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.

Stearne School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	1655 Unity St.	Enrollment	570
	Philadelphia, Pa 19124	Grade Range	'00-08'
Phone/Fax	215-537-2522 / 215-537-2918	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Stearne	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	**41.43%**	**$16,161,246**	**$39,010,814**
Building	42.07 %	$15,973,555	$37,972,253
Grounds	18.07 %	$187,690	$1,038,561

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.59 %	$982,646	$1,096,856
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.75 %	$20,973	$2,810,697
Windows (Shows functionality of exterior windows)	19.28 %	$264,407	$1,371,462
Exterior Doors (Shows condition of exterior doors)	63.28 %	$69,873	$110,418
Interior Doors (Classroom doors)	155.37 %	$415,290	$267,287
Interior Walls (Paint and Finishes)	02.24 %	$22,506	$1,005,942
Plumbing Fixtures	24.80 %	$255,278	$1,029,548
Boilers	35.47 %	$504,334	$1,421,721
Chillers/Cooling Towers	05.71 %	$106,501	$1,864,152
Radiators/Unit Ventilators/HVAC	179.69 %	$5,882,507	$3,273,689
Heating/Cooling Controls	156.50 %	$1,608,907	$1,028,025
Electrical Service and Distribution	108.99 %	$805,046	$738,655
Lighting	50.33 %	$1,329,060	$2,640,882
Communications and Security (Cameras, Pa System and Fire Alarm)	43.86 %	$433,898	$989,189

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

S729001;Stearne

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):	76,150
Year Built:	1968
Last Renovation:	
Replacement Value:	$39,010,814
Repair Cost:	$16,161,245.57
Total FCI:	41.43 %
Total RSLI:	67.65 %

Description:

Facility Condition Analysis
December 2015

School District of Philadelphia
Allen Stearne Elementary School
1655 Unity Street
Philadelphia, PA 19124

76,150 SF / 537 Students / LN 07

Allen Stearne Elementary School is located at 1655 Unity Street. This building was constructed in 1968 and has 76,150 square feet. There is a 3 story classroom section and an oversized one-story section with the "gym-ateria" (single space used as the gymnasium and cafeteria) and the auditorium. Mechanical and electrical equipment are located in a partial basement under the middle of the building and in a narrow, second floor mechanical area above the auditorium, serving the auditorium and gymnasium. This second floor space is very cramped with difficult access and does not allow for easy replacement of large equipment. There is a partial crawl space adjacent to the boiler room where some of the building plumbing is run. The front entrance faces Unity Street. The building design has the appearance of a "U", with an extensive asphalt playground inside the "U", framed by classrooms and the gym-ateria/auditorium wings. Faculty parking lots are located at the ends of the "U" building wings; both lots are

separated from the playgrounds by 48" high chain link fences. Mike Kincaid, the assistant Building Engineer and Mike Bowie the Custodial Assistant took turns accompanying the FCA team during the inspection.

The inspection Team met Principal Ramos who expressed concern over some issues. She indicated that the roof leaks, windows leak and do not close tighly causing cold air to enter the building during winter, and condensate piping leaks. Exterior doors do not latch securely, floor tiles are failing, and lighting is not good. The HVAC system controls do not work properly causing hot and cold areas during heating season. The building does not have a separate cafeteria which creates logistical problems during the school day when the function of the room changes from gym to lunch to gym. The main freezer box is located on the periphery of the play area and exposed to damage from children and sports equipment.

ARCHITECTURAL/STRUCTURAL SYSTEMS

Foundations in the Main Building are constructed of block and concrete. Basement block joints are in good condition with no major settlement cracks observed; there is a small crack over one of the doors. Basement walls are are dirty and should be repainted, but there were no major areas of peeling. One column in the center of the room has a small amount of spalling at the base, from a recurring tower water leak, now repaired. There is a crawl space accessible from the basement, but it was not inspected due to the presence of asbestos in the space. Footings were not seen and their construction type or condition could not be ascertained.

Floor slabs in the main building basement mechanical rooms are in good condition although covered with dirt and in need of stripping, cleaning and resealing. Other basement slabs and upper floor slabs are also constructed of cast-in-place concrete with cast-in-place concrete beams. No major cracks were seen in any of the slabs.

Roof construction over the main building consists mainly of reinforced concrete beams and deck, bearing on masonry walls and concrete columns. The "gym-ateria" has an exposed, longspan steel bar joist and concrete deck roof system and although not observed, it is suspected that the same system extends over the auditorium. The roof deck above all parts of the building consists of a "flat" deck with minimum overall slope and pitch to roof drains. Roof access is via a hatch in the roof over the classroom wing. The roof has no parapets. Equipment supported on the roof consists of exhaust fans, gravity ventilation units, a brick chimney, and a brick masonry roof structure with equipment including elevator hoist and control equipment. The cooling tower is located on the roof on steel supports connected to the roof structure through pitch pockets. All roofs have internal roof drains at low points. Vertical leaders run through the building in internal chases. There are no vertical leaders running down the outside of the exterior walls. None of the roofs have overflow scuppers or overflow roof drains, but this is not required since there is no measureable parapet and this is not a structural concern.

Exterior walls of the main building are constructed of brick with concrete column and beam elements creating white bands between vertical window strips on all wall elevations. There are a few small areas of brick with graffiti that has been painted over. Otherwise, the brick is in good condition with no visible cracks through building walls. The only brickwork crack observed is located at the top of the brick chimney. Individual windows run vertically between wide, white concrete column elements. These concrete elements form heads, jambs, and sills around all windows. Univent louvers are located in brick and utilize steel lintels. Some univents on the playground side are dented but the lintels framing the openings are in good condition. A small concrete addition was constructed in the mid 1990's in front of the auditorium creating a lobby and queuing area and a separate auditorium entrance on Hedge Street. This structure is constructed of self supporting precast concrete wall panels and roof planks. Wall panels have an exposed aggregate texture and the columns are natural concrete; all are in good condition. A vertical expansion joint in the brick on Unity Street needs to be recaulked.

Exterior windows are constructed of clear anodized frames and single glazed glass. Windows that have been broken have plexiglass panels in place of the glass. There are very few windows in the main building, when compared with most of school buildings in the School District of Philadelphia. This makes interior spaces somewhat darker than normal with less natural light than expected of a scho, requiring the use of electric lights to provide adequate lighting at all times. The aluminum window frames are corroding where moisture has accumulated, window caulking is cracked, and the plexiglass replacement panels have become etched and cloudy. These single glazed units provide almost no insulation value and do not meet today's energy code requirements making them a large source of heat loss. First floor and basement windows have galvanized steel security screens on the exterior facing the street and full height facing the playground, all in good condition. All windows are in need of replacement.

Exterior doors at the main building front entrance, auditorium entrance, first floor toilet rooms, and stairway exits are painted hollow metal with steel frames; some have narrow glass vision panels with security screens. Hollow metal doors are generally infair condition, with some minor dents and scratches. It was reported that doors do not latch well. Weatherstripping is missing on most doors as gaps can be seen around the older doors. Door frames are starting to show signs of rust and corrosion. New doors, frames, cold weather weatherstripping, and hardware is needed.

Roof coverings over the main building consist of a built-up asphalt roofing system, with embedded black granules into the roofing

membrane. It is guessed from aerial photos and information given to the inspection Team, that the roof is probably more than 20 years old. Flashing is asphalt-backed aluminum-faced, adhered flashing. Roof structures include masonry walls, masonry chimney, plumbing vents, gravity vents, ventilation ductwork, and roof drains. Painted aluminum coping and flashing are in good condition, however areas around roof drains and under trees along edges of the roof are dirty, and had piles of accumulated leaves still on the roof. There were areas of ponded water although it had not rained for at least 12 hours. Areas around the roof drains need to be periodically cleaned to provide better drainage into the roof drain assembly. To eliminate ponding areas, the underlying slope of the roof insulation/deck should be increased to improve water flow into roof drains. Since leaks have been reported, pooling water around clogged roof drains could be a cause; water also could be penetrating through gravity vents or exhaust fans. Since the roof is probably more than 20 years old, it should be replaced.

Partitions in the main building are constructed of painted block (concrete masonry units) throughout the entire school, except the auditorium interior walls, lobby, and corridor walls connecting the lobby to the gymnasium which are constructed of buff brick. Block corners utilize bull-nose block to soften the hard edges and provide a more durable surface. Wall bases are either painted block or glazed block. Generally, this highly durable wall system is in good condition with no joint cracks seen during the inspection. Above the doors into classrooms are wired glass vision panels, which appear to be consistent with a 1 hour fire rating required of corridors in a non-sprinklered building; they can remain in place when the doors are replaced. Over some doors, broken glass has been replaced by plywood; these should be replaced with wired glass to maintain consistency and allow light into the corridors. Some classrooms have folding partitions that when open create large teaching spaces. Most are not utilized, although they are solid and in good condition serving as closed walls separating the classrooms. The auditorium has a sound attenuating wood surface on the rear wall. Room 108 has an unusual condition. Gypsum board partitions were constructed to create rooms 108B and 108C where 108B had been open to the exterior. Since there is only perimeter heating in the building, 108B was left with no heat; being an interior room, it does not have a great deal of heat loss in winter, however it does get cold. Additionally, there is no fresh air or additional air supply to this room in warm months when the perimeter room doors are closed. Air and heat should be provided to this room.

Interior doors in the main building classrooms, offices, storage rooms, and bathrooms are solid wood oak veneer doors with msteel frames. Many of these wood doors have narrow lite wired glass vision panels where vision is desirable. Classroom doors have wired glass transoms over the doors. Most wood door surfaces are worn and damaged in need of replacement; classroom doors do not have closers, required by code on fire-rated corridor doors. Steel door frames are mostly in good enough condition to be repainted. Classroom, office, and special function room doors throughout the building have old nob-style locksets. Since none of the classroom doors can be locked from the inside of the classroom, as required today for lock-down security, door hardware and door panels need to be replaced. Stairway, cafeteria, and auditorium doors are steel doors with wired glass vision panels and steel door frames. These doors and frames have panic hardware which latches as required by today's codes. Doors appear to be in fair condition with some dents and scratches in door panels and rust at the bottom of frames. Interior basement doors in the mechanical room are also hollow metal steel doors with steel frames. Steel interior doors and frames are in good enough condition to be repaired and repainted.

Interior fittings/hardware in the main building include slate chalkboards and tackboards with metal chalk trays mounted on one wall in each classroom. The library has free-standing wood bookcases, plastic laminate and wood tables, and chairs that are all in new. Classrooms have alcoves for coats and storage and also built-in metal cabinets. Kindergartens have wood cubbies and small kitchenette cabinets with a sink. Toilet rooms HDPE (high density polyethylene) floor mounted partitions throughout upper floors; metal partitions are used in the basement toilet rooms. Most toilet rooms have accessories in place and are operational. Some toilet rooms have a minimally accessible toilet compartment that has a toilet and sink with (almost) enough maneuverability space for wheelchairs, but no grab bars or properly mounted accessories, not fully meeting ADA. Sinks also do not meet accessibility requirements since they do not have wrist blade faucets, leg protection, and extended or properly mounted bowl heights. Accessories where missing or broken should be added to provide complete sets in all toilet rooms. At least one fully accessible toilet room should be created on each floor by adjusting the partition layout in selected toilet rooms, to be as close to ADA compliant as possible.

Stair construction in the main building consists of concrete filled steel treads with steel nosings, steel risers and stringers and painted steel handrails (32" high) and guards (38" high) at tops of landings. All stairway handrails and guards in the building do not meet today's code requirements for railing height, guard height and baluster spacing; they should be replaced with code compliant systems. Concrete platforms and landings are finished with clear sealer, but the concrete has a mottled appearance and looks dirty. Stairs should be stripped and refinished to give them a cleaner appearance.

Wall finishes in the basement, first, and second, floors are full height painted concrete masonry units (block) throughout the building where block occurs. Basement mechanical room walls are dirty and need to be repainted. Painted block corridors and classrooms are in good condition with isolated areas requiring repainting. Classroom walls were covered with decoration and their condition was difficult to assess, however it is also assumed that some walls need to be painted. The library, auditorium, stairways, toilet rooms, and gymnasium have painted block in good condition.

Floor finishes in most classrooms, all corridors, the lobby, auditorium, and the auditorium stage consist of 9"x9" or 12"x12" vinyl

asbestos tile (VAT). These floors at first appear to be in good condition, but upon closer inspection have many cracks, broken tiles, and mismatched replacement tiles. The rooms with older vinyl floors should be tested for asbestos and they should be properly removed and replaced with new VCT. The main school offices and a few classrooms have newer vinyl composition tile (VCT) in place of the original VAT. These office floors have been well maintained and do not appear to need replacement, but the some of the classroom floors are worn and need to be replaced. The entrance lobby, auditorium lobby, and toilet rooms has terrazzo which is in good condition. Toilet room terrazzo is dirty and needs to be stripped and cleaned to promote a healthier environment. Basements, mechanical rooms, and stairs, have sealed concrete finishes which are in need of stripping, cleaning, and resealing.

Ceiling finishes consist of exposed concrete deck, exposed steel, plaster, or acoustical tile ceilings. Corridors have either surface mounted 1x4 ceilings or suspended 2x4 acoustical ceilings with surface mounted 2x4 fluorescent lighting fixtures or exposed concrete decks with surface mounted 2x4s. Classrooms and offices have 2x4 suspended acoustical tile ceilings or exposed concrete deck ceilings. The exposed, painted ceiling surfaces are well maintained. The gym-ateria has precast concrete planks over an exposed steel longspan joist structure, all painted white and in good condition. Ceiling grids and tiles in 2x4 ceilings are old, yellowed and should be replaced. Third Floor corridor ceilings are water damaged from rain entering the building through gravity vents over the corridors; rainproof gravity vents should be provided. Second and First Floor corridor 1x1 ceilings are in good condition with only minor tile repairs required. The Auditorium has a suspended plaster or gypsum board ceiling with surface mounted fluorescent lighting fixtures, in good condition.

Fixed furnishings include wood seating in the auditorium which is in good condition. The overall the appearance is good with no obvious repairs required. The gym-afeteria has folding tables for serving students. Kindergartens and the art classroom have kitchen cabinets with sinks which are old, worn and in poor condition, requiring replacement.

There is a small 1200lb capacity 4 stop traction elevator in the building. It appears as if the cab and its controls and floor indications were said to be upgraded roughly 10 years ago; they provide audible and tactile notifications, as required in new ADA compliant elevator cabs. Stainless steel finishes in the cab are in good condition and were protected by "movers' fabric", hanging in the cab. The elevator's operation has been mostly reliable with no problems reported.

MECHANICAL SYSTEMS

Most of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. Water closets in the staff restrooms are floor mounted. Sinks are installed in many of the classrooms. The fixtures appear in good repair, but the older units have been in service for nearly 50 years and should be replaced as part of any renovation of the spaces to ensure reliable service.

Drinking fountains in the corridors and at the restrooms are typically stainless steel units with refrigerated coolers that are typically badly damaged. They are well beyond their service life and should be replaced; the original units are NOT accessible type.

A service sinks are available for use by the janitorial staff.

A 4" city water service enters the building from Hedge Street. The 4" meter and valves are located on the wall of the mechanical equipment room across from the boiler room. A reduced pressure backflow preventer should be installed on the supply to the building. The original domestic hot and cold water distribution piping was installed in 1968 with copper piping and sweat fittings. Wheel handle gate valves available in the corridor shut off large groups of fixtures. The maintenance staff reports no significant problems with the domestic piping and the supply seems adequate to the fixtures. However, the domestic water piping should be in replaced as it is well beyond the anticipated service life.

Two gas-fired, tankless instantaneous (on demand) water heaters manufactured by Paloma were installed in the boiler room in 1994 to supply hot water for domestic use. These heaters supply the original hot water storage tank. The units are equipped with T&P relief valves and the system has a circulation pump. The water heaters are beyond their service life and should be replaced to maintain reliable service. The building has no water softener for conditioning water supplied to the boilers.

Roof drains conduct storm water to the sewer system on the site. The original sewer discharges to Hedge Street and combines sanitary wastes and storm drainage. Piping is cast iron with hub and spigot fittings. Sections of pipe have been replaced using cast iron pipe with hub less fittings joined with banded couplings.

The maintenance staff reported no problems with the sanitary waste piping systems. However, the original sewer piping has been in service for nearly 50 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.

Hot water for building heating is generated by two 120 HP HB Smith cast iron sectional boilers installed in 1994. One unit can handle the load in all weather conditions. Each boiler is equipped with a Power Flame burner designed to operate on natural gas only. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with digital flame sensing, pressure atomization on oil and natural gas pilot ignition. Burner oil pumps are loose and not driven by the fan motor. The breeching for each boiler is equipped with an induced draft fan intended to maintain positive draft. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service less than 25 years, appear well maintained and should provide reliable service for the next 5-10 years.

Oil is not available for use as a backup fuel. The District should consider installing an aboveground concrete-encased tank, circulation pumps and controls to receive billing credit from the gas utility as an interruptible service.

A 6" natural gas service enters the building from Hedge Street. The meter and valves are located in the boiler room near the stair. A booster is installed on the incoming service to provide sufficient capacity and pressure to support burning natural gas as the primary fuel.

Heating piping is black steel (ASTM A53) with welded fittings. HW piping mains from the basement level run up through the building to the terminal units on all floors. The original distribution piping installed in 1968 has been in service nearly 50 years and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should budget for replacing this piping over the next 5-10 years.

Finned tube radiation terminals provide supplemental heat for many of the spaces including the classrooms, offices, and the lunchroom.

A 160 ton water-cooled screw chiller (R-134a) was installed in the boiler room in 2008. The forced draft, centrifugal fan design, galvanized steel cooling tower was installed on the roof in 2008. Chemical treatment for the tower is provided through a contract with an outside vendor. The two 15 HP centrifugal CHW pumps and one 25 HP centrifugal CW pump are the original units installed in the boiler room in 1968.

Unit ventilators provide heating, ventilation and air conditioning for the classrooms. Most are the original units installed in 1968 and are equipped with dual temperature (2-pipe) changeover coils, mixing dampers and coil bypass dampers that provide a dehumidification cycle and allow operation on full outdoor air. Classrooms at the corners of the building and other larger spaces have day/night thermostats for temperature reset. Pneumatic valves shut off the hydronic finned tube radiation terminals the cooling season to prevent condensation. The air intake for these units is ducted directly through the wall from outdoor louvers. Excess air supplied by the unit ventilators transfers to the corridor ceiling through wall grilles above the door and relieves to the outdoors through gravity hoods on the upper level. Exhaust from the restrooms is made up by air transferred from the corridors through louvers in the doors. These conditions do not meet requirements of NFPA 90A that prohibit utilizing an egress corridor as part of the air path. The original unit ventilators have been in service for nearly 50 years. They are well beyond their anticipated service life and should be scheduled for replacement. The new units should be designed for quiet operation and equipped with hot water and chilled water coils, and integral air-to-air heat exchanger to supply code required minimum outdoor air ventilation.

Two air handling units are located in the 2nd Floor mechanical equipment room; one serves the Auditorium and the other serves the Lunchroom/Gymnasium. These units are equipped with mixing dampers, heating coils with face and bypass dampers, chilled water cooling coils and a draw through fan with an external motor and belt guard that does not comply with OSHA guidelines. The unit housings are insulated with internal fibrous liner. Fiberglass liner materials are classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits. The liner materials are difficult to maintain and clean. They deteriorate over time and can support microbial growth in the HVAC systems known to cause serious health effects for building occupants. The District should consider removing the liner materials or replacing these air handling units and the associated supply ductwork systems to eliminate this potential liability problem.

A wall has been added to room 108 to create an exterior Room 108C and an interior room 108B with no windows, no heat and no air supply. A fan coil unit should be added to provide heating and code required minimum outdoor air ventilation for new Room 108B.

Low profile, power roof ventilators exhaust air from the restrooms and utility rooms. Nine (9) fans are located on the upper roof, three (3) on one side of the low roof and one (1) on the other. They are controlled by a time clock. The original fans should be replaced as they are well beyond their anticipated service life. The kitchen has no cooking equipment or exhaust hood.

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Pneumatic control air is supplied from a compressor and dryer located in the boiler room. The maintenance staff reports temperature control is poor due to significant problems with oil, moisture and dirt in the pneumatic supply

lines and failed copper tubing buried in the walls and floor slabs. The older pneumatic controls have small rubber gaskets and tubing connections at devices that have become brittle and fail regularly. The Building Engineer is forced to turn the boilers on/off to regulate temperature in the building during the heating season. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves, dampers and pneumatic actuators are nearly 50 years old 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.

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 SYSTEMS

Site Electrical Service comes from medium voltage overhead lines on wooden poles along Unity ST. The main service substation consist of a 600A medium voltage load interrupter, metering transformer section, a dry type transformer rated at 500KVA, 13200V to 208/120V, 3PH, 4 wires and a 2000A, 208/120V distribution switchboard located in electrical room in the basement. The main switchboard feeds the chiller, elevator and nine power/lighting distribution panels. Service substation is old and outdated beyond what seemingly of the useful life and may not have spare capacity for future therefore requiring replacement.

Power distribution in the building is achieved through corridor located panel boards. First and second floors with two panels, third floor with one panels, one panel board in gymnasium, two in boiler room and one in auditorium. All the panel boards along with the associated wiring have exceeded the end of their useful life and should be replaced with panel boards having more circuit breakers to accommodate additional branch circuits that would be needed.

Quantity of the receptacles in some classrooms appeared to be not enough. Recommendation is to have minimum of two receptacles on each side of a wall in a classroom. The current installation, in about 30% of classrooms, falls short of this recommendation.

Interior building spaces are provided with either fluorescent lighting fixture with T12 lamps in classrooms, corridors, offices and auditorium or Kimball 1- light semi-flush ceiling mounted fixtures in electrical rooms. These fixtures are outdated and far exceeded their useful life and should be replaced. Lighting fixtures in boiler and mechanical rooms have already been upgraded and are in good condition. Gymnasium is illuminated with old pendent mounted metal halide fixtures that are of high energy consumption and are difficult to re-lamp.

Building is equipped with 120V manual fire alarm system. The system does not meet current fire alarm codes and should be replaced with an automatic fire alarm system.

The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along whit a telephone PBX system (telephone within an enterprise that switches calls between enterprise users on local lines while allowing all users to share a certain number of external phone lines) located in closed number 304 along with one IDF (Intermediate Distribution Frame) and one LDF (local Distribution Frame) located in computer room servicing the communication system of the building. School also equipped with wifi system.

Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately.

Each classroom is provided by intercom telephone service. The system is permit paging and intercom communication between main office phone to classroom phones, and classroom to main office, classroom to classroom, and to office. Outside line access from a class room phone through the PBX is

Present clock system is not working. School is provided with time system controller consisting of electrical round clocks installed on the wall in each classrooms and a Simplex master time programmer. The clocks are not controlled properly with the central master controller. System is old and has exceeded its useful service life thus requiring replacement. The present bell system is working adequately.

Television System is not provided in the school.

Building has been provided with access control and video surveillance system. Cameras are installed at exit doors, corridors and other

critical areas, controlled by a Closed Circuit Television system (CCTV). The system is working properly.

Emergency Power System is provided in the school. A backup diesel generator estimated at 15KVA, 240/120V, single phase, 3W is installed in Boiler room for emergency lighting. The system is old and exceeds its useful service life and required to be replaced.

Uninterruptible Power System (UPS) is provided for Local Area Network in the main IT room.

Emergency lighting system, including exit lights are provided in the buildings. Numbers of lighting fixtures in corridors, and egress ways and exit signs are fed by emergency pack up power.

Lightning Protection System is accomplished with a few air terminals mounted on the chimney on the roof and connected to the ground system. Further study is needed to verify that the air terminals provide the proper coverage.

A 20 hp gear type elevator is in operation at the main building. The elevator motor and controller are in installed in year 2000 and are in good condition.

Existing theater lighting and dimming system is accomplished with two rows of spot lights that are turned on and off by branch circuit breakers in a lighting panel located in stage area and not by dimmer. Theater lighting and controller are old and not meet the modern theatrical lighting system. In modern school auditorium, Stage requires front, upstage, high side, backlighting, scenery lighting and controllers by automatic dimmer bank controller. In addition to the stage lights, supplemental fluorescent lighting is also requires to be provided in stage area for lectures and testing. These supplemental lighting could be also turned off automatically by dimmer bank controls during performance.

Sound System in Auditorium is old and not comply with modern multipurpose auditorium sound system requirements recommended by ECE40020 (standard for reinforcement system design) and required to be replaced.

Site Lighting System is adequate. There are sufficient numbers of flood lights are provided around the building. No major deficiencies observed. Building engineer also indicated that they do not have any issue with the exterior lighting system.

The exterior building and parking areas are monitored by a video surveillance system.

Site Paging system is provided in the school and working adequately. Existing speakers are providing proper coverage in the playground.

GROUNDS SYSTEMS

Paving and parking is constructed of asphalt. The playground paving has cracks and should be filled and sealed to minimize future cracking. The two Faculty parking areas are separated from the playground by chain link fences. Both parking areas should be repaved. Handicap accessible parking for faculty is not provided. Visitor parking is not provided; street parking must be utilized.

The ADA accessible ramp into the building is located on the playground side of the building, entering Stairway C. Railings and guards along the ramps are in good condition. There is a small level change in the sidewalk at the auditorium entrance on Hedge Street. A sloped surface (less than 5% slope) can be added to the edge of this surface to make the auditorium accessible to wheelchairs.

Site fencing is composed of chain link fencing which is in poor condition with bent and rusting sections around the site. There is a gate to close-off the entrances to the parking lot.

RECOMMENDATIONS

- Strip and reseal concrete floors in stairways, toilet rooms and part of basement (7,500sf)
- Repaint exterior metal doors and metal frames; replace panic hardware and weatherstripping (20 3x7)
- Repaint hollow metal doors and frames at stairways and mechanical rooms (24 3x7) doors.
- Replace roof, improving drainage into roof drains and eliminating flat spots (29,002sf)
- Replace all windows around the building (44 - 3.5x7')
- Repair spalling concrete beams and columns between windows (200sf)
- Replace univents damaged facing playground (5)
- Vertical expansion joint in brick on Unity Street needs to be recaulked (25ft)
- Powerwash brick walls below first floor windows and window sills where dirty and with graffiti; paint walls previously painted (3,000sf)

- Replace wood doors into classrooms, toilet rooms, and offices, in corridors and provide new lever locksets (80) 3x7 doors
- Provide security hardware for classrooms and offices, locking from the inside of the room (60)
- Repaint peeling basement, stairway, and corridor walls (3,000sf)
- Replace toilet room partitions with HDPE plastic partitions (4 toilet compartments)
- Provide toilet room accessories where partitions are replaced (4 toilet compartments)
- Remove 9”x9” and 12”x12” VAT floors (and damaged VCT floors) in classrooms, corridors, and auditorium with and replace with VCT (61,150sf)
- Strip and clean terrazzo in toilet rooms (2,000sf)
- Replace stairway railings and guards (600ft)
- Replace stained 2x4 suspended acoustical tile ceiling in classrooms (3,000 sf)
- Replace water damaged 1x1 corridor ceilings (3,000 sf)
- Replace worn out kitchen cabinets in kindergarten and art room (40 linear feet)
- Repaint exterior ramp handrails/guards (50 ft)

MECHANICAL

- Replace the original wall hung lavatories and wheel handle faucets with low flow fixtures.
- Replace six (6) wall hung drinking fountains and integral refrigerated coolers located in the corridors and at the restrooms. These units are well beyond their service life; several are damaged and two are the original china non-accessible type.
- Replace the original copper domestic water piping in service for nearly 50 years.
- Replace the two gas-fired, tankless instantaneous (on demand) domestic water heaters manufactured by Paloma installed in the boiler room in 1994 to maintain reliable service.
- Provide a softener for conditioning water supplied to the boilers.
- Provide a reduced pressure backflow preventer on the domestic water supply to the building.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping in service for nearly 50 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing 120 HP gas burners of the HW boilers with combination gas/oil type and provide pumps and controls for delivery of oil to the burners.
- Provide an 8,000 gallon above ground concrete-encased tank, circulation pumps and controls to receive billing credit from the gas utility as an interruptible service.
- Perform additional testing of the hydronic piping in service nearly 50 years to locate and replace any damaged sections and to further quantify the extent of potential failures.
- Provide a refrigerant leak detection, alarm and purge ventilation system for the boiler / chiller room.
- Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units should be equipped with hot water / chilled water coils and integral heat recovery wheels.
- Replace the air handling unit in the 2nd Floor mechanical room that supplies the Lunchroom/Gymnasium. The new unit should be equipped with both heating and air conditioning coils and economizer dampers. The existing unit equipped with a draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.
- Replace the air handling unit in the 2nd Floor mechanical room that supplies heating and ventilation for the Auditorium. The new unit should be equipped with both heating and air conditioning coils and economizer dampers. The existing unit equipped with a draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.
- Install a rooftop air conditioning unit to provide ventilation for the main administrative offices.
- Install a fan coil unit to provide heating and code required minimum outdoor air ventilation for new Room 108B created by the construction of new partition walls.
- Replace the low profile, power roof ventilators that exhaust air from the restrooms and utility rooms; total of thirteen (13) fans. These fans should be replaced as they are well beyond their anticipated service life.
- 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 substation with new 3000A, 480/277V substation.
- Replace the entire distribution system with new panels and new wiring/conduits. Estimated 10 panel boards Provide arc flash

label on the electrical equipments.
- Install minimum two receptacles in each wall of class rooms. We recommend using two-compartment Power pole in the computer room. Estimated 80 total.
- Replace lighting fixtures with new fluorescent lighting fixtures with T-8 lamp throughout the buildings. Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures in gymnasium.
- Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NFPA. Install horn/strobes in class rooms, corridors, offices, toilets, library and other recommended areas per codes.
- Provide master clock system including wireless master clock controller and new clock in the classes, corridors and offices.
- Provide new modern stage lighting with automatic dimmer bank controller in the Auditorium
- Provide new sound system per ECE-40020 (standard for reinforcement system design) including a freestanding 19" rack backstage with mixer per amplifiers, digital media recording with playback capability, AM-FM radio, graphic or parametric equalizer, and receivers for wireless microphone.
- Replace all exit signs with battery pack type exit signs. Estimated 25 each.

GROUNDS

- Crackfill and seal asphalt play area (500ft cracks; 25,000sf seal)
- Repave asphalt faculty parking lots (11,000sf)
- Repave broken sidewalks around building (800sf)
- Add sloped surface at auditorium entrance (80sf)
- Replace chain link fences and gates (650 lf; 3 vehicle gates, 2 personnel gates)

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 2
Status:	Accepted by SDP	Team:	Tm 2
Site ID:	S729001		

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	53.00 %	0.00 %	$0.00
A20 - Basement Construction	53.00 %	0.00 %	$0.00
B10 - Superstructure	53.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	69.18 %	8.28 %	$355,252.57
B30 - Roofing	110.00 %	89.59 %	$982,646.08
C10 - Interior Construction	57.20 %	23.01 %	$430,011.83
C20 - Stairs	53.00 %	188.64 %	$202,549.18
C30 - Interior Finishes	62.06 %	28.34 %	$1,067,933.37
D10 - Conveying	25.71 %	0.00 %	$0.00
D20 - Plumbing	39.36 %	70.82 %	$1,101,167.66
D30 - HVAC	83.89 %	95.65 %	$8,102,249.54
D40 - Fire Protection	0.00 %	177.49 %	$1,089,361.17
D50 - Electrical	109.31 %	57.97 %	$2,594,911.74
E10 - Equipment	17.14 %	3.92 %	$47,472.33
E20 - Furnishings	15.00 %	0.00 %	$0.00
G20 - Site Improvements	43.74 %	24.76 %	$187,690.10
G40 - Site Electrical Utilities	43.33 %	0.00 %	$0.00
Totals:	**67.65 %**	**41.43 %**	**$16,161,245.57**

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)
B729001;Stearne	76,150	42.07	$7,672,339.97	$3,512,989.23	$1,595,446.69	$48,947.09	$3,143,832.49
G729001;Grounds	48,300	18.07	$0.00	$145,784.90	$41,905.20	$0.00	$0.00
Total:		**41.43**	**$7,672,339.97**	**$3,658,774.13**	**$1,637,351.89**	**$48,947.09**	**$3,143,832.49**

Deficiencies By Priority

1 - Response Time (< 2 yr) - $7,672,339.97
2 - Response Time (2-3 yrs) - $3,658,774.13
3 - Response Time (3-4 yrs) - $1,637,351.89
4 - Response Time (4-5 yrs) - $48,947.09
5 - Response Time (> 5 yrs) - $3,143,832.49

Budget Estimate Total: $16,161,245.57

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):	76,150
Year Built:	1968
Last Renovation:	
Replacement Value:	$37,972,253
Repair Cost:	$15,973,555.47
Total FCI:	42.07 %
Total RSLI:	68.30 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B729001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S729001		

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	53.00 %	0.00 %	$0.00
A20 - Basement Construction	53.00 %	0.00 %	$0.00
B10 - Superstructure	53.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	69.18 %	8.28 %	$355,252.57
B30 - Roofing	110.00 %	89.59 %	$982,646.08
C10 - Interior Construction	57.20 %	23.01 %	$430,011.83
C20 - Stairs	53.00 %	188.64 %	$202,549.18
C30 - Interior Finishes	62.06 %	28.34 %	$1,067,933.37
D10 - Conveying	25.71 %	0.00 %	$0.00
D20 - Plumbing	39.36 %	70.82 %	$1,101,167.66
D30 - HVAC	83.89 %	95.65 %	$8,102,249.54
D40 - Fire Protection	0.00 %	177.49 %	$1,089,361.17
D50 - Electrical	109.31 %	57.97 %	$2,594,911.74
E10 - Equipment	17.14 %	3.92 %	$47,472.33
E20 - Furnishings	15.00 %	0.00 %	$0.00
Totals:	**68.30 %**	**42.07 %**	**$15,973,555.47**

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.	76,150	100	1968	2068		53.00 %	0.00 %	53			$1,401,160
A1030	Slab on Grade	$7.73	S.F.	76,150	100	1968	2068		53.00 %	0.00 %	53			$588,640
A2010	Basement Excavation	$6.55	S.F.	76,150	100	1968	2068		53.00 %	0.00 %	53			$498,783
A2020	Basement Walls	$12.70	S.F.	76,150	100	1968	2068		53.00 %	0.00 %	53			$967,105
B1010	Floor Construction	$75.10	S.F.	76,150	100	1968	2068		53.00 %	0.00 %	53			$5,718,865
B1020	Roof Construction	$13.88	S.F.	76,150	100	1968	2068		53.00 %	0.00 %	53			$1,056,962
B2010	Exterior Walls	$36.91	S.F.	76,150	100	1968	2068		53.00 %	0.75 %	53		$20,972.78	$2,810,697
B2020	Exterior Windows	$18.01	S.F.	76,150	40	1968	2008	2057	105.00 %	19.28 %	42		$264,407.00	$1,371,462
B2030	Exterior Doors	$1.45	S.F.	76,150	25	1968	1993	2024	36.00 %	63.28 %	9		$69,872.79	$110,418
B3010105	Built-Up	$37.76	S.F.	29,002	20	1968	1988	2037	110.00 %	89.73 %	22		$982,646.08	$1,095,116
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	29,002	20	1968	1988	2037	110.00 %	0.00 %	22			$1,740
C1010	Partitions	$17.91	S.F.	76,150	100	1968	2068		53.00 %	0.00 %	53			$1,363,847
C1020	Interior Doors	$3.51	S.F.	76,150	40	1968	2008	2057	105.00 %	155.37 %	42		$415,289.55	$267,287
C1030	Fittings	$3.12	S.F.	76,150	40	1968	2008	2026	27.50 %	6.20 %	11		$14,722.28	$237,588
C2010	Stair Construction	$1.41	S.F.	76,150	100	1968	2068		53.00 %	188.64 %	53		$202,549.18	$107,372

Site Assessment Report - B729001;Stearne

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.	76,150	10	1968	1978	2024	90.00 %	2.24 %	9		$22,506.00	$1,005,942
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.		30				0.00 %	0.00 %				$0
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	7,500	50	1968	2018	2027	24.00 %	1.14 %	12		$6,467.91	$566,400
C3020413	Vinyl Flooring	$9.68	S.F.	61,150	20	1968	1988	2037	110.00 %	156.68 %	22		$927,441.75	$591,932
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	7,500	50	1968	2018	2067	104.00 %	396.34 %	52		$28,834.00	$7,275
C3030	Ceiling Finishes	$20.97	S.F.	76,150	25	1968	1993	2025	40.00 %	5.18 %	10		$82,683.71	$1,596,866
D1010	Elevators and Lifts	$1.53	S.F.	76,150	35	1968	2003	2024	25.71 %	0.00 %	9			$116,510
D2010	Plumbing Fixtures	$13.52	S.F.	76,150	35	1968	2003	2022	20.00 %	24.80 %	7		$255,278.45	$1,029,548
D2020	Domestic Water Distribution	$1.68	S.F.	76,150	25	1968	1993	2042	108.00 %	408.43 %	27		$522,510.11	$127,932
D2030	Sanitary Waste	$2.90	S.F.	76,150	25	1968	1993	2042	108.00 %	146.43 %	27		$323,379.10	$220,835
D2040	Rain Water Drainage	$2.32	S.F.	76,150	30	1968	1998	2020	16.67 %	0.00 %	5			$176,668
D3020	Heat Generating Systems	$18.67	S.F.	76,150	35	1994	2029		40.00 %	35.47 %	14		$504,334.33	$1,421,721
D3030	Cooling Generating Systems	$24.48	S.F.	76,150	30	2008	2038		76.67 %	5.71 %	23		$106,501.44	$1,864,152
D3040	Distribution Systems	$42.99	S.F.	76,150	25	1968	1993	2042	108.00 %	179.69 %	27		$5,882,506.92	$3,273,689
D3050	Terminal & Package Units	$11.60	S.F.	76,150	20	1968	1988	2025	50.00 %	0.00 %	10			$883,340
D3060	Controls & Instrumentation	$13.50	S.F.	76,150	20	1968	1988	2037	110.00 %	156.50 %	22		$1,608,906.85	$1,028,025
D4010	Sprinklers	$7.05	S.F.	76,150	35				0.00 %	202.91 %			$1,089,361.17	$536,858
D4020	Standpipes	$1.01	S.F.	76,150	35				0.00 %	0.00 %				$76,912
D5010	Electrical Service/Distribution	$9.70	S.F.	76,150	30	1968	1998	2047	106.67 %	108.99 %	32		$805,046.08	$738,655
D5020	Lighting and Branch Wiring	$34.68	S.F.	76,150	20	1968	1988	2037	110.00 %	50.33 %	22		$1,329,060.03	$2,640,882
D5030	Communications and Security	$12.99	S.F.	76,150	15	1968	1983	2032	113.33 %	43.86 %	17		$433,897.96	$989,189
D5090	Other Electrical Systems	$1.41	S.F.	76,150	30	1968	1998	2037	73.33 %	25.06 %	22		$26,907.67	$107,372
E1020	Institutional Equipment	$4.82	S.F.	76,150	35	1968	2003	2021	17.14 %	12.93 %	6		$47,472.33	$367,043
E1090	Other Equipment	$11.10	S.F.	76,150	35	1968	2003	2021	17.14 %	0.00 %	6			$845,265
E2010	Fixed Furnishings	$2.13	S.F.	76,150	40	1968	2008	2021	15.00 %	0.00 %	6			$162,200
								Total	**68.30 %**	**42.07 %**			**$15,973,555.47**	**$37,972,253**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

System: C3010 - Wall Finishes — This system contains no images

Note:
90% painted block
10% brick
<1% wood

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

Note:
Concrete =7,500sf 10%
VAT or VCT = 61,150sf 80%
Terrazzo = 7,500sf 10%

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

Note:
ACT (1x1 or 2x4) 19,000sf - 25%
Painted deck = 57,150sf - 75%
No ceiling (unfinished) = 6,700sf - 7%

Renewal Schedule

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

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$15,973,555**	**$0**	**$0**	**$0**	**$0**	**$225,288**	**$1,805,357**	**$1,392,836**	**$0**	**$1,769,475**	**$3,666,508**	**$24,833,018**
*** 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	$20,973	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$20,973**
B2020 - Exterior Windows	$264,407	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$264,407**
B2030 - Exterior Doors	$69,873	$0	$0	$0	$0	$0	$0	$0	$0	$158,476	$0	**$228,349**
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	$982,646	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$982,646**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

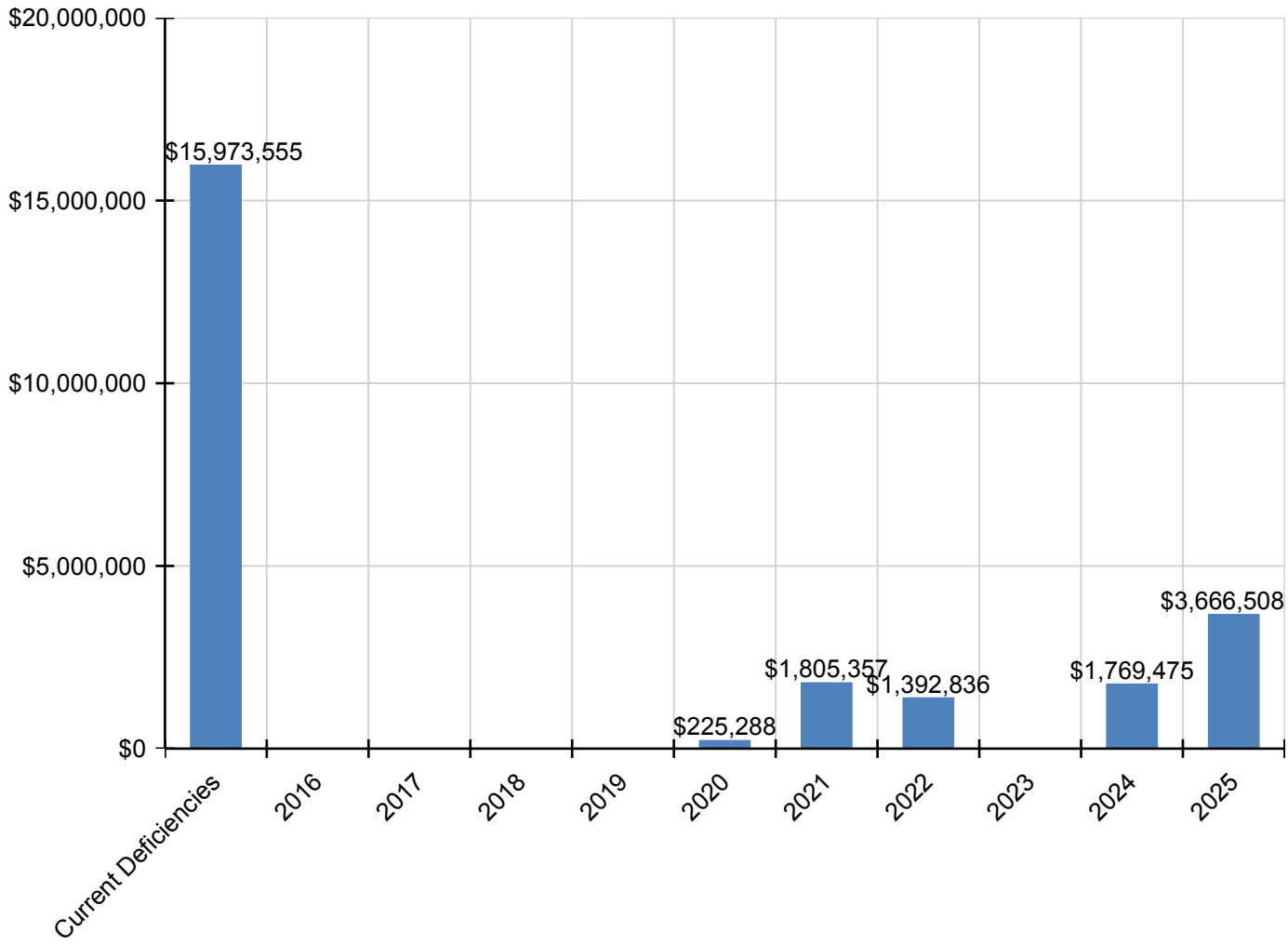
C1020 - Interior Doors	$415,290	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$415,290**
C1030 - Fittings	$14,722	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$14,722**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$202,549	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$202,549**
C30 - Interior Finishes	$0	$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	$22,506	$0	$0	$0	$0	$0	$0	$0	$0	$1,443,778	$0	**$1,466,284**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$6,468	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,468**
C3020413 - Vinyl Flooring	$927,442	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$927,442**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$28,834	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$28,834**
C3030 - Ceiling Finishes	$82,684	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,360,659	**$2,443,343**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$167,220	$0	**$167,220**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$255,278	$0	$0	$0	$0	$0	$0	$1,392,836	$0	$0	$0	**$1,648,114**
D2020 - Domestic Water Distribution	$522,510	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$522,510**
D2030 - Sanitary Waste	$323,379	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$323,379**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$225,288	$0	$0	$0	$0	$0	**$225,288**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$504,334	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$504,334**
D3030 - Cooling Generating Systems	$106,501	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$106,501**
D3040 - Distribution Systems	$5,882,507	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,882,507**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,305,849	**$1,305,849**
D3060 - Controls & Instrumentation	$1,608,907	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,608,907**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,089,361	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,089,361**
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	$805,046	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$805,046**
D5020 - Lighting and Branch Wiring	$1,329,060	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,329,060**
D5030 - Communications and Security	$433,898	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$433,898**
D5090 - Other Electrical Systems	$26,908	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$26,908**
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	$47,472	$0	$0	$0	$0	$0	$482,095	$0	$0	$0	$0	**$529,567**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$1,110,220	$0	$0	$0	$0	**$1,110,220**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$213,042	$0	$0	$0	$0	**$213,042**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

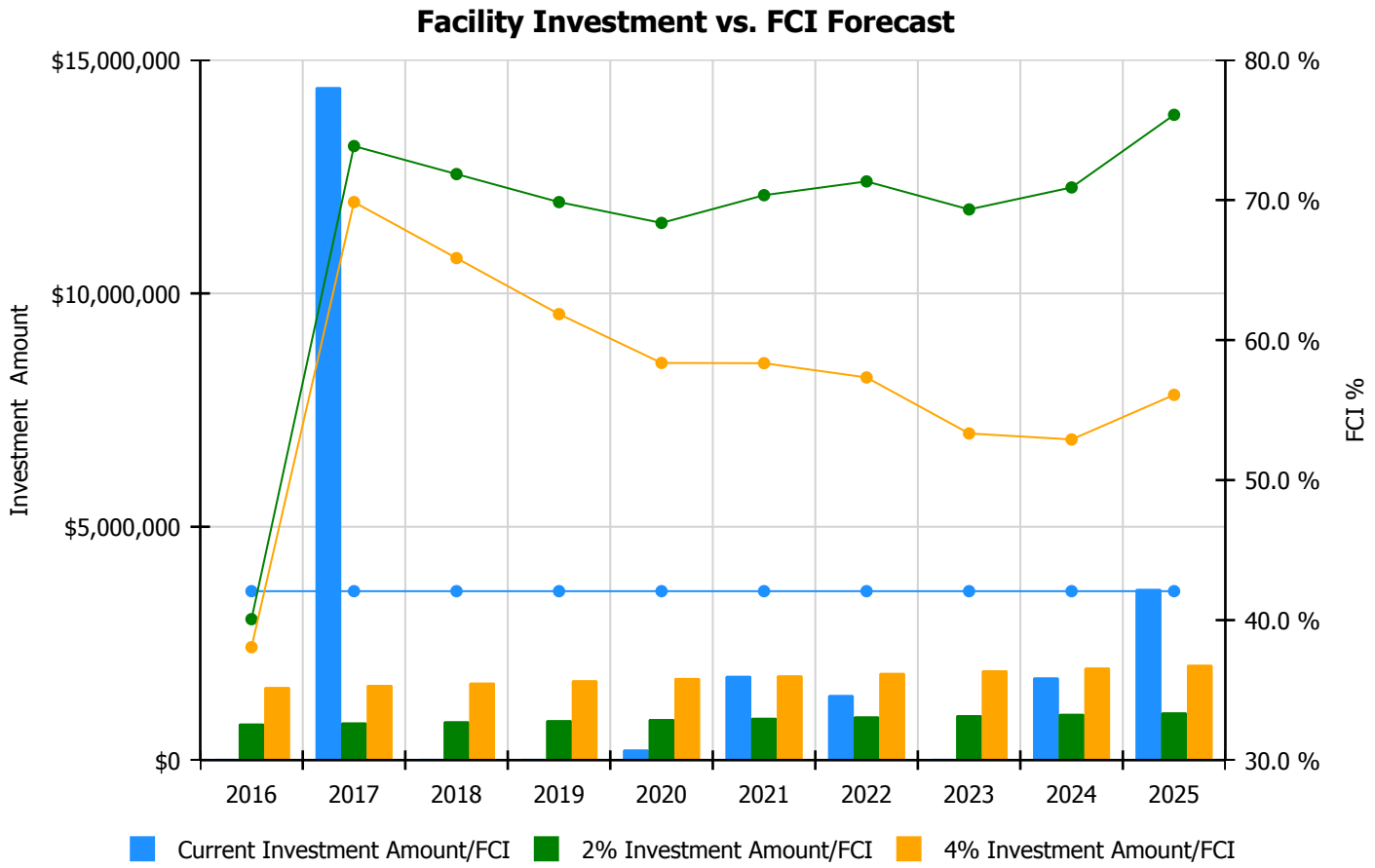
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

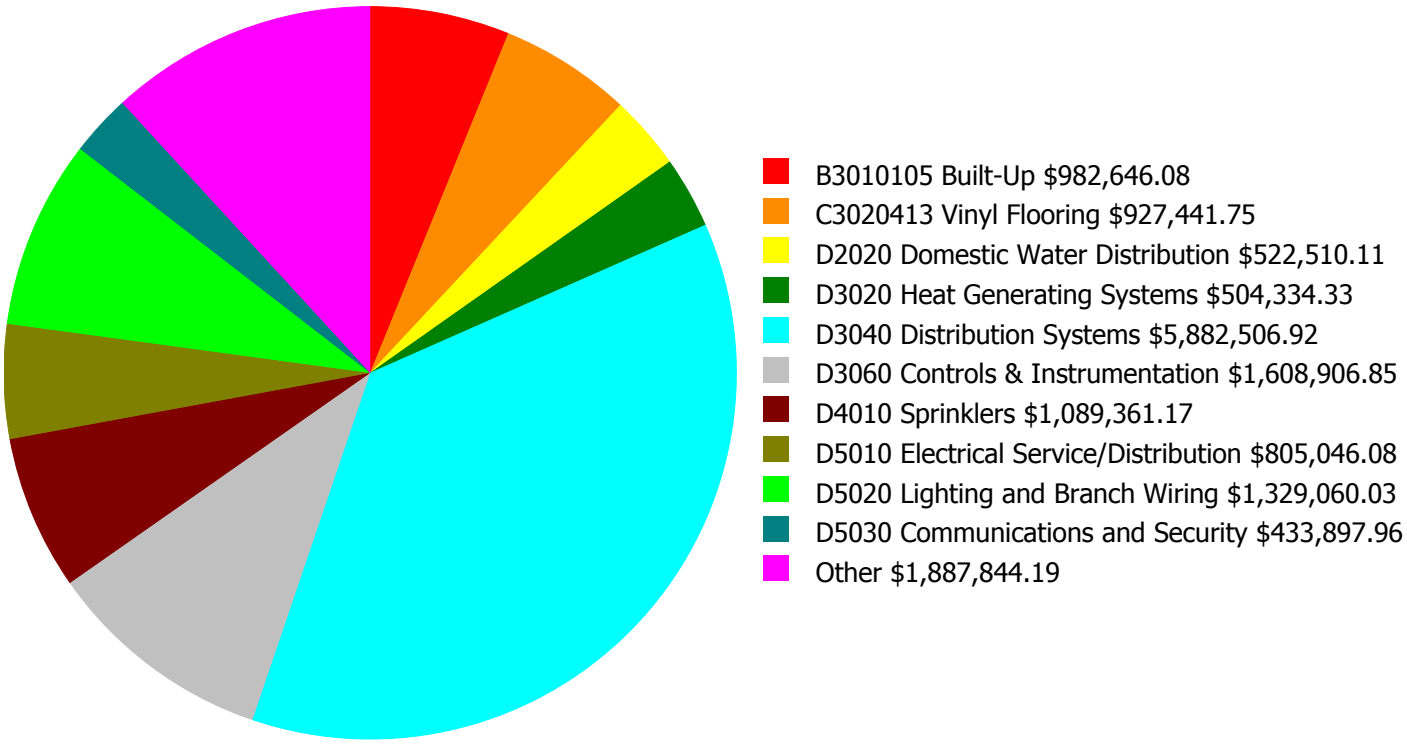
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 42.07%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$782,228.00	40.07 %	$1,564,457.00	38.07 %
2017	$14,417,015	$805,695.00	73.85 %	$1,611,391.00	69.85 %
2018	$0	$829,866.00	71.85 %	$1,659,732.00	65.85 %
2019	$0	$854,762.00	69.85 %	$1,709,524.00	61.85 %
2020	$225,288	$880,405.00	68.37 %	$1,760,810.00	58.37 %
2021	$1,805,357	$906,817.00	70.35 %	$1,813,634.00	58.35 %
2022	$1,392,836	$934,022.00	71.33 %	$1,868,043.00	57.33 %
2023	$0	$962,042.00	69.33 %	$1,924,085.00	53.33 %
2024	$1,769,475	$990,904.00	70.90 %	$1,981,807.00	52.90 %
2025	$3,666,508	$1,020,631.00	76.09 %	$2,041,261.00	56.09 %
Total:	**$23,276,477**	**$8,967,372.00**		**$17,934,744.00**	

Deficiency Summary by System

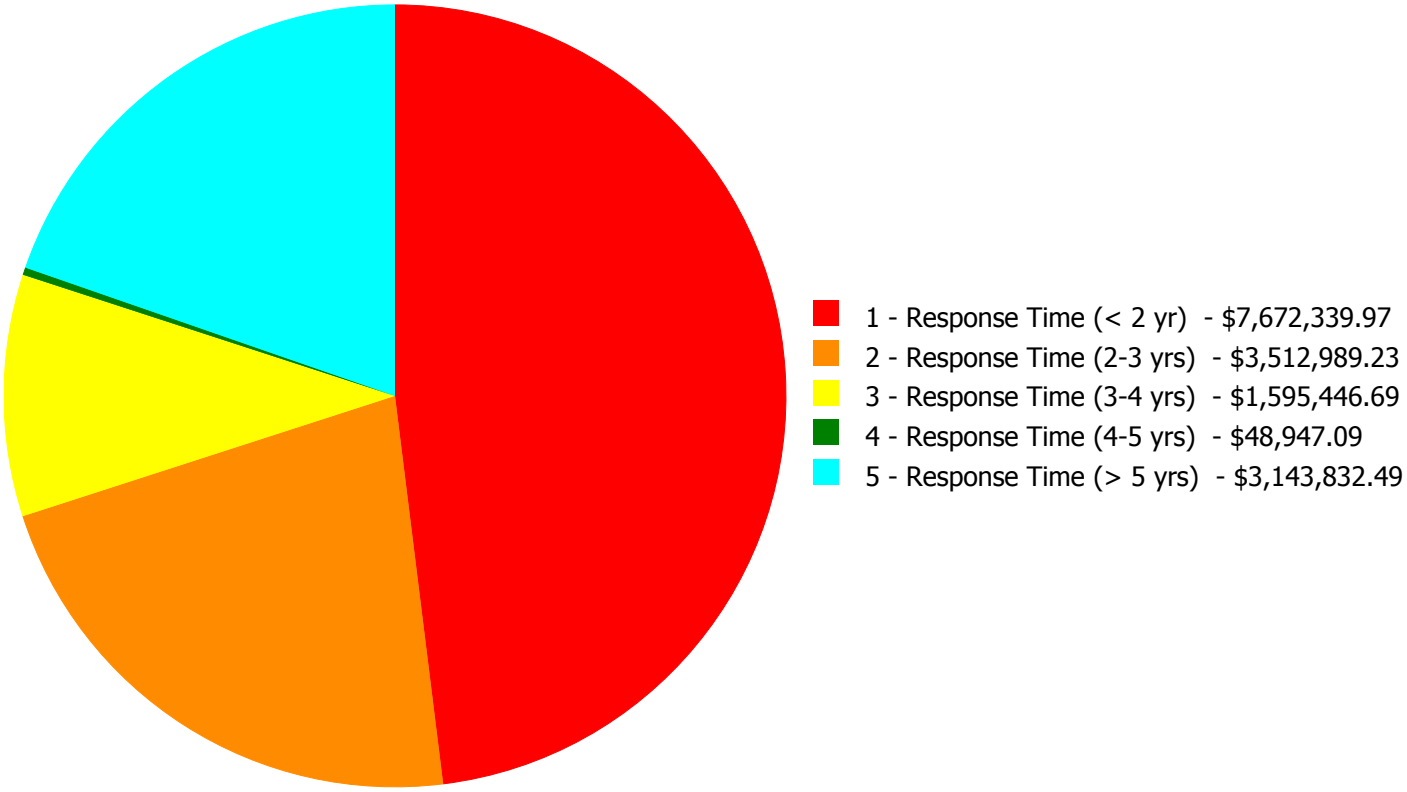
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $15,973,555.47

Deficiency Summary by Priority

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



Budget Estimate Total: $15,973,555.47

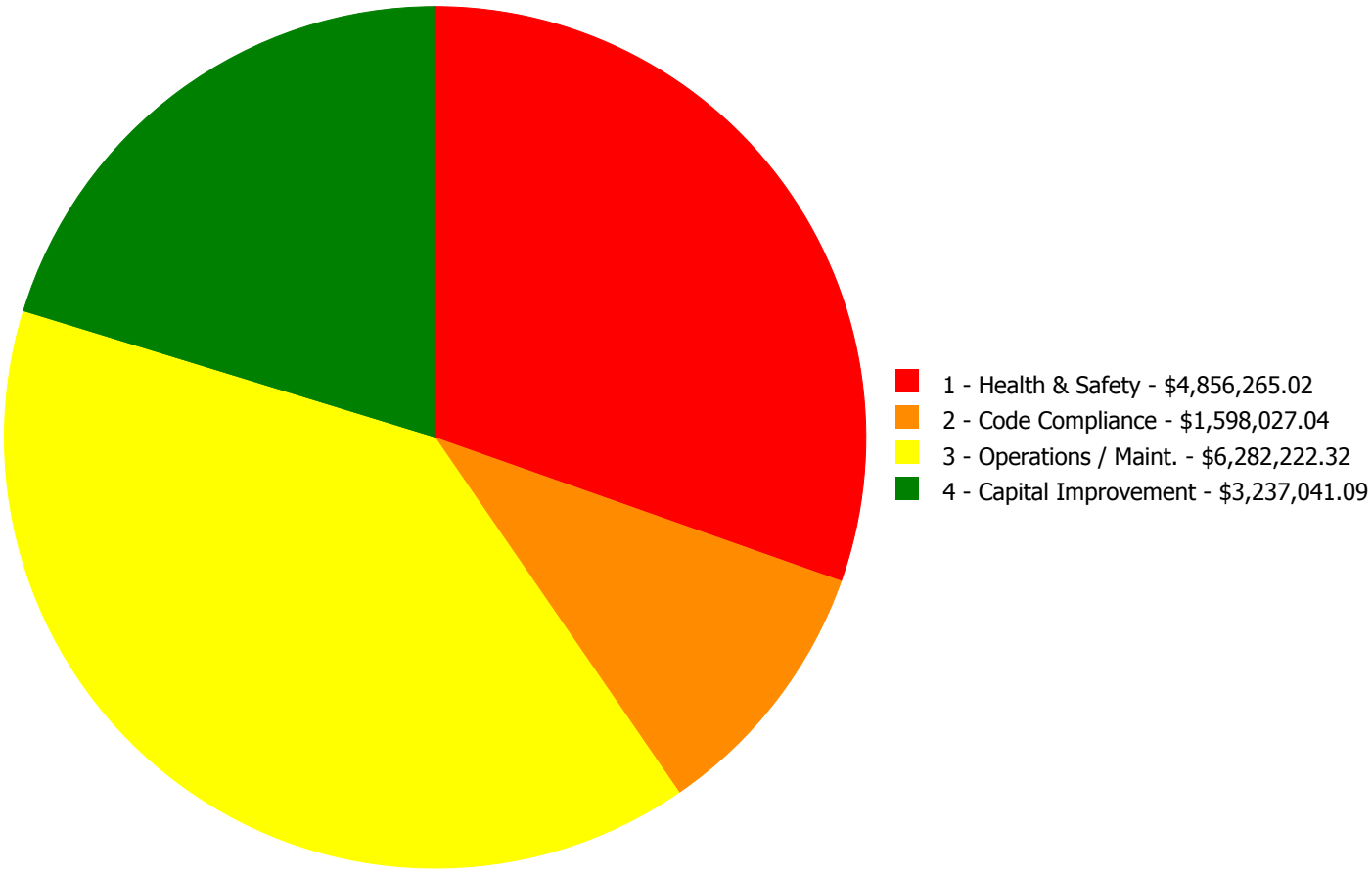
Deficiency By Priority Investment Table

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	$501.65	$20,471.13	$0.00	$0.00	$0.00	$20,972.78
B2020	Exterior Windows	$0.00	$264,407.00	$0.00	$0.00	$0.00	$264,407.00
B2030	Exterior Doors	$0.00	$69,872.79	$0.00	$0.00	$0.00	$69,872.79
B3010105	Built-Up	$982,646.08	$0.00	$0.00	$0.00	$0.00	$982,646.08
C1020	Interior Doors	$0.00	$415,289.55	$0.00	$0.00	$0.00	$415,289.55
C1030	Fittings	$0.00	$14,722.28	$0.00	$0.00	$0.00	$14,722.28
C2010	Stair Construction	$202,275.17	$274.01	$0.00	$0.00	$0.00	$202,549.18
C3010230	Paint & Covering	$0.00	$22,506.00	$0.00	$0.00	$0.00	$22,506.00
C3020412	Terrazzo & Tile	$0.00	$6,467.91	$0.00	$0.00	$0.00	$6,467.91
C3020413	Vinyl Flooring	$0.00	$927,441.75	$0.00	$0.00	$0.00	$927,441.75
C3020415	Concrete Floor Finishes	$0.00	$28,834.00	$0.00	$0.00	$0.00	$28,834.00
C3030	Ceiling Finishes	$0.00	$82,683.71	$0.00	$0.00	$0.00	$82,683.71
D2010	Plumbing Fixtures	$0.00	$0.00	$98,349.49	$0.00	$156,928.96	$255,278.45
D2020	Domestic Water Distribution	$0.00	$51,112.25	$0.00	$48,947.09	$422,450.77	$522,510.11
D2030	Sanitary Waste	$0.00	$0.00	$323,379.10	$0.00	$0.00	$323,379.10
D3020	Heat Generating Systems	$0.00	$0.00	$0.00	$0.00	$504,334.33	$504,334.33
D3030	Cooling Generating Systems	$106,501.44	$0.00	$0.00	$0.00	$0.00	$106,501.44
D3040	Distribution Systems	$3,771,278.17	$0.00	$1,140,471.49	$0.00	$970,757.26	$5,882,506.92
D3060	Controls & Instrumentation	$0.00	$1,608,906.85	$0.00	$0.00	$0.00	$1,608,906.85
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$1,089,361.17	$1,089,361.17
D5010	Electrical Service/Distribution	$805,046.08	$0.00	$0.00	$0.00	$0.00	$805,046.08
D5020	Lighting and Branch Wiring	$1,329,060.03	$0.00	$0.00	$0.00	$0.00	$1,329,060.03
D5030	Communications and Security	$433,897.96	$0.00	$0.00	$0.00	$0.00	$433,897.96
D5090	Other Electrical Systems	$26,907.67	$0.00	$0.00	$0.00	$0.00	$26,907.67
E1020	Institutional Equipment	$14,225.72	$0.00	$33,246.61	$0.00	$0.00	$47,472.33
	Total:	$7,672,339.97	$3,512,989.23	$1,595,446.69	$48,947.09	$3,143,832.49	$15,973,555.47

Deficiency Summary by Category

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



Budget Estimate Total: $15,973,555.47

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: B2010 - Exterior Walls

Location: exterior wall - Unity St.
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Re-caulk exterior control joints and other caulk joints
Qty: 25.00
Unit of Measure: L.F.
Estimate: $501.65
Assessor Name: Craig Anding
Date Created: 02/10/2016

Notes: Vertical expansion joint in brick on Unity Street needs to be recaulked (25ft)

System: B3010105 - Built-Up

Location: roof
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove and Replace Built Up Roof
Qty: 29,002.00
Unit of Measure: S.F.
Estimate: $982,646.08
Assessor Name: Craig Anding
Date Created: 02/10/2016

Notes: Replace roof, improving drainage into roof drains and eliminating flat spots (29,002sf)

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: 600.00

Unit of Measure: L.F.

Estimate: $202,275.17

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace stairway railings and guards (600ft)

System: D3030 - Cooling Generating Systems

This deficiency has no image.

Location: Boiler Room

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Provide refrigerant leak detection, alarm and purge ventilation system

Qty: 150.00

Unit of Measure: TonAC

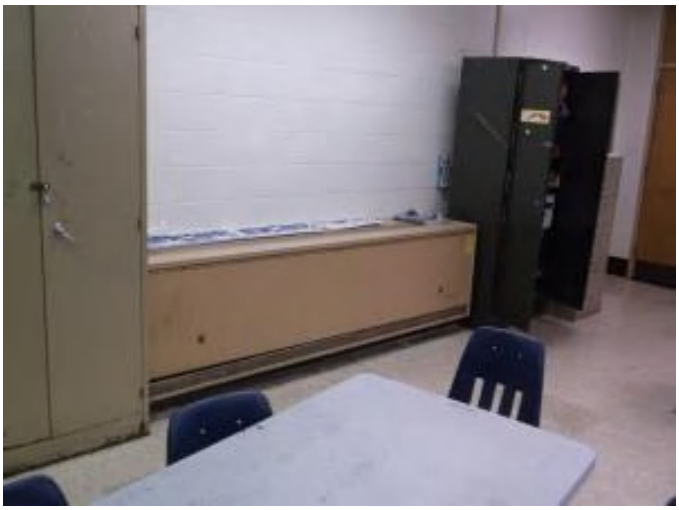
Estimate: $106,501.44

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide a refrigerant leak detection, alarm and purge ventilation system for the boiler / chiller room.

System: D3040 - Distribution Systems



Location: Classrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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: 76,150.00

Unit of Measure: S.F.

Estimate: $3,673,410.02

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units should be equipped with hot water / chilled water coils and integral heat recovery wheels.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: Room 108B

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install indoor AHU, CV, DT (15T)

Qty: 5.00

Unit of Measure: TonAC

Estimate: $97,868.15

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Install a fan coil unit to provide heating and code required minimum outdoor air ventilation for new Room 108B created by the construction of new partition walls.

System: D5010 - Electrical Service/Distribution

Location: Electrical Room

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: $416,833.60

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Upgrade the existing electrical service with a new service. Replace the existing substation with new 3000A, 480/277V substation.

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

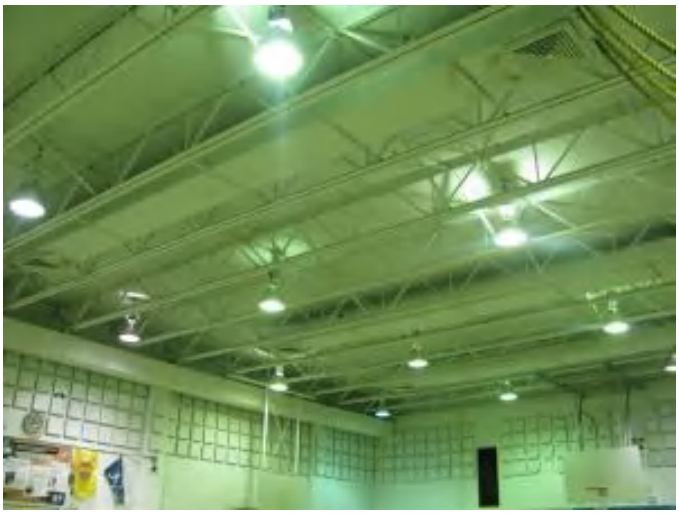
Estimate: $388,212.48

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Replace the entire distribution system with new panels and new wiring/conduits. Estimated 10 panel boards Provide arc flash label on the electrical equipment.

System: D5020 - Lighting and Branch Wiring



Location: Entier 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: $1,254,799.71
Assessor Name: Craig Anding
Date Created: 01/20/2016

Notes: Replace lighting fixtures with new fluorescent lighting fixtures with T-8 lamp throughout the buildings. Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures in gymnasium.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms
Distress: Inadequate
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Replace Wiring Device
Qty: 1.00
Unit of Measure: Ea.
Estimate: $74,260.32
Assessor Name: Craig Anding
Date Created: 01/20/2016

Notes: Install minimum two receptacles in each wall of class rooms. We recommend using two-compartment Power pole in the computer room. Estimated 80 total.

System: D5030 - Communications and Security

Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $373,349.12

Assessor Name: Craig Anding

Date Created: 01/20/2016

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

System: D5030 - Communications and Security

Location: Auditorium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: $30,845.83

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Provide new sound system per ECE-40020 (standard for reinforcement system design) including a freestanding 19” rack backstage with mixer per amplifiers, digital media recording with playback capability, AM-FM radio, graphic or parametric equalizer, and receivers for wireless microphone.

System: D5030 - Communications and Security

Location: Entire Building

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Clock System or Components

Qty: 1.00

Unit of Measure: Ea.

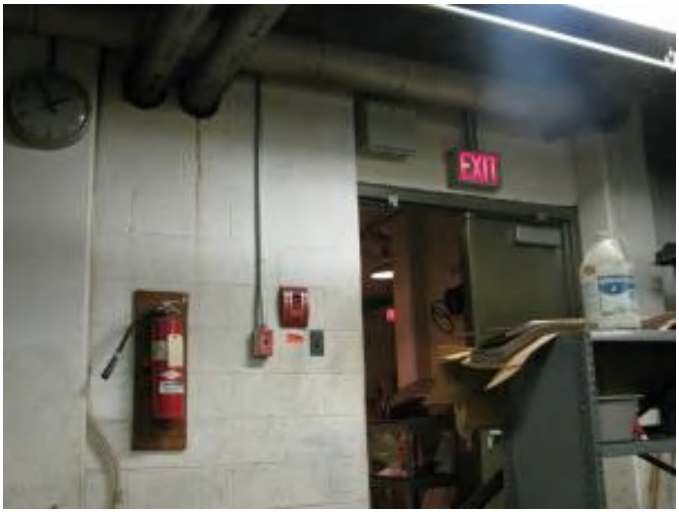
Estimate: $29,703.01

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Provide master clock system including wireless master clock controller and new clock in the classes, corridors and offices.

System: D5090 - Other Electrical Systems



Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Emergency/Exit Lighting

Qty: 1.00

Unit of Measure: Ea.

Estimate: $26,907.67

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Replace all exit signs with battery pack type exit signs. Estimated 25 each.

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $14,225.72

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Provide new modern stage lighting with automatic dimmer bank controller in the Auditorium

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

System: B2010 - Exterior Walls

Location: exterior walls
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Repair spalled concrete wall structure
Qty: 200.00
Unit of Measure: S.F.
Estimate: $11,343.24
Assessor Name: Craig Anding
Date Created: 02/10/2016

Notes: Repair spalling concrete beams and columns between windows (200sf)

System: B2010 - Exterior Walls

Location: univent louvers
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace exterior wall louvers - pick the closest size and insert the number of louvers
Qty: 5.00
Unit of Measure: Ea.
Estimate: $5,846.68
Assessor Name: Craig Anding
Date Created: 02/10/2016

Notes: Replace univents damaged facing playground (5)

System: B2010 - Exterior Walls

Location: exterior walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Sooty and dirty walls - powerwash

Qty: 3,000.00

Unit of Measure: S.F.

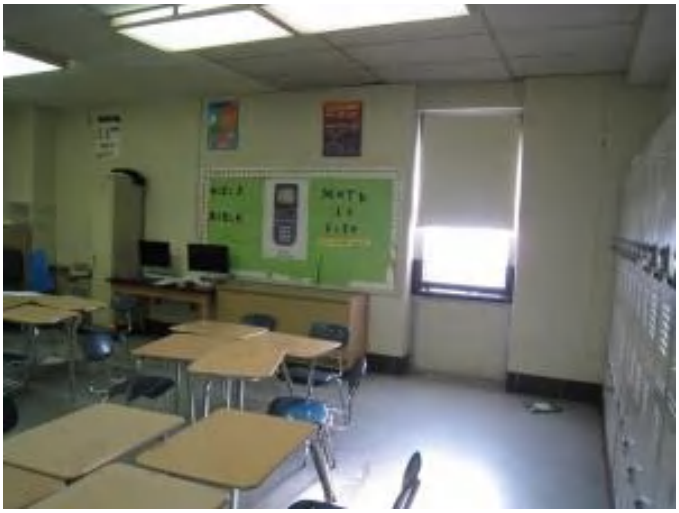
Estimate: $3,281.21

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Powerwash brick walls below first floor windows and window sills where dirty and with graffiti; paint walls previously painted (3,000sf)

System: B2020 - Exterior Windows



Location: exterior windows

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: 44.00

Unit of Measure: Ea.

Estimate: $264,407.00

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace all windows around the building (44 - 3.5x7')

System: B2030 - Exterior Doors

Location: exterior dors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace hardware with compliant hardware, paint and weatherstrip - per leaf

Qty: 20.00

Unit of Measure: Ea.

Estimate: $69,872.79

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Repaint exterior metal doors and metal frames; replace panic hardware and weatherstripping (20 3x7)

System: C1020 - Interior Doors

Location: interior doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 80.00

Unit of Measure: Ea.

Estimate: $381,646.97

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace wood doors into classrooms, toilet rooms, and offices, in corridors and provide new lever locksets (80) 3x7 doors

System: C1020 - Interior Doors

Location: stairways and mech rooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 24.00

Unit of Measure: Ea.

Estimate: $19,876.39

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Repaint hollow metal doors and frames at stairways and mechanical rooms (24 3x7) doors.

System: C1020 - Interior Doors

Location: corridor doors

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Provide security hardware for classroom and office doors

Qty: 60.00

Unit of Measure: Ea.

Estimate: $13,766.19

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Provide security hardware for classrooms and offices, locking from the inside of the room (60)

System: C1030 - Fittings

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace toilet partitions

Qty: 4.00

Unit of Measure: Ea.

Estimate: $10,265.62

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace toilet room partitions with HDPE plastic partitions (4 toilet compartments)

System: C1030 - Fittings

Location: toilet rooms

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 4.00

Unit of Measure: Ea.

Estimate: $4,456.66

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Provide toilet room accessories where partitions are replaced (4 toilet compartments)

System: C2010 - Stair Construction

Location: exterior ramp into building

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Re-paint stairway handrails - per LF of handrail pipe

Qty: 50.00

Unit of Measure: L.F.

Estimate: $274.01

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Repaint exterior ramp handrails/guards (50ft)

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 concrete or CMU walls - SF of wall surface

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $22,506.00

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Repaint peeling basement, stairway, and corridor walls (3,000sf)

System: C3020412 - Terrazzo & Tile

Location: terrazzo floors
Distress: Appearance
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Refinish terrazzo or tile flooring
Qty: 2,000.00
Unit of Measure: S.F.
Estimate: $6,467.91
Assessor Name: Craig Anding
Date Created: 02/10/2016

Notes: Strip and clean terrazzo in toilet rooms (2,000sf)

System: C3020413 - Vinyl Flooring

Location: vinyl floors
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: 61,150.00
Unit of Measure: S.F.
Estimate: $927,441.75
Assessor Name: Craig Anding
Date Created: 02/10/2016

Notes: Remove 9”x9” and 12”x12” VAT floors (and damaged VCT floors) in classrooms, corridors, and auditorium with and replace with VCT (61,150sf)

System: C3020415 - Concrete Floor Finishes

Location: concrete slabs

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Clean and reseal concrete floors

Qty: 7,500.00

Unit of Measure: S.F.

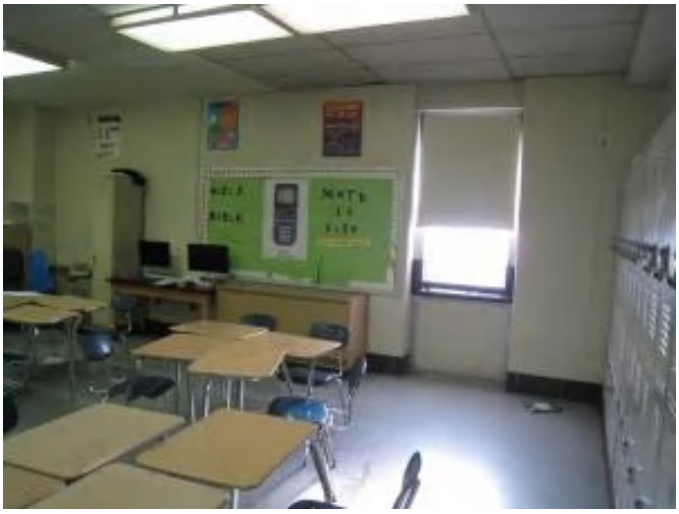
Estimate: $28,834.00

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Strip and reseal concrete floors in stairways, toilet rooms and part of basement (7,500sf)

System: C3030 - Ceiling Finishes



Location: ceilings

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $45,247.29

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace stained 2x4 suspended acoustical tile ceiling in classrooms (3,000sf)

System: C3030 - Ceiling Finishes

Location: ceiling

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $37,436.42

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace water damaged 1x1 corridor ceilings (3,000sf)

System: D2020 - Domestic Water Distribution

Location: Throughout Building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $51,112.25

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide a reduced pressure backflow preventer on the domestic water supply to the building.

System: D3060 - Controls & Instrumentation

Location: Throughout Building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 75,000.00

Unit of Measure: S.F.

Estimate: $1,608,906.85

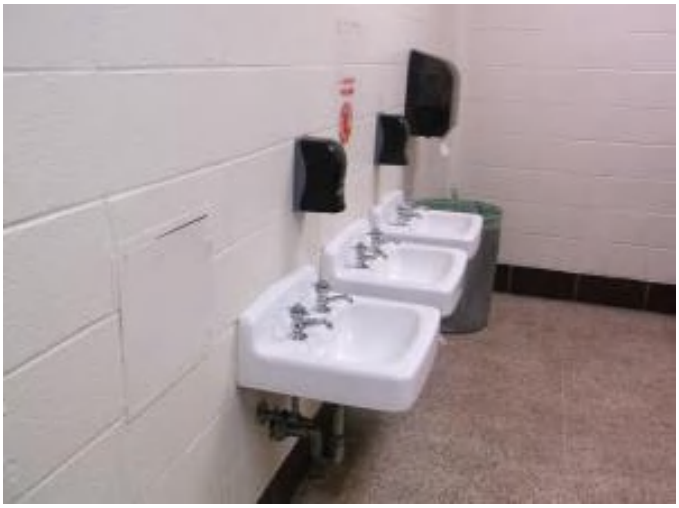
Assessor Name: Craig Anding

Date Created: 02/09/2016

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.

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

System: D2010 - Plumbing Fixtures



Location: B729001;Stearne

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace lavatory - with finishes

Qty: 12.00

Unit of Measure: Ea.

Estimate: $98,349.49

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace the original wall hung lavatories and wheel handle faucets with low flow fixtures.

System: D2030 - Sanitary Waste

Location: Throughout 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: 76,150.00

Unit of Measure: S.F.

Estimate: $323,379.10

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping in service for nearly 50 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace power roof ventilator (24" dia.)

Qty: 13.00

Unit of Measure: Ea.

Estimate: $576,009.06

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace the low profile, power roof ventilators that exhaust air from the restrooms and utility rooms; total of thirteen (13) fans. These fans should be replaced as they are well beyond their anticipated service life.

System: D3040 - Distribution Systems

Location: 2nd Floor MER

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 200.00

Unit of Measure: Seat

Estimate: $333,093.30

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace the air handling unit in the 2nd Floor mechanical room that supplies heating and ventilation for the Auditorium. The new unit should be equipped with both heating and air conditioning coils and economizer dampers. The existing unit equipped with a draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.

System: D3040 - Distribution Systems

Location: 2nd Floor MER

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 850.00

Unit of Measure: Student

Estimate: $231,369.13

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace the air handling unit in the 2nd Floor mechanical room that supplies the Lunchroom/Gymnasium. The new unit should be equipped with both heating and air conditioning coils and economizer dampers. The existing unit equipped with a draw through fan and has an external motor and belt guard that does not comply with OSHA guidelines. The unit housing is also insulated with internal fibrous liner.

System: E1020 - Institutional Equipment

Location: kindergarten and art cabinets

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace base cabinets and countertops

Qty: 40.00

Unit of Measure: L.F.

Estimate: $33,246.61

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace worn out kitchen cabinets in kindergarten and art room (40 linear feet)

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

System: D2020 - Domestic Water Distribution

Location: Boiler 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: Craig Anding

Date Created: 02/09/2016

Notes: Replace the two gas-fired, tankless instantaneous (on demand) domestic water heaters manufactured by Paloma installed in the boiler room in 1994 to maintain reliable service.

Priority 5 - Response Time (> 5 yrs):

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6.00

Unit of Measure: Ea.

Estimate: $156,928.96

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace six (6) wall hung drinking fountains and integral refrigerated coolers located in the corridors and at the restrooms. These units are well beyond their service life; several are damaged and two are the original china non-accessible type.

System: D2020 - Domestic Water Distribution

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace domestic water piping (75 KSF)

Qty: 75,000.00

Unit of Measure: S.F.

Estimate: $380,051.97

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace the original copper domestic water piping in service for nearly 50 years.

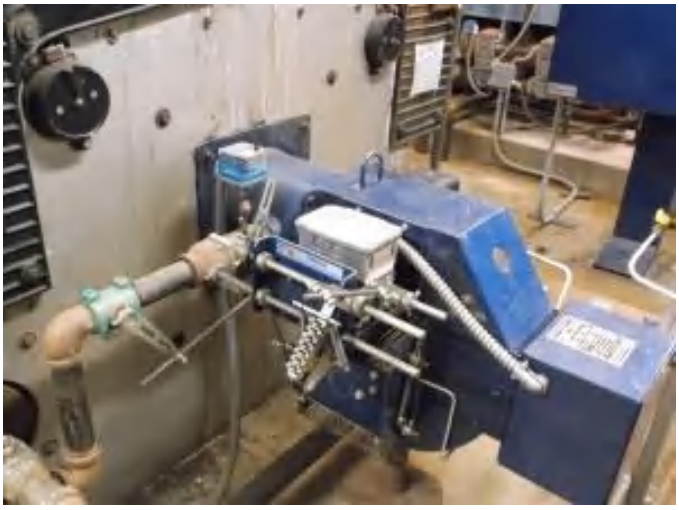
System: D2020 - Domestic Water Distribution

This deficiency has no image.

Location: Boiler Room
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 5 - Response Time (> 5 yrs)
Correction: Provide water softener (90,000 Gr / 25 gpm)
Qty: 1.00
Unit of Measure: Ea.
Estimate: $42,398.80
Assessor Name: Craig Anding
Date Created: 02/09/2016

Notes: Provide a softener for conditioning water supplied to the boilers.

System: D3020 - Heat Generating Systems



Location: Boiler Room
Distress: Energy Efficiency
Category: 4 - Capital Improvement
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace power burner, gas/oil (150 HP)
Qty: 2.00
Unit of Measure: Ea.
Estimate: $269,293.35
Assessor Name: Craig Anding
Date Created: 02/09/2016

Notes: Replace the existing 120 HP gas burners of the HW boilers with combination gas/oil type and provide pumps and controls for delivery of oil to the burners.

System: D3020 - Heat Generating Systems

This deficiency has no image.

Location: Site

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Provide fuel oil tank, above ground concrete encased (8,000 gal)

Qty: 8,000.00

Unit of Measure: Gal.

Estimate: $235,040.98

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide an 8,000 gallon aboveground concrete-encased tank, circulation pumps and controls to receive billing credit from the gas utility as an interruptible service.

System: D3040 - Distribution Systems

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace hydronic heating piping (75KSF)

Qty: 75,000.00

Unit of Measure: S.F.

Estimate: $738,330.96

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Perform additional testing of the hydronic piping in service nearly 50 years to locate and replace any damaged sections and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: Administration

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 537.00

Unit of Measure: Student

Estimate: $232,426.30

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Install a rooftop air conditioning unit to provide ventilation for the main administrative offices.

System: D4010 - Sprinklers

Location: Throughout Building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 76,150.00

Unit of Measure: S.F.

Estimate: $1,089,361.17

Assessor Name: Craig Anding

Date Created: 02/09/2016

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, cast iron, gas, hot water, 3808 MBH	2.00	Ea.	B-2	HB Smith	4500A-S/W-10			35			$110,416.20	$242,915.64
D3020 Heat Generating Systems	Boiler, cast iron, gas, hot water, 3808 MBH	2.00	Ea.	B-1	HB Smith	4500A-S/W-10			35			$110,416.20	$242,915.64
D3030 Cooling Generating Systems	Cooling tower, galvanized steel, packaged unit, draw thru, 300 ton	1.00	Ea.	CT-1	Evapco	LSTA 8P-12	5-122083		30	2008	2038	$75,868.80	$83,455.68
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, packaged unit, water cooled, 200 ton, includes standard controls, excludes water tower	1.00	Ea.	CH-1	Carrier	30HXC161-RZ-561	0808Q08802		30	2008	2038	$114,064.50	$125,470.95
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Electrical Room					30	1968	2017	$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 2000 amp, excl breakers	1.00	Ea.	Electrical Room					30	1968	2017	$8,352.45	$9,187.70
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 500 kVA, pad mounted	1.00	Ea.	Electrical Room					30	1968	2017	$33,534.00	$36,887.40
												Total:	**$787,966.91**

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):	48,300
Year Built:	1968
Last Renovation:	
Replacement Value:	$1,038,561
Repair Cost:	$187,690.10
Total FCI:	18.07 %
Total RSLI:	43.63 %

Description:

Attributes:

General Attributes:

Bldg ID:	S729001	Site ID:	S729001

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	43.74 %	24.76 %	$187,690.10
G40 - Site Electrical Utilities	43.33 %	0.00 %	$0.00
Totals:	**43.63 %**	**18.07 %**	**$187,690.10**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$8.50	S.F.	12,300	30	1968	1998	2035	66.67 %	74.34 %	20		$77,727.55	$104,550
G2030	Pedestrian Paving	$12.30	S.F.	36,000	40	1968	2008	2028	32.50 %	2.86 %	13		$12,656.91	$442,800
G2040	Site Development	$4.36	S.F.	48,300	25	1968	1993	2029	56.00 %	46.21 %	14		$97,305.64	$210,588
G2050	Landscaping & Irrigation	$4.36	S.F.		15				0.00 %	0.00 %				$0
G4020	Site Lighting	$4.84	S.F.	48,300	30	1968	1998	2028	43.33 %	0.00 %	13			$233,772
G4030	Site Communications & Security	$0.97	S.F.	48,300	30	1968	1998	2028	43.33 %	0.00 %	13			$46,851
								Total	**43.63 %**	**18.07 %**			**$187,690.10**	**$1,038,561**

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.

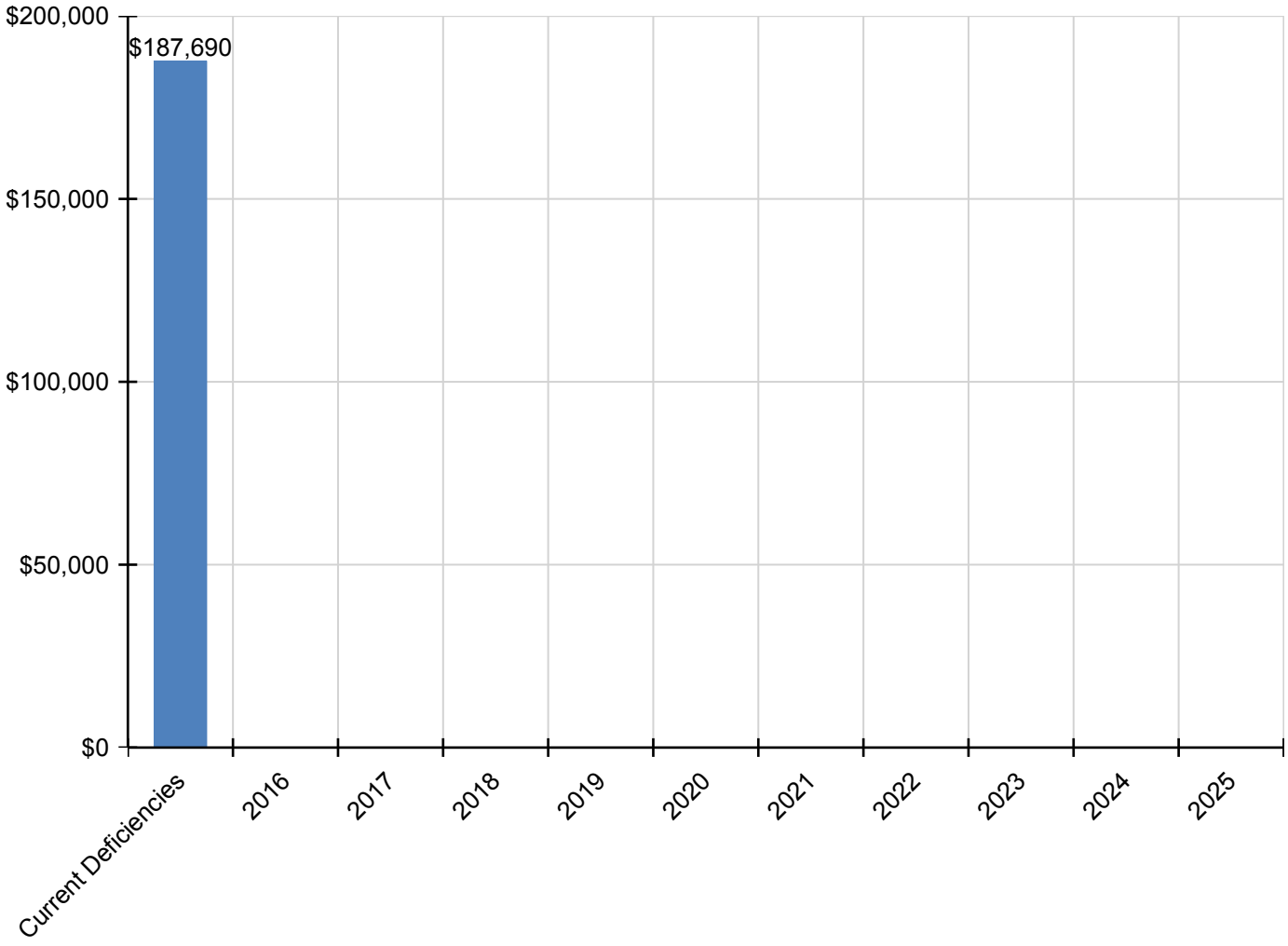
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$187,690**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$187,690**
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	$77,728	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$77,728**
G2030 - Pedestrian Paving	$12,657	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$12,657**
G2040 - Site Development	$97,306	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$97,306**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

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

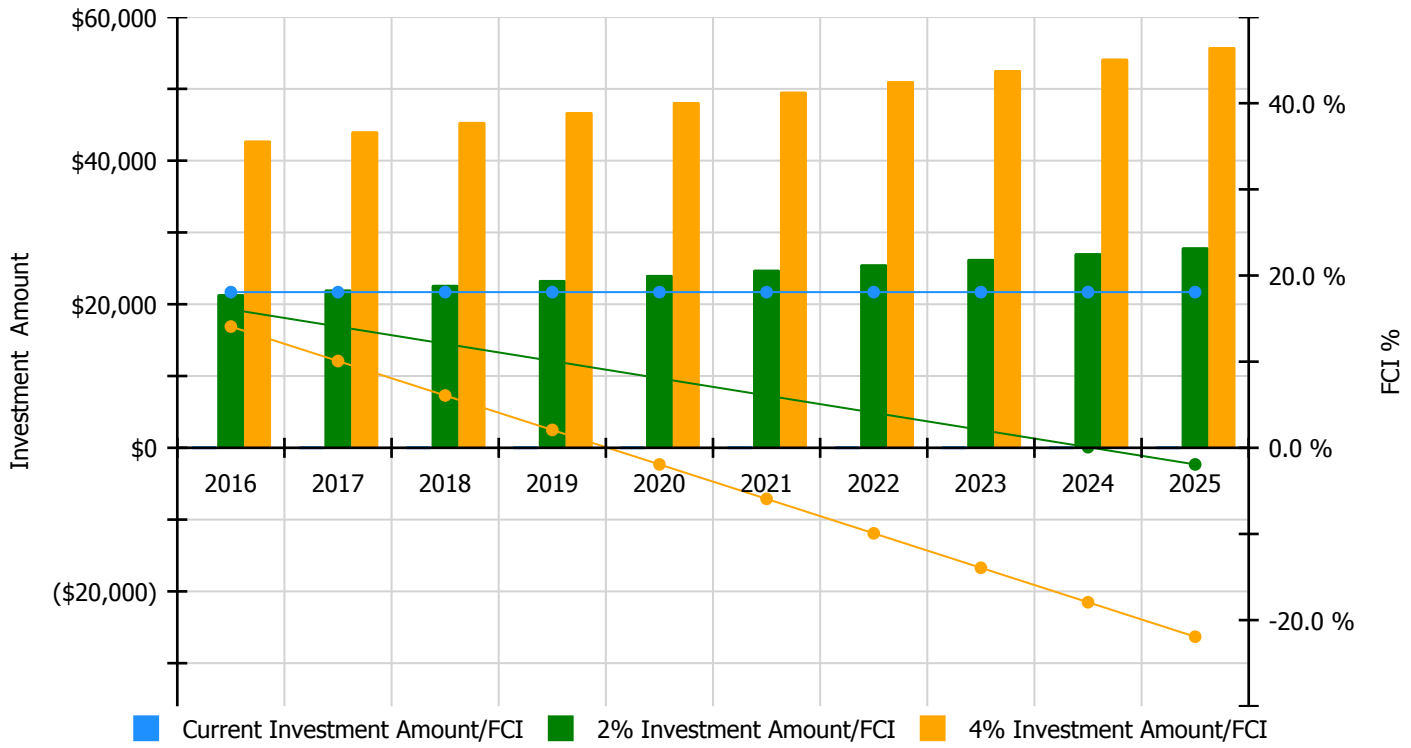


10 Year FCI Forecast by Investment Scenario

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

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

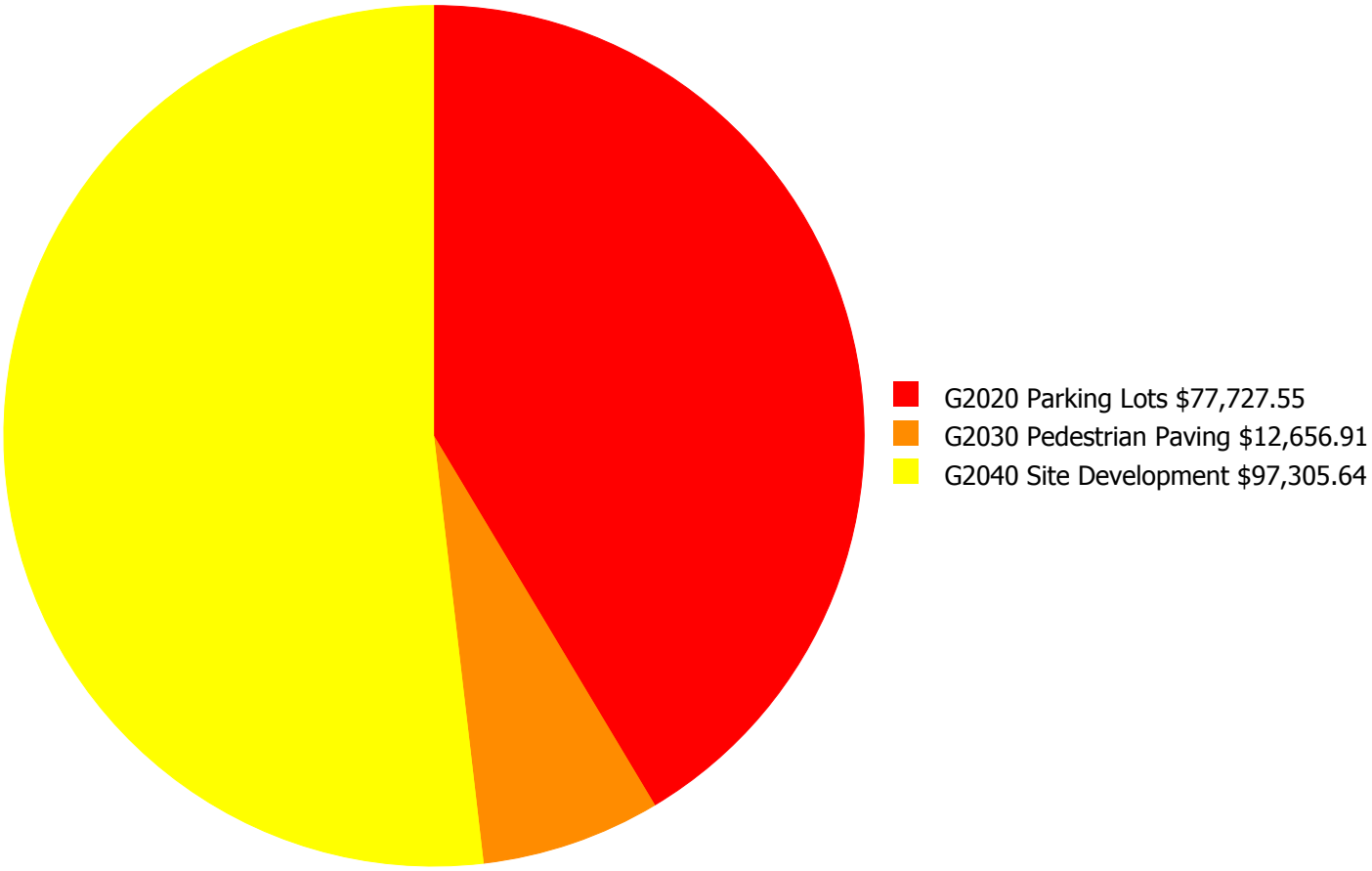
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 18.07%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$21,394.00	16.07 %	$42,789.00	14.07 %
2017	$0	$22,036.00	14.07 %	$44,072.00	10.07 %
2018	$0	$22,697.00	12.07 %	$45,395.00	6.07 %
2019	$0	$23,378.00	10.07 %	$46,756.00	2.07 %
2020	$0	$24,080.00	8.07 %	$48,159.00	-1.93 %
2021	$0	$24,802.00	6.07 %	$49,604.00	-5.93 %
2022	$0	$25,546.00	4.07 %	$51,092.00	-9.93 %
2023	$0	$26,312.00	2.07 %	$52,625.00	-13.93 %
2024	$0	$27,102.00	0.07 %	$54,203.00	-17.93 %
2025	$0	$27,915.00	-1.93 %	$55,830.00	-21.93 %
Total:	**$0**	**$245,262.00**		**$490,525.00**	

Deficiency Summary by System

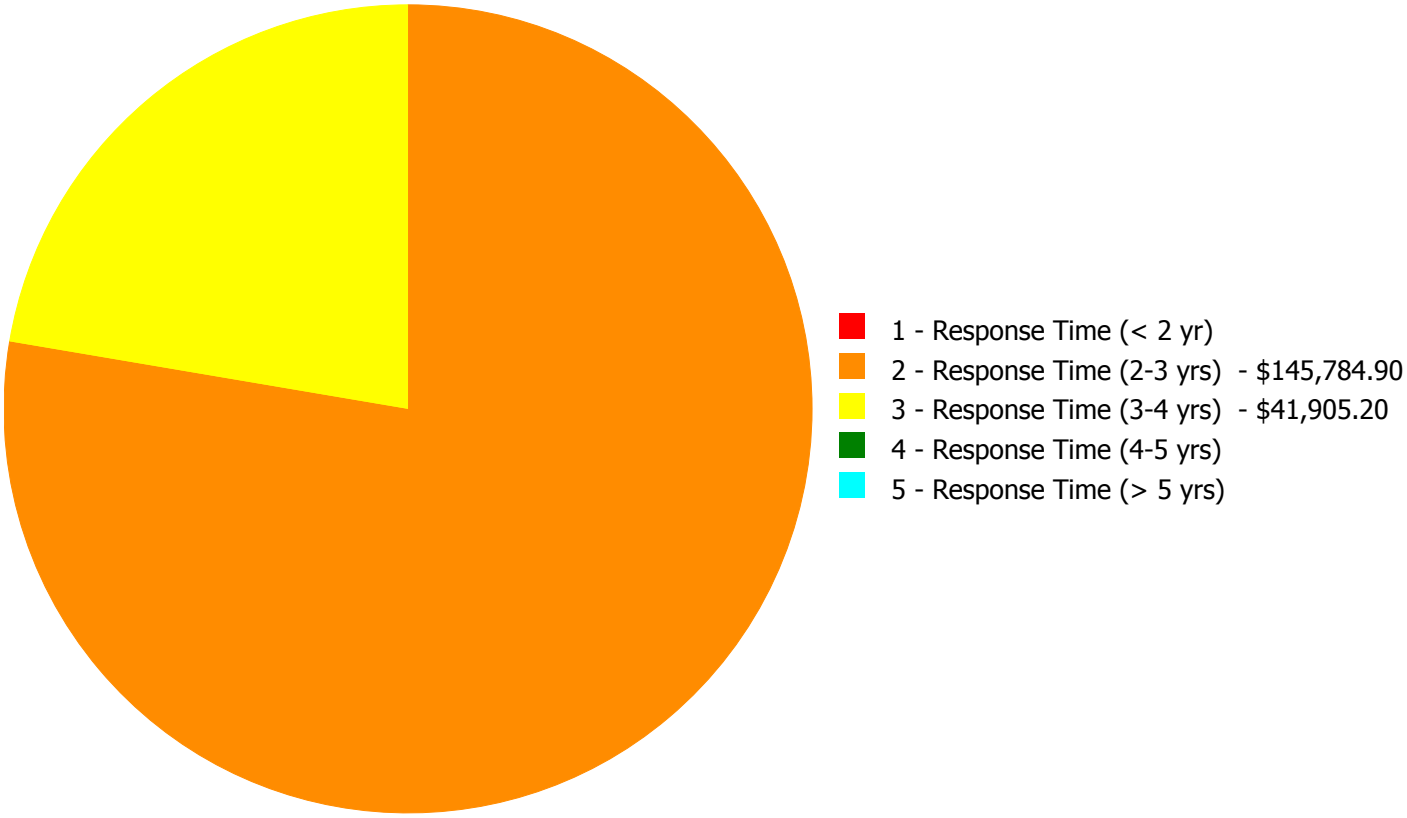
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $187,690.10

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: $187,690.10

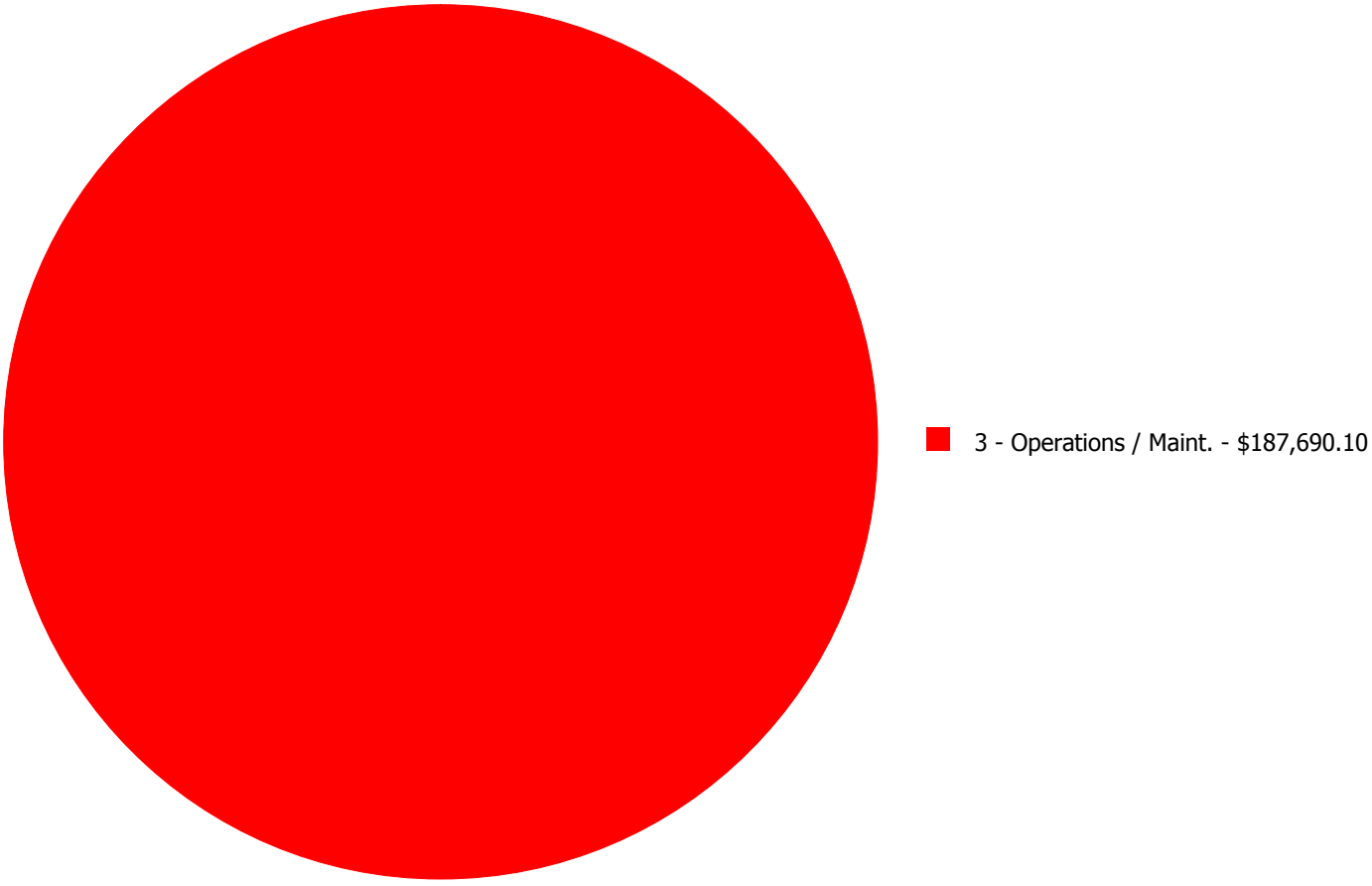
Deficiency By Priority Investment Table

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	$35,822.35	$41,905.20	$0.00	$0.00	$77,727.55
G2030	Pedestrian Paving	$0.00	$12,656.91	$0.00	$0.00	$0.00	$12,656.91
G2040	Site Development	$0.00	$97,305.64	$0.00	$0.00	$0.00	$97,305.64
	Total:	$0.00	$145,784.90	$41,905.20	$0.00	$0.00	$187,690.10

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: $187,690.10

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: play area

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Fill pavement cracks and reseal parking lot - including striping - change the LF of crack repair if it is severe

Qty: 25,000.00

Unit of Measure: S.F.

Estimate: $35,822.35

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Crackfill and seal asphalt play area (500ft cracks; 25,000sf seal)

System: G2030 - Pedestrian Paving

Location: sidewalks

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 800.00

Unit of Measure: S.F.

Estimate: $11,506.28

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Repave broken sidewalks around building (800sf)

System: G2030 - Pedestrian Paving

Location: entrance to auditorium

Distress: Accessibility

Category: 3 - Operations / Maint.

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

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

Qty: 80.00

Unit of Measure: S.F.

Estimate: $1,150.63

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Add sloped surface at auditorium entrance, making it accessible (80sf)

System: G2040 - Site Development

Location: site fencing

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace chain link fence - 6' high

Qty: 900.00

Unit of Measure: L.F.

Estimate: $80,746.24

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace chain link fences and gates (900lf; 3 vehicle gates, 2 personnel gates)

System: G2040 - Site Development

Location: chain link gates

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace chain link gate - 6' high

Qty: 5.00

Unit of Measure: Ea.

Estimate: $16,559.40

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Replace chain link fences and gates (650lf; 3 vehicle gates, 2 personnel gates)

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

System: G2020 - Parking Lots

Location: faculty parking lots

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 11,000.00

Unit of Measure: S.F.

Estimate: $41,905.20

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: Repave asphalt faculty parking lots (11,000sf)

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