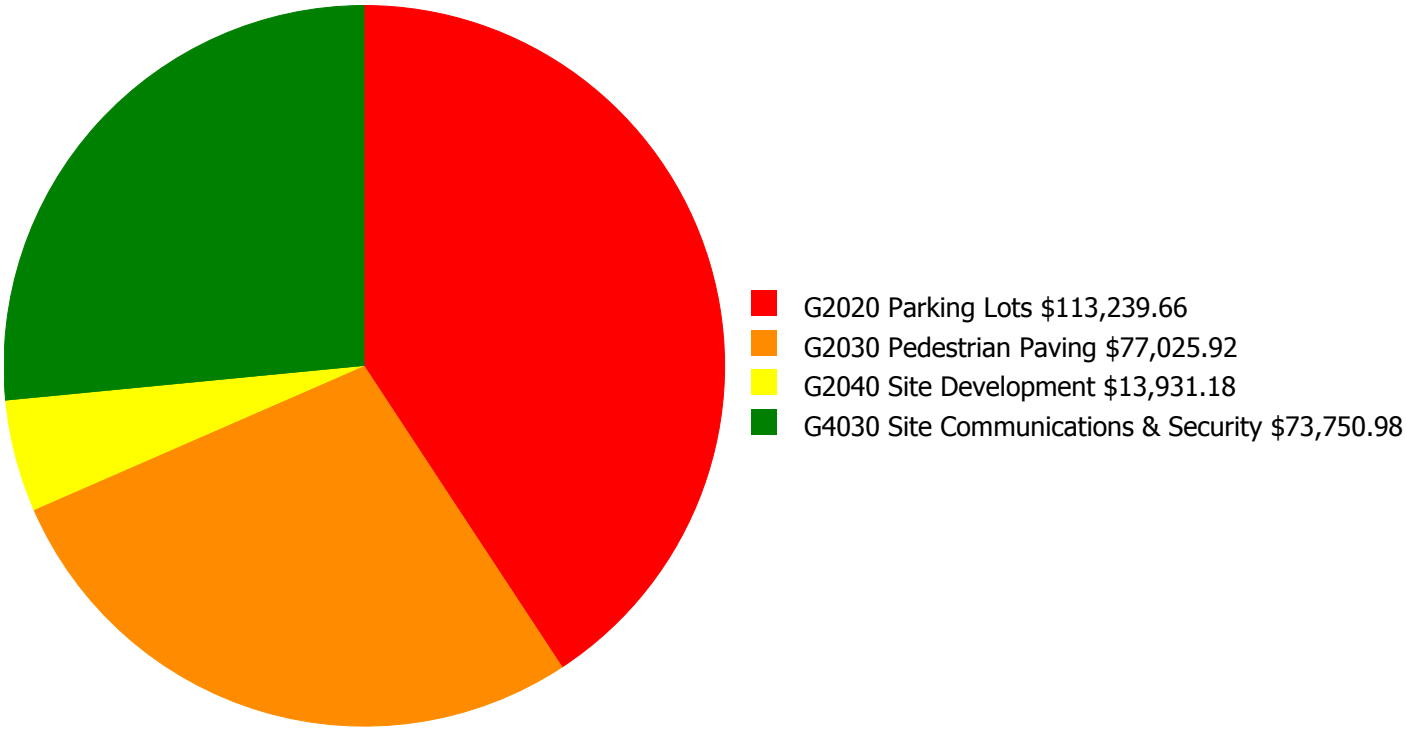
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 25.67%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$22,306.00	23.67 %	$44,611.00	21.67 %
2017	$331,529	$22,975.00	50.53 %	$45,949.00	46.53 %
2018	$0	$23,664.00	48.53 %	$47,328.00	42.53 %
2019	$0	$24,374.00	46.53 %	$48,748.00	38.53 %
2020	$0	$25,105.00	44.53 %	$50,210.00	34.53 %
2021	$0	$25,858.00	42.53 %	$51,717.00	30.53 %
2022	$0	$26,634.00	40.53 %	$53,268.00	26.53 %
2023	$0	$27,433.00	38.53 %	$54,866.00	22.53 %
2024	$0	$28,256.00	36.53 %	$56,512.00	18.53 %
2025	$381,362	$29,104.00	60.74 %	$58,207.00	40.74 %
Total:	**$712,891**	**$255,709.00**		**$511,416.00**	

Deficiency Summary by System

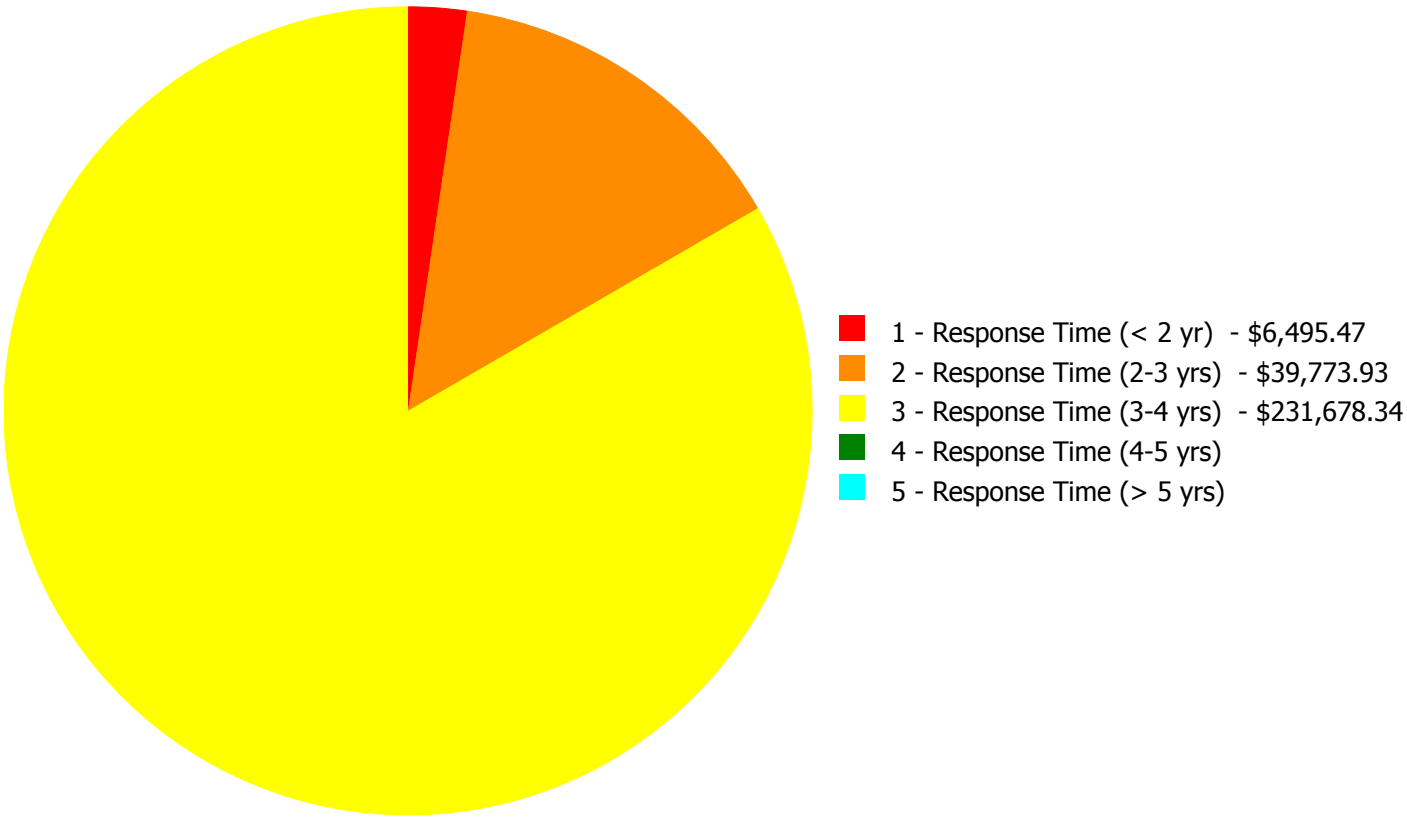
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $277,947.74

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: $277,947.74

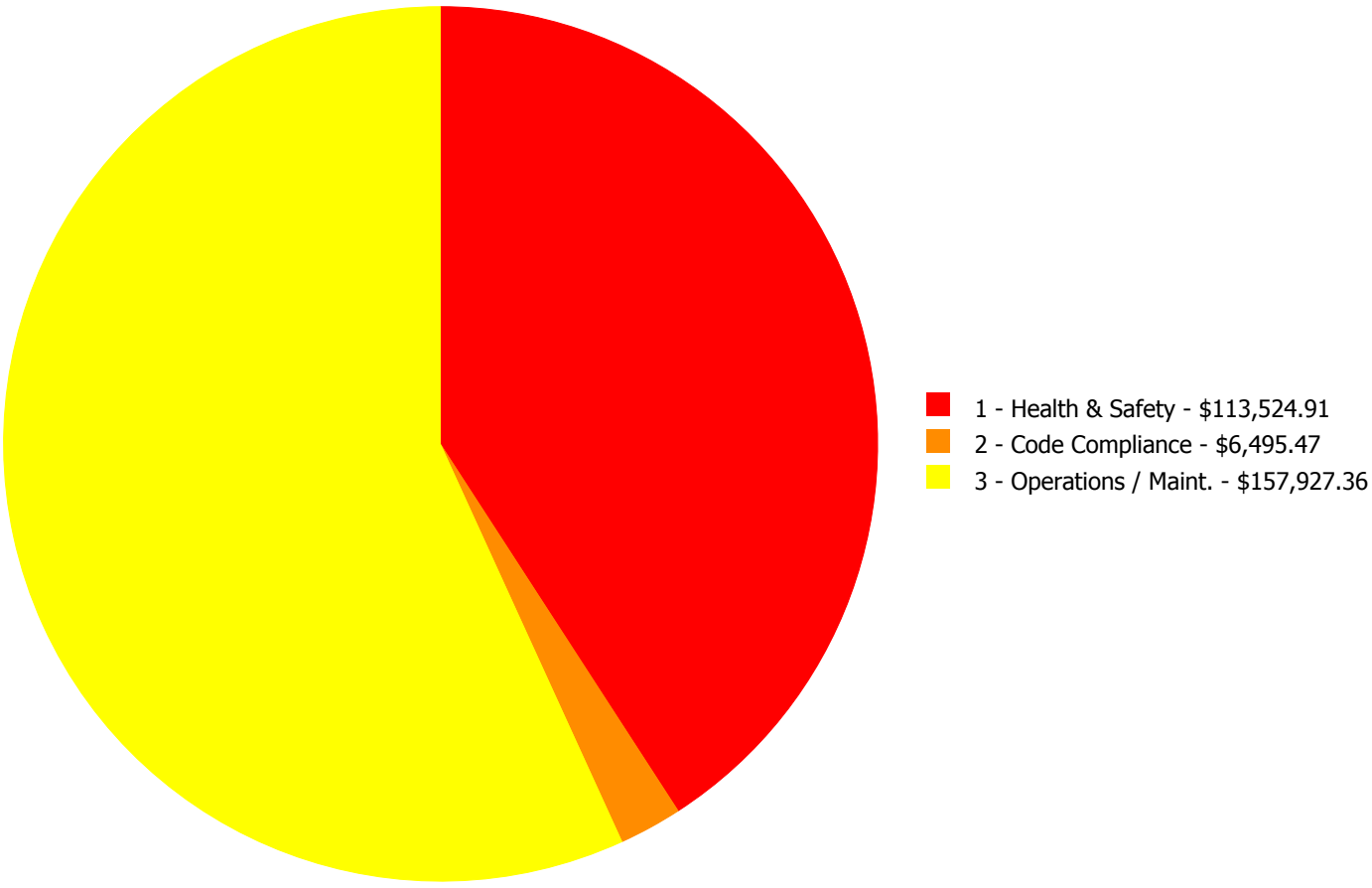
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$113,239.66	$0.00	$0.00	$113,239.66
G2030	Pedestrian Paving	$6,495.47	$25,842.75	$44,687.70	$0.00	$0.00	$77,025.92
G2040	Site Development	$0.00	$13,931.18	$0.00	$0.00	$0.00	$13,931.18
G4030	Site Communications & Security	$0.00	$0.00	$73,750.98	$0.00	$0.00	$73,750.98
	Total:	$6,495.47	$39,773.93	$231,678.34	$0.00	$0.00	$277,947.74

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: $277,947.74

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: G2030 - Pedestrian Paving

Location: Front entry

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to a 48" rise - per LF of ramp - figure 1 LF per inch of rise

Qty: 5.00

Unit of Measure: L.F.

Estimate: $6,495.47

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Provide ramp at entry.

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

System: G2030 - Pedestrian Paving

Location: Playground near building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Replace sidewalk or surface mounted hatch including remedial work to waterproof the framework for the hatch

Qty: 2.00

Unit of Measure: Ea.

Estimate: $25,842.75

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Delete unneeded coal/ash scuttles. They are in poor condition, allow moisture into basement, and create tripping hazards in the playground.

System: G2040 - Site Development

Location: Parking lot

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Replace chain link fence - 6' high

Qty: 200.00

Unit of Measure: L.F.

Estimate: $13,931.18

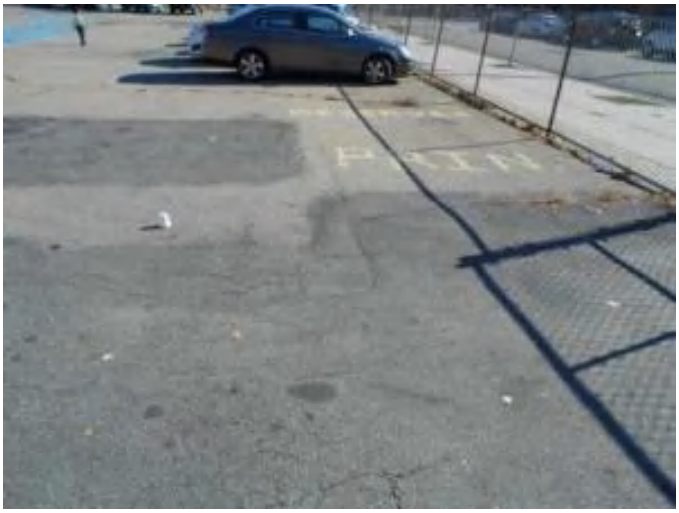
Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Install fence to segregate parking and play areas.

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

System: G2020 - Parking Lots



Location: East end of site

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 27,300.00

Unit of Measure: S.F.

Estimate: $113,239.66

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Parking lot has significant cracking, some settlement and alligatoring. Resurface, provide striping and parking bumpers.

System: G2030 - Pedestrian Paving

Location: Playground

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Resurface AC pedestrian paving - grind and resurface

Qty: 12,000.00

Unit of Measure: S.F.

Estimate: $44,687.70

Assessor Name: Craig Anding

Date Created: 02/08/2016

Notes: Resurface asphalt playground. Reset utility cap to be flush with grade. It is currently a tripping hazard.

System: G4030 - Site Communications & Security

Location: Building Perimeter

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Video Surveillance System

Qty: 4.00

Unit of Measure: Ea.

Estimate: $73,750.98

Assessor Name: Craig Anding

Date Created: 01/21/2016

Notes: Provide additional outdoor surveillance CCTV cameras. Approximate 4

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