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.

Ellwood School

Governance	DISTRICT	Report Type	Elementary
Address	6701 N. 13Th St.	Enrollment	323
	Philadelphia, Pa 19126	Grade Range	'00-05'
Phone/Fax	215-276-5268 / 215-276-5876	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Ellwood	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	**51.88%**	**$14,715,182**	**$28,365,595**
Building	54.78 %	$14,531,916	$26,529,958
Grounds	09.98 %	$183,266	$1,835,637

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.59 %	$847,050	$945,500
Exterior Walls (Shows condition of the structural condition of the exterior facade)	12.58 %	$258,316	$2,052,971
Windows (Shows functionality of exterior windows)	70.76 %	$708,868	$1,001,734
Exterior Doors (Shows condition of exterior doors)	200.77 %	$161,922	$80,650
Interior Doors (Classroom doors)	244.36 %	$477,059	$195,230
Interior Walls (Paint and Finishes)	00.00 %	$0	$734,753
Plumbing Fixtures	00.00 %	$0	$751,996
Boilers	63.15 %	$655,797	$1,038,444
Chillers/Cooling Towers	65.60 %	$893,233	$1,361,602
Radiators/Unit Ventilators/HVAC	152.96 %	$3,657,463	$2,391,147
Heating/Cooling Controls	158.90 %	$1,193,185	$750,884
Electrical Service and Distribution	219.41 %	$1,183,759	$539,524
Lighting	52.13 %	$1,005,606	$1,928,936
Communications and Security (Cameras, Pa System and Fire Alarm)	56.92 %	$411,231	$722,517

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

S726001;Ellwood

Final

Site Assessment Report

January 31, 2017

PARSONS

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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):	55,621
Year Built:	1957
Last Renovation:	
Replacement Value:	$28,365,595
Repair Cost:	$14,715,181.75
Total FCI:	51.88 %
Total RSLI:	65.81 %

Description:

Facility Assessment
December 2015

School District of Philadelphia
Ellwood Elementary School
6701 N 13th St.
Philadelphia, PA 19126

55,621 SF / 358 Students / LN 06

GENERAL

The Ellwood Elementary School is identified as B726001. This facility is located at 6701 N 13th St., Philadelphia, PA. The design of the V-shaped, concrete and steel-framed building includes brick facades with a concrete foundation. Constructed in 1957.

The main entrance faces the Southern exterior facing the plaza, drop off area. This School serves students in grades k to 6 and has a basement with two stories consisting of a total gross square footage of 55,621 GSF.

This school has several classrooms, a library, kitchen and student commons, gym, Auditorium and cafeteria, with supporting administrative spaces.

The information for this report was collected during a site visit on December 3, 2015.

Mr. David Leach, current Building Engineer, and Mr. Robert Brown, former Building Engineer, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Ms. Marilyn Quarterman, Principal, also participated in the interview and shared information about the school with the assessment team.

Architectural / Structural Systems

The exterior brick surfaces are generally in fair to good condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The repointing of deteriorated mortar joints is also recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the brick and repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

Most of the exterior windows have been upgraded from the original applications. As indicated in the photos several of the windows appear to be original. A majority of the window system is estimated to have been installed in the 1990's. Several of the windows no longer work and will require attention prior to an overall effort. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. Most of the doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The service doors on the roof have expired and failed compromising access to elevator rooms and tower rooms. The exterior door system, store front and service doors are recommended for upgrade.

There are a number of roof sections and different roof elevations ranging from the main roof to the addition roof. Parapet heights, coping materials, and the height of the flashing also varies in different sections. The main roof is a built up application that was installed in the early 1990'S. During the time of the inspection it was reported that several leaks are active and a consistent repair program is consuming efforts to maintain the roof. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace all roof sections. This deficiency is expected to be completed as part of an exterior effort coordinated with other recommendations included in this report.

Special consideration for those that may be physically challenged was not a main factor in the construction. Currently there is one compliant entrances at grade from the playground entrance. The path of travel is not clear from this access points as the interior path of travel is limited the lack of some compliant signage, restrooms amities, compliant door hardware, hand rails and guard rails to meet the needs of the physically challenged.

A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically wood or metal in metal frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at stairwells and exit ways. Doors are generally in good condition considering the age of the application. Universal upgrades are required for the interior door systems it is recommended that the interior doors system be removed and replaced with a new modern metal framed hollow metal door system with consideration for ADA compliance.

There are several tack boards in the hallways for student displays. The systems are beyond the expected service life for this application. Remove and replace tack boards is recommended.

The classroom chalk boards are covered with temporary white boards in several rooms. There are several classrooms with the original chalk boards. This system is beyond its expected life and universal upgrades are warranted. Remove and upgrade chalkboards to new marker board systems.

There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

The interior painted surfaces are in good condition. This school appears to be on an almost continuous program of renewal of the applied finishes to maintain an acceptable appearance. With this in mind there are no recommendations required at this time.

This school has sections of 12x12 floor tile that represents upgrades and abatement of the 9x9 tile. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

The wood floor finish on the stage was reported to have been repaired within the past ten years. This floor is expected to have a life cycle that extends beyond the outlook of this report. No recommendations are warranted at this time.

The ceiling finish is a mix of 12 x 12 ceiling grid, painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended mechanical electrical efforts in this report. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

The school stage has a stage curtain assembly that appears to be from the original construction. Modern applications are typically fire -proof applications with adjustable tracks and electric support for operation. The curtains are torn in a few section and the track is not functioning properly, overall the system is in poor condition. It is recommended that the curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school. Ensure that ADA requirements are followed with the new seating layout.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Lavatories have dual wheel handle faucets and urinals and water closets have recessed manual flush valves with lever operators. Custodial areas have cast iron service sinks or mop basins. There are stainless steel water coolers with integral refrigeration and some china drinking fountains with no refrigeration in corridors and some counter top stainless steel sinks in break. Domestic water is heated by one Paloma instantaneous gas water heater in the basement mechanical room with a small inline circulating pump, connected to a horizontal storage tank. The unit appears to be older and in bad condition.

Water piping is copper from the original installation. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron. The building water service is a four inch line into the mechanical room from N. thirteenth St. and includes a backflow preventer. Gas service is a two inch line and meter located in the mechanical room.

The water heater should be replaced based on age and condition, and a second unit should be installed for redundancy. The cast iron piping has exceeded the anticipated service life. Rainwater and vent piping should continue functioning, but the sanitary and waste piping should be inspected to determine condition and replace damaged portions. Plumbing fixtures appear to have been replaced within the past ten years and should be serviceable twenty five more years.

HVAC-Heating is generated by two HB Smith model 24 seventy five hp sectional cast iron low pressure steam oil fired boilers in the basement mechanical room. The boilers have Power Flame burners with separate oil pumps and reportedly are reportedly original installation from 1956.There is a Shipco boiler feed pump/ condensate receiver with three 1 hp pumps. A chemical feed system treats make up water. There are combustion air louvers with dampers and a field fabricated boiler vent into a brick chimney. Oil is stored in

an eight thousand gallon underground tank. A duplex fuel oil pump system in an adjacent room provides circulation.

The original building is heated by steam and the addition has a hot water heating system. Steam and hot water piping is insulated welded black steel .The hot water system consists of two Armstrong shell and tube heat exchangers and two Armstrong inline hot water pumps suspended in the mechanical room. Classrooms and some other areas have unit ventilators, with steam coils in older units and hot water coils in newer units. The units are Nesbitt and appear to be from the construction periods of the building segments, 1956 and 1968. Other areas requiring heat are served by steam or hot water radiators. There are older Trane heating and ventilating units in second floor mechanical rooms serving the gymnasium and the auditorium. One room has a ducted unit ventilator serving two offices.

There is no central air conditioning. Two new DX split systems were installed approximately five years ago for the IMC and computer lab. The systems are five tons each with roof mounted condensing units and air handling units above the ceilings in the spaces. There are some window air conditioners and a ductless split system for the IT room with a wall mounted condensing unit. Mechanical toilet exhaust for the newer building is provided by two centrifugal roof ventilators. Toilet exhaust for the original building is connected to a fan located on a platform in one of the toilet rooms.

There are older pneumatic controls with a duplex control air compressor in the mechanical room.

The steam and hot water systems including piping and radiators are from the two original construction dates and have exceeded the service life. Similarly the unit ventilators and two heating and ventilating units are older and should be replaced. The boilers are well beyond the service life and should be replaced under high priority. The two DX split systems appear to be approximately five years old and should have remaining life of fifteen years.

FIRE PROTECTION - There are no sprinklers in this building.

ELECTRICAL SYSTEMS

Electrical Service-- The building is served by PECO Energy Company with underground 120/240V, 2 phase, 5 wire service routed to a 400A fusible service entrance switch located in the Building Engineer's Office 004 via a current transformer and metering cabinet. The 400A switch feeds two (2) 350A, 120/240V, 2 phase, 5 wire knife blade panelboards with exposed fusible switches when the outer door is opened. The 350A knife blade fusible switches feed a 100A knife blade fusible panelboard and two (2) 100A and one (1) 200A safety switches in the room. Two of the safety switches feed 240V-208/120V phase change transformers. The 350A panelboards also feed 13 normal power and 1 emergency power panelboards throughout the building. All of this equipment is well beyond its useful service life and should be replaced within the next 2 to 3 years. The safety switches serving mechanical equipment in the Boiler Room are also at end of their useful life. Replacement of eight (8) safety switches is included in this report.

The 400A, 120/240V, 2 phase, 5 wire service does not have adequate capacity to serve central air conditioning equipment and an elevator addition, should these elements be added to the building. Replacement with a load center unit substation rated 750 kVA, 13.2 kV-208/120V, 3 phase, 4 wire with 2500A main switchboard is included in this report.

Receptacles-- Most of the classrooms are provided with very few duplex receptacles, which is not adequate for today's classroom. An additional 6 to 8 duplex receptacles should be provided in 17 classrooms using a surface metal raceway system.

Lighting-- Most of the fluorescent lighting fixtures in classrooms and offices are stem mounted 4 foot, wraparound or modular style fixtures with acrylic prismatic lenses and T12 lamps. The Auditorium, IMC, corridors and some classrooms have surface mounted 2x4 modular fluorescent fixtures. Restrooms and stairwells also have surface mounted fluorescent fixtures. There are 2x4 recessed fluorescent troffers only in a few areas where there is acoustical ceiling tile. All of the fluorescent fixtures with obsolete T12 lamps should be replaced with new fixtures with T8 or T5 lamps.

The Auditorium also has six (6) twin incandescent spotlight fixtures along the side walls for emergency lighting. Replacement with LED emergency lighting fixtures is recommended for reduced maintenance considerations. There is one row of theatrical batten lighting and seven (7) fluorescent wraparound worklights above the platform. There is no dimming system for the auditorium or platform. Lighting is controlled by branch circuit breakers in the stage panelboard.

The gymnasium has 24 suspended metal halide industrial fixtures that are in good condition with an estimated remaining useful life of 5 years. Replacement of lighting with LED fixtures is included in this report.

The Boiler Room and mechanical spaces have industrial fluorescent fixtures with (2) T12 lamps.

A wall mounted lighting fixture is provided at each of the exit discharges. Surface mounted fixtures are provided at the Visitor Entrance and where there is a building overhang. Fixtures are in fair condition; replacement of all exterior fixtures is recommended within 3 to 4 years. There are two (2) wall mounted floodlighting fixtures above the Visitor Entrance that illuminate the stairs to the entrance.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations and bell notification appliances. The fire alarm control panel (FACP) is by S.H. Couch Company, and is located in the Building Engineer's Office in the Basement. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances in the building. The entire fire alarm system needs to be replaced with an addressable type to meet current NFPA codes and ADA requirements.

Telephone/LAN--The telephone service demarcation point and telephone distribution equipment is located in the Main Distribution Frame (MDF) room inside the Main Office. A telephone and hard wired data outlet is provided in each classroom. Wireless access points are located to provide Wi-Fi service throughout the entire school.

Intercom/Paging/Sound Systems-- The paging system is accessed through the telephone system. The paging amplifier is located in the MDF and provides paging interface with the telephone system. Each classroom has a wall mounted speaker. Wall mounted speakers are located in the corridors, auditorium and cafeteria/gymnasium. This system is estimated to have a remaining useful life of 10 to12 years. No recommendations are made at this time.

The Visitor Entrance has an Aiphone intercom station with communication to the Main Office.

Clock and Program System-- There is a Simplex Time Control Center in the Main Office for the program system, but not for a clock system. Individual clocks are wall mounted in classrooms, auditorium, cafeteria/gymnasium and other rooms. It is recommended that all clocks be replaced with battery operated synchronized clocks controlled by a wireless GPS master clock system in the next 4 to 5 years.

Television System-- There is no television system in this school.

Video Surveillance and Security Systems--There is no video surveillance system in this school. An allowance to provide a video surveillance system with cameras, 16 channel digital video recorder (DVR), and one monitor is included in this report.

Some exterior and stairwell doors are provided with magnetic door contacts. A security keypad is located at one of the doors to arm/disarm the system.

Emergency Power System-- There is a Generac 15 kW/15 kVA, 120/240V, 1 phase standby generator, 105A automatic transfer switch (ATS) and 100A plug-in fusible panel for emergency power. The standby power system mainly serves emergency egress and exit lighting. The system was installed in 1993 and has served its useful life. Replacement generator should be sized to supply the addition of a hydraulic elevator.

Emergency Lighting System / Exit Lighting-- Emergency egress and exit lighting fixtures are served from the emergency lighting panelboard. There are a few locations where exit signs are not provided at the exit door and need to be added. Exit signs have incandescent lamps and have served their useful life and should be replaced with LED type.

Lightning Protection System-- Except for air terminals mounted on the roof stack, there is no lightning protection system for this building.

Conveying Systems-- The building does not have an elevator. Refer to Architectural / Structural Systems narrative for elevator recommendations.

GROUNDS

The sidewalk system is in good condition and expected to have a life cycle that extends beyond the outlook of this report.

The landscaping is in good condition and there are no recommendations warranted at this time.

The trash dumpster is located south of the main building enclosed by site fencing but open to students. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended.

Site Lighting-- Site lighting is provided by wall mounted floodlighting fixtures at the Visitor Entrance and on the north side of the building aimed to illuminate the play area. Fixtures appear to be in fair to good condition with no recommendations at this time. There are no site lighting poles on the site.

Site video surveillance system--There is no video surveillance system for the exterior of the building. This report includes a budget to add three (3) exterior cameras; one (1) at the Visitor Entrance and two (2) to cover the play area on the north side of the building.

RECOMMENDATIONS

- Replace auditorium seating
- Remove and replace stage curtain
- Remove and replace suspended acoustic ceilings
- Remove and replace wood flooring
- Remove VAT and replace with VCT
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Remove and replace tack boards
- Remove and replace interior doors
- Upgrade chalk boards
- Install fire rated walls and door where required
- Remove and Replace Built Up Roof
- Remove and replace exterior doors
- Remove and replace aluminum windows
- Point and tuck upgrades
- Build secure trash dumpster enclosure
- Remove and replace concrete sidewalk or paving
- Provide a one hundred fifty ton chilled water system with air cooled package chillers on the roof with pumps, piping and controls. Connect to new air handling units and unit ventilators.
- Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Remove existing and provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems and control system.
- Remove existing and provide a new central station air handling unit for the cafeteria/ gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems and control system.
- Provide a new mechanical toilet exhaust system for the original building toilets.
- Replace domestic water supply piping with new insulated rigid copper tubing with valves, fittings and hangers.
- Replace existing boilers with two new cast iron sectional boilers.
- Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Replace water heater with new instantaneous gas heater. Install second unit for redundancy. Connect to piping systems and gas flue.
- Remove the 400A, 120/240V, 2 phase, 5 wire service distribution equipment, including current transformer cabinet and meter, main service disconnecting means, two (2) 350A and one (1) 100A knife blade fusible panelboards, two (2) phase change transformers and three (3) safety switches. Provide a load center unit substation, rated at 750 kVA, 13.2 kV-208/120V, 3 phase, 4 wire with 2500A main switchboard to serve the existing building loads, with capacity for central air conditioning equipment and an elevator addition.
- Replace a total of (14) 120/240V, 1 phase panelboards in the building, including their feeders, and eight (8) safety switches feeding mechanical equipment in the Boiler Room.

- Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 17 classrooms.
- Replace all fluorescent lighting systems and branch circuit wiring throughout the building (classrooms and IMC 20,136 SF; Auditorium 3,900 SF; offices, administrative support, restrooms and corridors 21,604 SF; mechanical and storage 6,133 SF).
- Replace six (6) twin incandescent spotlight fixtures along the side walls in the Auditorium with LED emergency lighting fixtures for reduced maintenance considerations.
- Replace 24 suspended metal halide industrial fixtures in the gymnasium with LED industrial fixtures within the next five (5) years.
- Replace ten (10) wall mounted exterior lighting fixtures at exit discharges and five (5) surface mounted fixtures at the Visitor Entrance and where there is a building overhang.
- Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.
- Remove all individual clocks and provide wireless GPS master clock system with battery operated synchronized clocks within the next 2 to 3 years.
- Provide allowance for the addition of a video surveillance system, to include ten (10) interior cameras, one (1) 16 channel digital video recorder (DVR) and one (1) monitor.
- Replace standby generator system. Size generator system to supply all emergency egress and exit lighting and hydraulic elevator addition (estimated size is 100 kW).
- Replace all existing exit signs with LED type. Add exit signs at doors not provided with illuminated exit signs.
- Provide an allowance for the addition of three (3) exterior video surveillance cameras to provide coverage of the Visitor Entrance and the paved play area.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S726001		

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.

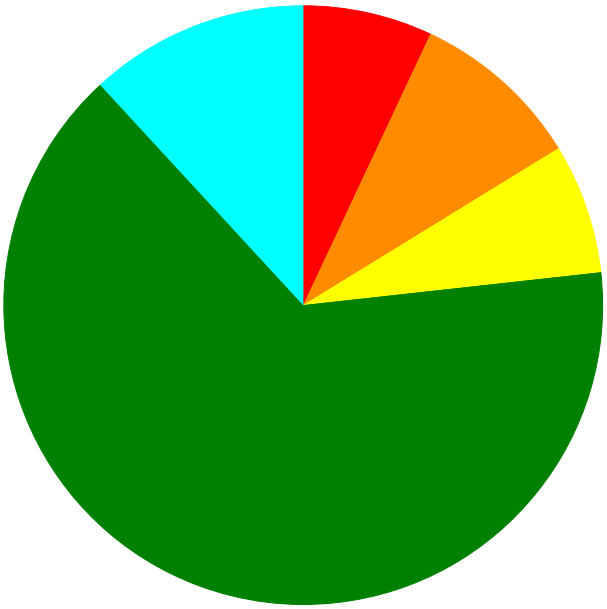
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	42.00 %	0.00 %	$0.00
A20 - Basement Construction	42.00 %	0.00 %	$0.00
B10 - Superstructure	42.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	38.32 %	36.01 %	$1,129,105.80
B30 - Roofing	60.00 %	89.59 %	$847,050.27
C10 - Interior Construction	38.08 %	43.21 %	$589,849.19
C20 - Stairs	42.00 %	13.90 %	$10,898.62
C30 - Interior Finishes	50.89 %	43.68 %	$1,057,454.87
D10 - Conveying	105.71 %	0.00 %	$0.00
D20 - Plumbing	75.30 %	53.15 %	$603,661.23
D30 - HVAC	107.52 %	115.47 %	$6,399,678.66
D40 - Fire Protection	105.71 %	202.91 %	$795,682.54
D50 - Electrical	110.11 %	84.70 %	$2,769,036.23
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	278.12 %	$329,498.48
G20 - Site Improvements	36.76 %	11.27 %	$160,261.58
G40 - Site Electrical Utilities	62.66 %	5.56 %	$23,004.28
Totals:	**65.81 %**	**51.88 %**	**$14,715,181.75**

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)
B726001;Ellwood	55,621	54.78	$1,027,551.11	$1,318,939.92	$891,480.61	$9,549,771.80	$1,744,172.45
G726001;Grounds	95,100	9.98	$0.00	$41,856.80	$141,409.06	$0.00	$0.00
Total:		**51.88**	**$1,027,551.11**	**$1,360,796.72**	**$1,032,889.67**	**$9,549,771.80**	**$1,744,172.45**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $1,027,551.11
- 2 - Response Time (2-3 yrs) - $1,360,796.72
- 3 - Response Time (3-4 yrs) - $1,032,889.67
- 4 - Response Time (4-5 yrs) - $9,549,771.80
- 5 - Response Time (> 5 yrs) - $1,744,172.45

Budget Estimate Total: $14,715,181.75

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):	55,621
Year Built:	1957
Last Renovation:	
Replacement Value:	$26,529,958
Repair Cost:	$14,531,915.89
Total FCI:	54.78 %
Total RSLI:	67.42 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B726001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S726001		

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	42.00 %	0.00 %	$0.00
A20 - Basement Construction	42.00 %	0.00 %	$0.00
B10 - Superstructure	42.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	38.32 %	36.01 %	$1,129,105.80
B30 - Roofing	60.00 %	89.59 %	$847,050.27
C10 - Interior Construction	38.08 %	43.21 %	$589,849.19
C20 - Stairs	42.00 %	13.90 %	$10,898.62
C30 - Interior Finishes	50.89 %	43.68 %	$1,057,454.87
D10 - Conveying	105.71 %	0.00 %	$0.00
D20 - Plumbing	75.30 %	53.15 %	$603,661.23
D30 - HVAC	107.52 %	115.47 %	$6,399,678.66
D40 - Fire Protection	105.71 %	202.91 %	$795,682.54
D50 - Electrical	110.11 %	84.70 %	$2,769,036.23
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	278.12 %	$329,498.48
Totals:	**67.42 %**	**54.78 %**	**$14,531,915.89**

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.	55,621	100	1957	2057		42.00 %	0.00 %	42			$1,023,426
A1030	Slab on Grade	$7.73	S.F.	55,621	100	1957	2057		42.00 %	0.00 %	42			$429,950
A2010	Basement Excavation	$6.55	S.F.	55,621	100	1957	2057		42.00 %	0.00 %	42			$364,318
A2020	Basement Walls	$12.70	S.F.	55,621	100	1957	2057		42.00 %	0.00 %	42			$706,387
B1010	Floor Construction	$75.10	S.F.	55,621	100	1957	2057		42.00 %	0.00 %	42			$4,177,137
B1020	Roof Construction	$13.88	S.F.	25,000	100	1957	2057		42.00 %	0.00 %	42			$347,000
B2010	Exterior Walls	$36.91	S.F.	55,621	100	1957	2057		42.00 %	12.58 %	42		$258,315.78	$2,052,971
B2020	Exterior Windows	$18.01	S.F.	55,621	40	1957	1997	2027	30.00 %	70.76 %	12		$708,868.41	$1,001,734
B2030	Exterior Doors	$1.45	S.F.	55,621	25	1957	1982	2027	48.00 %	200.77 %	12		$161,921.61	$80,650
B3010105	Built-Up	$37.76	S.F.	25,000	20	1957	1977	2027	60.00 %	89.73 %	12		$847,050.27	$944,000
B3020	Roof Openings	$0.06	S.F.	25,000	20	1957	1977	2027	60.00 %	0.00 %	12			$1,500
C1010	Partitions	$17.91	S.F.	55,621	100	1957	2057		42.00 %	5.27 %	42		$52,544.41	$996,172
C1020	Interior Doors	$3.51	S.F.	55,621	40	1957	1997	2026	27.50 %	244.36 %	11		$477,058.71	$195,230
C1030	Fittings	$3.12	S.F.	55,621	40	1957	1997	2026	27.50 %	34.72 %	11		$60,246.07	$173,538
C2010	Stair Construction	$1.41	S.F.	55,621	100	1957	2057		42.00 %	13.90 %	42		$10,898.62	$78,426
C3010230	Paint & Covering	$13.21	S.F.	55,621	10	2010	2020		50.00 %	0.00 %	5			$734,753
C3020413	Vinyl Flooring	$9.68	S.F.	48,621	20	1957	1977	2027	60.00 %	64.45 %	12		$303,333.36	$470,651
C3020414	Wood Flooring	$22.27	S.F.	2,000	25	1957	1982	2027	48.00 %	0.00 %	12			$44,540
C3020415	Concrete Floor Finishes	$0.97	S.F.	5,000	50	1957	2007	2027	24.00 %	0.00 %	12			$4,850
C3030	Ceiling Finishes	$20.97	S.F.	55,621	25	1957	1982	2027	48.00 %	64.66 %	12		$754,121.51	$1,166,372
D1010	Elevators and Lifts	$3.47	S.F.	55,621	35	1957	1992	2052	105.71 %	0.00 %	37			$193,005
D2010	Plumbing Fixtures	$13.52	S.F.	55,621	35	2005	2040		71.43 %	0.00 %	25			$751,996
D2020	Domestic Water Distribution	$1.68	S.F.	55,621	25	1957	1982	2042	108.00 %	354.01 %	27		$330,798.45	$93,443
D2030	Sanitary Waste	$2.90	S.F.	55,621	25	1957	1982	2042	108.00 %	169.16 %	27		$272,862.78	$161,301
D2040	Rain Water Drainage	$2.32	S.F.	55,621	30	1957	1987	2025	33.33 %	0.00 %	10			$129,041
D3020	Heat Generating Systems	$18.67	S.F.	55,621	35	1957	1992	2052	105.71 %	63.15 %	37		$655,796.89	$1,038,444
D3030	Cooling Generating Systems	$24.48	S.F.	55,621	30			2047	106.67 %	65.60 %	32		$893,233.07	$1,361,602
D3040	Distribution Systems	$42.99	S.F.	55,621	25	1957	1982	2042	108.00 %	152.96 %	27		$3,657,463.25	$2,391,147
D3050	Terminal & Package Units	$11.60	S.F.		20				0.00 %	0.00 %				$0
D3060	Controls & Instrumentation	$13.50	S.F.	55,621	20	1957	1977	2037	110.00 %	158.90 %	22		$1,193,185.45	$750,884
D4010	Sprinklers	$7.05	S.F.	55,621	35			2052	105.71 %	202.91 %	37		$795,682.54	$392,128
D4020	Standpipes	$1.01	S.F.		35				0.00 %	0.00 %				$0
D5010	Electrical Service/Distribution	$9.70	S.F.	55,621	30	1957	1987	2047	106.67 %	219.41 %	32		$1,183,759.36	$539,524
D5020	Lighting and Branch Wiring	$34.68	S.F.	55,621	20	1957	1977	2037	110.00 %	52.13 %	22		$1,005,606.05	$1,928,936
D5030	Communications and Security	$12.99	S.F.	55,621	15	1957	1972	2032	113.33 %	56.92 %	17		$411,230.60	$722,517
D5090	Other Electrical Systems	$1.41	S.F.	55,621	30	1957	1987	2047	106.67 %	214.78 %	32		$168,440.22	$78,426
E1020	Institutional Equipment	$4.82	S.F.	55,621	35	1957	1992	2027	34.29 %	0.00 %	12			$268,093
E1090	Other Equipment	$11.10	S.F.	55,621	35	1957	1992	2027	34.29 %	0.00 %	12			$617,393
E2010	Fixed Furnishings	$2.13	S.F.	55,621	40	1957	1997	2027	30.00 %	278.12 %	12		$329,498.48	$118,473
								Total	**67.42 %**	**54.78 %**			**$14,531,915.89**	**$26,529,958**

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: Painted CMU finish 90%
Brick or unfinished 10%

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

Note: Vinyl Tile 87%
Concrete 10%
Wood 3%

System: D1010 - Elevators and Lifts — This system contains no images

Note: There is no existing elevator in this building.

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

Note: There are two (2) 240V - 208/120V, 3 phase, 4 wire phase changer transformers, one (1) rated 10 kVA and one (1) rated 37.5 kVA.

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:	**$14,531,916**	**$0**	**$0**	**$0**	**$0**	**$936,959**	**$0**	**$0**	**$0**	**$0**	**$190,762**	**$15,659,637**
*** 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	$258,316	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$258,316**
B2020 - Exterior Windows	$708,868	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$708,868**
B2030 - Exterior Doors	$161,922	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$161,922**
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	$847,050	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$847,050**
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	$52,544	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$52,544**
C1020 - Interior Doors	$477,059	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$477,059**
C1030 - Fittings	$60,246	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$60,246**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

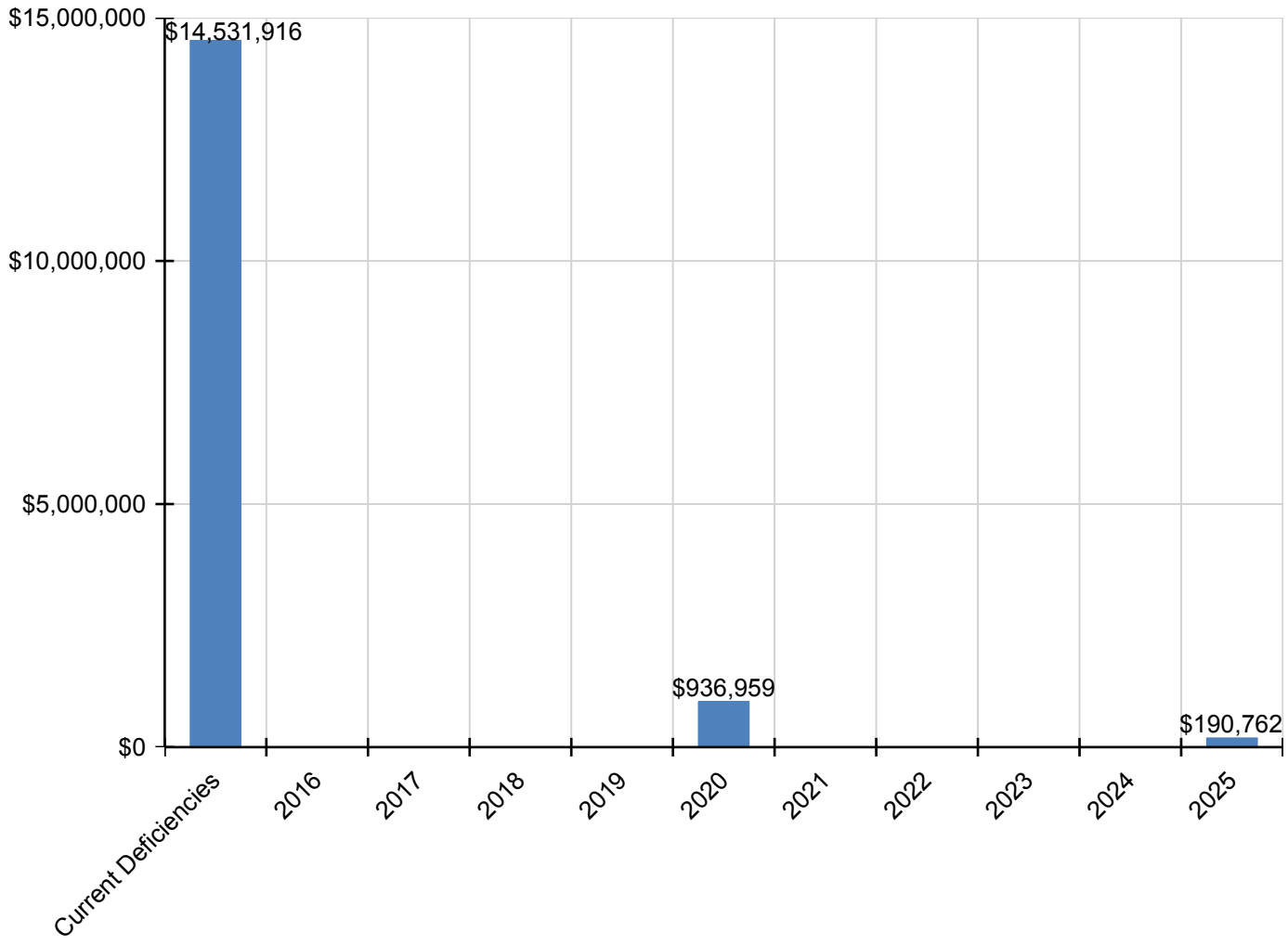
C2010 - Stair Construction	$10,899	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$10,899**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$936,959	$0	$0	$0	$0	$0	**$936,959**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$303,333	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$303,333**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$754,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$754,122**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$330,798	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$330,798**
D2030 - Sanitary Waste	$272,863	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$272,863**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$190,762	**$190,762**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$655,797	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$655,797**
D3030 - Cooling Generating Systems	$893,233	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$893,233**
D3040 - Distribution Systems	$3,657,463	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,657,463**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,193,185	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,193,185**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$795,683	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$795,683**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$1,183,759	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,183,759**
D5020 - Lighting and Branch Wiring	$1,005,606	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,005,606**
D5030 - Communications and Security	$411,231	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$411,231**
D5090 - Other Electrical Systems	$168,440	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$168,440**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$329,498	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$329,498**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

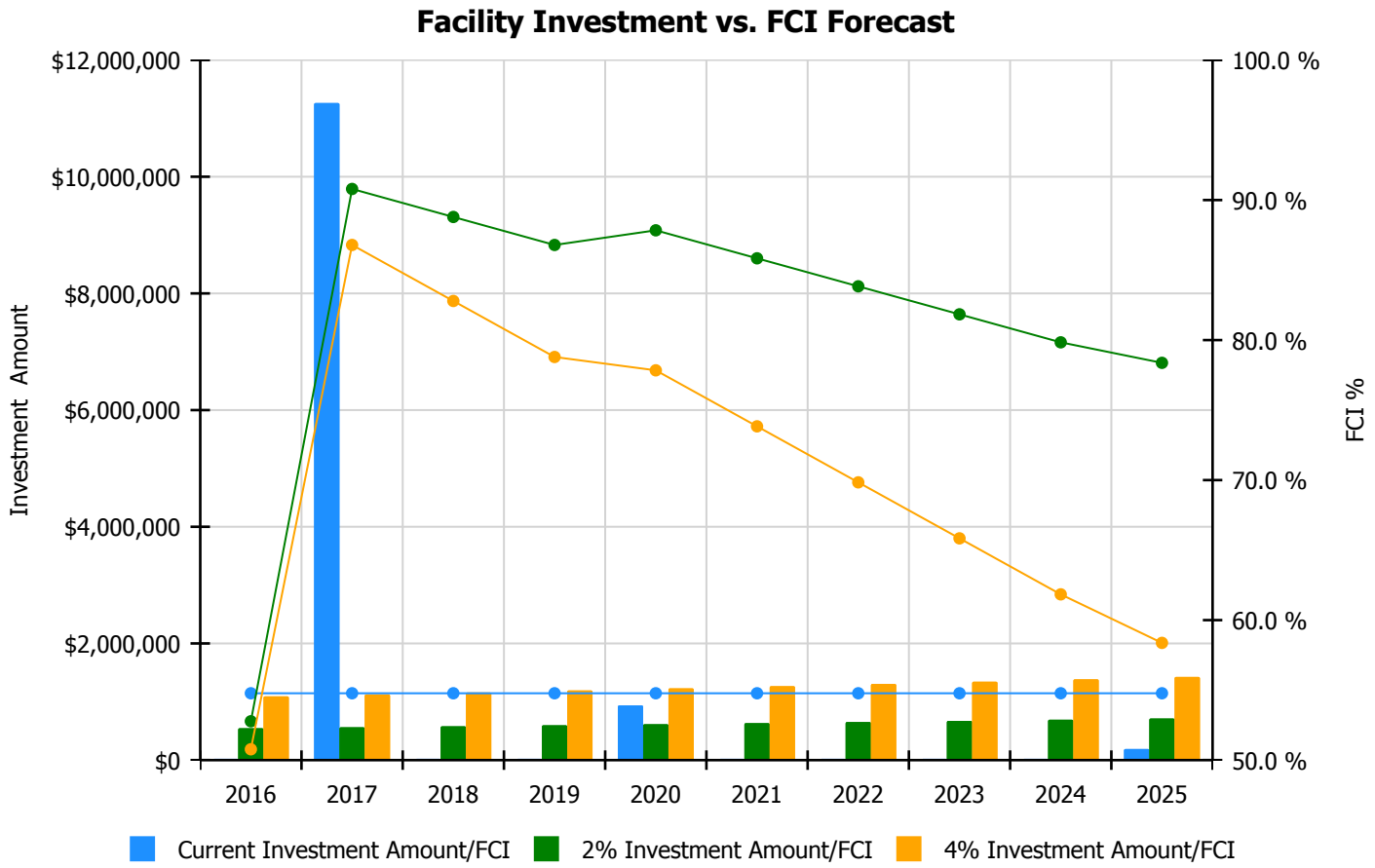
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

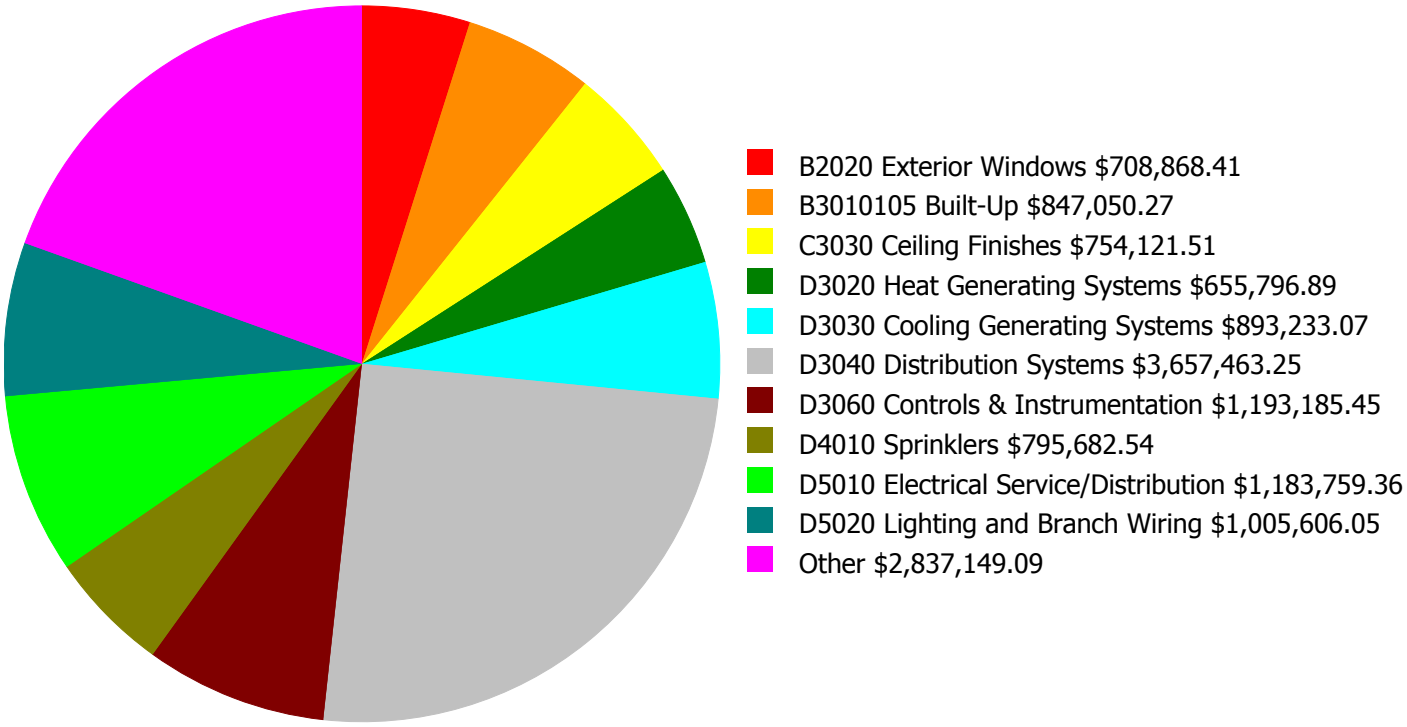
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 54.78%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$546,517.00	52.78 %	$1,093,034.00	50.78 %
2017	$11,263,034	$562,913.00	90.79 %	$1,125,825.00	86.79 %
2018	$0	$579,800.00	88.79 %	$1,159,600.00	82.79 %
2019	$0	$597,194.00	86.79 %	$1,194,388.00	78.79 %
2020	$936,959	$615,110.00	87.84 %	$1,230,220.00	77.84 %
2021	$0	$633,563.00	85.84 %	$1,267,126.00	73.84 %
2022	$0	$652,570.00	83.84 %	$1,305,140.00	69.84 %
2023	$0	$672,147.00	81.84 %	$1,344,294.00	65.84 %
2024	$0	$692,312.00	79.84 %	$1,384,623.00	61.84 %
2025	$190,762	$713,081.00	78.37 %	$1,426,162.00	58.37 %
Total:	**$12,390,755**	**$6,265,207.00**		**$12,530,412.00**	

Deficiency Summary by System

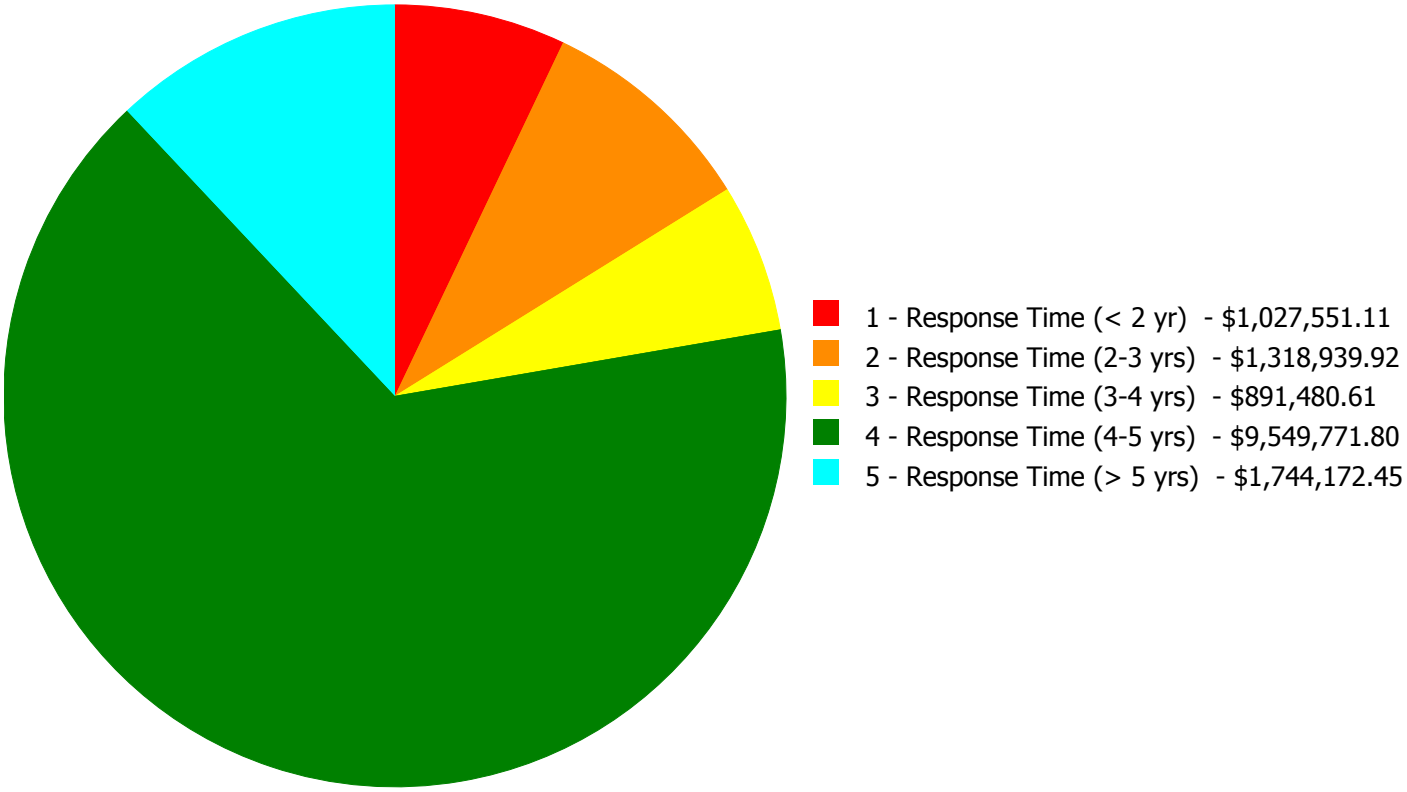
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $14,531,915.89

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: $14,531,915.89

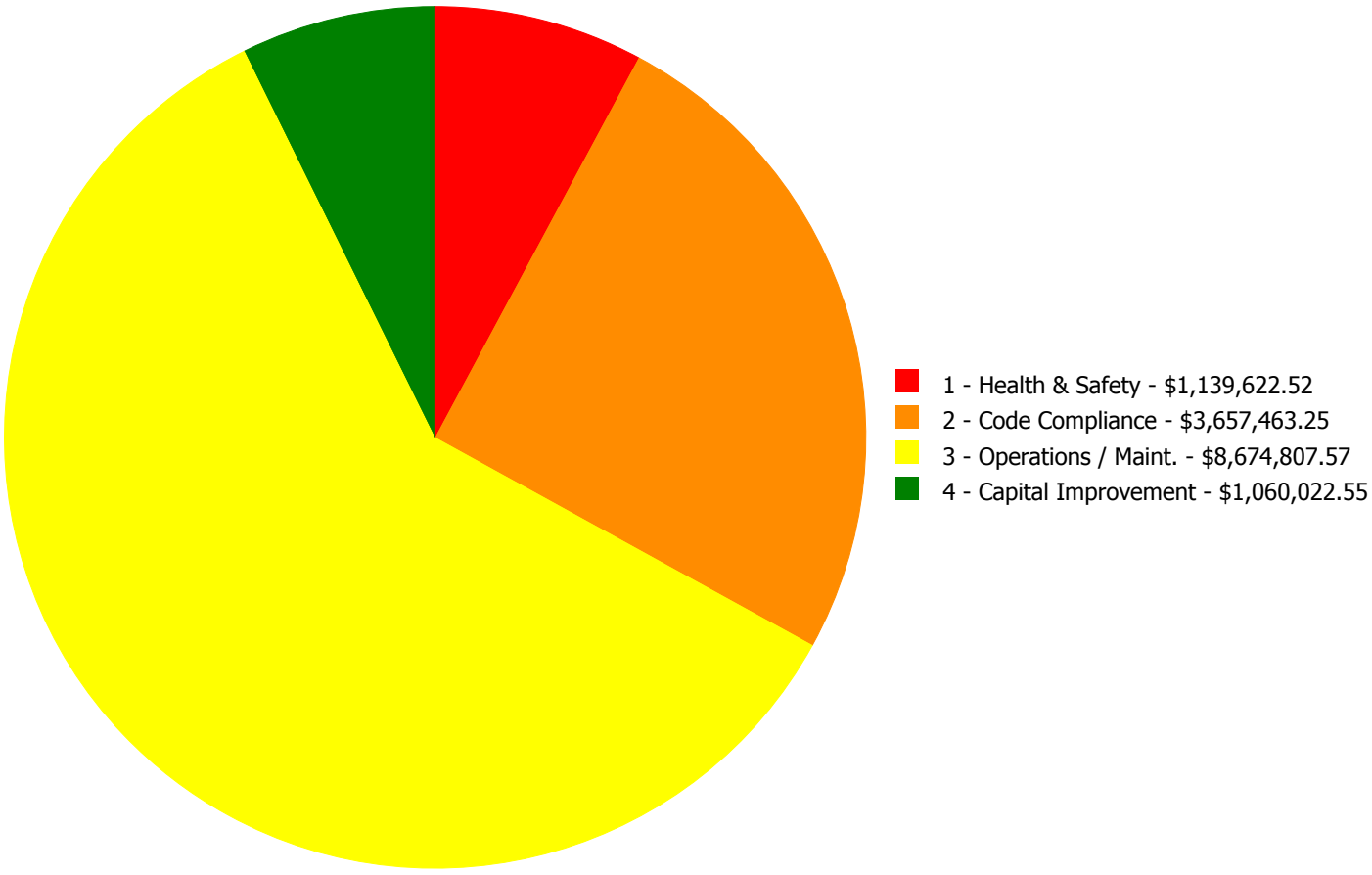
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$0.00	$0.00	$258,315.78	$0.00	$258,315.78
B2020	Exterior Windows	$0.00	$0.00	$0.00	$708,868.41	$0.00	$708,868.41
B2030	Exterior Doors	$0.00	$0.00	$0.00	$161,921.61	$0.00	$161,921.61
B3010105	Built-Up	$0.00	$0.00	$0.00	$0.00	$847,050.27	$847,050.27
C1010	Partitions	$52,544.41	$0.00	$0.00	$0.00	$0.00	$52,544.41
C1020	Interior Doors	$0.00	$0.00	$0.00	$477,058.71	$0.00	$477,058.71
C1030	Fittings	$0.00	$0.00	$0.00	$60,246.07	$0.00	$60,246.07
C2010	Stair Construction	$0.00	$0.00	$10,898.62	$0.00	$0.00	$10,898.62
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$303,333.36	$0.00	$303,333.36
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$754,121.51	$0.00	$754,121.51
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$330,798.45	$0.00	$330,798.45
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$272,862.78	$0.00	$272,862.78
D3020	Heat Generating Systems	$655,796.89	$0.00	$0.00	$0.00	$0.00	$655,796.89
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$893,233.07	$893,233.07
D3040	Distribution Systems	$0.00	$0.00	$0.00	$3,657,463.25	$0.00	$3,657,463.25
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,193,185.45	$0.00	$1,193,185.45
D4010	Sprinklers	$0.00	$0.00	$0.00	$795,682.54	$0.00	$795,682.54
D5010	Electrical Service/Distribution	$0.00	$1,183,759.36	$0.00	$0.00	$0.00	$1,183,759.36
D5020	Lighting and Branch Wiring	$0.00	$0.00	$847,322.33	$154,394.61	$3,889.11	$1,005,606.05
D5030	Communications and Security	$319,209.81	$0.00	$0.00	$92,020.79	$0.00	$411,230.60
D5090	Other Electrical Systems	$0.00	$135,180.56	$33,259.66	$0.00	$0.00	$168,440.22
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$329,498.48	$0.00	$329,498.48
	Total:	$1,027,551.11	$1,318,939.92	$891,480.61	$9,549,771.80	$1,744,172.45	$14,531,915.89

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:



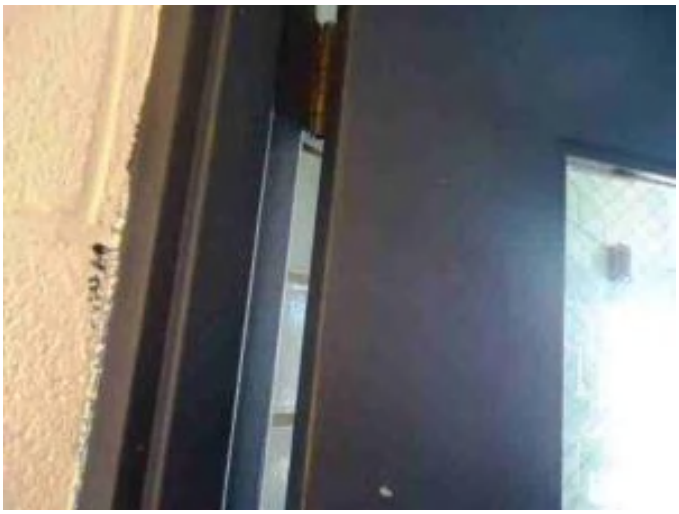
Budget Estimate Total: $14,531,915.89

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: C1010 - Partitions



Location: Stairs

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 10.00

Unit of Measure: S.F.

Estimate: $52,544.41

Assessor Name: System

Date Created: 02/15/2016

Notes: A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically wood or metal in metal frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace boiler, cast iron sectional (100 HP)

Qty: 2.00

Unit of Measure: Ea.

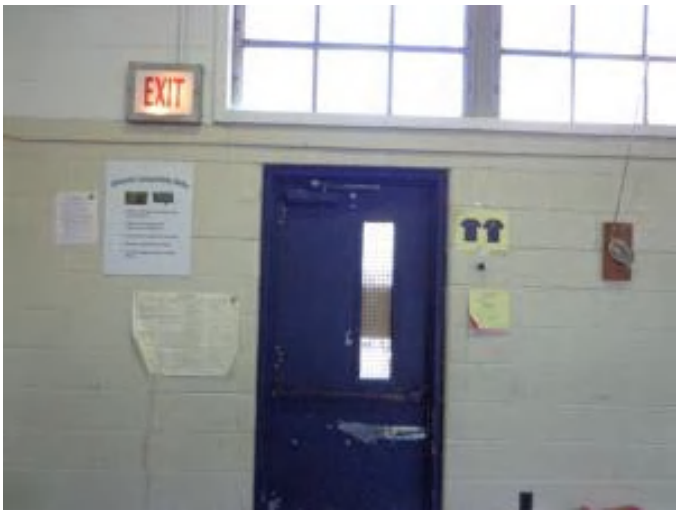
Estimate: $655,796.89

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace existing boilers with two new cast iron sectional boilers.

System: D5030 - Communications and Security



Location:	Building wide
Distress:	Life Safety / NFPA / PFD
Category:	1 - Health & Safety
Priority:	1 - Response Time (< 2 yr)
Correction:	Replace fire alarm system
Qty:	55,621.00
Unit of Measure:	S.F.
Estimate:	$319,209.81
Assessor Name:	System
Date Created:	01/25/2016

Notes: Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.

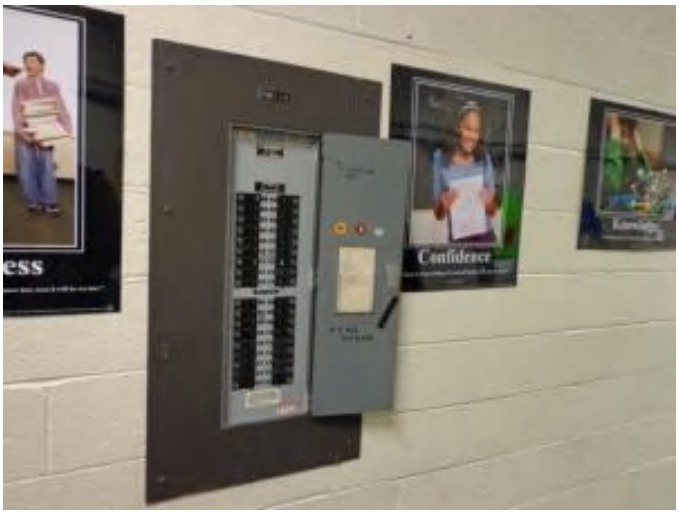
Priority 2 - Response Time (2-3 yrs):

System: D5010 - Electrical Service/Distribution

Location: Basement Main Electrical Room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Replace Electrical Distribution System (U)
Qty: 1.00
Unit of Measure: Ea.
Estimate: $728,947.61
Assessor Name: System
Date Created: 01/25/2016

Notes: Remove the 400A, 120/240V, 2 phase, 5 wire service distribution equipment, including current transformer cabinet and meter, main service disconnecting means, two (2) 350A and one (1) 100A knife blade fusible panelboards, two (2) phase change transformers and three (3) safety switches. Provide a load center unit substation, rated at 750 kVA, 13.2 kV-208/120V, 3 phase, 4 wire with 2500A main switchboard to serve the existing building loads, with capacity for central air conditioning equipment and an elevator addition.

System: D5010 - Electrical Service/Distribution



Location: Building wide
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Replace Panelboard
Qty: 14.00
Unit of Measure: Ea.
Estimate: $454,811.75
Assessor Name: System
Date Created: 01/25/2016

Notes: Replace a total of (14) 120/240V, 1 phase panelboards in the building, including their feeders, and eight (8) safety switches feeding mechanical equipment in the Boiler Room.

System: D5090 - Other Electrical Systems

Location: Boiler Room 001B

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: $135,180.56

Assessor Name: System

Date Created: 01/25/2016

Notes: Replace standby generator system. Size generator system to supply all emergency egress and exit lighting and hydraulic elevator addition (estimated size is 100 kW).

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

System: C2010 - Stair Construction

Location: Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 700.00

Unit of Measure: L.F.

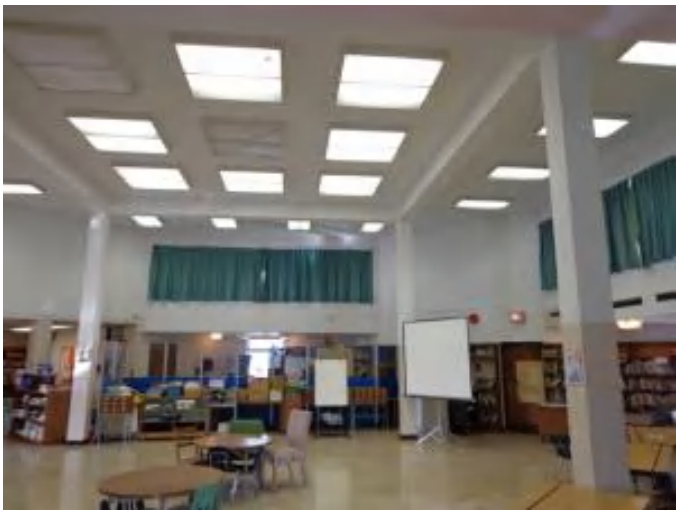
Estimate: $10,898.62

Assessor Name: System

Date Created: 02/15/2016

Notes: Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

System: D5020 - Lighting and Branch Wiring



Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 51,773.00

Unit of Measure: S.F.

Estimate: $821,268.76

Assessor Name: System

Date Created: 01/25/2016

Notes: Replace all fluorescent lighting systems and branch circuit wiring throughout the building (classrooms and IMC 20,136 SF; Auditorium 3,900 SF; offices, administrative support, restrooms and corridors 21,604 SF; mechanical and storage 6,133 SF).

System: D5020 - Lighting and Branch Wiring

Location: Exit discharges

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 15.00

Unit of Measure: Ea.

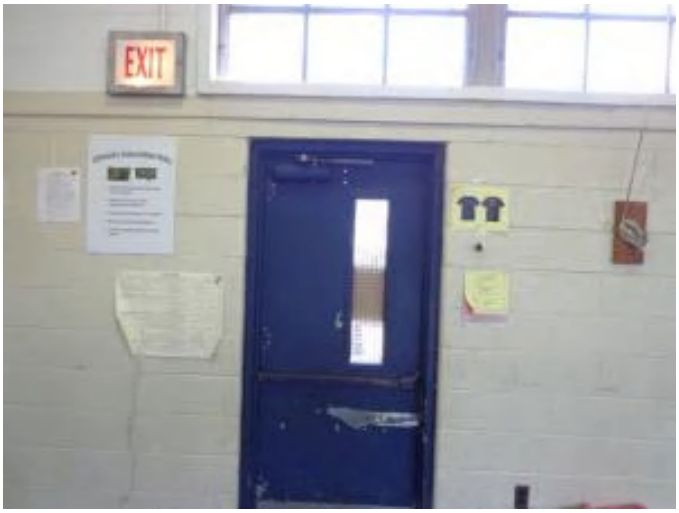
Estimate: $26,053.57

Assessor Name: System

Date Created: 01/25/2016

Notes: Replace ten (10) wall mounted exterior lighting fixtures at exit discharges and five (5) surface mounted fixtures at the Visitor Entrance and where there is a building overhang.

System: D5090 - Other Electrical Systems



Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Emergency/Exit Lighting

Qty: 37.00

Unit of Measure: Ea.

Estimate: $33,259.66

Assessor Name: System

Date Created: 01/25/2016

Notes: Replace all existing exit signs with LED type. Add exit signs at doors not provided with illuminated exit signs.

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

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: $258,315.78

Assessor Name: System

Date Created: 02/15/2016

Notes: The exterior brick surfaces are generally in fair to good condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The repointing of deteriorated mortar joints is also recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the brick and repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

System: B2020 - Exterior Windows

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 130.00

Unit of Measure: Ea.

Estimate: $708,868.41

Assessor Name: System

Date Created: 02/15/2016

Notes: Most of the exterior windows have been upgraded from the original applications. As indicated in the photos several of the windows appear to be original. A majority of the window system is estimated to have been installed in the 1990's. Several of the windows no longer work and will require attention prior to an overall effort. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: B2030 - Exterior Doors

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 20.00

Unit of Measure: Ea.

Estimate: $161,921.61

Assessor Name: System

Date Created: 02/15/2016

Notes: The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. Most of the doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The service doors on the roof have expired and failed compromising access to elevator rooms and tower rooms. The exterior door system, store front and service doors are recommended for upgrade.

System: C1020 - Interior Doors

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: Ea.

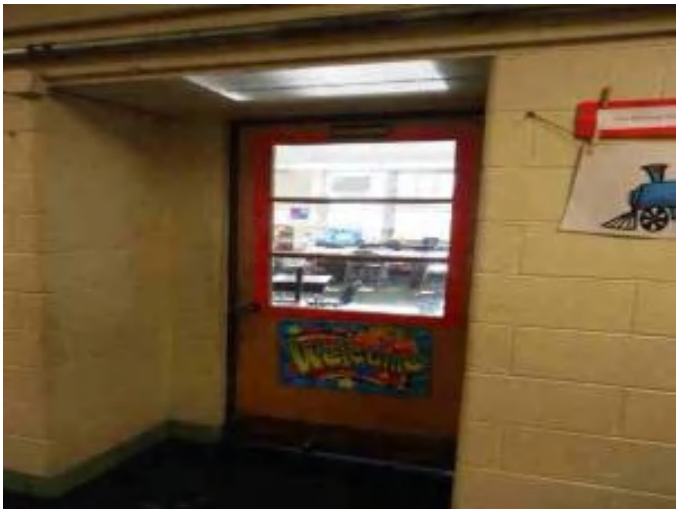
Estimate: $477,058.71

Assessor Name: System

Date Created: 02/15/2016

Notes: Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at stairwells and exit ways. Doors are generally in good condition considering the age of the application. Universal upgrades are required for the interior door systems it is recommended that the interior doors system be removed and replaced with a new modern metal framed hollow metal door system with consideration for ADA compliance.

System: C1030 - Fittings



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: Ea.

Estimate: $27,091.25

Assessor Name: System

Date Created: 02/15/2016

Notes: There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

System: C1030 - Fittings

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 30.00

Unit of Measure: Ea.

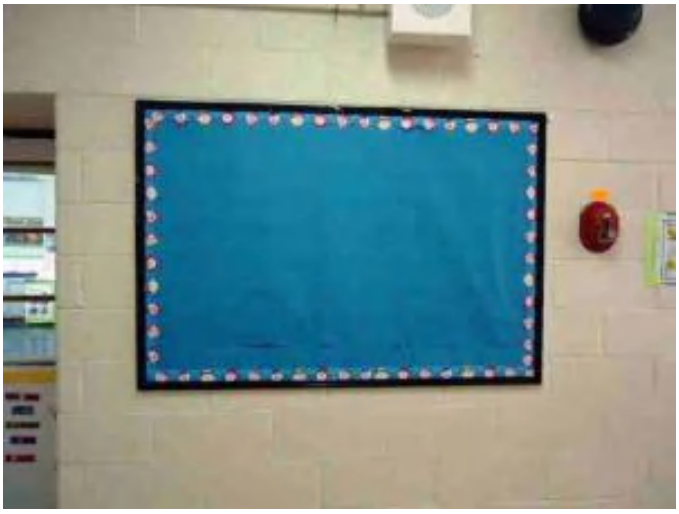
Estimate: $25,227.56

Assessor Name: System

Date Created: 02/15/2016

Notes: The classroom chalk boards are covered with temporary white boards in several rooms. There are several classrooms with the original chalk boards. This system is beyond its expected life and universal upgrades are warranted. Remove and upgrade chalkboards to new marker board systems.

System: C1030 - Fittings



Location: Hallways

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace tackboards - select size

Qty: 10.00

Unit of Measure: Ea.

Estimate: $7,927.26

Assessor Name: System

Date Created: 02/15/2016

Notes: There are several tack boards in the hallways for student displays. The systems are beyond the expected service life for this application. Remove and replace tack boards is recommended.

System: C3020413 - Vinyl Flooring

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: $303,333.36

Assessor Name: System

Date Created: 02/15/2016

Notes: This school has sections of 12x12 floor tile that represents upgrades and abatement of the 9x9 tile. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

System: C3030 - Ceiling Finishes

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 50,000.00

Unit of Measure: S.F.

Estimate: $754,121.51

Assessor Name: System

Date Created: 02/15/2016

Notes: The ceiling finish is a mix of 12 x 12 ceiling grid, painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended mechanical electrical efforts in this report. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

System: D2020 - Domestic Water Distribution

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (75 KSF)

Qty: 55,621.00

Unit of Measure: S.F.

Estimate: $281,851.36

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace domestic water supply piping with new insulated rigid copper tubing with valves, fittings and hangers.

System: D2020 - Domestic Water Distribution

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace instantaneous water heater

Qty: 2.00

Unit of Measure: Ea.

Estimate: $48,947.09

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace water heater with new instantaneous gas heater. Install second unit for redundancy. Connect to piping systems and gas flue.

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 55,621.00

Unit of Measure: S.F.

Estimate: $272,862.78

Assessor Name: System

Date Created: 02/05/2016

Notes: Inspect old cast iron sanitary piping including camera observation and replace damaged sections.

System: D3040 - Distribution Systems

Location: classrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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: 55,621.00

Unit of Measure: S.F.

Estimate: $2,683,107.82

Assessor Name: System

Date Created: 02/05/2016

Notes: Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.

System: D3040 - Distribution Systems

Location: auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 412.00

Unit of Measure: Seat

Estimate: $686,172.19

Assessor Name: System

Date Created: 02/05/2016

Notes: Remove existing and provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems and control system.

System: D3040 - Distribution Systems

Location: cafeteria/ gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 3,848.00

Unit of Measure: S.F.

Estimate: $145,883.88

Assessor Name: System

Date Created: 02/05/2016

Notes: Remove existing and provide a new central station air handling unit for the cafeteria/ gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems and control system.

System: D3040 - Distribution Systems

Location: toilet rooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 4.00

Unit of Measure: Ea.

Estimate: $107,885.28

Assessor Name: System

Date Created: 02/05/2016

Notes: Provide a new mechanical toilet exhaust system for the original building toilets.

System: D3040 - Distribution Systems

Location: toilet rooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (4 plbg fixtures)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $34,414.08

Assessor Name: System

Date Created: 02/05/2016

Notes: Provide a new mechanical toilet exhaust system for the original building toilets.

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 55,621.00

Unit of Measure: S.F.

Estimate: $1,193,185.45

Assessor Name: System

Date Created: 02/05/2016

Notes: Install new direct digital control system and building automation system with remote computer control capability and graphics package.

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 55,621.00

Unit of Measure: S.F.

Estimate: $795,682.54

Assessor Name: System

Date Created: 02/05/2016

Notes: Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.

System: D5020 - Lighting and Branch Wiring

Location: Cafeteria/Gymnasium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 24.00

Unit of Measure: Ea.

Estimate: $83,515.03

Assessor Name: System

Date Created: 01/25/2016

Notes: Replace 24 suspended metal halide industrial fixtures in the gymnasium with LED industrial fixtures within the next five (5) years.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 510.00

Unit of Measure: L.F.

Estimate: $70,879.58

Assessor Name: System

Date Created: 01/25/2016

Notes: Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 17 classrooms.

System: D5030 - Communications and Security

This deficiency has no image.

Location: Building wide

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Video Surveillance System

Qty: 10.00

Unit of Measure: Ea.

Estimate: $70,575.99

Assessor Name: System

Date Created: 01/25/2016

Notes: Provide allowance for the addition of a video surveillance system, to include ten (10) interior cameras, one (1) 16 channel digital video recorder (DVR) and one (1) monitor. NO PHOTO.

System: D5030 - Communications and Security

Location: Building wide

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide wireless GPS clock system

Qty: 1.00

Unit of Measure: LS

Estimate: $21,444.80

Assessor Name: System

Date Created: 01/25/2016

Notes: Remove all individual clocks and provide wireless GPS master clock system with battery operated synchronized clocks within the next 2 to 3 years.

System: E2010 - Fixed Furnishings

Location: Auditorium

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 350.00

Unit of Measure: Ea.

Estimate: $315,666.93

Assessor Name: System

Date Created: 02/15/2016

Notes: The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school. Ensure that ADA requirements are followed with the new seating layout.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $13,831.55

Assessor Name: System

Date Created: 02/15/2016

Notes: The school stage has a stage curtain assembly that appears to be from the original construction. Modern applications are typically fire-proof applications with adjustable tracks and electric support for operation. The curtains are torn in a few section and the track is not functioning properly, overall the system is in poor condition. It is recommended that the curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

Priority 5 - Response Time (> 5 yrs):

System: B3010105 - Built-Up

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and Replace Built Up Roof

Qty: 25,000.00

Unit of Measure: S.F.

Estimate: $847,050.27

Assessor Name: System

Date Created: 02/15/2016

Notes: There are a number of roof sections and different roof elevations ranging from the main roof to the addition roof. Parapet heights, coping materials, and the height of the flashing also varies in different sections. The main roof is a built up application that was installed in the early 1990'S. During the time of the inspection it was reported that several leaks are active and a consistent repair program is consuming efforts to maintain the roof. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace all roof sections. This deficiency is expected to be completed as part of an exterior effort coordinated with other recommendations included in this report.

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 55,621.00

Unit of Measure: S.F.

Estimate: $893,233.07

Assessor Name: System

Date Created: 02/05/2016

Notes: Provide a one hundred fifty ton chilled water system with air cooled package chillers on the roof with pumps, piping and controls. Connect to new air handling units and unit ventilators.

System: D5020 - Lighting and Branch Wiring

Location: Auditorium

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace lighting fixtures

Qty: 6.00

Unit of Measure: Ea.

Estimate: $3,889.11

Assessor Name: System

Date Created: 01/25/2016

Notes: Replace six (6) twin incandescent spotlight fixtures along the side walls in the Auditorium with LED emergency lighting fixtures for reduced maintenance considerations.

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, gas/oil combination, cast iron, steam, gross output, 2700 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	mechanical room	hb smith	mills 24			35	1956	1991	$50,376.70	$110,828.74
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	2.00	Ea.	Custodian Office 004B	Federal Pacific Electric	NA	D-262177		30			$12,109.50	$26,640.90
												Total:	**$137,469.64**

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):	95,100
Year Built:	1957
Last Renovation:	
Replacement Value:	$1,835,637
Repair Cost:	$183,265.86
Total FCI:	9.98 %
Total RSLI:	42.60 %

Description:

Attributes:

General Attributes:

Bldg ID:	S726001	Site ID:	S726001

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	36.76 %	11.27 %	$160,261.58
G40 - Site Electrical Utilities	62.66 %	5.56 %	$23,004.28
Totals:	**42.60 %**	**9.98 %**	**$183,265.86**

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 $
G2030	Pedestrian Paving	$11.52	S.F.	83,700	40	1957	1997	2027	30.00 %	14.67 %	12		$141,409.06	$964,224
G2040	Site Development	$4.36	S.F.	95,100	25	1957	1982	2027	48.00 %	4.55 %	12		$18,852.52	$414,636
G2050	Landscaping & Irrigation	$3.78	S.F.	11,400	15	1957	1972	2027	80.00 %	0.00 %	12			$43,092
G4020	Site Lighting	$3.58	S.F.	95,100	20	1957	1977	2027	60.00 %	0.00 %	12			$340,458
G4030	Site Communications & Security	$0.77	S.F.	95,100	20	1957	1977	2030	75.00 %	31.42 %	15		$23,004.28	$73,227
								Total	**42.60 %**	**9.98 %**			**$183,265.86**	**$1,835,637**

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.

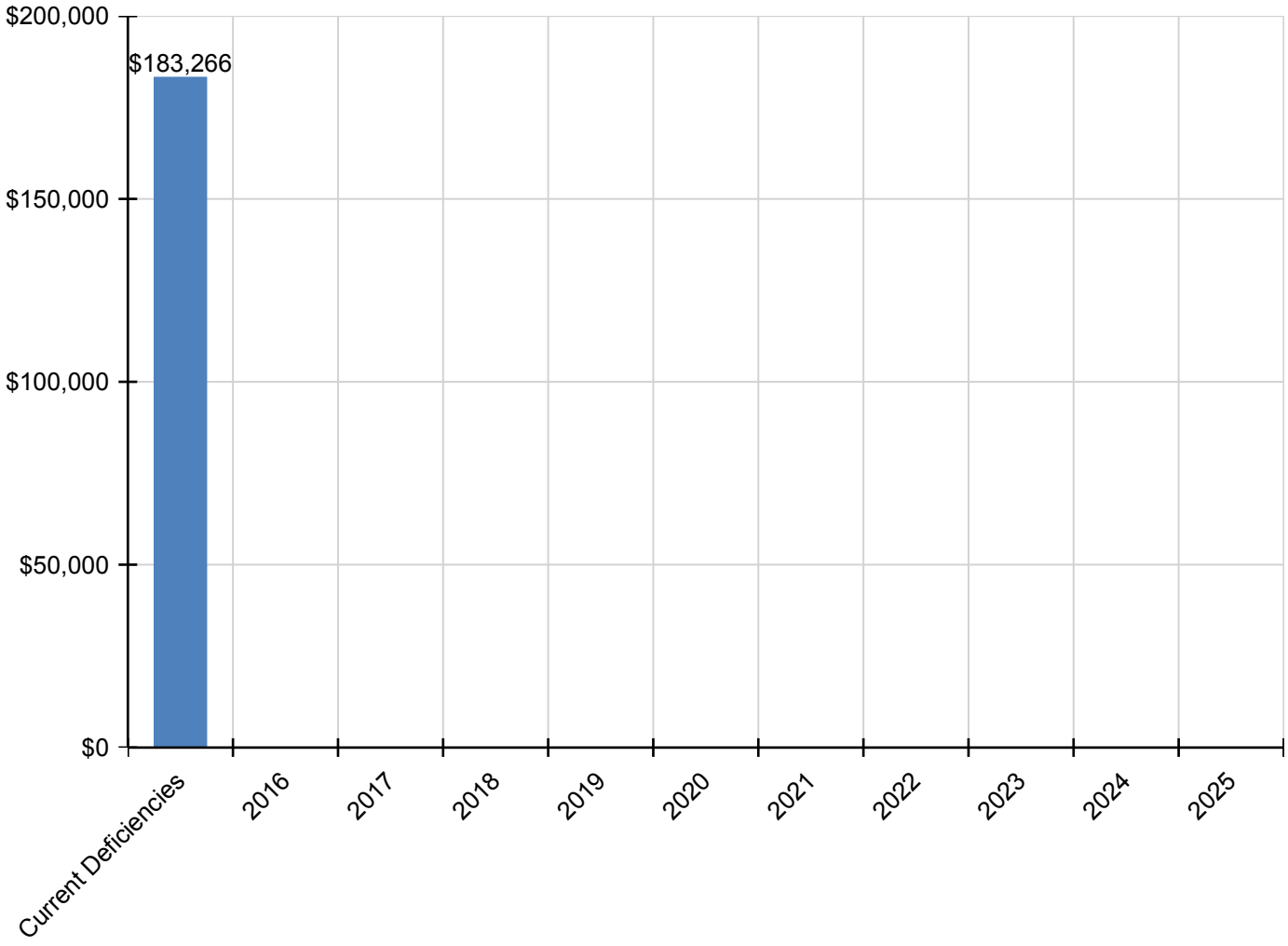
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$183,266**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$183,266**
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**
G2030 - Pedestrian Paving	$141,409	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$141,409**
G2040 - Site Development	$18,853	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$18,853**
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	$23,004	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$23,004**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

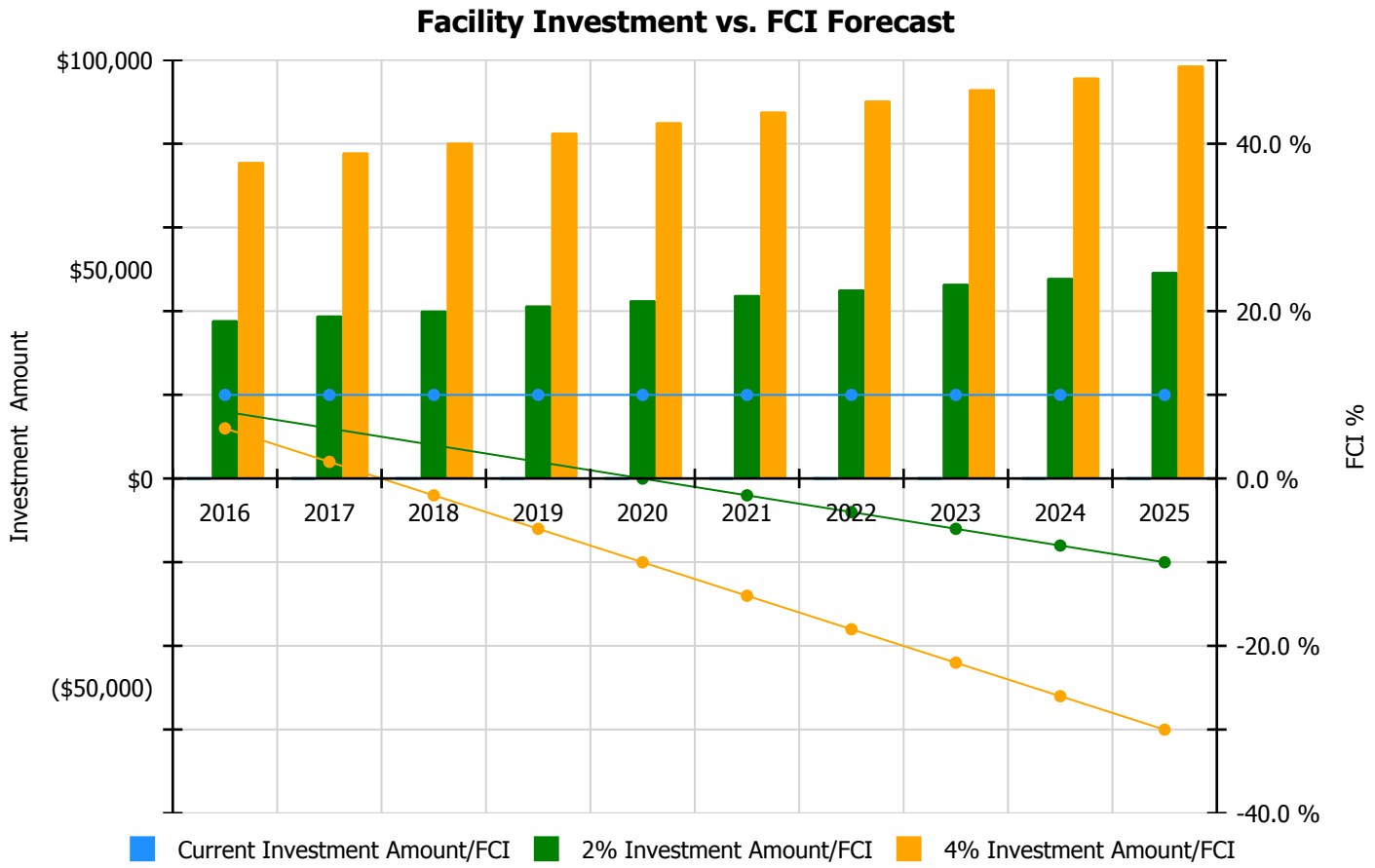
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

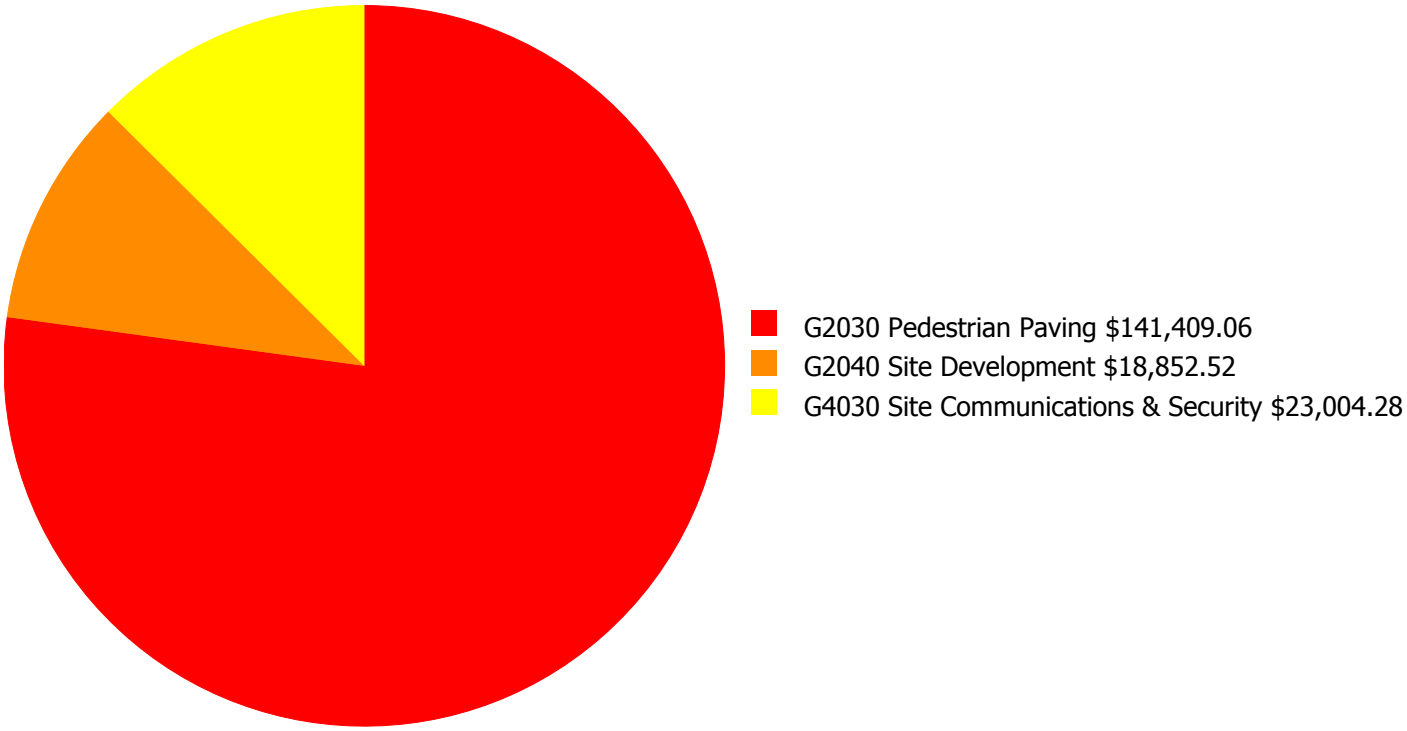
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 9.98%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$37,814.00	7.98 %	$75,628.00	5.98 %
2017	$0	$38,949.00	5.98 %	$77,897.00	1.98 %
2018	$0	$40,117.00	3.98 %	$80,234.00	-2.02 %
2019	$0	$41,321.00	1.98 %	$82,641.00	-6.02 %
2020	$0	$42,560.00	-0.02 %	$85,120.00	-10.02 %
2021	$0	$43,837.00	-2.02 %	$87,674.00	-14.02 %
2022	$0	$45,152.00	-4.02 %	$90,304.00	-18.02 %
2023	$0	$46,507.00	-6.02 %	$93,013.00	-22.02 %
2024	$0	$47,902.00	-8.02 %	$95,804.00	-26.02 %
2025	$0	$49,339.00	-10.02 %	$98,678.00	-30.02 %
Total:	**$0**	**$433,498.00**		**$866,993.00**	

Deficiency Summary by System

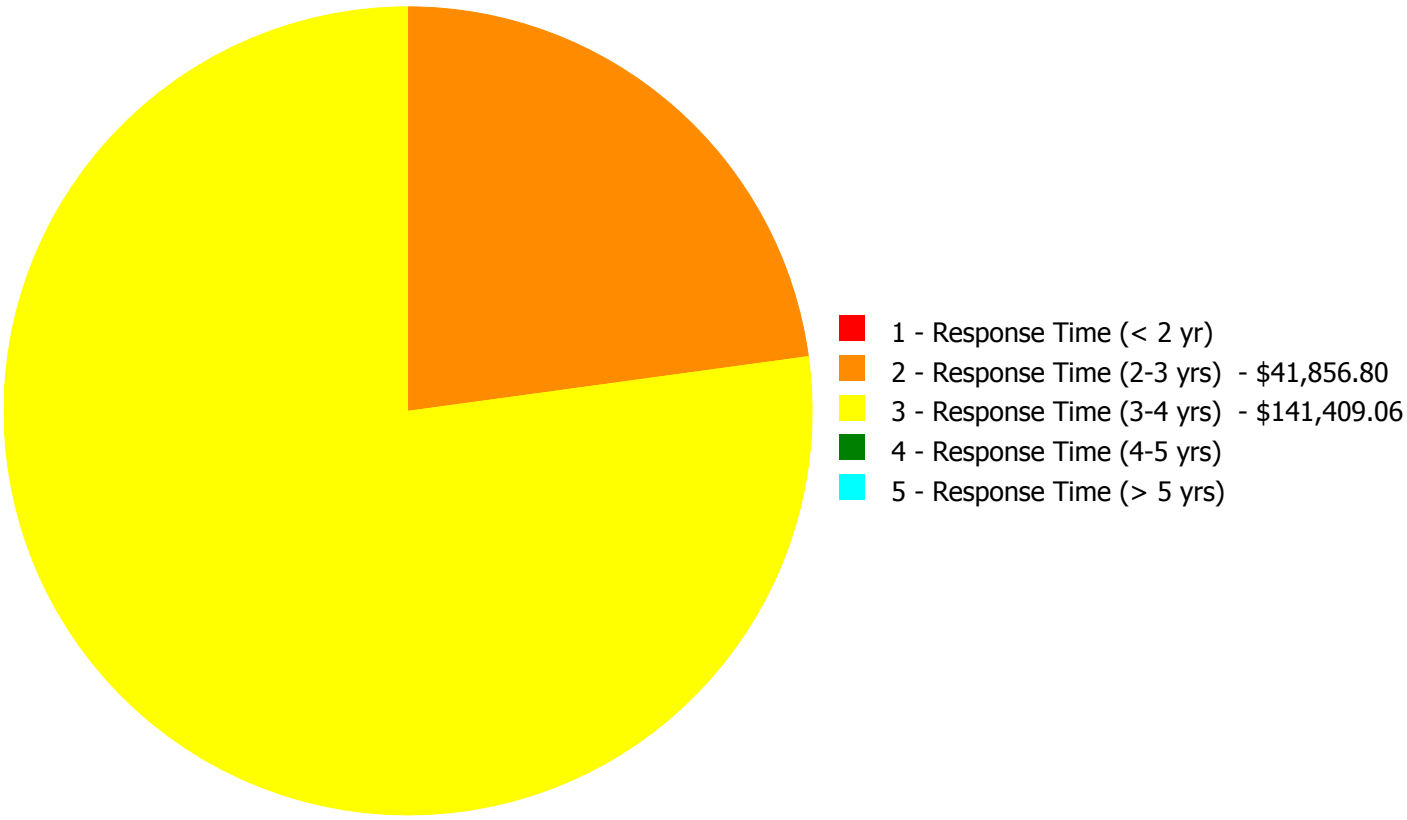
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $183,265.86

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: $183,265.86

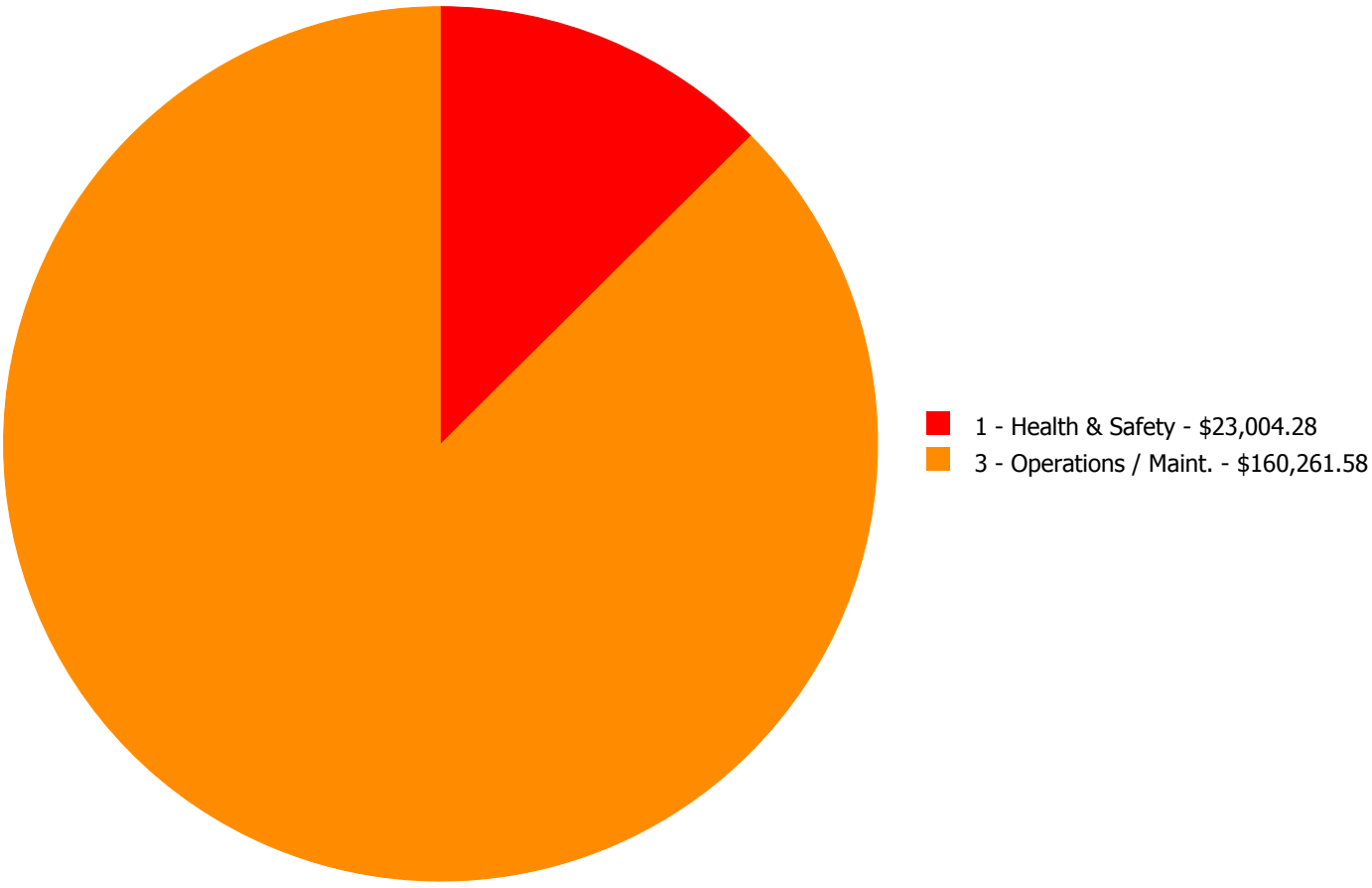
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$0.00	$141,409.06	$0.00	$0.00	$141,409.06
G2040	Site Development	$0.00	$18,852.52	$0.00	$0.00	$0.00	$18,852.52
G4030	Site Communications & Security	$0.00	$23,004.28	$0.00	$0.00	$0.00	$23,004.28
	Total:	$0.00	$41,856.80	$141,409.06	$0.00	$0.00	$183,265.86

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: $183,265.86

Deficiency Details by Priority

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

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

System: G2040 - Site Development

Location: Site
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Build secure trash dumpster enclosure
Qty: 1.00
Unit of Measure: Ea.
Estimate: $18,852.52
Assessor Name: Hayden Collins
Date Created: 02/15/2016

Notes: The trash dumpster is located south of the main building enclosed by site fencing but open to students. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

System: G4030 - Site Communications & Security

Location: Site
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 2 - Response Time (2-3 yrs)
Correction: Add Video Surveillance System
Qty: 3.00
Unit of Measure: Ea.
Estimate: $23,004.28
Assessor Name: Hayden Collins
Date Created: 01/25/2016

Notes: Provide an allowance for the addition of three (3) exterior video surveillance cameras to provide coverage of the Visitor Entrance and the paved play area.

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

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $141,409.06

Assessor Name: Hayden Collins

Date Created: 02/15/2016

Notes: The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended.

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