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.

Allen, Ethan School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	6329 Battersby St.	Enrollment	954
	Philadelphia, Pa 19149	Grade Range	'00-08'
Phone/Fax	215-537-2530 / 215-537-2599	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Ethanallen	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	**63.33%**	**$22,269,670**	**$35,166,904**
Building	65.26 %	$21,838,552	$33,465,820
Grounds	25.34 %	$431,119	$1,701,084

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	60.34 %	$475,847	$788,618
Exterior Walls (Shows condition of the structural condition of the exterior facade)	02.92 %	$71,590	$2,453,851
Windows (Shows functionality of exterior windows)	120.14 %	$1,438,519	$1,197,341
Exterior Doors (Shows condition of exterior doors)	176.55 %	$170,190	$96,399
Interior Doors (Classroom doors)	152.05 %	$354,803	$233,352
Interior Walls (Paint and Finishes)	41.07 %	$432,459	$1,053,075
Plumbing Fixtures	54.05 %	$485,837	$898,837
Boilers	124.47 %	$1,544,986	$1,241,219
Chillers/Cooling Towers	74.01 %	$1,204,455	$1,627,479
Radiators/Unit Ventilators/HVAC	211.61 %	$6,048,017	$2,858,061
Heating/Cooling Controls	158.90 %	$1,426,178	$897,507
Electrical Service and Distribution	208.71 %	$1,345,940	$644,875
Lighting	55.49 %	$1,279,341	$2,305,596
Communications and Security (Cameras, Pa System and Fire Alarm)	67.51 %	$583,039	$863,601

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

S820001;Allen, Ethan

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	66,482
Year Built:	1930
Last Renovation:	
Replacement Value:	$35,166,904
Repair Cost:	$22,269,670.07
Total FCI:	63.33 %
Total RSLI:	63.41 %

Description:

Half of [original] property given to Dept of Rec. 1977, 50 yrs, $1.

Facility Condition Assessment
August 2015

School District of Philadelphia
Ethan Allen Elementary School
6329 Battersby Street
Philadelphia, PA 19149

66,482sf / 1000 students / LN 08

General

Ethan Allen School is located at 6329 Battersby Street. The main entrance faces Battersby Street. The building was constructed in 1920, has 66,482 square feet, and is 3 stories tall. There is a full basement. The arched entrance and decorative colored terra cotta tile work represents the type of design and detail that is typical of the Art Deco style, exemplified in many of the Philadelphia schools

of this era. The Ethan Allen School can be found on the National Historical Register, number 88002227 with the address of 6329 Battersby Street. Dottie Reese accompanied the team during the building inspection.

Architectural/Structural

Foundations appear to be constructed of concrete and brick. Joints are in good condition with no major settlement cracks observed. Extensive peeling paint was observed on basement walls and ceilings, mainly due to high room moisture related to excessive steam released by the boilers and a lack of general maintenance of the space. Footings were not seen and their construction type or condition could not be ascertained. There is evidence of rusting on the steel lintels above most basement windows with some localized joint cracking extending beyond the lintels which can be seen on the outside the building. Cracks of this nature can be sources of water infiltration from outside into the basement.

Floor slabs in the basement are in good condition although covered with dirt and in need of stripping, cleaning and repainting. Upper floor slabs are also constructed of cast-in-place concrete with cast-in-place concrete beams. Cracking and spalling of the concrete structure was not observed anywhere.

Roof construction over the main building is reinforced concrete beams and deck, bearing on masonry walls. The superstructure is constructed of reinforced concrete columns, beams, and floor slabs. The main building roof deck is flat with minimum overall slope and gradual pitch to roof drains for drainage. There are no overflow drains or overflow scuppers, which are not required as long as the roof has the structural capacity to hold the amount of water that would be contained if all roof drains are blocked. Roof access is via a door out of a masonry penthouse; a steep, narrow, dark stairway with very low headroom up from a 3rd floor stairway landing provides access to the roof penthouse. The roof over the auditorium is constructed of heavy timber trusses with wood decking. All appeared to be in good condition as observed in the attic space.

Exterior walls and are constructed of brick and are generally in good condition, however the lintels above most basement windows, some upper windows, and some doors are rusted with brick joint cracks extending from the lintels into the adjacent brick wall joints. Some of these joint cracks span across the brick walls between windows creating a horizontal discontinuity in the walls at the lintel level; these joints should be repointed. Rusted and failing lintels over the windows are contributing to the growth of these cracks. In some cases, there are gaps between the brick infill replacing either windows or louvers and the rusted steel lintel at the top of the opening; this is a place that water can seep into the building. Most brick walls and parapets at the roof level are in good condition. The joint where the relatively new aluminum reglet is inserted into the masonry needs to be recaulked to maintain the water tight joint. A more detailed inspection of all masonry walls is required to repair all failing joints and ensure a watertight envelope. There is heavy rust streaking under steel security bars enclosing the fire exit stairways and there are areas of dark streaking under window sills and horizontal decorations. After masonry repairs have been implemented, the building needs to be powerwashed.

Exterior windows were replaced in the 1990's with bronze anodized aluminum frame operable single hung units with single thickness clear plexiglass acrylic vision panel glazing. Windows are in poor condition with oxidized frames and severely scratched single-pane plexiglass vision panels. Operable units are difficult to operate up and down or do not stay open due to broken internal counterbalance weights, accidentally slamming closed in some cases – a potential safety hazard. Single pane plexiglass units do not meet today's energy code requirements and are large sources of heat loss. Basement level windows are at grade when viewed from the outside; galvanized steel security screens attached to basement windows, the lower section of 1st floor windows, and the auditorium window gratings are in good condition.

Exterior doors are painted steel framed flush hollow metal units with steel frames. The main entrance and secondary main entrance on Battersby Street have decorative Romanesque-style tile arches around door openings. They can be cleaned to highlight their style and artistic technique. Some doors have small glazing vision panels. Doors are in generally poor condition, have broken or non-functioning panic hardware, rusted dented panels and frames, and are not ADA compliant. There are no handicap entrances, no accessible ramps and no elevators. All exterior steel doors, frames, and hardware systems need to be replaced.

Roof covering on the main building flat roof is a ceramic granule impregnated, fully adhered rolled asphalt sheet system. Brick rooftop structures, brick parapets, and most ventilation fan structures are flashed with asphaltic backed material similar to the roofing membrane. Some fan structures lack flashing and are sealed only with caulking at the roofline. This is an unacceptable method of penetration closure; asphalt backed metal or rolled asphalt sheething is required to provide a longer-term protection of duct penetrations. The roof membrane is in poor condition with most granules eroded away and dried cracked asphalt seen along membrane joints. The membrane and flashing is weathered and is past its normal service life of 20 years and needs to be replaced. Roof openings include toilet room vents, ventilation ductwork, and roof drains. Flashing of the penetrations appears to be in poor condition and past its normal service life, although no leaks were reported at this time. Glazed terracotta coping has been covered over with painted aluminum coping, possibly 10-20 years old and appears to be in good condition. Masonry joints in penthouse and chimney structures have been recently repointed and appear to be in good condition, although the chimney appears to still have some

joint cracking in need of re-pointing. There have been a few leaks onto exterior walls below but after recent repairs, there are now none reported by engineering. Aluminum counter flashing joints set into brick parapets and penthouse structures have been repaired with excessive amounts of caulking which is now weathered, cracking, and the potential sources of future leaks. The auditorium is covered with lightweight "residential-type, 3-tab" asphalt roofing shingles sloping to pitched metal troughs on the two low sides of the roof. Leaks along the low flat roof intersection to the main building corridor have created large water-damaged/effloresced areas in plaster walls and ceilings and have been reportedly repaired. Troughs have been recently recaulked as they have been previous sources of leaks and could still be sources of water penetration; they are a source of constant maintenance.

Partitions in basements are mostly constructed of brick masonry. The upper 3 floors of the building have plaster on wood and/or terracotta lath partitions. There are wood framed clerestory glass panels located in walls above classroom doors in the corridors. These panels are in generally good condition being above the reach of anyone, but the glass is not wired or fire rated and needs to be replaced with fire rated gypsum board infill. Between some classrooms are manually operated full height wood folding partions which are inoperable and offer little sound attenuation between classrooms. These units need to be replaced with insulated, full height gypsum board partitions. Provide fire rated wall enclosure around the open stairs running from 1st floor to basement; open egress stairs in an unsprinklered building are not allowed.

Interior classroom and office doors are either the original wood and plate glass (not fire rated or wired) raised panel doors with original hardware or replacement wood doors with narrow lite wired glass vision panels and replacement hardware at least 20 years of age. Most wood doors regardless of age or type are damaged, have broken glass, and broken, non-ADA compliant security hardware. Some interior basement doors are hollow metal in hollow metal frames; many are rusted where coming in contact with floors. Stairway enclosures and doors are full height wired glass and steel door vision panel assemblies. This system exceeds the allowable glass size permitted by today's codes and is not a code-compliant fire rated assembly. Additionally, stairway doors do not positively latch as required of fire rated doors. All doors are generally in poor condition throughout the building, are not ADA compliant, do not have ADA or proper locking hardware, and are not fire rated where required. Classroom doors do not have security locking feature from inside classrooms. All interior doors and hardware need to be replaced.

Interior fittings/hardware include black slate chalkboards with oak chalk trays or bulletin boards on walls and integral to the original dark oak folding wall partitions built into the folding panels. The folding partition units are no longer opened as they are heavy and most hinges and bearings are not operable. Wall panels need to be replaced with sturdier, safer, fixed partitions. Toilet room partitions are solid plastic replacement partitions. Some do not have doors. Toilet room accessories (toilet paper dispensers, soap, paper towel or dryers, grab bars, door latches) have been recently replaced. Some components are missing. Missing toilet partitions, toilet compartment doors, and partition components need to be added and full sets of toilet room accessories are required. Provide a minimum number of ADA accessible toilet stalls or a unisex ADA accessible toilet room.

Stair construction consists of concrete treads, risers, and stringers with wood handrails (29" high), guards (36" high), and steel balusters with 3" spacing. Since handrail and guard heights are not in compliance with today's codes, new handrail and guard systems are required.

Wall finishes in all classrooms are plaster which is cracked with surface crazing and damages in a number of locations, especially at doorways and corners. There are also many areas of water damage on upper floor plaster walls due to water penetration from coping or roof leaks or lintel leaks. Folding wood panels are covered with staples, small gouges and many surface damages. Corridors have 48" high marble panel wainscots with plaster above and are generally in good condition with isolated cracks or damages requiring repair. Stained wood trim in all rooms is damaged and worn but with filling and refinishing can be returned to its original appearance. Toilet room walls have been recently refinished with ceramic tile from floor to ceiling and are in good condition. The queuing area outside the auditorium has marble columns and plaster walls with decorative plaster capitals on square columns. These historical marble and plaster decorative elements are in good condition. There are a number of plaster wall areas in the auditorium that have been damaged from water entering the building through the roof or steel lintels. Assuming these leaks have been addressed after roof and lintel repairs, the plaster should be repaired. The wood wainscot in the auditorium has many surface scratches and some damaged panels; repairs can be made and the wood can be refinished to revitalize this space. Damaged plaster walls should be patched and repainted.

Floor finish in the auditorium and classrooms is dark stained oak. Most floors are in good enough condition to be stripped, sanded, and refinished. The main office and some other rooms have either 12"x12" vinyl composition tile (VCT) over the wood or 9"x9" vinyl asbestos tile (VAT) over wood. The gymnasium which also serves as the cafeteria is finished mostly in VAT with some areas patched with VCT. All 12"x12" VCT floors need to be removed and replaced; 9"x9" floors may have asbestos and need to addressed as possible asbestos containing materials. They should be removed using proper asbestos abatement procedures if they are found to contain asbestos and replaced with 12"x12" VCT. Stair walking surfaces are finished in exposed concrete that have years of dirt ground into the surfaces; these should be stripped, cleaned and resealed. All corridor floors are finished with 4'x4' (nominal size) concrete tiles which appear to be a monolithic system and highly durable. Edges along the walls are painted gray which doesn't match floors or walls and is damaged in need of repainting. These corridor floors have been recently been stripped and cleaned and

generally look clean except for ground-in dirt at corners, causing their color to be very dark and dingy. There is an especially large build-up of dirt at all corners. Basement toilet rooms have been recently refinished with new fixtures, plastic partitions and ceramic mosaic tile floors; however a thorough cleaning of these rooms is required. The room in the basement originally designated as the cafeteria is now a food prep area finished with sealed concrete; this surface needs to be stripped and resealed.

Ceiling finishes are mostly exposed plaster throughout the original building with suspended fluorescent lighting fixtures; minor cracking is evident throughout the building.

Furnishings include the original folding wood seating in the auditorium is still in use. Some seats need to be repaired to operate properly and many are scratched; at approximately 25% need repairs and refinishing. Casework and storage cabinets in the classrooms and the office is damaged, worn and should be repainted.

There is no elevator in the building and there is no ADA ramp up to the building. Both should be installed to provide maximum flexibility of access to everyone.

Mechanical

Plumbing Fixtures
Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of both floor and wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. Some lavatories have blade handles. The units appear to be in good condition and should be provide reliable service for the next 5-10 years. The bathrooms are also equipped with floor drains. Drinking fountains are located in the corridors consisting of wall hung fixtures with integral refrigerated coolers and drinking fountains. They are beyond their service life and should be replaced; most are NOT accessible type.

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

The Kitchen/Food Prep Area has one three compartment stainless steel sink with wheel operated faucets. There is floor mounted grease trap. The grease trap shows signs of corrosion and should be replaced. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution
It appears that the 4" domestic water service piping is mostly soldered copper. Water service enters the building in the basement, with double check backflow preventer (RPZA – reduced pressure zone assembly) and a 4" water meter on the main line upon entering the building. A separate cold water line with a BFP RPZA serves the boiler make up water system. The water meter appears to be in disrepair and should be replaced. The piping is copper with soldered joints. The distribution piping appears to be original and is at the end of its service life and is recommended to be inspected and repaired as needed.

One Bradford White gas fired, 75 gallon, vertical hot water heater with circulating pump supplies hot water for domestic use. The unit is located in the mechanical room on the basement level. The hot water heater is equipped with a T&P relief valve. The domestic hot water heater from visual inspection and appearance appears to be reaching the end of its expected useful life. The water heater and recirculating pump should be replaced within the next 5 years or less. A domestic water booster system with booster pumps and a storage tank is also part of the domestic water system. The booster system appears to be approximately ten years old based on the external wear and should be replaced in 10 to 15 years . A water softener was located in the boiler room and should not be replaced at this time as it is only four years old.

Sanitary Waste
The original sanitary sewer piping is a mixture of galvanized piping with threaded fittings and heavy weight cast iron piping with hub and spigot fittings. There are areas where the sanitary piping has been replaced with push on cast iron joint fittings.

A duplex sewage ejector and pit are located in basement boiler room receives waste from the building.. The pit is sealed.

The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service for 85 years and will require more frequent attention from the maintenance staff as time

passes. The District should hire a qualified contractor to examine the sanitary waste piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Rain Water Drainage
The rain water drains from the roof are routed through vertical piping in mechanical chases in the building and appear to be original. The drain piping should be inspected by a qualified contractor and repaired as necessary. A secondary roof drainage system does not exist.

Energy Supply
A duplex fuel oil supply pump system provides the required fuel to the boilers when operating on fuel oil. The 12,000 gallon fuel storage tank is located underground below the concrete finish of the school yard play area. An 8" city gas service enters the building from Battersby Street on the basement level into the basement level. The gas meter is 6" and is located in caged area in the kitchen prep area. The gas main has a booster pump connected.

Heat Generating Systems
Building heating hot water is generated by three Rockmills 150 HP steam boilers with, maximum output of 5021.3 MBH steam, installed in 1993. Each boiler is a three pass Scotch marine fire tube, full wetback design configuration. All boilers were equipped with Power Flame dual fuel burners, natural gas and number 2 fuel oil, model C4-GO-25. There is draft control on each boiler flue. Combustion air makeup is supplied by louvers equipped with motorized dampers. The boilers have an anticipated service life of 35 years or more; these units have been in service 22 years, manufactured in 1993. The boilers appear to have been maintained well. With continued maintenance by the boilers should provide reliable service for the next 10 to 15 years.

Distribution Systems
The building steam distribution piping is black steel with welded fittings. The piping has been in use beyond its normal service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the distribution piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 5 years..

Condensate return is collected by gravity into a condensate receiver. The condensate receiver then pumps the condensate via a duplex pump system to the boiler feedwater system. The condensate water which has been pumped to the pad mounted feedwater system is then treated with a combination of chemicals by a water treatment controller. The treated boiler feedwater is then transferred to the boiler by boiler feedwater pumps, four pumps in total. The condensate return piping is black steel with threaded joints. The boiler feed tank, pumps and associated components are nearing the end of their service life and should be replaced. In general the building engineer reports that there have been no steam trap problems,, however, it is recommended that the District conduct a steam trap survey to determine the quantity and condition of all steam taps.

Ventilation and additional heating for the building was provided by a house fan in the basement which is operational but is not used. The air was pushed into the various rooms of the building through ducts built into the walls. The air was exhausted from other ducts built into the walls, up through the attic space, and out through roof mounted vents. Additional fresh air is admitted into the building through the unit ventilators and by opening windows.

The building is heated by cast iron, manifold, steam radiators in the classrooms, stairwells and in the hallways, and currently is the sole source of heat for these areas. During our survey some of the steam radiators had cabinetry to prevent people from coming into contact the hot surface of the manifold, however there were many radiators in service without guards or enclosures. These units should have guards or enclosures added to protect students and teachers from exposure to the hot surfaces.

The gymnasium is served by horizontally suspended steam manifold radiators. The radiators are suspended from the ceiling near the exterior windows. Ventilation is accomplished by operable windows. The steam radiators are part of the original building equipment, have exceeded their life expectancy and should be replaced. It is recommended to replace these systems with a roof top mounted unit with an overhead supply air distribution system and return air ductwork and low return intake grilles which would be protected from damage.

Terminal & Package Units

There are a few rooms which have window air conditioning units but predominantly the building does not have cooling systems . The restrooms are exhausted by roof exhaust fans.

A kitchen hood with integral Ansul fire suppression system is installed above the gas fired cooking equipment. There were no spray nozzles visible for the hood fire suppression system. The equipment looks to be well within its service life.

Controls & Instrumentation
The original pneumatic systems still provide basic control functions. Wall mounted pneumatic room thermostats manufactured by Johnson Controls are intended to control the steam radiator control valves. Pneumatic control air is supplied from a duplex Quincy compressor and Arrow air dryer located in the boiler room. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves and pneumatic actuators are beyond their service life and should be rebuilt or replaced. These controls should be converted to DDC.

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

Sprinklers
The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

Electrical

Site Electrical Service comes from medium voltage overhead lines on wooden poles along Battersby St. Two pole-mounted power transformers (Scott connection) with medium voltage primary (Voltage level unknown at this time) and 120/240VAC secondary and at an estimated available power of 150KVA are installed for supplying power to facility.

The service entrance to the facility consists of a disconnect switch and utility meter located in a closet in the gymnasium. The main distribution panel is located in building engineer's office in the basement. The main distribution panel has not been upgraded and its size is estimated to be 600A.

Power distribution system is accomplished with two different voltages. The 240/120-volt system is fed through corridor located lighting/receptacle panel boards, two on each floor, flush mounted. There are two phase converter transformers (75KVA & 37KVA) for converting 240VAC to 120/208VAC and three phase units for powering boilers, kitchen, AC units, and other 208-volts required loads. It appears that panel boards with their respective branch circuit breakers have out-lived their useful lives and are ready for upgrade/replacement.

In general there are not enough receptacles installed in the classrooms and corridors. There is a mix of grounding type and non-grounding type receptacles observed in the class rooms and other areas. The general recommendation is to have a minimum of two receptacles on each classroom wall, but current installations fall short of this recommendation. The computer room is provided with an adequate number of receptacles.

Majority of the lighting fixtures (over 95%) have fluorescent fixtures with outdated T12 lamps. The auditorium is illuminated by old decorative ceiling mounted incandescent chandeliers. Lamp replacement is difficult. Lighting fixtures in a few classrooms have been upgraded. Lighting levels in most areas do not meet IES (Illuminating Engineering Society) recommended levels.

Fire Alarm System is not adequate. Horns/strobes are not installed in classrooms. The existing system does not meet current fire alarm codes.

Telephone / LAN equipment/devices are located in school Information Technology (IT) room. The computer room, some classrooms and offices are provided with data outlets. The system is new and working properly.

Public address/Music- Separate PA system does not exist. The school uses the telephone system for public announcements. This system is working adequately.

Intercom System and paging system is functional. The paging system consists of one way communication from office to classrooms. Two way communications are obtained through wall mounted phones in the classrooms and other areas.

Clock and Program systems are not functioning properly. A new clock system is needed. The present bell system is working adequately.

Security Systems, access control, and video surveillance system is provided in the school. Sufficient number of cameras is installed at exit doors, corridors and other critical areas and controlled by a Closed Circuit Television system (CCTV). The system is working properly.

Emergency Power System is provided in the school. A 15KW, 240/120V, 1PH, 3W diesel generator manufactured by "Billows Electric Inc" is installed in the boiler room. This generator is old and has exceeded its useful life and should be replaced.

UPS (uninterruptable power supply) is provided for the Local Area Network (LAN) system in the main IT room.

Emergency lighting system, including exit lighting is not adequate and is not in good condition. None of the exit lights are on emergency power or battery back-up power.

Lightning Protection System is adequate. It is accomplished with air terminals mounted on the chimney; however, some repairs are needed. A study is needed to verify that the air terminals provide the proper coverage.

Grounding system is present and appears to be adequate.

Elevator is not provided in this school.

Theater Lighting and dimming controls are old and not of proper installation. Lights are turned on and off by feeder breakers.

Sound System in Auditorium is old and should be replaced.

Site Lighting System is adequate and controlled by a timer.

Grounds

Paving and parking is constructed of asphalt. This expansive paved area serves as the playground and parking area. The parking area is subdivided from the play area by chain link fencing. The property is surrounded by chain link and wrought iron fencing. Most sections are rusted, leaning and in poor condition. There is a new section of wrought iron fencing approximately 300 feet long separating the school property from the municipal playground behind; this section of fence is in good condition. The gates providing street and pedestrian access are either missing or inoperative and require replacement. Parking area striping is worn and almost invisible and restriping is required. The number of required parking spaces for school staff is unknown. Granite block stairways into the building are need resetting and regrouting. New handrails and guards are required at all stairs. Install ADA compliant ramp and handrails.

Landscaping is in need of trimming and maintenance along Harbison Avenue.

RECOMMENDATIONS

Architectural

- Strip and repaint concrete foundation (basement) walls in mechanical rooms (8000sf)
- Clean and repaint basement floor in mechanical rooms; clean and reseal concrete floors in stairways (15000sf)
- Remove and replace damaged/rusted lintels and cracked masonry at basement windows and grade exit doorways (30 5ft ave length)
- Replace all exterior windows with insulated single hung units (300 each)
- Replace all exterior doors with ADA and code compliant exit hardware new doors and frames. (22 3x7 doors)
- Remove and replace existing flat roof and insulation; 7 levels (14,100sf)
- Remove non-rated glass panels between classrooms and corridors; fill with fire rated gyp bd sys. (54 @ 9sf each)
- Remove and replace all wood interior doors, frames and hardware in classrooms and offices, on basement, 1st and 2nd floors

with fire rated doors. (60 each)
- Refinish 3rd floor doors to classrooms and other rooms (20 each)
- Provide security hardware for classrooms and offices, locking from inside classroom. (80 each)
- Remove and replace all basement steel doors, frames, and hardware in mechanical rooms. (8 each)
- Remove and replace stairway enclosure corridor walls, including (20)3x7 doors
- Provide fire rated wall enclosure at open stairs from 1st floor to basement.
- Remove folding wood partitions between classrooms; replace with gypsum board and metal stud walls (12 walls)
- Replace broken and missing toilet room accessories. (estimated 3 sets)
- Repair water damage, cracks, and other impact damages; repaint most of classroom plaster walls and some interior plaster corridor walls especially at corners and doors (40,000sf)
- Repair and repaint plaster ceilings and walls in auditorium and back stage (7000sf)
- Remove and replace stairway handrails and guards with code compliant systems - 4 story (220lf guard and baluster).
- Remove, reinstall, and repaint wall mounted handrails in stairways (220 lf)
- Regrout all joints between limestone block tread/risers at exterior stairs (60 risers @ 10ft average length)
- New handrails for exterior stairs (600 lf)
- Repaint rusted exterior security bars for fire stairs (1000 sf)
- Strip, sand, repair and refinish all wood floors in classrooms and in auditorium (34,000 sf)
- Remove and replace all 12”x12” VCT floors in gymnasium and other rooms (5500sf)
- Replace VAT floors using proper asbestos abatement procedures if determined asbestos is present. (1500sf)
- Repaint plaster ceilings where damaged by water (6000sf)
- Repair (or replace if unrepairable) damaged folding wood auditorium chairs (100 chairs)
- Provide elevator to serve four floors and auditorium.

Mechanical

- Replace all lavatories in the building with low-flow fixtures, as the fixtures are original.
- Replace all water closets in the building with low-flow fixtures, as the fixtures are original.
- Replace all urinals in the building with low-flow fixtures, as the fixtures are original.
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- Replace service sinks (janitor sinks) in the building.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the one, 12,000 gallon underground storage tank (UST) located underground beneath the paved schooyard.
- Replace two instantaneous natural gas fired tankless water heaters.
- Inspect and replace the original as needed the domestic water piping in the building
- Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.
- Hire a qualified contractor to examine the steam and condensate piping that has been in service for 85 years and perform additional testing to late and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years
- Replace duplex fuel oil pumps.
- Remove the three Rockmills 150 HP steam boilers with, maximum output of 5021.3 MBH steam, installed in 1993. Remove existing steam boilers and steam distribution system. Install hot water boilers and hot water distribution system.
- Replace the steam original radiant heating (manifold) terminals fashioned from welded piping still present in the building with finned tube elements to protect students from exposure to the hot surfaces.
- Replace the existing steam radiators throughout the building with new fan coil units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.
- Remove the window air conditioning units and install a 250 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life.
- Provide ventilation, heating and cooling for the gymnasium by installing a packaged roof top unit.
- Provide ventilation for the corridors at two basement and two first floor entryways (4 locations total) by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings
- Provide ventilation for the corridors at two basement and two first floor entryways (4 locations total) by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings
- Provide ventilation, heating and cooling for the Kitchen/Food Prep Area by removing the existing steam radiators and installing fan coil units with heating and cooling with a dedicated outside air ventilation system.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability

and energy efficiency.
- Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.

Electrical

- Upgrade the existing electrical service with a new service. Replace the existing switchboard with new 1600A, 480/277, 3PH, 4 wire switchboard. Provide one 225KVA, 480V to 120/208V step down transformer and 600A low voltage distribution panel for powering the kitchen equipments, lighting/receptacle panels and other 208volts loads throughout the building.
- Replace the entire distribution system with new panels and new wiring/conduits. Our recommendation is to replace existing conduits and wiring to new Junction boxes, receptacles, and lighting. Provide arc flash label on the electrical equipments. Estimated 16 panel boards.
- Install minimum two receptacles in each wall of class rooms and sufficient number of receptacles in other areas as required by NEC. Replace non grounding receptacles with standard type. Estimated total 300 receptacles.
- Replace lighting fixtures with new fluorescent lighting fixtures with T-5 lamps throughout the building. Provide emergency power to sufficient number of lights in corridors and other egress ways to provide illumination as required by code. Estimated 95% of the lighting fixtures.
- Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NEC. Install horn/strobes in class rooms, corridors, offices, toilets, library and other recommended areas per codes.
- Replace existing master clock system. Provide master clock controller, clocks.
- Replace existing emergency diesel generator with new 100KW diesel generator.
- Provide lightning protection studies to ascertain adequacy of existing systems.
- Provide new stage lighting controller in the Auditorium.
- Provide new sound system including a freestanding 19” rack backstage area with a mixer, amplifiers, CD player, cassette player, AM-FM radio, graphic or parametric equalizer, and receivers.
- Replace all exit signs with battery pack type exit sign. Estimated 35 each.

Grounds

- Repave damaged sections of asphalt parking / playground area – excludes area around portable buildings but provide access to bldgs. (60,000 sf)
- Replace damaged concrete walkway along Battersby St. (1000 sf)
- Install ADA compliant ramp and handrails (30" rise)
- Replace damaged wrought iron fencing (220 ft)
- Replace wrought iron gate (20 ft)
- Replace chain link fencing (1200 ft 8 ft high)

Attributes:

General Attributes:			
Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 2
Status:	Accepted by SDP	Team:	Tm 2
Site ID:	S820001		

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.

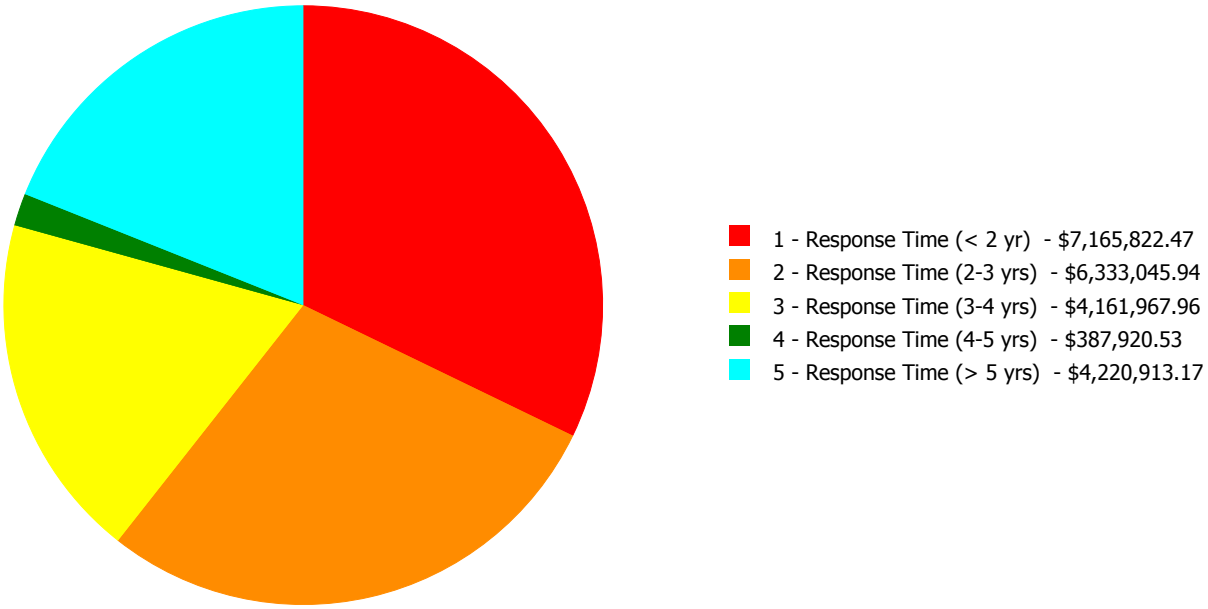
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	15.00 %	0.00 %	$0.00
A20 - Basement Construction	15.00 %	0.00 %	$0.00
B10 - Superstructure	15.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	46.15 %	44.84 %	$1,680,298.93
B30 - Roofing	83.35 %	60.34 %	$475,846.89
C10 - Interior Construction	27.55 %	38.09 %	$621,501.57
C20 - Stairs	15.00 %	221.22 %	$207,369.62
C30 - Interior Finishes	70.39 %	27.37 %	$975,876.92
D10 - Conveying	105.71 %	445.60 %	$1,054,622.20
D20 - Plumbing	106.42 %	127.06 %	$1,817,026.97
D30 - HVAC	107.77 %	138.24 %	$10,223,634.52
D40 - Fire Protection	105.71 %	177.49 %	$951,053.28
D50 - Electrical	109.31 %	88.78 %	$3,469,334.54
E10 - Equipment	14.29 %	27.74 %	$293,594.70
E20 - Furnishings	12.50 %	48.30 %	$68,391.37
G20 - Site Improvements	55.30 %	33.45 %	$431,118.56
G40 - Site Electrical Utilities	33.33 %	0.00 %	$0.00
Totals:	**63.41 %**	**63.33 %**	**$22,269,670.07**

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)
B820001;Allen, Ethan	66,482	65.26	$7,125,584.03	$6,170,739.67	$3,933,394.11	$387,920.53	$4,220,913.17
G820001;Grounds	94,800	25.34	$40,238.44	$162,306.27	$228,573.85	$0.00	$0.00
Total:		**63.33**	**$7,165,822.47**	**$6,333,045.94**	**$4,161,967.96**	**$387,920.53**	**$4,220,913.17**

Deficiencies By Priority



Budget Estimate Total: $22,269,670.07

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):	66,482
Year Built:	1930
Last Renovation:	
Replacement Value:	$33,465,820
Repair Cost:	$21,838,551.51
Total FCI:	65.26 %
Total RSLI:	64.09 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B820001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S820001		

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	15.00 %	0.00 %	$0.00
A20 - Basement Construction	15.00 %	0.00 %	$0.00
B10 - Superstructure	15.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	46.15 %	44.84 %	$1,680,298.93
B30 - Roofing	83.35 %	60.34 %	$475,846.89
C10 - Interior Construction	27.56 %	38.09 %	$621,501.57
C20 - Stairs	15.00 %	221.22 %	$207,369.62
C30 - Interior Finishes	70.39 %	27.37 %	$975,876.92
D10 - Conveying	105.71 %	445.60 %	$1,054,622.20
D20 - Plumbing	106.42 %	127.06 %	$1,817,026.97
D30 - HVAC	107.77 %	138.24 %	$10,223,634.52
D40 - Fire Protection	105.71 %	177.49 %	$951,053.28
D50 - Electrical	109.31 %	88.78 %	$3,469,334.54
E10 - Equipment	14.29 %	27.74 %	$293,594.70
E20 - Furnishings	12.50 %	48.30 %	$68,391.37
Totals:	**64.09 %**	**65.26 %**	**$21,838,551.51**

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.	66,482	100	1930	2030		15.00 %	0.00 %	15			$1,223,269
A1030	Slab on Grade	$7.73	S.F.	66,482	100	1930	2030		15.00 %	0.00 %	15			$513,906
A2010	Basement Excavation	$6.55	S.F.	66,482	100	1930	2030		15.00 %	0.00 %	15			$435,457
A2020	Basement Walls	$12.70	S.F.	66,482	100	1930	2030		15.00 %	0.00 %	15			$844,321
B1010	Floor Construction	$75.10	S.F.	66,482	100	1930	2030		15.00 %	0.00 %	15			$4,992,798
B1020	Roof Construction	$13.88	S.F.	66,482	100	1930	2030		15.00 %	0.00 %	15			$922,770
B2010	Exterior Walls	$36.91	S.F.	66,482	100	1930	2030		15.00 %	2.92 %	15		$71,589.98	$2,453,851
B2020	Exterior Windows	$18.01	S.F.	66,482	40	1985	2025	2057	105.00 %	120.14 %	42		$1,438,519.34	$1,197,341
B2030	Exterior Doors	$1.45	S.F.	66,482	25	1980	2005	2042	108.00 %	176.55 %	27		$170,189.61	$96,399
B3010105	Built-Up	$37.76	S.F.	14,698	20	1990	2010	2037	110.00 %	85.74 %	22		$475,846.89	$554,996
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.	6,000	25	1990	2015	2020	20.00 %	0.00 %	5			$232,380
B3020	Roof Openings	$0.06	S.F.	20,698	20	1930	1950	2020	25.00 %	0.00 %	5			$1,242
C1010	Partitions	$17.91	S.F.	66,482	100	1930	2030		15.00 %	21.73 %	15		$258,689.02	$1,190,693
C1020	Interior Doors	$3.51	S.F.	66,482	40	1930	1970	2057	105.00 %	152.05 %	42		$354,802.82	$233,352
C1030	Fittings	$3.12	S.F.	66,482	40	1930	1970	2020	12.50 %	3.86 %	5		$8,009.73	$207,424
C2010	Stair Construction	$1.41	S.F.	66,482	100	1930	2030		15.00 %	221.22 %	15		$207,369.62	$93,740

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	66,482	10	1930	1940	2027	120.00 %	49.24 %	12		$432,459.18	$878,227
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.	66,482	30	2000	2030		50.00 %	0.00 %	15			$174,848
C3020411	Carpet	$7.30	S.F.	1,000	10	2010	2020		50.00 %	0.00 %	5			$7,300
C3020412	Terrazzo & Tile	$75.52	S.F.	4,000	50	2000	2050		70.00 %	0.00 %	35			$302,080
C3020413	Vinyl Flooring	$9.68	S.F.	8,000	20	1995	2015	2037	110.00 %	114.73 %	22		$88,846.42	$77,440
C3020414	Wood Flooring	$22.27	S.F.	32,000	25	1930	1955	2042	108.00 %	51.37 %	27		$366,075.96	$712,640
C3020415	Concrete Floor Finishes	$0.97	S.F.	20,000	50	1930	1980	2067	104.00 %	297.26 %	52		$57,668.00	$19,400
C3030	Ceiling Finishes	$20.97	S.F.	66,482	25	1930	1955	2020	20.00 %	2.21 %	5		$30,827.36	$1,394,128
D1010	Elevators and Lifts	$3.56	S.F.	66,482	35			2052	105.71 %	445.60 %	37		$1,054,622.20	$236,676
D2010	Plumbing Fixtures	$13.52	S.F.	66,482	35	1930	1965	2052	105.71 %	54.05 %	37		$485,837.09	$898,837
D2020	Domestic Water Distribution	$2.77	S.F.	66,482	25	1930	1955	2042	108.00 %	392.45 %	27		$722,723.03	$184,155
D2030	Sanitary Waste	$2.90	S.F.	66,482	25	1930	1955	2042	108.00 %	315.60 %	27		$608,466.85	$192,798
D2040	Rain Water Drainage	$2.32	S.F.	66,482	30	1930	1960	2047	106.67 %	0.00 %	32			$154,238
D3020	Heat Generating Systems	$18.67	S.F.	66,482	35	1930	1965	2052	105.71 %	124.47 %	37		$1,544,985.97	$1,241,219
D3030	Cooling Generating Systems	$24.48	S.F.	66,482	30	1930	1960	2047	106.67 %	74.01 %	32		$1,204,454.53	$1,627,479
D3040	Distribution Systems	$42.99	S.F.	66,482	25	1930	1955	2042	108.00 %	211.61 %	27		$6,048,016.51	$2,858,061
D3050	Terminal & Package Units	$11.60	S.F.	66,482	20	1930	1950	2037	110.00 %	0.00 %	22			$771,191
D3060	Controls & Instrumentation	$13.50	S.F.	66,482	20	1930	1950	2037	110.00 %	158.90 %	22		$1,426,177.51	$897,507
D4010	Sprinklers	$7.05	S.F.	66,482	35	1930	1965	2052	105.71 %	202.91 %	37		$951,053.28	$468,698
D4020	Standpipes	$1.01	S.F.	66,482	35	1930	1965	2052	105.71 %	0.00 %	37			$67,147
D5010	Electrical Service/Distribution	$9.70	S.F.	66,482	30	1930	1960	2047	106.67 %	208.71 %	32		$1,345,940.03	$644,875
D5020	Lighting and Branch Wiring	$34.68	S.F.	66,482	20	1930	1950	2037	110.00 %	55.49 %	22		$1,279,340.57	$2,305,596
D5030	Communications and Security	$12.99	S.F.	66,482	15	1930	1945	2032	113.33 %	67.51 %	17		$583,038.90	$863,601
D5090	Other Electrical Systems	$1.41	S.F.	66,482	30	1930	1960	2037	73.33 %	278.45 %	22		$261,015.04	$93,740
E1020	Institutional Equipment	$4.82	S.F.	66,482	35	1930	1965	2020	14.29 %	91.62 %	5		$293,594.70	$320,443
E1090	Other Equipment	$11.10	S.F.	66,482	35	1930	1965	2020	14.29 %	0.00 %	5			$737,950
E2010	Fixed Furnishings	$2.13	S.F.	66,482	40	1930	1970	2020	12.50 %	48.30 %	5		$68,391.37	$141,607
								Total	**64.09 %**	**65.26 %**			**$21,838,551.51**	**$33,465,820**

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: C30 - Interior Finishes — This system contains no images

Note:
painted plaster or block 89%
marble wainscot 6%
ceramic tile 4%
wood 1%

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

Note:
Concrete: 30%
Wood: 50%
VCT: 11%
VAT: 1.5%
CT: 6%
Carpet: 1.5%

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

Note:
painted plaster or concrete deck: 95%
2x4 suspended acoustical tile: 5%

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

Note:
1- 75KVA phase converter transformer
1-37KVA phase converter transforrner

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:	**$21,838,552**	**$0**	**$0**	**$0**	**$0**	**$3,879,766**	**$0**	**$0**	**$0**	**$0**	**$0**	**$25,718,317**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$71,590	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$71,590**
B2020 - Exterior Windows	$1,438,519	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,438,519**
B2030 - Exterior Doors	$170,190	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$170,190**
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	$475,847	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$475,847**
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	$296,331	$0	$0	$0	$0	$0	**$296,331**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$1,584	$0	$0	$0	$0	$0	**$1,584**
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	$258,689	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$258,689**

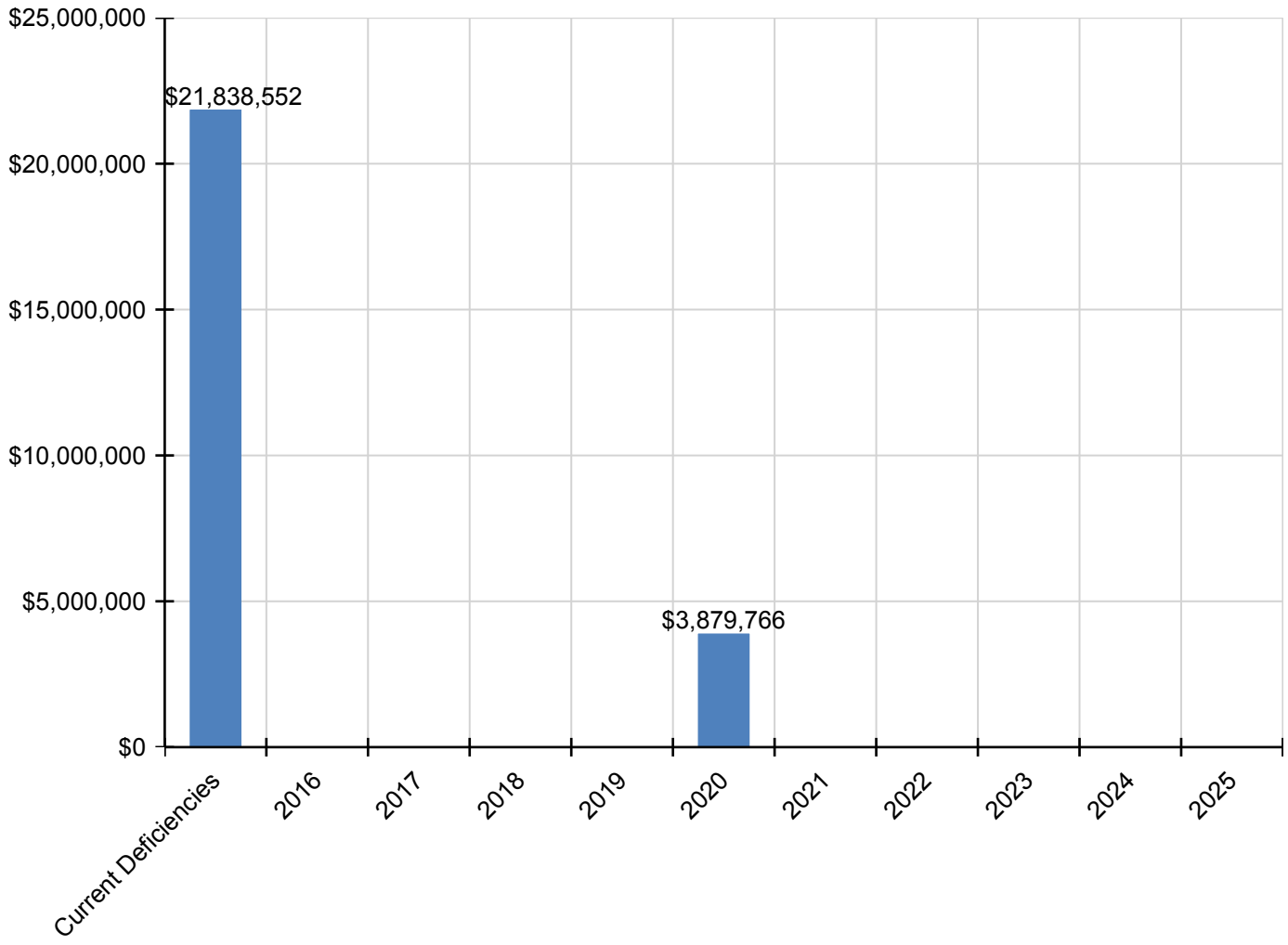
C1020 - Interior Doors	$354,803	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$354,803**
C1030 - Fittings	$8,010	$0	$0	$0	$0	$264,507	$0	$0	$0	$0	$0	**$272,517**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$207,370	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$207,370**
C30 - Interior Finishes	$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	$432,459	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$432,459**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$9,309	$0	$0	$0	$0	$0	**$9,309**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$88,846	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$88,846**
C3020414 - Wood Flooring	$366,076	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$366,076**
C3020415 - Concrete Floor Finishes	$57,668	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$57,668**
C3030 - Ceiling Finishes	$30,827	$0	$0	$0	$0	$1,777,793	$0	$0	$0	$0	$0	**$1,808,621**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$1,054,622	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,054,622**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$485,837	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$485,837**
D2020 - Domestic Water Distribution	$722,723	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$722,723**
D2030 - Sanitary Waste	$608,467	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$608,467**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,544,986	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,544,986**
D3030 - Cooling Generating Systems	$1,204,455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,204,455**
D3040 - Distribution Systems	$6,048,017	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,048,017**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,426,178	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,426,178**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$951,053	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$951,053**
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	$1,345,940	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,345,940**
D5020 - Lighting and Branch Wiring	$1,279,341	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,279,341**
D5030 - Communications and Security	$583,039	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$583,039**
D5090 - Other Electrical Systems	$261,015	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$261,015**
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	$408,630	$0	$0	$0	$0	$0	**$702,225**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$941,035	$0	$0	$0	$0	$0	**$941,035**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$68,391	$0	$0	$0	$0	$180,577	$0	$0	$0	$0	$0	**$248,968**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

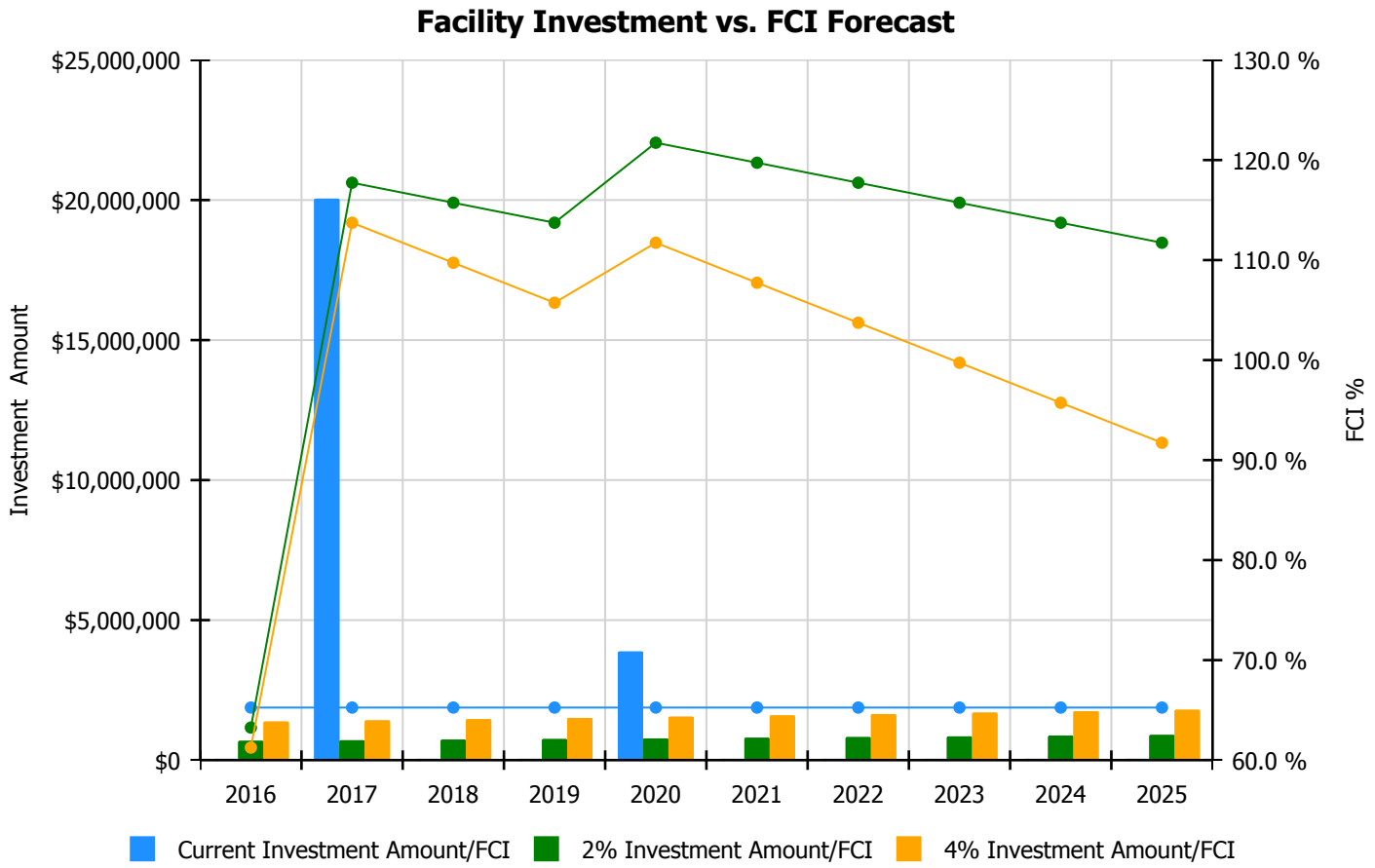
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

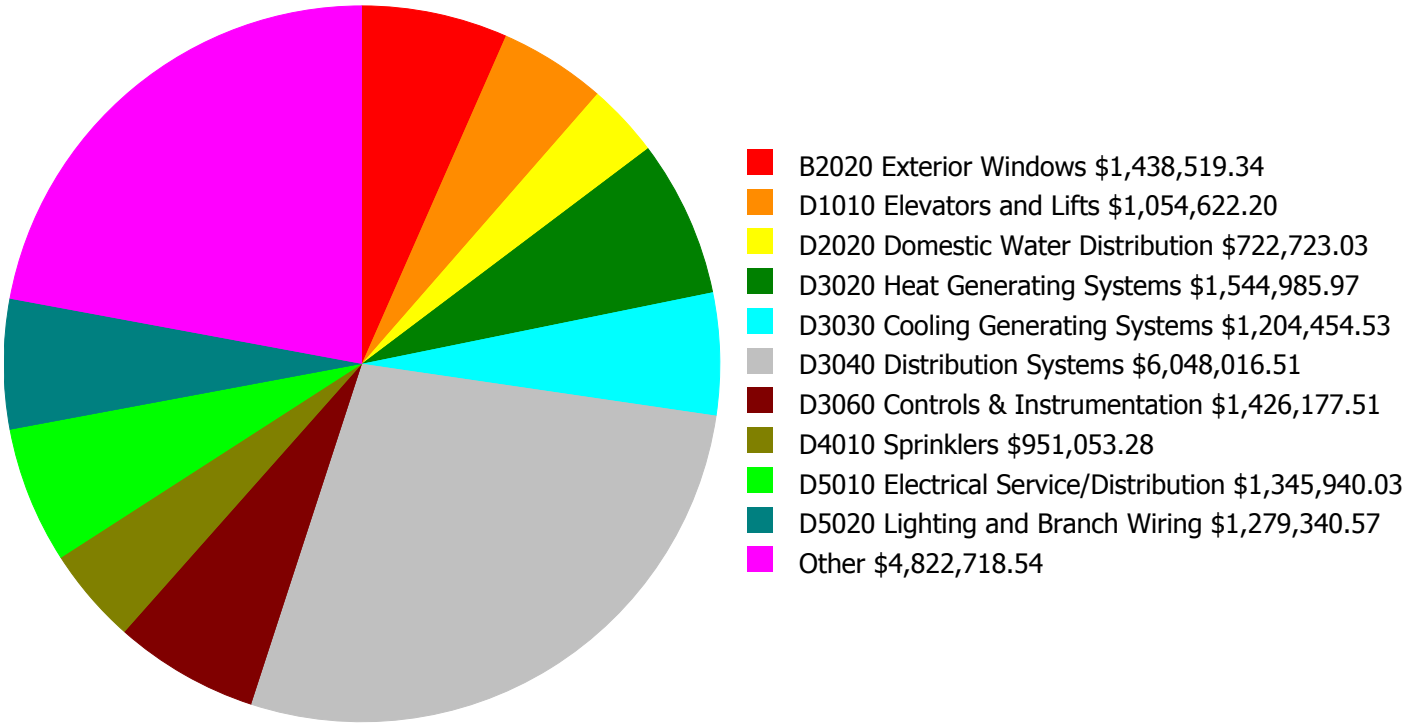
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 65.26%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$689,396.00	63.26 %	$1,378,792.00	61.26 %
2017	$20,051,076	$710,078.00	117.73 %	$1,420,156.00	113.73 %
2018	$0	$731,380.00	115.73 %	$1,462,760.00	109.73 %
2019	$0	$753,322.00	113.73 %	$1,506,643.00	105.73 %
2020	$3,879,766	$775,921.00	121.73 %	$1,551,842.00	111.73 %
2021	$0	$799,199.00	119.73 %	$1,598,398.00	107.73 %
2022	$0	$823,175.00	117.73 %	$1,646,349.00	103.73 %
2023	$0	$847,870.00	115.73 %	$1,695,740.00	99.73 %
2024	$0	$873,306.00	113.73 %	$1,746,612.00	95.73 %
2025	$0	$899,505.00	111.73 %	$1,799,011.00	91.73 %
Total:	**$23,930,842**	**$7,903,152.00**		**$15,806,303.00**	

Deficiency Summary by System

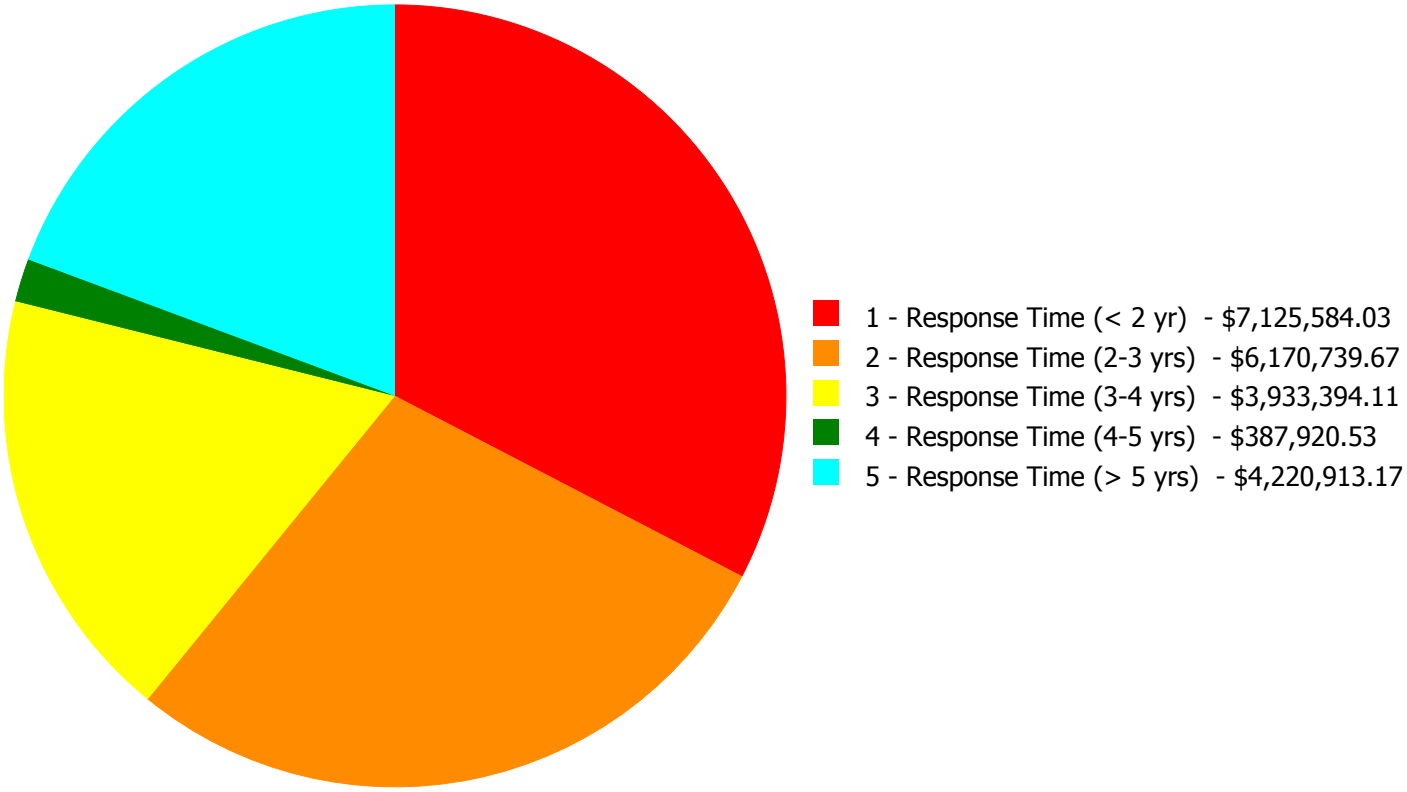
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $21,838,551.51

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: $21,838,551.51

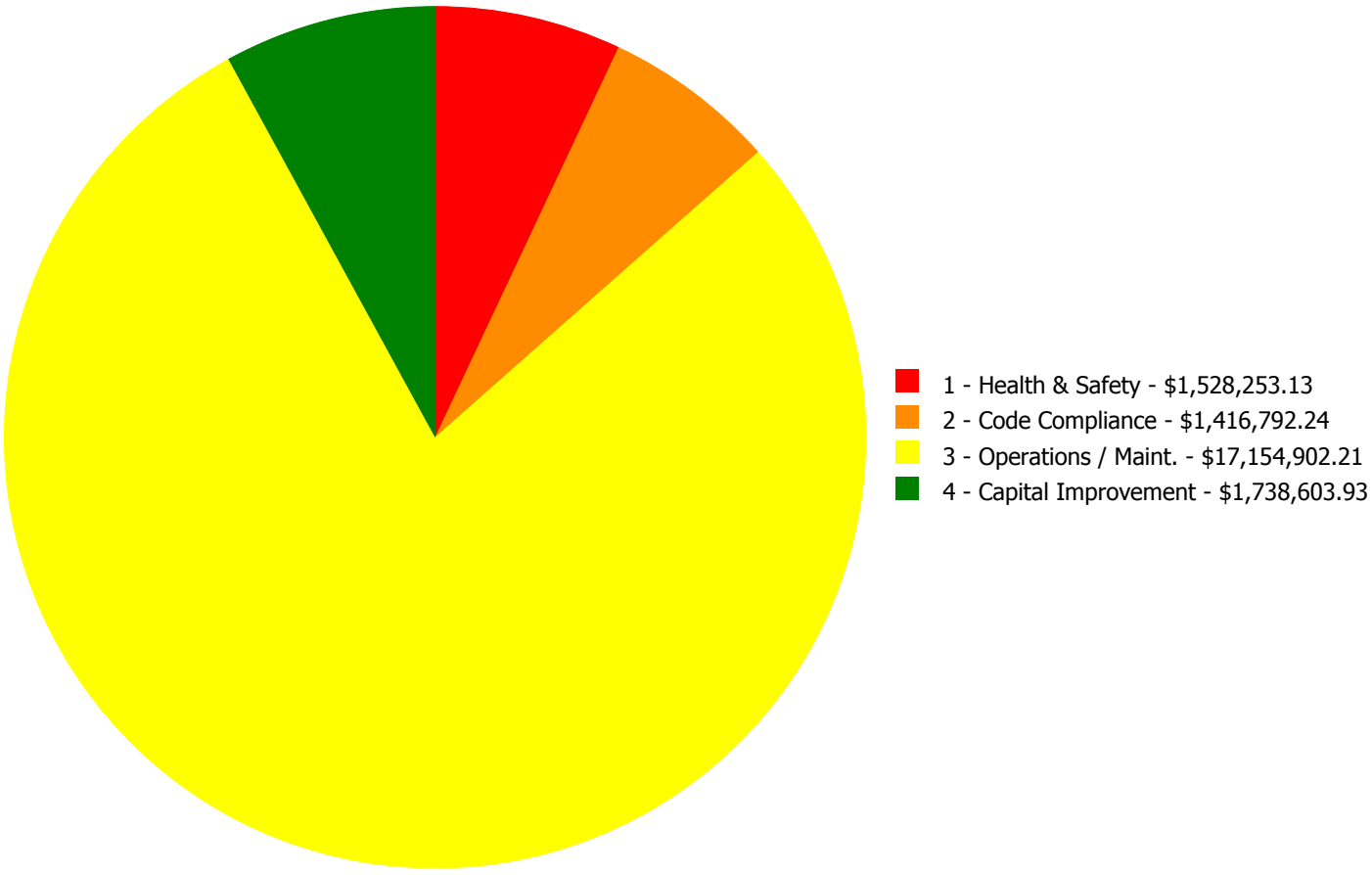
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$71,589.98	$0.00	$0.00	$0.00	$71,589.98
B2020	Exterior Windows	$0.00	$1,438,519.34	$0.00	$0.00	$0.00	$1,438,519.34
B2030	Exterior Doors	$0.00	$170,189.61	$0.00	$0.00	$0.00	$170,189.61
B3010105	Built-Up	$475,846.89	$0.00	$0.00	$0.00	$0.00	$475,846.89
C1010	Partitions	$165,108.16	$93,580.86	$0.00	$0.00	$0.00	$258,689.02
C1020	Interior Doors	$0.00	$354,802.82	$0.00	$0.00	$0.00	$354,802.82
C1030	Fittings	$0.00	$8,009.73	$0.00	$0.00	$0.00	$8,009.73
C2010	Stair Construction	$184,227.38	$23,142.24	$0.00	$0.00	$0.00	$207,369.62
C3010230	Paint & Covering	$0.00	$432,459.18	$0.00	$0.00	$0.00	$432,459.18
C3020413	Vinyl Flooring	$0.00	$88,846.42	$0.00	$0.00	$0.00	$88,846.42
C3020414	Wood Flooring	$0.00	$366,075.96	$0.00	$0.00	$0.00	$366,075.96
C3020415	Concrete Floor Finishes	$0.00	$57,668.00	$0.00	$0.00	$0.00	$57,668.00
C3030	Ceiling Finishes	$0.00	$30,827.36	$0.00	$0.00	$0.00	$30,827.36
D1010	Elevators and Lifts	$0.00	$1,054,622.20	$0.00	$0.00	$0.00	$1,054,622.20
D2010	Plumbing Fixtures	$0.00	$485,837.09	$0.00	$0.00	$0.00	$485,837.09
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$48,947.09	$673,775.94	$722,723.03
D2030	Sanitary Waste	$0.00	$0.00	$608,466.85	$0.00	$0.00	$608,466.85
D3020	Heat Generating Systems	$0.00	$0.00	$1,518,307.89	$0.00	$26,678.08	$1,544,985.97
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,204,454.53	$1,204,454.53
D3040	Distribution Systems	$3,425,176.31	$0.00	$1,257,888.86	$0.00	$1,364,951.34	$6,048,016.51
D3060	Controls & Instrumentation	$0.00	$1,426,177.51	$0.00	$0.00	$0.00	$1,426,177.51
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$951,053.28	$951,053.28
D5010	Electrical Service/Distribution	$1,345,940.03	$0.00	$0.00	$0.00	$0.00	$1,345,940.03
D5020	Lighting and Branch Wiring	$730,610.06	$0.00	$548,730.51	$0.00	$0.00	$1,279,340.57
D5030	Communications and Security	$537,660.16	$0.00	$0.00	$45,378.74	$0.00	$583,038.90
D5090	Other Electrical Systems	$261,015.04	$0.00	$0.00	$0.00	$0.00	$261,015.04
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$293,594.70	$0.00	$293,594.70
E2010	Fixed Furnishings	$0.00	$68,391.37	$0.00	$0.00	$0.00	$68,391.37
	Total:	$7,125,584.03	$6,170,739.67	$3,933,394.11	$387,920.53	$4,220,913.17	$21,838,551.51

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: $21,838,551.51

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: roof covering
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove and Replace Built Up Roof
Qty: 14,100.00
Unit of Measure: S.F.
Estimate: $475,846.89
Assessor Name: System
Date Created: 10/13/2015

Notes: Remove and replace existing flat roof and insulation; 7 levels (14,100sf)

System: C1010 - Partitions

Location: stairways
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 1 - Response Time (< 2 yr)
Correction: Install fire rated walls and door where required - insert number of doors
Qty: 1,000.00
Unit of Measure: S.F.
Estimate: $113,519.57
Assessor Name: System
Date Created: 10/13/2015

Notes: Remove and replace stairway enclosure corridor walls, including (20)3x7 doors

System: C1010 - Partitions

Location: stair enclosure at 1st floor

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install fire rated walls and door where required - insert number of doors

Qty: 1,600.00

Unit of Measure: S.F.

Estimate: $51,588.59

Assessor Name: System

Date Created: 10/13/2015

Notes: Provide fire rated wall enclosure at open stairs from 1st floor to basement (2 locations)

System: C2010 - Stair Construction

Location: exterior stairs

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace inadequate or install proper stair railing - select appropriate material

Qty: 600.00

Unit of Measure: L.F.

Estimate: $101,317.68

Assessor Name: System

Date Created: 10/13/2015

Notes: New handrails for exterior stairs (600 lf)

System: C2010 - Stair Construction

Location: stairways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Replace inadequate or install proper stair railing - select appropriate material

Qty: 220.00

Unit of Measure: L.F.

Estimate: $76,825.99

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove and replace stairway handrails and guards with code compliant systems - 4 story (220lf guard and baluster).

System: C2010 - Stair Construction

Location: stairways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Replace inadequate or install proper stair railing - select appropriate material

Qty: 220.00

Unit of Measure: L.F.

Estimate: $6,083.71

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove, reinstall and repaint wall mounted handrails in stairways (220 lf)

System: D3040 - Distribution Systems

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 66,482.00

Unit of Measure: S.F.

Estimate: $3,207,041.46

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace the existing steam radiators throughout the building with new fan coil units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

System: D3040 - Distribution Systems

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Conduct a steam trap survey and replace failed units.

Qty: 66,482.00

Unit of Measure: S.F.

Estimate: $218,134.85

Assessor Name: System

Date Created: 11/17/2015

Notes: Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.

System: D5010 - Electrical Service/Distribution

Location: BUilding Engineer

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add Electrical Switchgear and Distribution System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $940,540.49

Assessor Name: System

Date Created: 08/23/2015

Notes: Upgrade the existing electrical service with a new service. Replace the existing switchboard with new 1600A, 480/277, 3PH, 4 wire switchboard. Provide one 225KVA, 480V to 120/208V step down transformer and 600A low voltage distribution panel for powering the kitchen equipment, lighting/receptacle panels and other 208volts loads throughout the building. and other 208volts loads throughout the building.

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $405,399.54

Assessor Name: System

Date Created: 08/23/2015

Notes: Replace the entire distribution system with new panels and new wiring/conduits. Our recommendation is to replace existing conduits and wiring to new Junction boxes, receptacles, and lighting. Provide arc flush label on the electrical equipment. Estimated
16 panel boards.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Lighting Fixtures (SF)

Qty: 1.00

Unit of Measure: S.F.

Estimate: $730,610.06

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace lighting fixtures with new fluorescent lighting fixtures with T-5 lamp throughout all buildings. Provide emergency power to sufficient number of lights in corridors and other egress ways. Estimated 95% of the lighting fixtures.

System: D5030 - Communications and Security

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $356,929.33

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NEC. Install horn/strobes in class rooms, corridors, offices, toilets, library and other recommended areas per
codes.

System: D5030 - Communications and Security

Location: Entire Building

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Clock System or Components

Qty: 1.00

Unit of Measure: Ea.

Estimate: $180,730.83

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace existing master clock system. Provide master clock controller, clocks.

System: D5090 - Other Electrical Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $234,207.49

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace existing emergency diesel generator with new 100KW diesel generator.

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $26,807.55

Assessor Name: System

Date Created: 09/03/2015

Notes: Provide lightning protection studies to ascertain adequacy of existing systems.

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

System: B2010 - Exterior Walls

Location: all exterior basement windows and some upper walls

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and replacing failing steel lintels in brick wall construction

Qty: 175.00

Unit of Measure: L.F.

Estimate: $71,589.98

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove and replace damaged/rusted lintels and cracked masonry at basement windows, some upper walls, and grade exit doorways. (35) @ 5ft average length

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System: B2020 - Exterior Windows

Location: exterior walls

Distress: Beyond Service Life

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: 300.00

Unit of Measure: Ea.

Estimate: $1,438,519.34

Assessor Name: System

Date Created: 10/13/2015

Notes: Replace all exterior windows with insulated single hung units (300 each)

System: B2030 - Exterior Doors

Location: exterior doors

Distress: Damaged

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: $170,189.61

Assessor Name: System

Date Created: 10/13/2015

Notes: Replace all exterior doors with ADA and code compliant exit hardware new doors and frames. (22 3x7 doors)

System: C1010 - Partitions

Location: walls between classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove folding wood partitions; replace with metal studs and gypsum board painted

Qty: 3,600.00

Unit of Measure: S.F.

Estimate: $80,206.19

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove folding wood partitions between classrooms; replace with gypsum board and metal stud walls (12 walls)

System: C1010 - Partitions

Location: corridor walls along classrooms

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall

Qty: 500.00

Unit of Measure: S.F.

Estimate: $13,374.67

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove non-rated glass panels between classrooms and corridors; fill with fire rated gyp bd sys. (54 @ 9sf each; double sized windows are counted as 2)

System: C1020 - Interior Doors

Location: classroom and office doors

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Remove and replace interior doors - wood doors with wood frame - per leaf

Qty: 60.00

Unit of Measure: Ea.

Estimate: $279,260.34

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove and replace all wood interior doors, frames and hardware in classrooms and offices, on basement, 1st and 2nd floors with fire rated doors. (60 each)

System: C1020 - Interior Doors

Location: basement doors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace hollow metal frames and doors

Qty: 8.00

Unit of Measure: Ea.

Estimate: $40,623.90

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove and replace all basement steel doors, frames, and hardware in mechanical rooms. (8 each)

System: C1020 - Interior Doors

Location: classroom, cafeteria, and office doors

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Provide security hardware for classroom and office doors

Qty: 80.00

Unit of Measure: Ea.

Estimate: $18,354.92

Assessor Name: System

Date Created: 10/13/2015

Notes: Provide security hardware for classrooms and offices, locking from inside classroom. (80 each)

System: C1020 - Interior Doors

Location: 3rd floor doors

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 20.00

Unit of Measure: Ea.

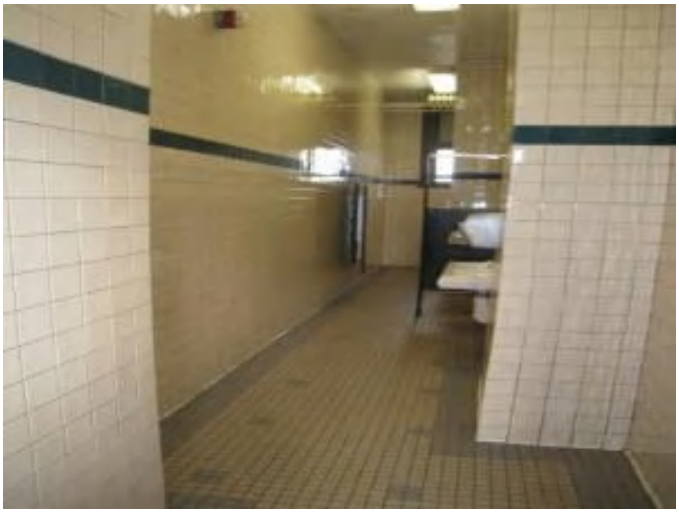
Estimate: $16,563.66

Assessor Name: System

Date Created: 10/13/2015

Notes: Refinish 3rd floor doors to classrooms and other rooms (20 each)

System: C1030 - Fittings



Location: toilet rooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 3.00

Unit of Measure: Ea.

Estimate: $8,009.73

Assessor Name: System

Date Created: 10/13/2015

Notes: Replace broken and missing toilet room accessories. (estimated 3 sets)

System: C2010 - Stair Construction

Location: exterior fire stair balconies

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Re-paint stairway metal balustrade - based on SF of balustrades - paint both sides

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $14,175.18

Assessor Name: System

Date Created: 10/13/2015

Notes: Repaint exterior rusted security bars for fire stairs (1000 sf)

System: C2010 - Stair Construction

Location: exterior stairs

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Regrout joints between stone treads and risers - LF of grout

Qty: 600.00

Unit of Measure: L.F.

Estimate: $8,967.06

Assessor Name: System

Date Created: 10/13/2015

Notes: Regrout all joints between limestone block tread/risers at exterior stairs (60 risers @ 10ft average length)

System: C3010230 - Paint & Covering

Location: interior walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 40,000.00

Unit of Measure: S.F.

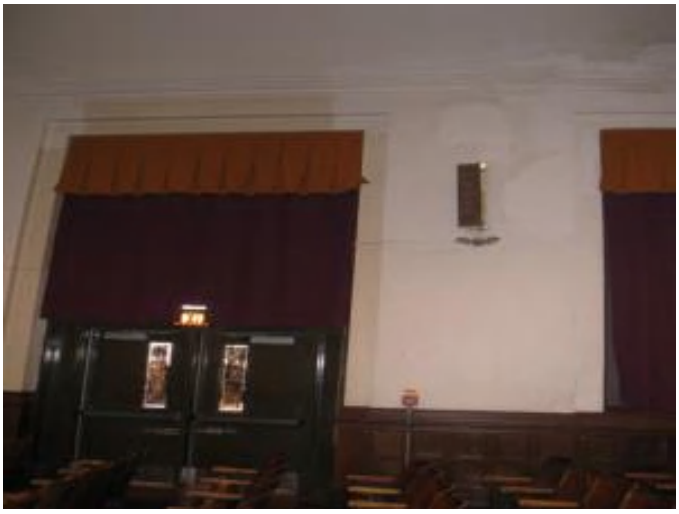
Estimate: $323,318.04

Assessor Name: System

Date Created: 10/13/2015

Notes: Repair water damage, cracks, and other impact damages; repaint most of classroom plaster walls and some interior plaster corridor walls especially at corners and doors (40,000sf)

System: C3010230 - Paint & Covering



Location: auditorium walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 7,000.00

Unit of Measure: S.F.

Estimate: $59,969.53

Assessor Name: System

Date Created: 10/13/2015

Notes: Repair and repaint plaster ceilings in auditorium and back stage (7000sf)

System: C3010230 - Paint & Covering

Location: mechanical rooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: $49,171.61

Assessor Name: System

Date Created: 10/13/2015

Notes: Strip and repaint concrete foundation (basement) walls in mechanical rooms (8000sf)

System: C3020413 - Vinyl Flooring

Location: gym and offices

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 5,500.00

Unit of Measure: S.F.

Estimate: $66,096.42

Assessor Name: System

Date Created: 10/13/2015

Notes: Remove and replace all 12”x12” VCT floors in gymnasium and other rooms (5500sf)

System: C3020413 - Vinyl Flooring

Location: offices

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 1,500.00

Unit of Measure: S.F.

Estimate: $22,750.00

Assessor Name: System

Date Created: 10/13/2015

Notes: Replace VAT floors using proper asbestos abatement procedures if determined asbestos is present. (1500sf)

System: C3020414 - Wood Flooring

Location: classrooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish wood floors

Qty: 34,000.00

Unit of Measure: S.F.

Estimate: $366,075.96

Assessor Name: System

Date Created: 10/13/2015

Notes: Strip, sand, repair and refinish all wood floors in classrooms and in auditorium (34,000 sf)

System: C3020415 - Concrete Floor Finishes

Location: basement mech rooms and all stairs

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Clean and reseal concrete floors

Qty: 15,000.00

Unit of Measure: S.F.

Estimate: $57,668.00

Assessor Name: System

Date Created: 10/13/2015

Notes: Clean and repaint basement floor in mechanical rooms; clean and reseal concrete floors in stairways (15000sf)

System: C3030 - Ceiling Finishes

Location: ceilings

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair and resurface plaster ceilings - 2 coats plaster

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $30,827.36

Assessor Name: System

Date Created: 10/13/2015

Notes: Repaint plaster ceilings where damaged by water (6000sf)

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: building

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Add external 5 stop elevator - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $1,054,622.20

Assessor Name: System

Date Created: 10/13/2015

Notes: Provide elevator to serve four floors and auditorium.

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 35.00

Unit of Measure: Ea.

Estimate: $261,175.17

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace all water closets in the building with lower flow fixtures, as the fixtures are original.

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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: 8.00

Unit of Measure: Ea.

Estimate: $125,543.18

Assessor Name: System

Date Created: 11/17/2015

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

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 18.00

Unit of Measure: Ea.

Estimate: $59,743.50

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace all urinals in the building with lower flow fixtures, as the fixtures are original.

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace floor janitor or mop sink - insert the quantity

Qty: 5.00

Unit of Measure: Ea.

Estimate: $34,080.46

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace service sinks (janitor sinks) in the building.

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace lavatory - quantify accessible if required

Qty: 31.00

Unit of Measure: Ea.

Estimate: $5,294.78

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace all lavatories in the building with lower flow fixtures, as the fixtures are original.

System: D3060 - Controls & Instrumentation

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 66,482.00

Unit of Measure: S.F.

Estimate: $1,426,177.51

Assessor Name: System

Date Created: 11/17/2015

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

System: E2010 - Fixed Furnishings

Location: auditorium

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Replace auditorium seating - add tablet arms if required. Veneer seating is an option.

Qty: 100.00

Unit of Measure: Ea.

Estimate: $68,391.37

Assessor Name: System

Date Created: 10/13/2015

Notes: Repair (or replace if unrepairable) damaged folding wood auditorium chairs (100 chairs)

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

System: D2030 - Sanitary Waste

Location: Throughout the 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: 66,482.00

Unit of Measure: S.F.

Estimate: $326,143.99

Assessor Name: System

Date Created: 11/17/2015

Notes: Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.

System: D2030 - Sanitary Waste

Location: Throughout the 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. (+100KSF)

Qty: 66,482.00

Unit of Measure: S.F.

Estimate: $282,322.86

Assessor Name: System

Date Created: 11/17/2015

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

System: D3020 - Heat Generating Systems

Location: Boiler Mechanical Equipment Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace boiler, cast iron sectional (150 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $1,518,307.89

Assessor Name: System

Date Created: 11/17/2015

Notes: Remove the three Rockmills 150 HP steam boilers with, maximum output of 5021.3 MBH steam, installed in 1993. Remove existing steam boilers and steam distribution system. Install hot water boilers and hot water distribution system.

System: D3040 - Distribution Systems

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 66,482.00

Unit of Measure: S.F.

Estimate: $628,944.43

Assessor Name: System

Date Created: 11/17/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping in service for 85 years and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years

System: D3040 - Distribution Systems

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 66,482.00

Unit of Measure: S.F.

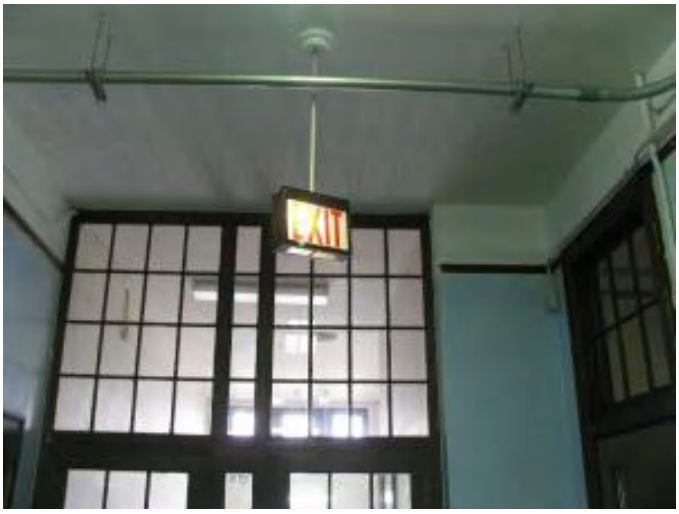
Estimate: $628,944.43

Assessor Name: System

Date Created: 11/17/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping in service for 85 years and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years

System: D5020 - Lighting and Branch Wiring



Location: Entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace lighting fixtures

Qty: 1.00

Unit of Measure: Ea.

Estimate: $353,554.55

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace all exit signs with battery pack type exit sign. Estimated 35 each.

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: 1.00

Unit of Measure: Ea.

Estimate: $195,175.96

Assessor Name: System

Date Created: 09/03/2015

Notes: Install minimum two receptacles in each wall of class rooms and sufficient number of receptacles in other areas per NEC. Replace none grounding receptacles with standard type. Estimated total 300 receptacles.

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

System: D2020 - Domestic Water Distribution

Location: Boiler Mechanical Equipment Room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace instantaneous water heater
Qty: 2.00
Unit of Measure: Ea.
Estimate: $48,947.09
Assessor Name: System
Date Created: 11/17/2015

Notes: Replace two instantaneous natural gas fired tankless water heaters.

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: $45,378.74
Assessor Name: System
Date Created: 09/03/2015

Notes: Provide new sound system including a freestanding 19” rack backstage area with a mixer, amplifiers, CD player, cassette player, AM-FM radio, graphic or parametric equalizer, and receivers.

System: E1020 - Institutional Equipment

Location: Entire Building

Distress: Inadequate

Category: 4 - Capital Improvement

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: 09/03/2015

Notes: Provide new stage lighting controller in the Auditorium.

Priority 5 - Response Time (> 5 yrs):

System: D2020 - Domestic Water Distribution

Location: Throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace domestic water piping (75 KSF)
Qty: 66,482.00
Unit of Measure: S.F.
Estimate: $336,887.97
Assessor Name: System
Date Created: 11/17/2015

Notes: Inspect and replace the original as needed the domestic water piping in the building

System: D2020 - Domestic Water Distribution

Location: Throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace domestic water piping (75 KSF)
Qty: 66,482.00
Unit of Measure: S.F.
Estimate: $336,887.97
Assessor Name: System
Date Created: 11/17/2015

Notes: Inspect and replace the original as needed the domestic water piping in the building

System: D3020 - Heat Generating Systems

Location: Boiler Mechanical Equipment Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace fuel oil pumps

Qty: 1.00

Unit of Measure: Ea.

Estimate: $26,678.08

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace duplex fuel oil pumps.

System: D3030 - Cooling Generating Systems

Location: Adjacent to 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: 75,000.00

Unit of Measure: S.F.

Estimate: $1,204,454.53

Assessor Name: System

Date Created: 11/17/2015

Notes: Remove the window air conditioning units and install a 250 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 525.00

Unit of Measure: Seat

Estimate: $748,349.25

Assessor Name: System

Date Created: 11/17/2015

Notes: Provide ventilation, heating and cooling for the auditorium by installing a packaged roof top unit.

System: D3040 - Distribution Systems

Location: Gym

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 12,000.00

Unit of Measure: Ea.

Estimate: $616,602.09

Assessor Name: System

Date Created: 11/17/2015

Notes: Provide ventilation, heating and cooling for the gymnasium by installing a packaged roof top unit.

System: D4010 - Sprinklers

Location: Throughout the building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 66,482.00

Unit of Measure: S.F.

Estimate: $951,053.28

Assessor Name: System

Date Created: 11/17/2015

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

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
D3020 Heat Generating Systems	Boiler, packaged scotch marine, fire tube, gross output, #2 oil, 15 PSI steam, 5025 MBH, 150 H.P.	3.00	Ea.	Boiler Mechanical Equipment Room	Rockmills	MP150			35	1930	1965	$125,662.50	$414,686.25
D3020 Heat Generating Systems	Boiler, packaged scotch marine, fire tube, gross output, #2 oil, 15 PSI steam, 5025 MBH, 150 H.P.	3.00	Ea.	Boiler Mechanical Equipment Room	Rockmills	MP150			35	1930	1965	$125,662.50	$414,686.25
D3020 Heat Generating Systems	Boiler, packaged scotch marine, fire tube, gross output, #2 oil, 15 PSI steam, 5025 MBH, 150 H.P.	3.00	Ea.	Boiler Mechanical Equipment Room	Rockmills	MP150			35	1930	1965	$125,662.50	$414,686.25
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 600 amp, excl breakers	1.00	Ea.						30	1930	2017	$3,819.15	$4,201.07
												Total:	**$1,248,259.82**

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):	94,800
Year Built:	1930
Last Renovation:	
Replacement Value:	$1,701,084
Repair Cost:	$431,118.56
Total FCI:	25.34 %
Total RSLI:	49.97 %

Description:

Attributes:

General Attributes:

Bldg ID:	S820001	Site ID:	S820001

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	55.30 %	33.45 %	$431,118.56
G40 - Site Electrical Utilities	33.33 %	0.00 %	$0.00
Totals:	**49.97 %**	**25.34 %**	**$431,118.56**

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	1985	2015	2047	106.67 %	0.00 %	32			$0
G2020	Parking Lots	$7.65	S.F.	27,000	30	1985	2015	2025	33.33 %	110.66 %	10		$228,573.85	$206,550
G2030	Pedestrian Paving	$11.52	S.F.	53,300	40	1985	2025		25.00 %	8.90 %	10		$54,621.29	$614,016
G2040	Site Development	$4.36	S.F.	94,800	25	1930	1955	2042	108.00 %	35.79 %	27		$147,923.42	$413,328
G2050	Landscaping & Irrigation	$3.78	S.F.	14,500	15	1930	1945	2027	80.00 %	0.00 %	12			$54,810
G4020	Site Lighting	$3.58	S.F.	94,800	30	1930	1960	2025	33.33 %	0.00 %	10			$339,384
G4030	Site Communications & Security	$0.77	S.F.	94,800	30	1930	1960	2025	33.33 %	0.00 %	10			$72,996
								Total	**49.97 %**	**25.34 %**			**$431,118.56**	**$1,701,084**

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.

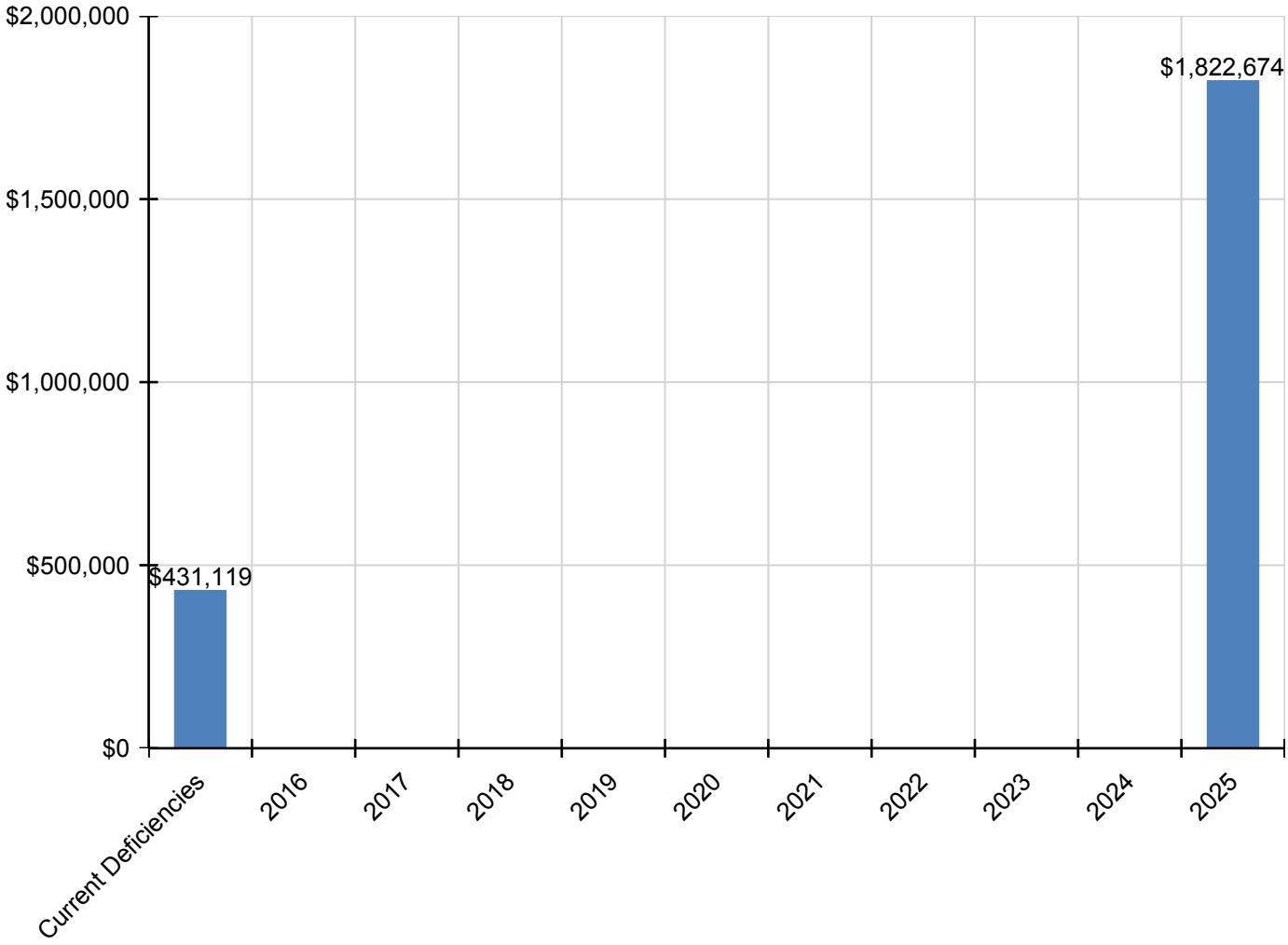
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$431,119**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,822,674**	**$2,253,793**
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	$228,574	$0	$0	$0	$0	$0	$0	$0	$0	$0	$305,345	**$533,918**
G2030 - Pedestrian Paving	$54,621	$0	$0	$0	$0	$0	$0	$0	$0	$0	$907,705	**$962,327**
G2040 - Site Development	$147,923	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$147,923**
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	$501,714	**$501,714**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$107,911	**$107,911**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

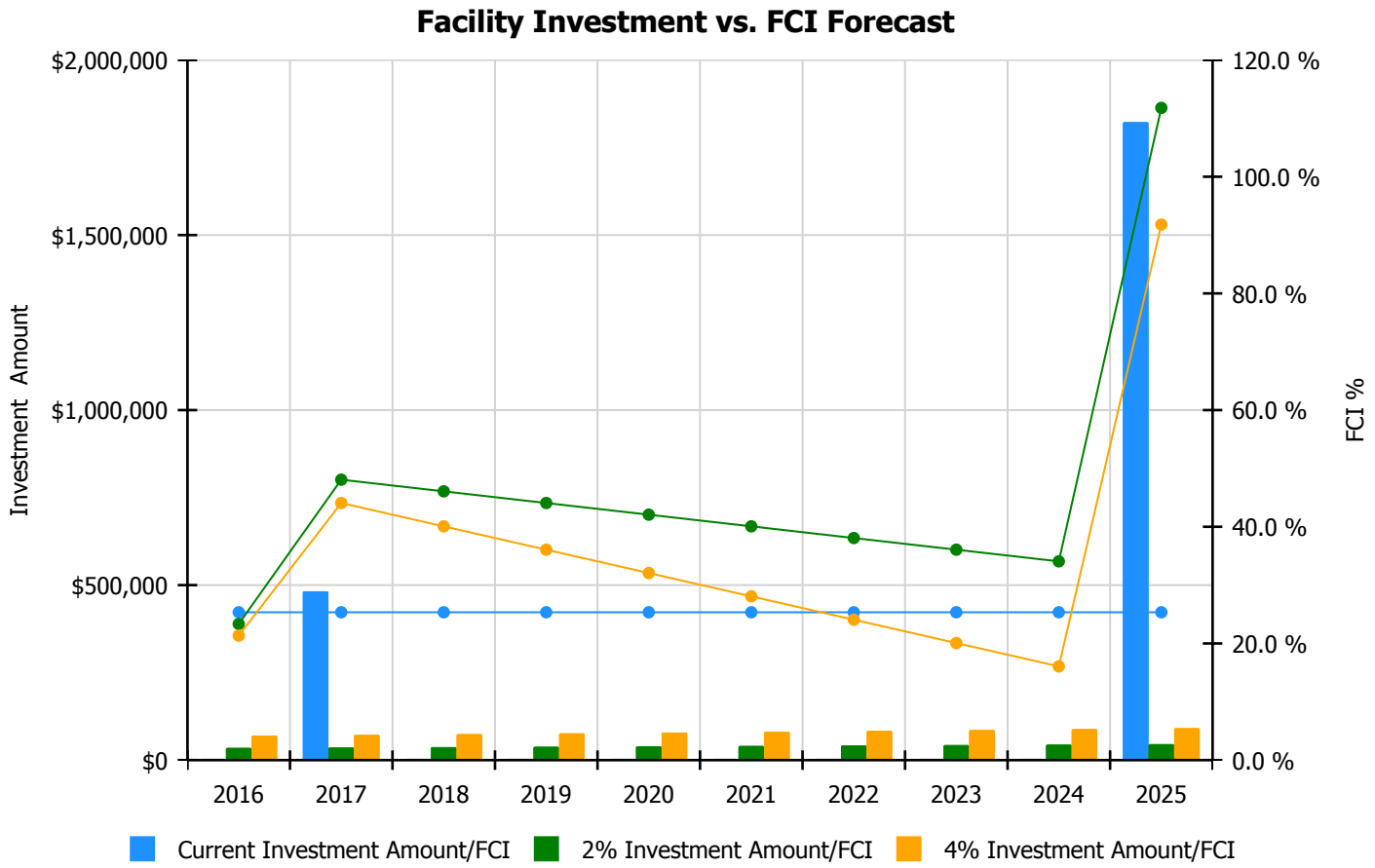
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

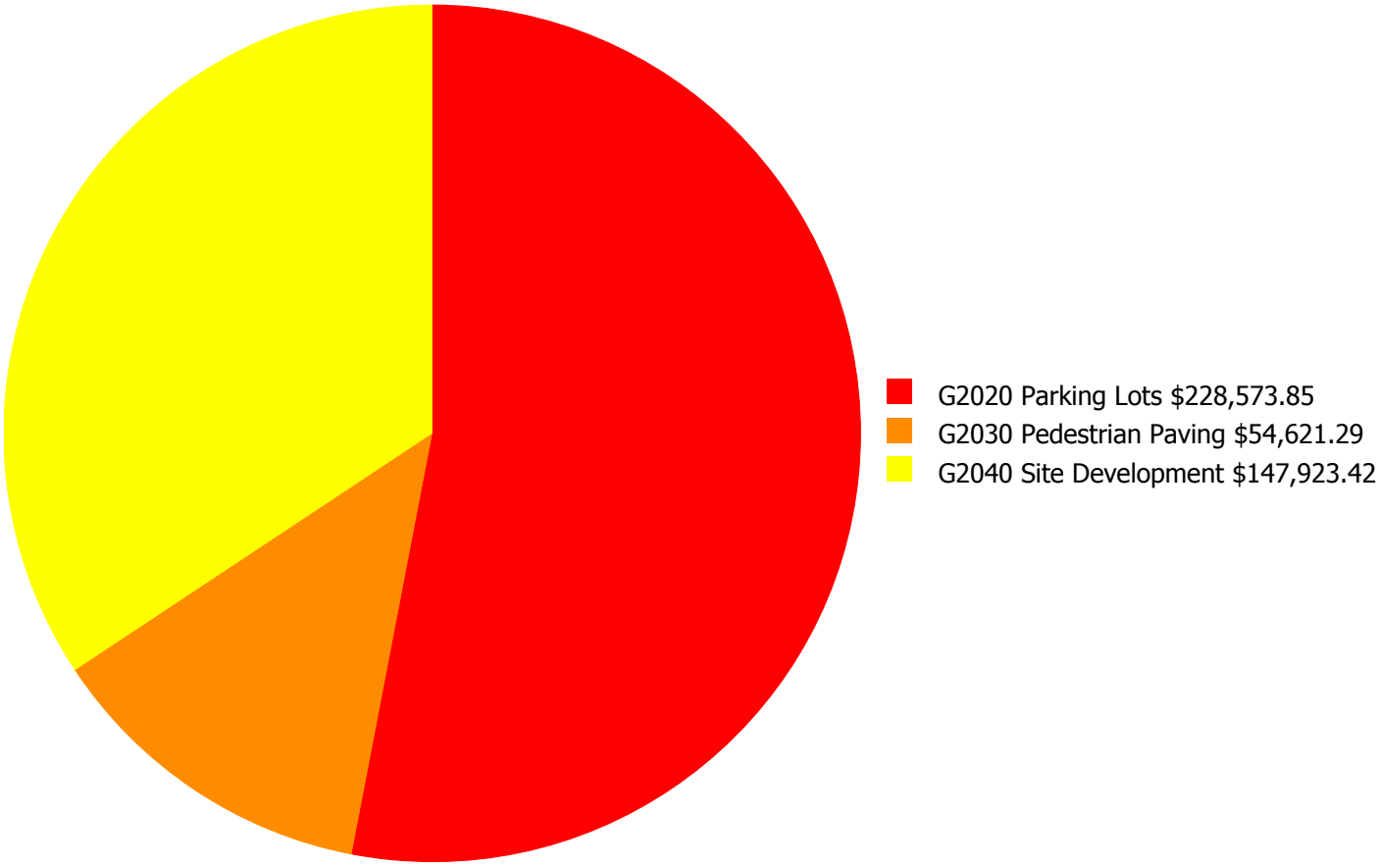
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 25.34%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$35,042.00	23.34 %	$70,085.00	21.34 %
2017	$482,350	$36,094.00	48.07 %	$72,187.00	44.07 %
2018	$0	$37,176.00	46.07 %	$74,353.00	40.07 %
2019	$0	$38,292.00	44.07 %	$76,583.00	36.07 %
2020	$0	$39,440.00	42.07 %	$78,881.00	32.07 %
2021	$0	$40,624.00	40.07 %	$81,247.00	28.07 %
2022	$0	$41,842.00	38.07 %	$83,685.00	24.07 %
2023	$0	$43,098.00	36.07 %	$86,195.00	20.07 %
2024	$0	$44,391.00	34.07 %	$88,781.00	16.07 %
2025	$1,822,674	$45,722.00	111.80 %	$91,445.00	91.80 %
Total:	**$2,305,024**	**$401,721.00**		**$803,442.00**	

Deficiency Summary by System

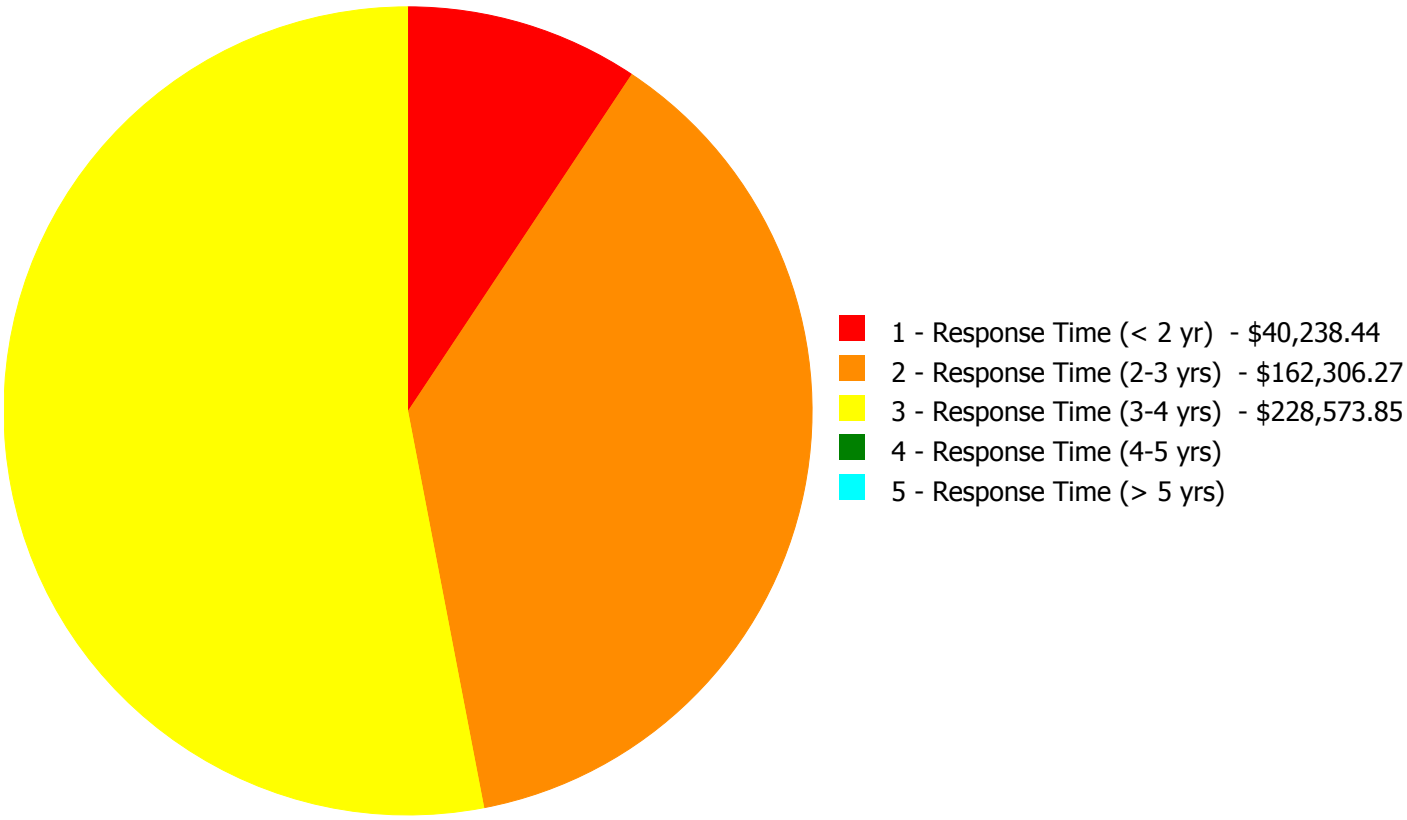
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $431,118.56

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: $431,118.56

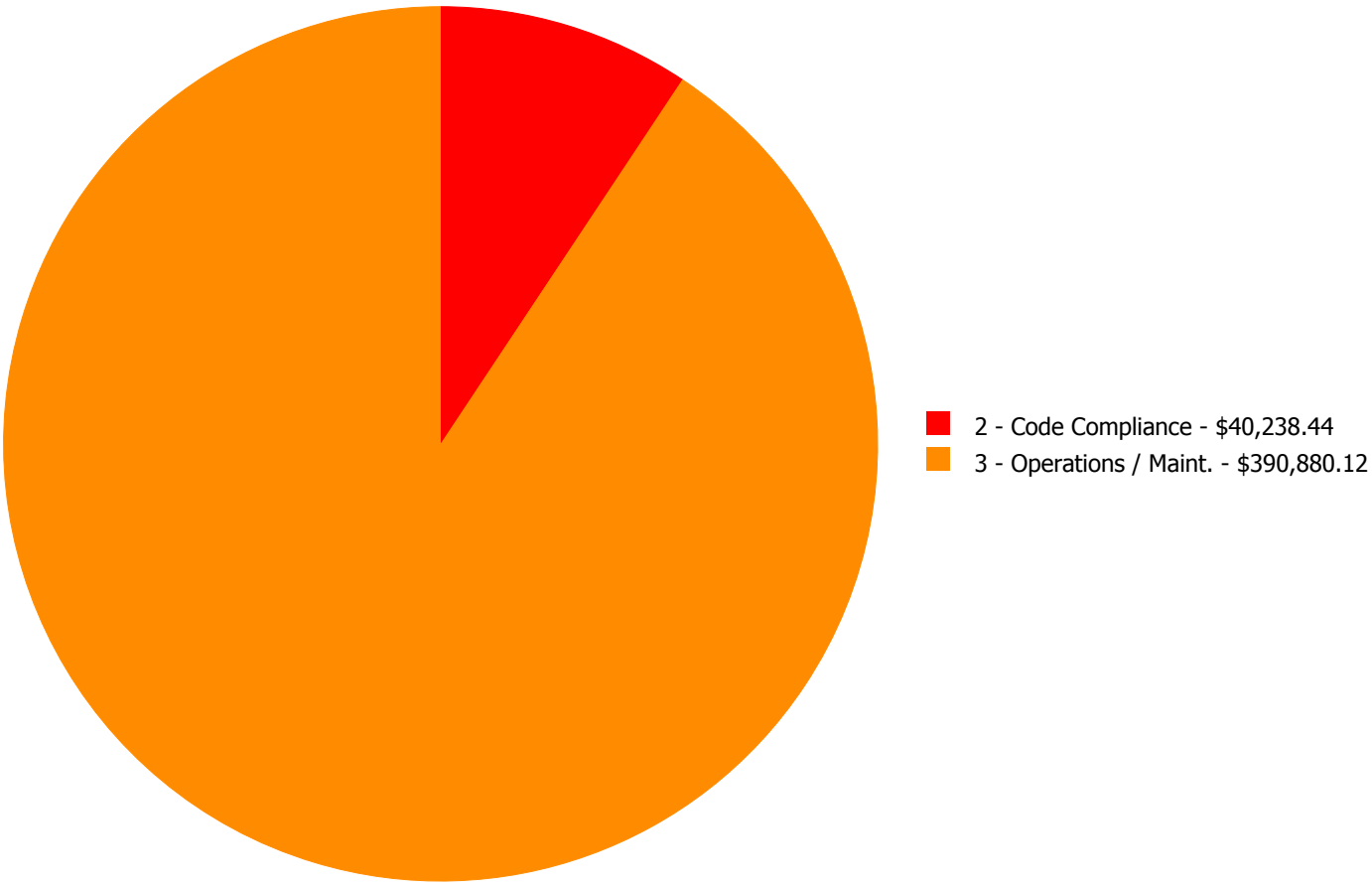
Deficiency By Priority Investment Table

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	$228,573.85	$0.00	$0.00	$228,573.85
G2030	Pedestrian Paving	$40,238.44	$14,382.85	$0.00	$0.00	$0.00	$54,621.29
G2040	Site Development	$0.00	$147,923.42	$0.00	$0.00	$0.00	$147,923.42
	Total:	$40,238.44	$162,306.27	$228,573.85	$0.00	$0.00	$431,118.56

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: $431,118.56

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 door

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: 35.00

Unit of Measure: L.F.

Estimate: $40,238.44

Assessor Name: Steven Litman

Date Created: 10/13/2015

Notes: Install ADA compliant ramp and handrails (30” rise)

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

System: G2030 - Pedestrian Paving

Location: front sidewalk

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace concrete sidewalk or concrete paving - 4" concrete thickness

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $14,382.85

Assessor Name: Steven Litman

Date Created: 10/13/2015

Notes: Replace damaged concrete walkway along Battersby St. (1000 sf)

System: G2040 - Site Development

Location: site fence

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace chain link fence - 6' high

Qty: 1,200.00

Unit of Measure: L.F.

Estimate: $107,661.65

Assessor Name: Steven Litman

Date Created: 10/13/2015

Notes: Replace damaged chain link fencing (1200 ft)

System: G2040 - Site Development

Location: site fence

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 220.00

Unit of Measure: L.F.

Estimate: $37,043.31

Assessor Name: Steven Litman

Date Created: 10/13/2015

Notes: Replace damaged wrought iron fencing (220 ft)

System: G2040 - Site Development

Location: gate at parking lot entrance

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 20.00

Unit of Measure: L.F.

Estimate: $3,218.46

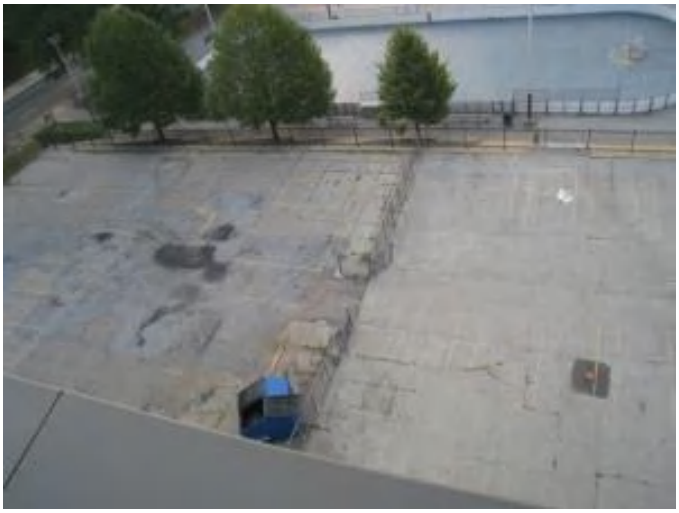
Assessor Name: Steven Litman

Date Created: 10/13/2015

Notes: Replace wrought iron gate (20 ft)

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

System: G2020 - Parking Lots



Location: parking lot and play area

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 60,000.00

Unit of Measure: S.F.

Estimate: $228,573.85

Assessor Name: Steven Litman

Date Created: 10/13/2015

Notes: Repave damaged sections of asphalt parking / playground area – excludes area around portable buildings but provide access to bldgs. (60,000 sf)

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