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.

Birney School

Governance	CHARTER	Report Type	Elementarymiddle
Address	900 Lindley Ave.	Enrollment	737
	Philadelphia, Pa 19141	Grade Range	'00-08'
Phone/Fax	215-456-3000 / 215-457-6695	Admissions Category	Neighborhood
Website	Www.Birneyprep.Com/	Turnaround Model	Renaissance Charter

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	**49.53%**	**$13,399,870**	**$27,056,048**
Building	50.58 %	$13,024,478	$25,751,772
Grounds	28.78 %	$375,392	$1,304,276

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	92.40 %	$447,879	$484,700
Exterior Walls (Shows condition of the structural condition of the exterior facade)	09.84 %	$187,453	$1,905,056
Windows (Shows functionality of exterior windows)	166.14 %	$1,545,191	$930,032
Exterior Doors (Shows condition of exterior doors)	149.07 %	$111,196	$74,592
Interior Doors (Classroom doors)	480.85 %	$853,997	$177,600
Interior Walls (Paint and Finishes)	03.36 %	$26,966	$801,568
Plumbing Fixtures	01.87 %	$13,267	$708,624
Boilers	14.51 %	$142,120	$979,168
Chillers/Cooling Towers	66.45 %	$853,284	$1,284,048
Radiators/Unit Ventilators/HVAC	95.57 %	$2,154,010	$2,253,744
Heating/Cooling Controls	155.54 %	$1,100,337	$707,440
Electrical Service and Distribution	53.44 %	$246,776	$461,760
Lighting	61.75 %	$1,020,602	$1,652,864
Communications and Security (Cameras, Pa System and Fire Alarm)	65.13 %	$403,314	$619,232

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

S721001;Birney

Final

Site Assessment Report

February 1, 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):	59,200
Year Built:	1912
Last Renovation:	
Replacement Value:	$27,056,048
Repair Cost:	$13,399,870.02
Total FCI:	49.53 %
Total RSLI:	66.74 %

Description:

Facility assessment
December 2015

School District of Philadelphia
Bethune Elementary School
3301 Old York Road
Philadelphia, PA 19140

99,420 SF / 855 Students / LN 04

GENERAL

The Birney Preparatory Academy is identified as B721001 and was originally constructed as the General Davis B Birney Public School. This facility is located at 900 W. Lindley Avenue in Philadelphia, PA. The design of the modified U-shaped, concrete and steel-framed building includes brick facades with a concrete foundation and detailing.

The main entrance faces the northern exterior on West Lindley Avenue. This School serves students in grades Pre-K to 8. Originally

constructed in 1912 and consist of a Basement level and three additional stories with a total gross square footage of 59,200 GSF.

This school has several classrooms, a lab, library, kitchen, cafeteria and student commons and cafetorium, with supporting administrative spaces. The information for this report was collected during a site visit on July 20, 2015.

Mr. Troy Berry, Building Engineer, and Mr. Leroy D. Nunery, Consultant for American Paradigm Schools, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Mr. Kareem Thomas, Principal, also shared information about the school, and Mr. Rich Trzaska with American Paradigm Schools, toured the school with the assessment team.

STRUCTURAL / EXTERIOR CLOSURE

Foundations are concrete and appear to be in good condition. Basement walls are concrete and masonry constructed and are also in good condition. The superstructure is both steel and wooden framed construction. Floor construction is concrete.

The existing built up roofing system has clear signs of ponding and there reportedly has been an increase of roofing maintenance on this single ply roofing system. It is recommended that a new built-up roofing system be installed within the next ten years.

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.

The exterior building wall on the western exterior of the building is showing signs of age and deterioration associated with weather conditions such as freezing and thawing. As indicated in the photo this issue starts at the roof and the obvious crack extends down the exterior wall to the next floor. This wall is in very poor condition and upgrades are recommended. The wall is recommended for point and tuck work as well as joint recovery and cleaning.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. 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 mechanical 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 2000's. Overall the roofing system is in good condition considering the age of the roof. Universal upgrades are recommended within the next ten years as a life cycle replacement.

Special consideration for those that may be physically challenged was not a main factor in the last re-construction effort or during the construction of this school. Currently there is no dedicated entrance serves as the exterior ADA entrance. The path of travel is not very clear from any of the access points. The interior path of travel is partially supported by some door hardware, hand rails and guard rails that will require modifications to meet the needs of the physically challenged. The building has received limited upgrades and does not fully support a path of travel for those that may be physically challenged. Included in this report is the recommendation for the addition of an elevator to serve all floors.

There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the southern elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this historic structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

The mechanical room has several penetrations and as indicted in the photos an industrial window that has been compromised with several holes for equipment. Also, note the electrical modifications recently completed at this school has left several closet penetrations open. This deficiency provides a budgetary consideration to properly enclose the areas and to meet the current fire life safety requirements for mechanical and electrical spaces.

A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically wood in wood frames with transom lites or sidelights, glass glazing. The entrance doors to the lobby from the main entrance and the stair entrance to the

common area are good examples of the interior system needs. 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.

There are several transom lites and sidelights constructed into hallway wall systems. It is recommended that the lites and sidelights be removed and replaced with a fire rated wall construction. The deficiency provides a budgetary consideration to correct the hallway, transoms, lites and sidelights.

Lab casework and countertops are located in the science classrooms on the second floor of this school. They vary in design, age, and degree of deterioration. Selective replacement of both base cabinets and countertops should be anticipated within ten years. The new cabinetry should be designed in accordance with current MAC requirements and include utility upgrades.

Interior doors are typically wood in wood frames with glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames. 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.

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.

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.

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.

There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

The floor finish for this school is a combination of carpet in the administrative area, tile in the kitchen and service line areas, wooden classrooms with concrete hallways and stirs finishes and a vinyl tile finish. The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application.

The classrooms in this school have a wooden floor finish that appears to be from original construction. The system is showing signs of age such as the effects of sanding and refinishing with yearly cleaning and waxing with some repairs. The floor finish is in fair condition however, the finish is beyond its expected life cycle. It is recommended that the wooden floor finish be removed and replaced with an in kind finish.

Interior ceilings are typically 2 x 4 acoustical tile in metal grid. Other ceiling finishes include: exposed/painted structure; plaster; gypsum wallboard. The ceiling finishes are expected to have a life cycle that extends beyond the outlook of this report.

Institutional equipment includes: library equipment instrumental equipment; A/V equipment with limited gym equipment. Other equipment includes kitchen equipment and serving line. There are several interior upgrades recommended in this report.

Furnishings include: fixed casework and dedication plaques such as the plaque near the main office indicating the dedication date and to General Birney. This plaque and the casework is in good condition and there are no projects required at this time.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories and urinals and both wall and floor mounted water closets. Lavatories have dual wheel handle or dual lever handle faucets and urinals and water closets have manual flush valves, mostly concealed with pushbutton or lever operators. Custodial closets have service sinks or mop basins and there are a few stainless steel counter top sinks. There are single level stainless steel water coolers with integral refrigeration and china drinking fountains with no refrigeration. The kitchen waste is piped through an above floor grease trap in a mechanical space below the stage platform. There is a seventy gallon electric Bradford White water heater in the basement mechanical room with a small inline circulating pump installed in 2006. A horizontal water heater/storage tank is abandoned in the mechanical room. There is no domestic water booster pump system. A duplex sump pump is located in the stage area mechanical room.

Water piping has been replaced since the original installation with copper. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron. Water service is a three inch line and meter from N. 9th St. with a backflow preventer. This equipment is in a former classroom in the basement with a wire cage for protection. Rainwater and sanitary main lines connect at multiple locations including 9th and Lindley, 9th and W. Ruscomb St., and Ruscomb St. and N. Hutchinson St. The six inch gas service is from W. Lindley Ave., and the meter assembly is in the mechanical room.

Plumbing fixtures on first, second and third levels have been replaced but age is unknown. Appearance and function indicate remaining service life of ten to fifteen years. The water heater should be serviceable for ten or more years. 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. The domestic water piping may have lead solder based on age, and should be replaced based on appearance and condition.

HVAC-Heating is generated by two older Weil McLain one hundred eighty hp sectional cast iron low pressure steam gas/oil fired boilers in the basement mechanical room. The boilers are Model 94 with Powerflame burners and separate oil pumps. Boilers were installed approximately 1988. There is a Shipco triplex pump condensate return and boiler feed unit with three 3/4 hp pumps. There is no chemical feed system. There are combustion air louvers with motorized dampers and an insulated field fabricated boiler stack into a brick chimney. Oil storage is a 6000 gallon underground tank, age and condition unknown. A duplex fuel oil pump system in a crawl space provides circulation.

In the original building spaces are heated by steam radiators with control valves and F&T traps, mostly inoperable. There is a house fan system in the basement that provided heat and ventilation through a central duct system that is inoperable. The radiators all have metal cabinets with sloped tops and stamped grills. The steam traps and control valves are reportedly mostly inoperable. The 1968 cafetorium addition is heated by a heating and ventilating unit in a mechanical space below the stage platform. This unit has a hot water coil and small inline circulating pump. Hot water is supplied by a steam to water heat exchanger and two end suction pumps in the main mechanical room. The heat exchanger was replaced in 2004 and the pumps appear to be from the 1968 installation.

There is no central air conditioning. Window units cool classrooms and other areas and two ductless split systems cool the teachers' lounge and IT room. There is a stainless steel kitchen exhaust hood ducted to a roof fan, which is damaged and needs to be replaced. One piece of warming equipment is located under the hood, and there is no fire suppression system. There is no mechanical toilet exhaust.

The boilers have had substantial maintenance recently and should remain serviceable ten to fifteen more years. One boiler was opened and was clean inside given the age. The steam piping and radiators are from original construction and should be replaced based on age and condition. The oil storage tanks have no record of testing or maintenance and should be inspected. The condensate return system is newer and should have remaining service of about twenty years.

FIRE PROTECTION- There are no sprinklers nor standpipes in this building.

ELECTRICAL SYSTEMS

Electrical Service--The building is served by PECO Energy Company from an oil-filled utility transformer located in the high voltage vault room within the building, and adjacent to the Main Electrical Room in the Basement. The transformer secondary is rated 208/120V, 3 phase, 4 wire. The kVA rating size of the transformer was not indicated.

The 208/120V secondary service feeds Siemens Main Switchboard SWBA, which is rated 1600A, 208/120V, 3 phase, 4 wire. Switchboard SWBA has an incoming section, a 1600A main circuit breaker section and one distribution section. Switchboard SWBA is provided with a Siemens 9350 Power and Energy meter and Eaton Cutler-Hammer Unipak 22.5 kVAR capacitor for power factor correction. The service equipment was installed in 2006 and has 21 years useful life remaining before replacement.

The original service entrance electrical equipment is abandoned in place in the Main Electrical Room.

Surface mounted panelboards were provided throughout the original building when the electrical distribution system was upgraded in 2006. Existing flush mounted panelboards in corridors were removed and the enclosures used as splice boxes. Distribution panelboards are located in the Basement to serve mechanical equipment. Panelboards have 21 years useful life remaining before replacement. The distribution equipment in the 1968 cafeteria/auditorium addition was upgraded in 2006.

The existing 1600A electrical service does not have adequate capacity for the addition of a central air condition system for the building. The 13.2 kV -208/120V service transformer would need to be replaced with a larger transformer and a second service with 800A main circuit breaker section and one distribution section would be needed to serve the HVAC equipment. The service can be located in the Main Electrical Room, after the obsolete, abandoned service equipment is demolished.

Receptacles-- In general, classrooms are provided with only a few convenience receptacles, typically (2) to (4) duplex receptacles per classroom. A minimum of (3) or (4) duplex receptacles should be added in each classroom using a surface metal raceway system. There are approximately (12) duplex receptacles in the kitchen that need to be replaced with ground-fault circuit-interrupting (GFCI) type receptacles to comply with National Electrical Code (NEC) Article 210.8. Convenience receptacles throughout the school are generally in poor condition and should be replaced with new devices within the next (3) to (4) years.

Lighting--Lighting fixtures in most areas are 4 foot fluorescent with obsolete T12 lamps. The Building Engineer reported that many fluorescent ballasts still have PCB's and have been tagged at the fixture. Fixtures in the Basement are industrial fluorescent with T8 lamps in the Boiler Room and Main Electric Room. Surface mounted, 2x4 modular fluorescent fixtures or wraparound fixtures are provided in the Basement corridors, stairwells and restrooms. Corridors and classrooms on Floor 1 through 3 have lay-in grid ceiling with 2x4 recessed lensed troffers with T12 lamps. Classrooms typically have (8) fixtures that are controlled by two light switches. There are no occupancy sensors in classrooms.

The stairs in the old fire towers, located off the east-west corridor on all floors, is very poorly illuminated with incandescent lampholders.

Lighting in the 1968 cafeteria/auditorium addition consists mainly of surface mounted fluorescent wraparound fixtures with T12 lamps in the kitchen and Teachers Lounge. The illumination level in the kitchen is very low, measured at 17 footcandles at the preparation table. There are (30) ceiling recessed, incandescent square fixtures in the cafeteria/auditorium. Lighting on the platform has shallow dome incandescent worklights and wall mounted incandescent fixtures on the side walls. Lighting track with (6) eyeball fixtures is mounted in front of the platform. There is no dimming system for the auditorium or platform. All lighting is switch controlled from panelboards on the platform.

The gymnasium has surface mounted, industrial incandescent fixtures with wire guards. The lighting in the gym needs to be upgraded with energy efficient lighting fixtures.

There are some mechanical spaces in the Basement and a few offices and classrooms in the building that has upgraded lighting. The remainder of the school, approximately 53,200 SF, needs to have the lighting system renewed.

There are exterior wall mounted lighting fixtures at exit doors to illuminate the path of egress.

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

Telephone/LAN-- A telephone is provided in each classroom. Wireless access points are provided in classrooms, corridors, cafeteria/auditorium and gymnasium for Wi-Fi service throughout the entire school. Smart boards are provided in most classrooms. The telephone system demarcation is located in the Basement in the corridor adjacent to the northwest stairwell. The Main IT Room is located on Floor 1 adjacent to the Main Office.

Intercom/Paging Systems-- An Aiphone audible/visual intercom system is provided between the main and secondary entrances and the Main Office. The paging system is (8) zones and is accessed through the telephone system. Speakers in classrooms and corridors are used for paging announcements.

Clock and Program System-- Classrooms and corridors are provided with recessed ceiling speakers and wall mounted clocks. The original clocks and speakers in classrooms, and speakers in corridors, still remain and have been abandoned in place. The program

system is in good working order, but the clock system is not functional. This report includes replacement of all clocks with battery operated synchronized clocks controlled by a wireless GPS master clock system.

Video Surveillance and Security Systems-- Interior video surveillance cameras provide coverage of corridors, cafeteria/auditorium and gymnasium. Exterior wall mounted cameras around the perimeter of the building provide coverage of the site and entrances. Surveillance cameras are monitored in the IT room adjacent to the Main Office on Floor 1.

Emergency Power System-- There is a natural gas operated Generac standby generator system in the building that was installed in 1992. The Building Engineer reported that the generator, associated 105A, 208/120V automatic transfer switch (ATS) and emergency lighting Panelboard ELP are no longer operational. The standby generator supplied emergency egress and exit lighting in the building. With the generator no longer operational, there is no alternate source of power for the emergency system. The entire standby power system needs to be replaced, and upsized to supply emergency egress and exit lighting and an elevator addition.

Emergency Lighting System / Exit Lighting-- Emergency egress and exit lighting was served by the standby generator, which is no longer operational. Exit signs in the building are incandescent type and have exceeded their useful life. Many of the exit signs were not illuminated or missing. All exit signs need to be replaced with LED vandal-resistant type signs.

Lightning Protection System --There is no lightning protection system for this facility.

Conveying Systems-- The building did not have an elevator.

GROUNDS

The asphalt parking area is developing cracks that may turn into hazards and causing determination. It is recommended that the cracks be filled and the play area be resealed with proper area markers to support parking.

The sidewalk system is original to the buildings construction. There are a several areas of cracking concrete but no tripping hazards. The sidewalk system is expected to expire in the near future. Removal of the entire system is recommended. Universal upgrades are required.

The trash dumpster is located near the southwestern fence open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area are recommended.

This school has a perimeter fence surrounding the parking / playground area. The fence has several areas of repairs and the mounting post are damaged in several areas, overall the fence is in fair condition. This fence system is recommended to be removed and replaced with a new system within the next five to ten years.

Site Lighting-- Site lighting is provided by wall mounted HID lighting fixtures mounted along the perimeter of the building that are aimed to illuminate the site and play area. There are also quartz or LED bracket-arm mounted fixtures along the front, east and west sides of the building. There is one light pole with two floodlighting fixtures on the south side of the site that illuminates the play area. The wall mounted floodlighting fixtures need to be cleaned and re-lamped, and an allowance for replacement of up to (5) fixtures that are in poor condition.

RECOMMENDATIONS

- Remove and replace wood flooring
- Remove VAT and replace with VCT
- Repair and repaint all interior walls
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Remove and replace tackboards
- Remove and replace stage curtain
- Remove and replace interior doors
- Remodel existing classroom for lab use
- Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall
- Install fire rated walls
- Install fire rated doors
- Remove folding wood partitions; replace with metal studs and gypsum board painted.
- Remove and Replace Built Up Roof

- Remove and replace exterior doors
- Repair spalled concrete wall structure
- Remove and replace aluminum windows
- Repair cracks in masonry
- Add interior elevator - 4 floors
- Replace chain link fence - 8' high
- Build secure trash dumpster enclosure
- Remove and replace concrete sidewalk or paving
- Fill cracks in AC paving
- Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide a fan coil unit for each classroom and separate area. Include new heat exchanger and pump for hot water, piping, control valves and controls, to replace steam heating system.
- Provide a one hundred fifty ton air cooled package chiller on the roof with pumps, piping and controls. Connect to new fan coil units and air handling units.
- 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.
- Replace domestic hot and cold water pipe, fittings, valves, hangers and insulation.
- Replace older basement level drinking fountains. Include fittings and trim.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Provide a new central station air handling unit for the cafetorium 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.
- Provide a new central station air handling unit for the 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.
- Replace two heating hot water end suction pumps in mechanical room. Include motor starters and electrical connection.
- Provide mechanical toilet exhaust system in original portion of building including inline or exterior wall centrifugal ventilator at each level, ductwork and exhaust registers.
- Replace damaged kitchen hood fan with upblast centrifugal fan on roof. Include electrical connection.
- Replace the 13.2 kV-208/120V service transformer with a larger transformer, sized to include additional HVAC loads for central air conditioning. Provide a second service and 800A Switchboard with one distribution section.
- Add surface metal raceway system with minimum three (3) duplex receptacles in each classroom. Approximately 35 classrooms.
- Replace (12) duplex receptacles in the kitchen with ground-fault circuit-interrupting (GFCI) receptacles. Replace all duplex receptacles throughout the building with new wiring devices.
- Replace lighting fixtures and branch wiring in approximately 53,200 SF of the building, including classrooms, corridors, gymnasium, cafeteria/auditorium, kitchen, offices, restrooms and stairwells.
- Replace entire fire alarm system with an addressable type.
- Remove all individual clocks and provide wireless GPS master clock system with battery operated synchronized clocks.
- Replace standby generator system, including automatic transfer switch and standby power panelboard with new equipment, sized to include a new elevator addition.
- Replace all exit sign lighting throughout the building with LED exit signs.
- Provide elevator, feeders and safety switches for elevator machine and cab power.
- Clean and re-lamp wall mounted site floodlighting fixtures. Include allowance for replacement of up to (5) fixtures.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S721001		

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.

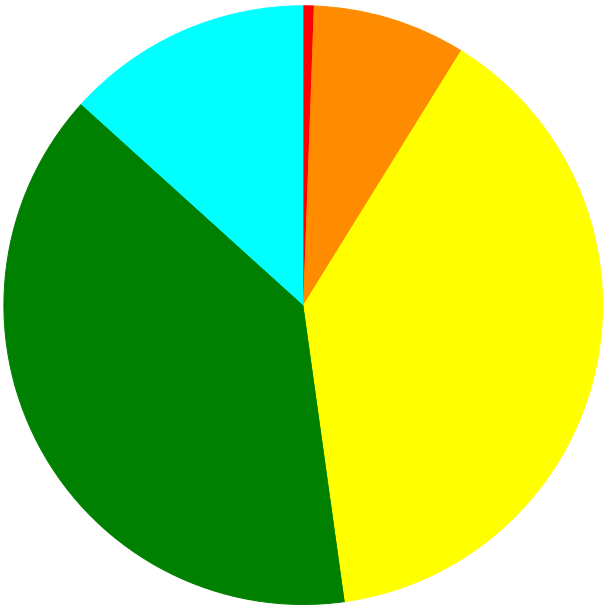
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	47.00 %	0.00 %	$0.00
A20 - Basement Construction	47.00 %	0.00 %	$0.00
B10 - Superstructure	47.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	67.10 %	63.37 %	$1,843,840.42
B30 - Roofing	110.00 %	92.40 %	$447,878.68
C10 - Interior Construction	56.31 %	145.06 %	$1,802,480.11
C20 - Stairs	47.00 %	26.17 %	$18,590.40
C30 - Interior Finishes	72.69 %	20.88 %	$576,002.24
D10 - Conveying	105.71 %	472.21 %	$919,712.71
D20 - Plumbing	62.11 %	49.36 %	$528,635.95
D30 - HVAC	87.18 %	72.86 %	$4,249,749.84
D40 - Fire Protection	92.52 %	176.39 %	$744,543.56
D50 - Electrical	90.80 %	67.29 %	$1,884,924.74
E10 - Equipment	19.13 %	0.00 %	$0.00
E20 - Furnishings	12.50 %	6.56 %	$8,119.74
G20 - Site Improvements	38.78 %	34.50 %	$332,138.49
G40 - Site Electrical Utilities	36.67 %	12.66 %	$43,253.14
Totals:	**66.74 %**	**49.53 %**	**$13,399,870.02**

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)
B721001;Birney	59,200	50.58	$75,782.99	$1,107,165.91	$5,221,537.60	$5,170,222.13	$1,449,769.76
G721001;Grounds	58,800	28.78	$0.00	$0.00	$0.00	$43,253.14	$332,138.49
Total:		**49.53**	**$75,782.99**	**$1,107,165.91**	**$5,221,537.60**	**$5,213,475.27**	**$1,781,908.25**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $75,782.99
- 2 - Response Time (2-3 yrs) - $1,107,165.91
- 3 - Response Time (3-4 yrs) - $5,221,537.60
- 4 - Response Time (4-5 yrs) - $5,213,475.27
- 5 - Response Time (> 5 yrs) - $1,781,908.25

Budget Estimate Total: $13,399,870.02

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):	59,200
Year Built:	1912
Last Renovation:	
Replacement Value:	$25,751,772
Repair Cost:	$13,024,478.39
Total FCI:	50.58 %
Total RSLI:	68.18 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B721001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S721001		

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	47.00 %	0.00 %	$0.00
A20 - Basement Construction	47.00 %	0.00 %	$0.00
B10 - Superstructure	47.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	67.10 %	63.37 %	$1,843,840.42
B30 - Roofing	110.00 %	92.40 %	$447,878.68
C10 - Interior Construction	56.31 %	145.06 %	$1,802,480.11
C20 - Stairs	47.00 %	26.17 %	$18,590.40
C30 - Interior Finishes	72.69 %	20.88 %	$576,002.24
D10 - Conveying	105.71 %	472.21 %	$919,712.71
D20 - Plumbing	62.11 %	49.36 %	$528,635.95
D30 - HVAC	87.18 %	72.86 %	$4,249,749.84
D40 - Fire Protection	92.52 %	176.39 %	$744,543.56
D50 - Electrical	90.80 %	67.29 %	$1,884,924.74
E10 - Equipment	19.13 %	0.00 %	$0.00
E20 - Furnishings	12.50 %	6.56 %	$8,119.74
Totals:	**68.18 %**	**50.58 %**	**$13,024,478.39**

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	$15.74	S.F.	59,200	100	1912	2012	2062	47.00 %	0.00 %	47			$931,808
A1030	Slab on Grade	$6.62	S.F.	59,200	100	1912	2012	2062	47.00 %	0.00 %	47			$391,904
A2010	Basement Excavation	$5.60	S.F.	59,200	100	1912	2012	2062	47.00 %	0.00 %	47			$331,520
A2020	Basement Walls	$10.88	S.F.	59,200	100	1912	2012	2062	47.00 %	0.00 %	47			$644,096
B1010	Floor Construction	$65.82	S.F.	59,200	100	1912	2012	2062	47.00 %	0.00 %	47			$3,896,544
B1020	Roof Construction	$12.16	S.F.	59,200	100	1912	2012	2062	47.00 %	0.00 %	47			$719,872
B2010	Exterior Walls	$32.18	S.F.	59,200	100	1912	2012	2062	47.00 %	9.84 %	47		$187,453.20	$1,905,056
B2020	Exterior Windows	$15.71	S.F.	59,200	40	1990	2030	2057	105.00 %	166.14 %	42		$1,545,191.45	$930,032
B2030	Exterior Doors	$1.26	S.F.	59,200	25	2000	2025	2042	108.00 %	149.07 %	27		$111,195.77	$74,592
B3010105	Built-Up	$32.69	S.F.	14,800	20	2000	2020	2037	110.00 %	92.57 %	22		$447,878.68	$483,812
B3020	Roof Openings	$0.06	S.F.	14,800	20	2000	2020	2037	110.00 %	0.00 %	22			$888
C1010	Partitions	$15.32	S.F.	59,200	100	1912	2012	2062	47.00 %	96.00 %	47		$870,650.83	$906,944
C1020	Interior Doors	$3.00	S.F.	59,200	40	1912	1952	2057	105.00 %	480.85 %	42		$853,996.50	$177,600
C1030	Fittings	$2.67	S.F.	59,200	40	1912	1952	2037	55.00 %	49.24 %	22		$77,832.78	$158,064
C2010	Stair Construction	$1.20	S.F.	59,200	100	1912	2012	2062	47.00 %	26.17 %	47		$18,590.40	$71,040
C3010230	Paint & Covering	$11.29	S.F.	59,200	10	2014	2024		90.00 %	4.03 %	9		$26,965.76	$668,368
C3010232	Wall Tile	$2.25	S.F.	59,200	30	1912	1942	2020	16.67 %	0.00 %	5			$133,200
C3020411	Carpet	$6.24	S.F.	1,200	10	2012	2022		70.00 %	0.00 %	7			$7,488

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3020412	Terrazzo & Tile	$64.54	S.F.	8,000	50	1912	1962	2020	10.00 %	0.00 %	5			$516,320
C3020413	Vinyl Flooring	$8.27	S.F.	20,000	20	1912	1932	2037	110.00 %	173.42 %	22		$286,834.38	$165,400
C3020414	Wood Flooring	$19.04	S.F.	10,000	25	1912	1937	2042	108.00 %	137.71 %	27		$262,202.10	$190,400
C3020415	Concrete Floor Finishes	$0.83	S.F.	20,000	50	1912	1962	2025	20.00 %	0.00 %	10			$16,600
C3030	Ceiling Finishes	$17.93	S.F.	59,200	25	2012	2037		88.00 %	0.00 %	22			$1,061,456
D1010	Elevators and Lifts	$3.29	S.F.	59,200	35	1912	1947	2052	105.71 %	472.21 %	37		$919,712.71	$194,768
D2010	Plumbing Fixtures	$11.97	S.F.	59,200	35	1998	2033		51.43 %	1.87 %	18		$13,266.96	$708,624
D2020	Domestic Water Distribution	$1.49	S.F.	59,200	25			2042	108.00 %	291.04 %	27		$256,717.68	$88,208
D2030	Sanitary Waste	$2.58	S.F.	59,200	25			2042	108.00 %	169.35 %	27		$258,651.31	$152,736
D2040	Rain Water Drainage	$2.05	S.F.	59,200	30	1912	1942	2025	33.33 %	0.00 %	10			$121,360
D3020	Heat Generating Systems	$16.54	S.F.	59,200	35	1998	2033		51.43 %	14.51 %	18		$142,119.74	$979,168
D3030	Cooling Generating Systems	$21.69	S.F.	59,200	30			2047	106.67 %	66.45 %	32		$853,283.62	$1,284,048
D3040	Distribution Systems	$38.07	S.F.	59,200	25			2042	108.00 %	95.57 %	27		$2,154,009.62	$2,253,744
D3050	Terminal & Package Units	$10.28	S.F.	59,200	20				0.00 %	0.00 %				$608,576
D3060	Controls & Instrumentation	$11.95	S.F.	59,200	20			2037	110.00 %	155.54 %	22		$1,100,336.86	$707,440
D4010	Sprinklers	$6.24	S.F.	59,200	35			2052	105.71 %	201.55 %	37		$744,543.56	$369,408
D4020	Standpipes	$0.89	S.F.	59,200	35				0.00 %	0.00 %				$52,688
D5010	Electrical Service/Distribution	$7.80	S.F.	59,200	30	2006	2036		70.00 %	53.44 %	21		$246,776.33	$461,760
D5020	Lighting and Branch Wiring	$27.92	S.F.	59,200	20	1912	1932	2037	110.00 %	61.75 %	22		$1,020,602.43	$1,652,864
D5030	Communications and Security	$10.46	S.F.	59,200	15	2006	2021	2023	53.33 %	65.13 %	8		$403,313.89	$619,232
D5090	Other Electrical Systems	$1.14	S.F.	59,200	30	1912	1942	2047	106.67 %	317.44 %	32		$214,232.09	$67,488
E1020	Institutional Equipment	$4.73	S.F.	59,200	35	1912	1947	2021	17.14 %	0.00 %	6			$280,016
E1090	Other Equipment	$10.86	S.F.	59,200	35	1912	1947	2022	20.00 %	0.00 %	7			$642,912
E2010	Fixed Furnishings	$2.09	S.F.	59,200	40	1912	1952	2020	12.50 %	6.56 %	5		$8,119.74	$123,728
								Total	**68.18 %**	**50.58 %**			**$13,024,478.39**	**$25,751,772**

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 plaster / drywall 60%
Painted CMU / Brick 40%

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

Note: Carpet 3%
Tile 14%
Vinyl 33%
Wood 17%
Concrete 33%

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

Note: There are no secondary transformers.

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:	**$13,024,478**	**$0**	**$0**	**$0**	**$0**	**$986,047**	**$367,790**	**$879,901**	**$862,867**	**$959,276**	**$203,947**	**$17,284,306**
*** 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	$187,453	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$187,453**
B2020 - Exterior Windows	$1,545,191	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,545,191**
B2030 - Exterior Doors	$111,196	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$111,196**
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	$447,879	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$447,879**
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	$870,651	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$870,651**
C1020 - Interior Doors	$853,997	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$853,997**
C1030 - Fittings	$77,833	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$77,833**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

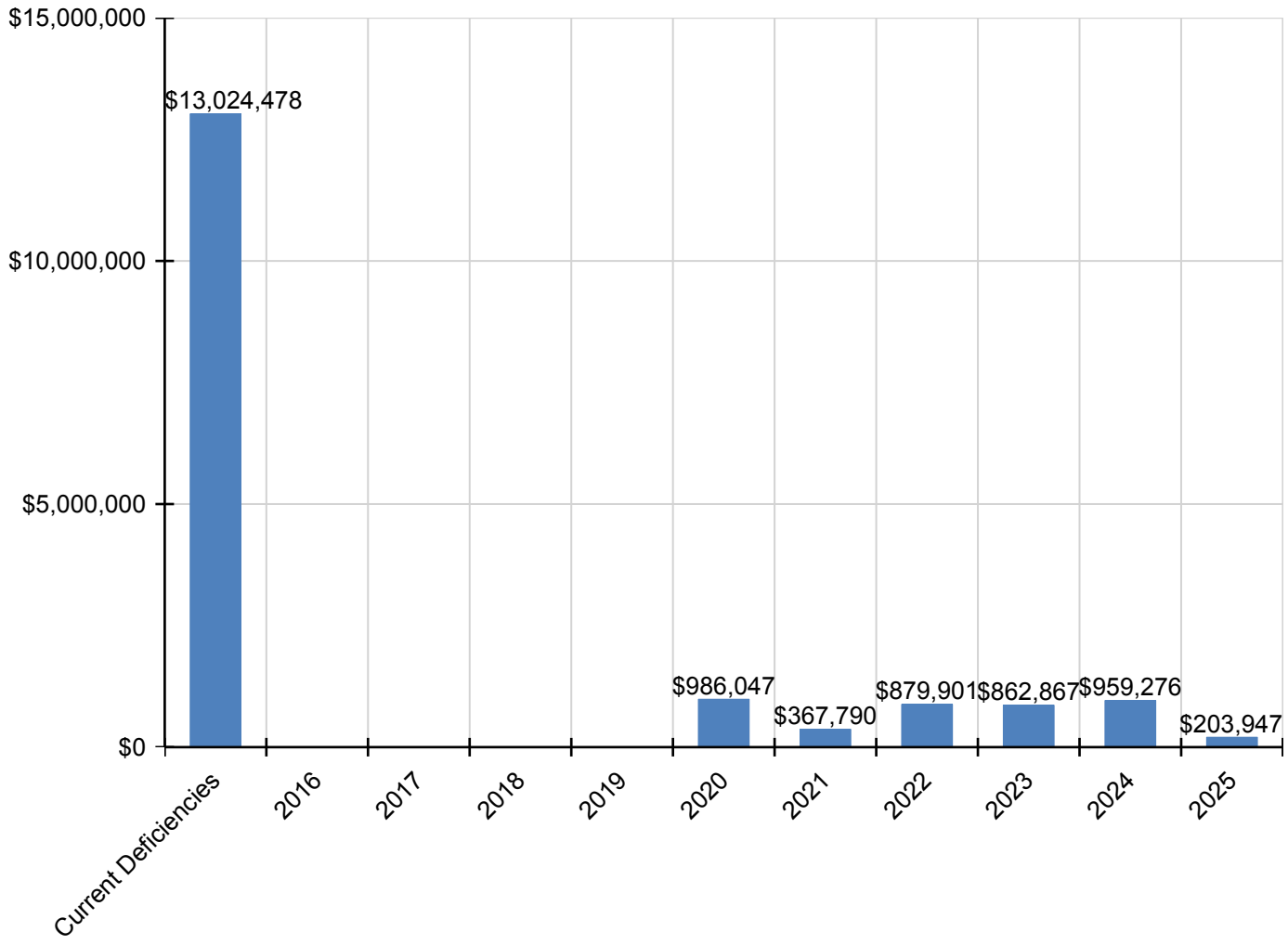
C2010 - Stair Construction	$18,590	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$18,590**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$26,966	$0	$0	$0	$0	$0	$0	$0	$0	$959,276	$0	**$986,242**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$169,857	$0	$0	$0	$0	$0	**$169,857**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$10,130	$0	$0	$0	**$10,130**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$658,412	$0	$0	$0	$0	$0	**$658,412**
C3020413 - Vinyl Flooring	$286,834	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$286,834**
C3020414 - Wood Flooring	$262,202	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$262,202**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$24,540	**$24,540**
C3030 - Ceiling Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$919,713	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$919,713**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$13,267	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,267**
D2020 - Domestic Water Distribution	$256,718	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$256,718**
D2030 - Sanitary Waste	$258,651	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$258,651**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$179,407	**$179,407**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$142,120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$142,120**
D3030 - Cooling Generating Systems	$853,284	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$853,284**
D3040 - Distribution Systems	$2,154,010	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,154,010**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,100,337	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,100,337**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$744,544	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$744,544**
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	$246,776	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$246,776**
D5020 - Lighting and Branch Wiring	$1,020,602	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,020,602**
D5030 - Communications and Security	$403,314	$0	$0	$0	$0	$0	$0	$0	$862,867	$0	$0	**$1,266,181**

D5090 - Other Electrical Systems	$214,232	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$214,232**
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	$367,790	$0	$0	$0	$0	**$367,790**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$869,770	$0	$0	$0	**$869,770**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$8,120	$0	$0	$0	$0	$157,778	$0	$0	$0	$0	$0	**$165,898**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

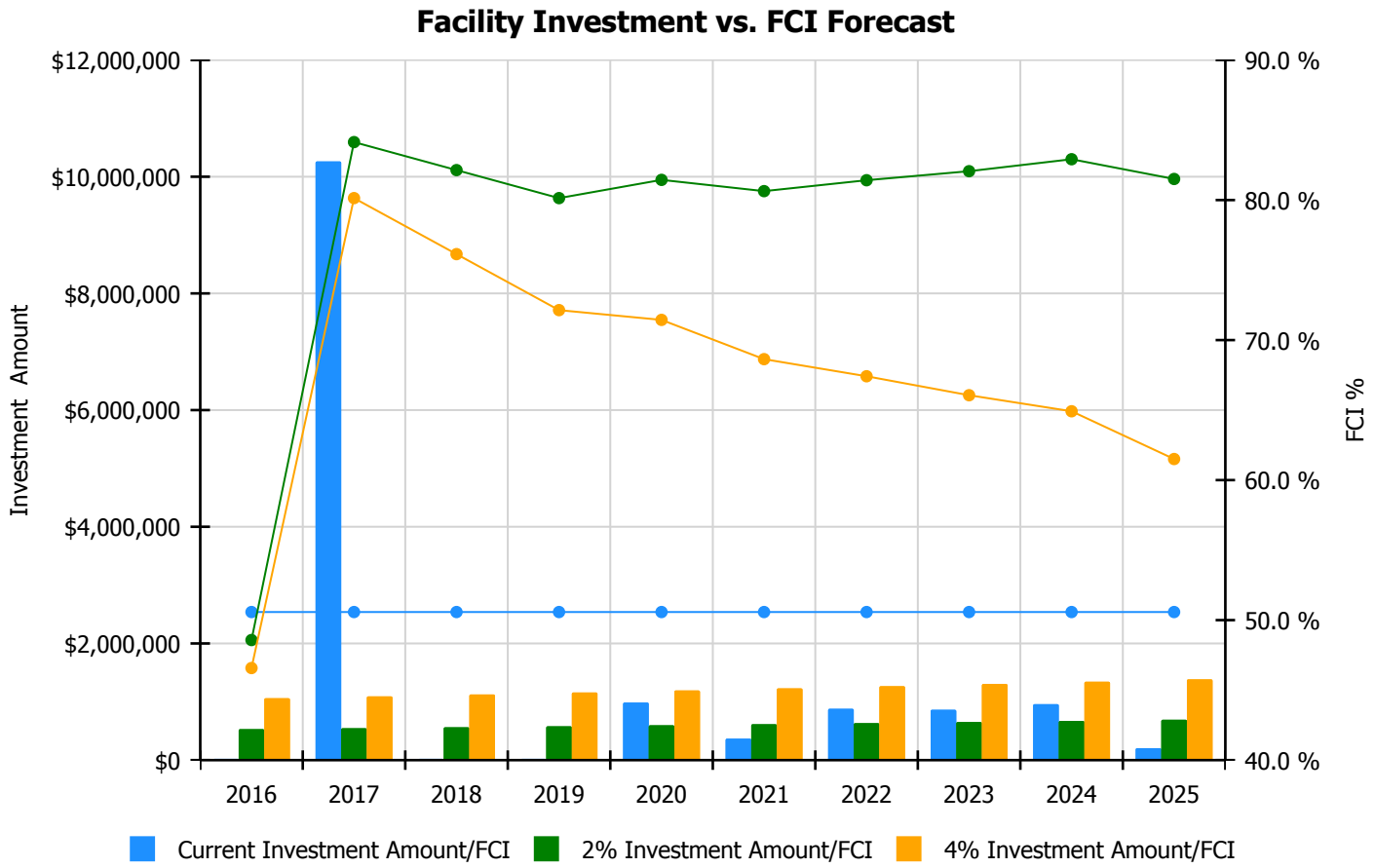
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

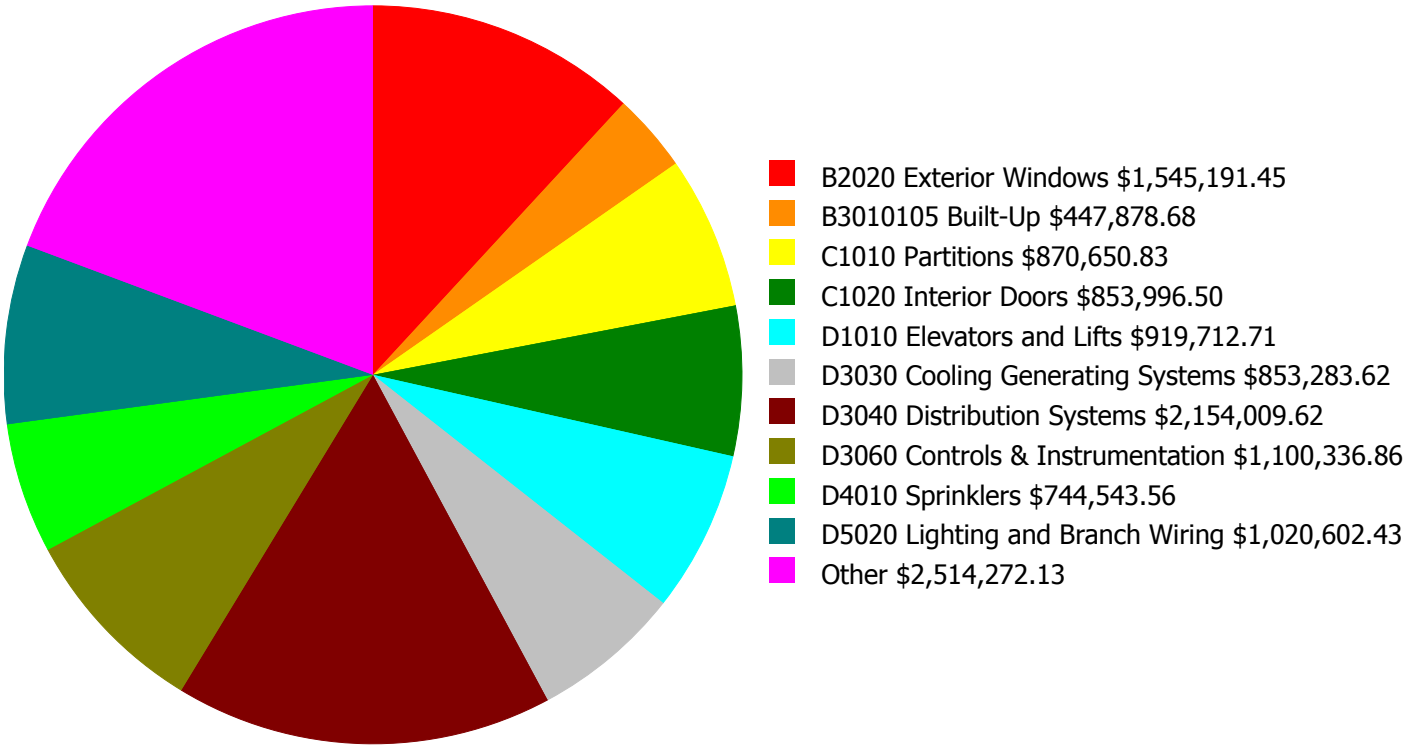
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 50.58%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$530,487.00	48.58 %	$1,060,973.00	46.58 %
2017	$10,261,843	$546,401.00	84.14 %	$1,092,802.00	80.14 %
2018	$0	$562,793.00	82.14 %	$1,125,586.00	76.14 %
2019	$0	$579,677.00	80.14 %	$1,159,354.00	72.14 %
2020	$986,047	$597,067.00	81.44 %	$1,194,134.00	71.44 %
2021	$367,790	$614,979.00	80.64 %	$1,229,958.00	68.64 %
2022	$879,901	$633,429.00	81.42 %	$1,266,857.00	67.42 %
2023	$862,867	$652,431.00	82.06 %	$1,304,863.00	66.06 %
2024	$959,276	$672,004.00	82.92 %	$1,344,009.00	64.92 %
2025	$203,947	$692,165.00	81.51 %	$1,384,329.00	61.51 %
Total:	**$14,521,670**	**$6,081,433.00**		**$12,162,865.00**	

Deficiency Summary by System

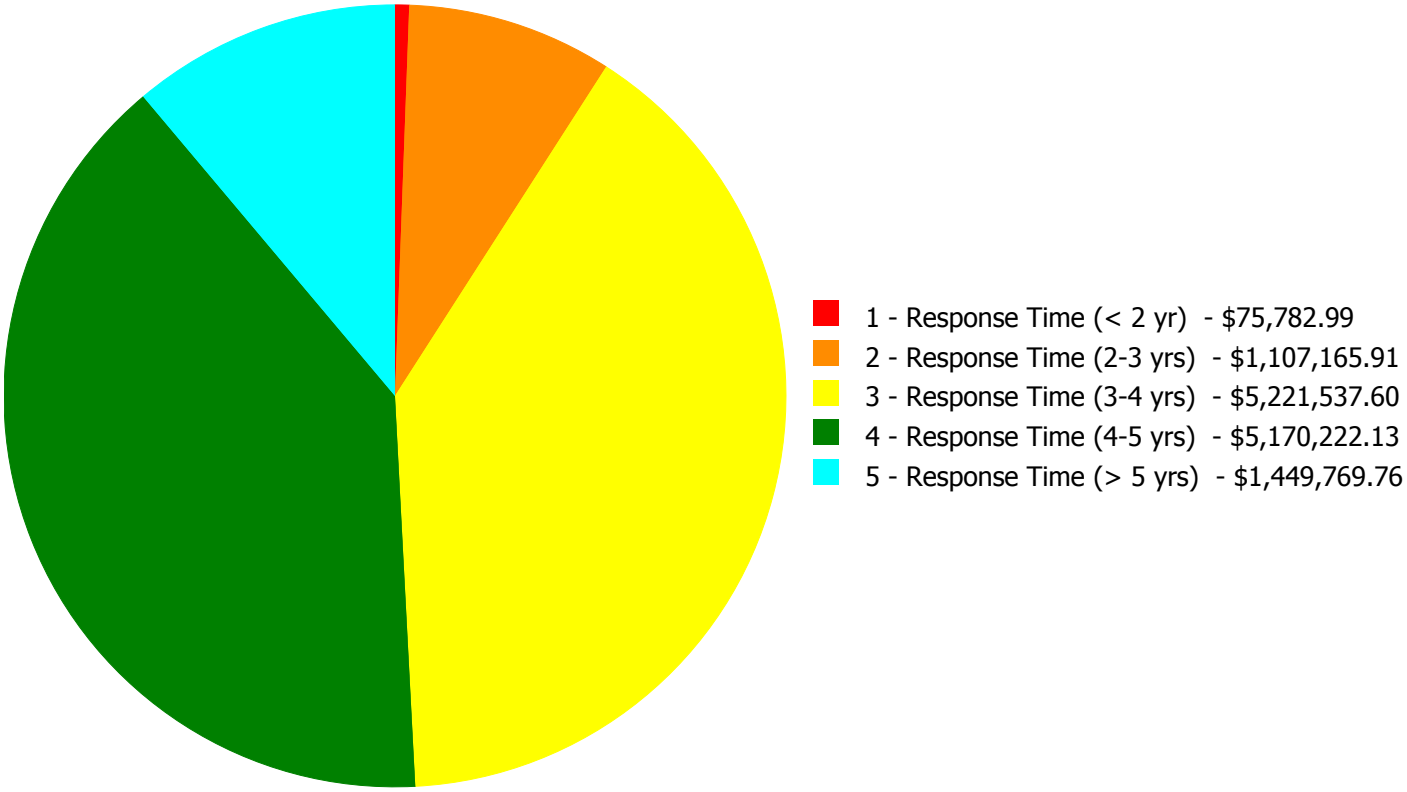
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $13,024,478.39

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: $13,024,478.39

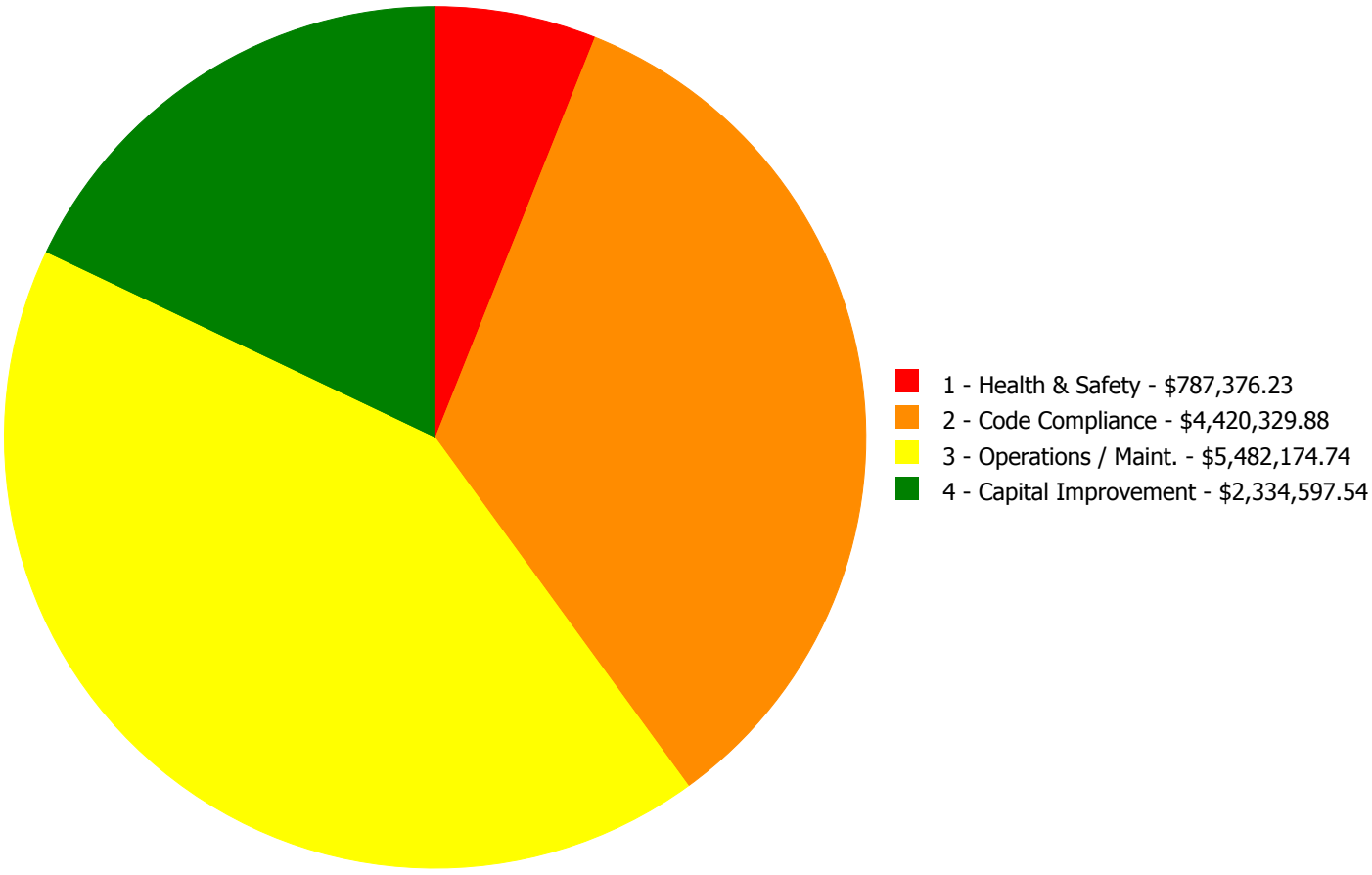
Deficiency By Priority Investment Table

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	$187,453.20	$0.00	$0.00	$0.00	$187,453.20
B2020	Exterior Windows	$0.00	$0.00	$0.00	$1,545,191.45	$0.00	$1,545,191.45
B2030	Exterior Doors	$0.00	$0.00	$0.00	$111,195.77	$0.00	$111,195.77
B3010105	Built-Up	$0.00	$0.00	$0.00	$0.00	$447,878.68	$447,878.68
C1010	Partitions	$35,786.52	$0.00	$173,008.11	$0.00	$661,856.20	$870,650.83
C1020	Interior Doors	$0.00	$0.00	$853,996.50	$0.00	$0.00	$853,996.50
C1030	Fittings	$0.00	$0.00	$0.00	$0.00	$77,832.78	$77,832.78
C2010	Stair Construction	$0.00	$0.00	$18,590.40	$0.00	$0.00	$18,590.40
C3010230	Paint & Covering	$0.00	$0.00	$0.00	$26,965.76	$0.00	$26,965.76
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$286,834.38	$0.00	$286,834.38
C3020414	Wood Flooring	$0.00	$0.00	$0.00	$0.00	$262,202.10	$262,202.10
D1010	Elevators and Lifts	$0.00	$919,712.71	$0.00	$0.00	$0.00	$919,712.71
D2010	Plumbing Fixtures	$0.00	$0.00	$0.00	$13,266.96	$0.00	$13,266.96
D2020	Domestic Water Distribution	$0.00	$0.00	$256,717.68	$0.00	$0.00	$256,717.68
D2030	Sanitary Waste	$0.00	$0.00	$258,651.31	$0.00	$0.00	$258,651.31
D3020	Heat Generating Systems	$0.00	$0.00	$0.00	$142,119.74	$0.00	$142,119.74
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$853,283.62	$0.00	$853,283.62
D3040	Distribution Systems	$39,996.47	$0.00	$1,485,805.19	$628,207.96	$0.00	$2,154,009.62
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,100,336.86	$0.00	$1,100,336.86
D4010	Sprinklers	$0.00	$0.00	$744,543.56	$0.00	$0.00	$744,543.56
D5010	Electrical Service/Distribution	$0.00	$0.00	$0.00	$246,776.33	$0.00	$246,776.33
D5020	Lighting and Branch Wiring	$0.00	$0.00	$812,678.87	$207,923.56	$0.00	$1,020,602.43
D5030	Communications and Security	$0.00	$0.00	$403,313.89	$0.00	$0.00	$403,313.89
D5090	Other Electrical Systems	$0.00	$0.00	$214,232.09	$0.00	$0.00	$214,232.09
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$8,119.74	$0.00	$8,119.74
	Total:	$75,782.99	$1,107,165.91	$5,221,537.60	$5,170,222.13	$1,449,769.76	$13,024,478.39

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: $13,024,478.39

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: Mechanical Electrical Spaces

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $35,786.52

Assessor Name: System

Date Created: 09/04/2015

Notes: The mechanical room has several penetrations and as indicted in the photos an industrial window that has been compromised with several holes for equipment. Also, note the electrical modifications recently completed at this school has left several closet penetrations open. This deficiency provides a budgetary consideration to properly enclose the areas and to meet the current fire life safety requirements for mechanical and electical spaces.

System: D3040 - Distribution Systems

Location: roof

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $39,996.47

Assessor Name: System

Date Created: 02/19/2016

Notes: Replace damaged kitchen hood fan with upblast centrifugal fan on roof. Include electrical connection.

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

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $139,234.35

Assessor Name: System

Date Created: 09/03/2015

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 façade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair spalled concrete wall structure

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $48,218.85

Assessor Name: System

Date Created: 09/04/2015

Notes: The exterior building wall on the western exterior of the building is showing signs of age and deterioration associated with weather conditions such as freezing and thawing. As indicated in the photo this issue starts at the roof and the obvious crack extends down the exterior wall to the next floor. This wall is in very poor condition and upgrades are recommended. The wall is recommended for point and tuck work as well as joint recovery and cleaning.

System: D1010 - Elevators and Lifts

Location: Building Wide

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Add external 4 stop elevator - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $919,712.71

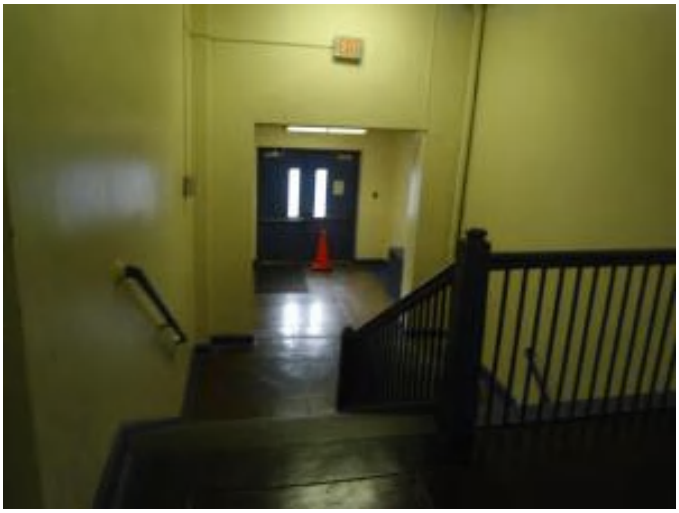
Assessor Name: System

Date Created: 09/03/2015

Notes: There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the southern elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this historic structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

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

System: C1010 - Partitions



Location: Stair Fire Doors

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 34.00

Unit of Measure: S.F.

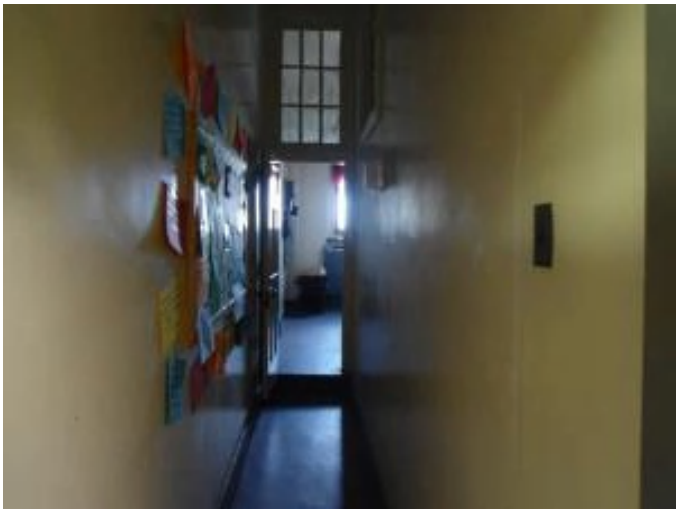
Estimate: $94,427.92

Assessor Name: System

Date Created: 09/04/2015

Notes: A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically wood in wood frames with transom lites or sidelights, glass glazing. The entrance doors to the lobby from the main entrance and the stair entrance to the common area are good examples of the interior system needs. 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: C1010 - Partitions



Location: Hallways

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $42,832.67

Assessor Name: System

Date Created: 09/04/2015

Notes: There are several transom lites and sidelights constructed into hallway wall systems. It is recommended that the lites and sidelights be removed and replaced with a fire rated wall construction. The deficiency provides a budgetary consideration to correct the hallway, transoms, lites and sidelights.

System: C1010 - Partitions

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $35,747.52

Assessor Name: System

Date Created: 09/04/2015

Notes: There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

System: C1020 - Interior Doors

Location: Interior Classroom Doors

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 200.00

Unit of Measure: Ea.

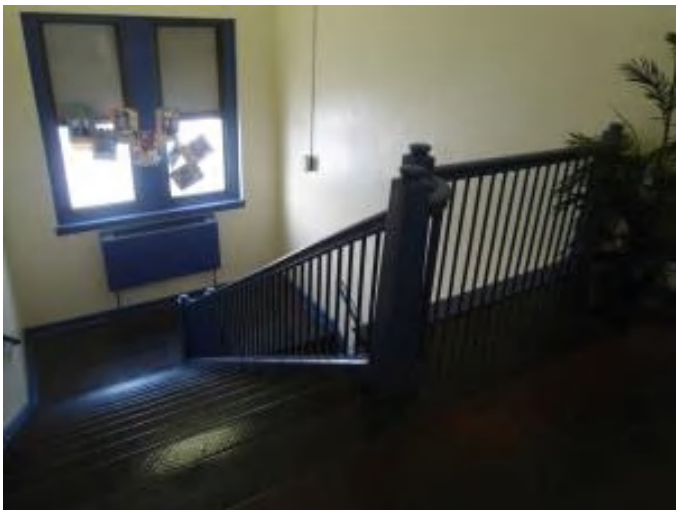
Estimate: $853,996.50

Assessor Name: System

Date Created: 09/04/2015

Notes: Interior doors are typically wood in wood frames with glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames. 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: C2010 - Stair Construction



Location: Stairs

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 1,200.00

Unit of Measure: L.F.

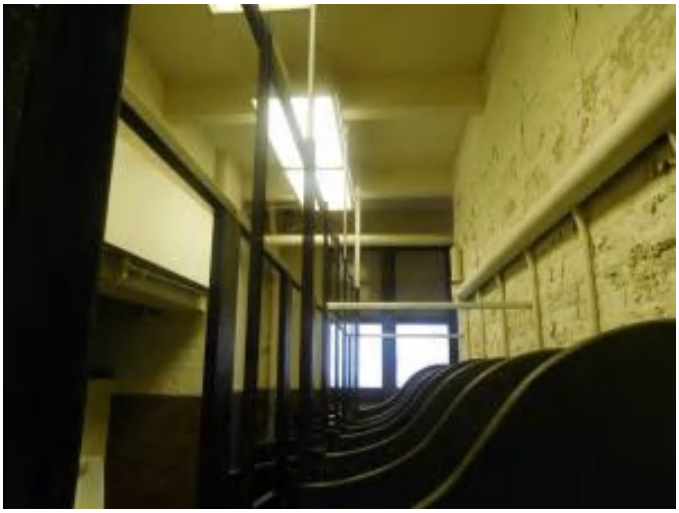
Estimate: $18,590.40

Assessor Name: System

Date Created: 09/04/2015

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: D2020 - Domestic Water Distribution



Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (75 KSF)

Qty: 59,200.00

Unit of Measure: S.F.

Estimate: $256,717.68

Assessor Name: System

Date Created: 08/25/2015

Notes: Replace domestic hot and cold water pipe, fittings, valves, hangers and insulation.

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 59,200.00

Unit of Measure: S.F.

Estimate: $258,651.31

Assessor Name: System

Date Created: 08/23/2015

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: 3 - Response Time (3-4 yrs)

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

Qty: 1.00

Unit of Measure: C

Estimate: $1,485,805.19

Assessor Name: System

Date Created: 08/23/2015

Notes: Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide a fan coil unit for each classroom and separate area. Include new heat exchanger and pump for hot water, piping, control valves and controls, to replace steam heating system.

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 59,200.00

Unit of Measure: S.F.

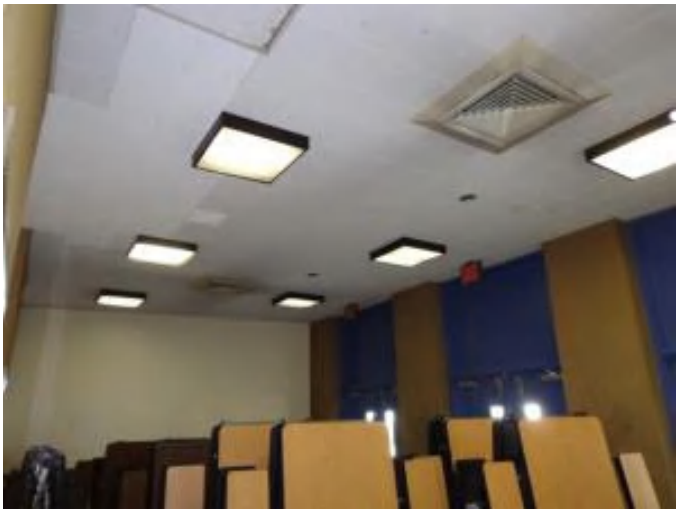
Estimate: $744,543.56

Assessor Name: System

Date Created: 08/23/2015

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: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 53,200.00

Unit of Measure: S.F.

Estimate: $812,678.87

Assessor Name: System

Date Created: 08/10/2015

Notes: Replace lighting fixtures and branch wiring in approximately 53,200 SF of the building, including classrooms, corridors, gymnasium, cafeteria/auditorium, kitchen, offices, restrooms and stairwells.

System: D5030 - Communications and Security

Location: Entire Building
Distress: Building / MEP Codes
Category: 2 - Code Compliance
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace fire alarm system
Qty: 59,200.00
Unit of Measure: S.F.
Estimate: $383,802.68
Assessor Name: System
Date Created: 08/10/2015

Notes: Replace entire fire alarm system with an addressable type.

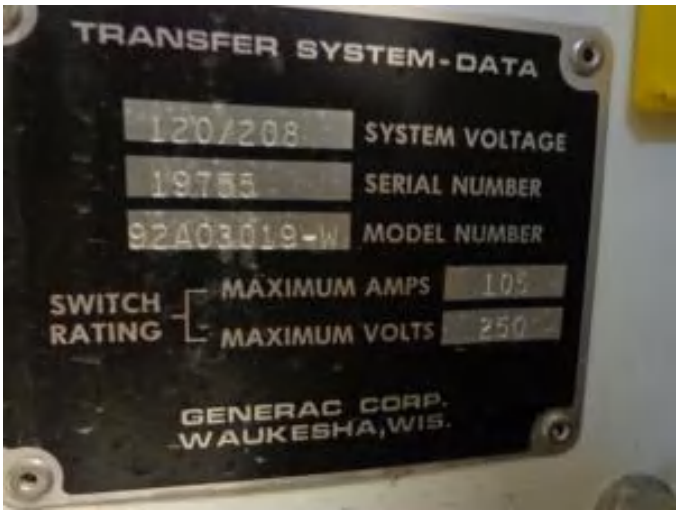
System: D5030 - Communications and Security

This deficiency has no image.

Location: Building wide
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Provide wireless GPS clock system
Qty: 1.00
Unit of Measure: LS
Estimate: $19,511.21
Assessor Name: System
Date Created: 02/18/2016

Notes: Remove all individual clocks and provide wireless GPS master clock system with battery operated synchronized clocks.

System: D5090 - Other Electrical Systems



Location: Mechanical Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: $174,248.21

Assessor Name: System

Date Created: 08/10/2015

Notes: Replace standby generator system, including automatic transfer switch and standby power panelboard with new equipment, sized to include a new elevator addition.

System: D5090 - Other Electrical Systems

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Emergency/Exit Lighting

Qty: 1.00

Unit of Measure: Ea.

Estimate: $39,983.88

Assessor Name: System

Date Created: 08/10/2015

Notes: Replace all exit sign lighting throughout the building with LED exit signs.

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

System: B2020 - Exterior Windows

Location: Exterior Elevation

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 300.00

Unit of Measure: Ea.

Estimate: $1,545,191.45

Assessor Name: System

Date Created: 09/04/2015

Notes: Exterior windows have been upgraded from the original applications. The current system is estimated to have been installed in the 1990's. Several windows no longer work and will require attention prior to an overall effort. Windows are in fair condition based on the year of installation or last renovation. The 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: 14.00

Unit of Measure: Ea.

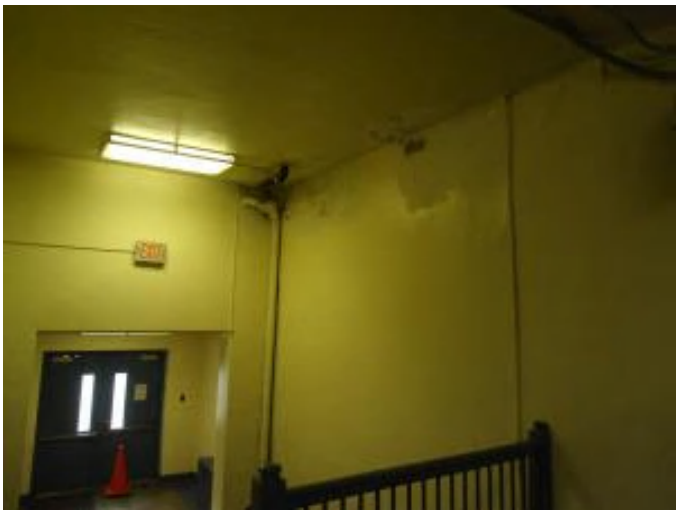
Estimate: $111,195.77

Assessor Name: System

Date Created: 09/04/2015

Notes: The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system, store front and service doors are recommended for upgrade.

System: C3010230 - Paint & Covering



Location: Interior Walls

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $26,965.76

Assessor Name: System

Date Created: 09/04/2015

Notes: There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

System: C3020413 - Vinyl Flooring

Location: Building Wide

Distress: Beyond Service Life

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: $286,834.38

Assessor Name: System

Date Created: 09/04/2015

Notes: The floor finish for this school is a combination of carpet in the administrative area, tile in the kitchen and service line areas, wooden classrooms with concrete hallways and stirs finishes and a vinyl tile finish. The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application.

System: D2010 - Plumbing Fixtures

Location: corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $13,266.96

Assessor Name: System

Date Created: 08/25/2015

Notes: Replace older basement level drinking fountains. Include fittings and trim.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (4" size, 7-1/2 HP, to 350 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $142,119.74

Assessor Name: System

Date Created: 09/14/2015

Notes: Replace two heating hot water end suction pumps in mechanical room. Include motor starters and electrical connection.

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 59,200.00

Unit of Measure: S.F.

Estimate: $853,283.62

Assessor Name: System

Date Created: 08/23/2015

Notes: Provide a one hundred fifty ton air cooled package chiller on the roof with pumps, piping and controls. Connect to new fan coil units and air handling units.

System: D3040 - Distribution Systems

Location: cafetorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 755.00

Unit of Measure: Pr.

Estimate: $328,892.55

Assessor Name: System

Date Created: 08/25/2015

Notes: Provide a new central station air handling unit for the cafetorium 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.

System: D3040 - Distribution Systems

Location: gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 4,000.00

Unit of Measure: Ea.

Estimate: $192,307.62

Assessor Name: System

Date Created: 08/25/2015

Notes: Provide a new central station air handling unit for the 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.

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: 7.00

Unit of Measure: Ea.

Estimate: $107,007.79

Assessor Name: System

Date Created: 08/25/2015

Notes: Provide mechanical toilet exhaust system in original portion of building including inline or exterior wall centrifugal ventilator at each level, ductwork and exhaust registers.

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 59,200.00

Unit of Measure: S.F.

Estimate: $1,100,336.86

Assessor Name: System

Date Created: 08/23/2015

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

System: D5010 - Electrical Service/Distribution

Location: Main Electrical Room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Service Transformer, Add Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $246,776.33

Assessor Name: System

Date Created: 08/10/2015

Notes: Replace the 13.2 kV-208/120V service transformer with a larger transformer, sized to include additional HVAC loads for central air conditioning. Provide a second service and 800A Switchboard with one distribution section.

System: D5020 - Lighting and Branch Wiring

Location: Kitchen

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace Wiring Device

Qty: 12.00

Unit of Measure: Ea.

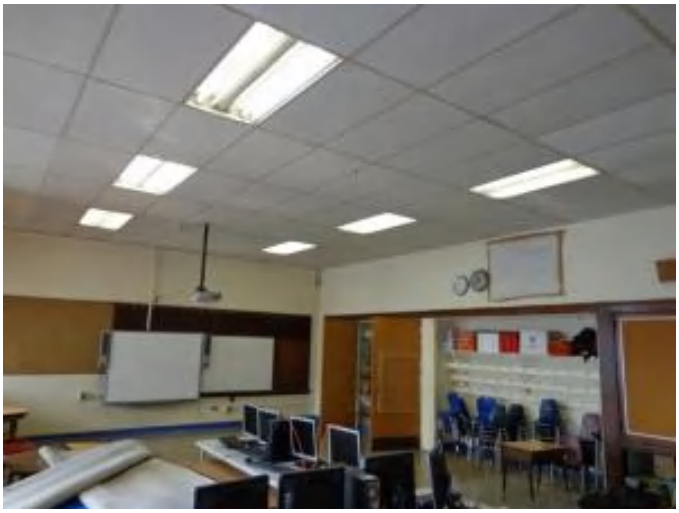
Estimate: $109,470.35

Assessor Name: System

Date Created: 08/10/2015

Notes: Replace (12) duplex receptacles in the kitchen with ground-fault circuit-interrupting (GFCI) receptacles. Replace all duplex receptacles throughout the building with new wiring devices.

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: 1,400.00

Unit of Measure: L.F.

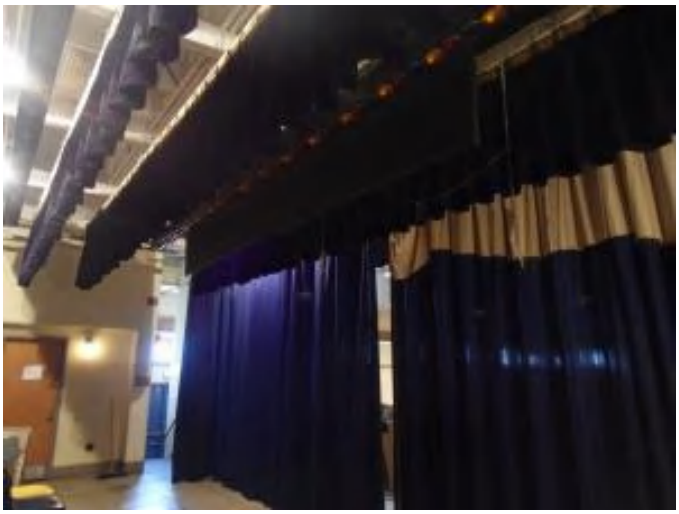
Estimate: $98,453.21

Assessor Name: System

Date Created: 08/10/2015

Notes: Add surface metal raceway system with minimum three (3) duplex receptacles in each classroom. Approximately 35 classrooms.

System: E2010 - Fixed Furnishings



Location: Stage

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 350.00

Unit of Measure: S.F.

Estimate: $8,119.74

Assessor Name: System

Date Created: 09/04/2015

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: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and Replace Built Up Roof

Qty: 14,800.00

Unit of Measure: S.F.

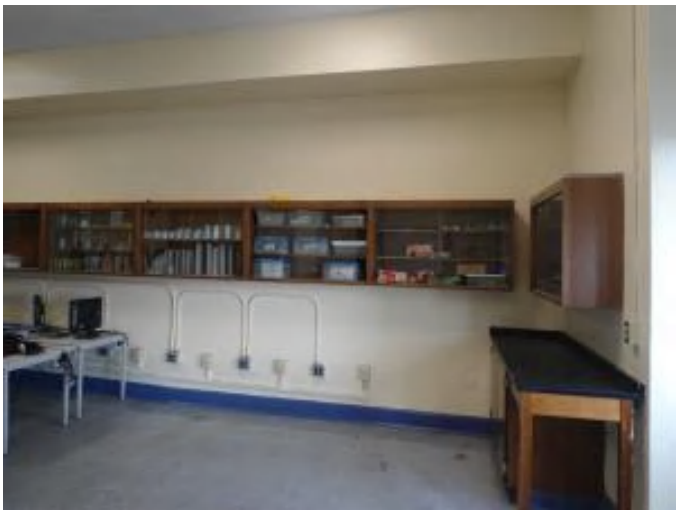
Estimate: $447,878.68

Assessor Name: System

Date Created: 09/04/2015

Notes: There are a number of roof sections and different roof elevations ranging from the main roof to the mechanical 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 2000's. Overall the roofing system is in good condition considering the age of the roof. Universal upgrades are recommended within the next ten years as a life cycle replacement.

System: C1010 - Partitions



Location: Science Labs

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remodel existing classroom for lab use - approx 900 GSF - with chemical storage room, 15 tables + instructors table

Qty: 2.00

Unit of Measure: Ea.

Estimate: $661,856.20

Assessor Name: System

Date Created: 09/04/2015

Notes: Lab casework and countertops are located in the science classrooms on the second floor of this school. They vary in design, age, and degree of deterioration. Selective replacement of both base cabinets and countertops should be anticipated within ten years. The new cabinetry should be designed in accordance with current MAC requirements and include utility upgrades.

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 250.00

Unit of Measure: Ea.

Estimate: $62,573.16

Assessor Name: System

Date Created: 09/04/2015

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: Building Wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace tackboards - select size

Qty: 20.00

Unit of Measure: Ea.

Estimate: $15,259.62

Assessor Name: System

Date Created: 09/04/2015

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: C3020414 - Wood Flooring

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace wood flooring

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $262,202.10

Assessor Name: System

Date Created: 09/04/2015

Notes: The classrooms in this school have a wooden floor finish that appears to be from original construction. The system is showing signs of age such as the effects of sanding and refinishing with yearly cleaning and waxing with some repairs. The floor finish is in fair condition however, the finish is beyond its expected life cycle. It is recommended that the wooden floor finish be removed and replaced with an in kind finish.

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, 6100 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	mechanical room	weil mclain	1994 series 2			35	1988	2023	$126,000.00	$138,600.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 6100 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	mechanical room	weil mclain	1994 series 2			35	1988	2023	$126,000.00	$138,600.00
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	1.00	Ea.	Room 002	Siemens	P4	Cat. No. P4C60ML600 ETS		30	2006	2036	$14,925.00	$16,417.50
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	1.00	Ea.	Main Electrical Room	Siemens	P4	Cat. No. P4C60ML600 ETS		30	2006	2036	$14,925.00	$16,417.50
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1600 A	2.00	Ea.	Main Electrical Room	Siemens	SB3 Rev. A	S.O. 17-20609-A00010		20	2006	2026	$32,575.00	$71,665.00
												Total:	**$381,700.00**

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):	58,800
Year Built:	1912
Last Renovation:	
Replacement Value:	$1,304,276
Repair Cost:	$375,391.63
Total FCI:	28.78 %
Total RSLI:	38.23 %

Description:

Attributes:

General Attributes:

Bldg ID:	S721001	Site ID:	S721001

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	38.78 %	34.50 %	$332,138.49
G40 - Site Electrical Utilities	36.67 %	12.66 %	$43,253.14
Totals:	**38.23 %**	**28.78 %**	**$375,391.63**

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 $
G2020	Parking Lots	$8.50	S.F.	10,200	30	1990	2020		16.67 %	5.25 %	5		$4,550.78	$86,700
G2030	Pedestrian Paving	$12.30	S.F.	48,600	40	1980	2020		12.50 %	4.81 %	5		$28,765.70	$597,780
G2040	Site Development	$4.36	S.F.	58,800	25	1990	2015	2042	108.00 %	116.56 %	27		$298,822.01	$256,368
G2050	Landscaping & Irrigation	$4.36	S.F.	5,000	15	1990	2005	2020	33.33 %	0.00 %	5			$21,800
G4020	Site Lighting	$4.84	S.F.	58,800	30			2026	36.67 %	15.20 %	11		$43,253.14	$284,592
G4030	Site Communications & Security	$0.97	S.F.	58,800	30			2026	36.67 %	0.00 %	11			$57,036
								Total	**38.23 %**	**28.78 %**			**$375,391.63**	**$1,304,276**

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.

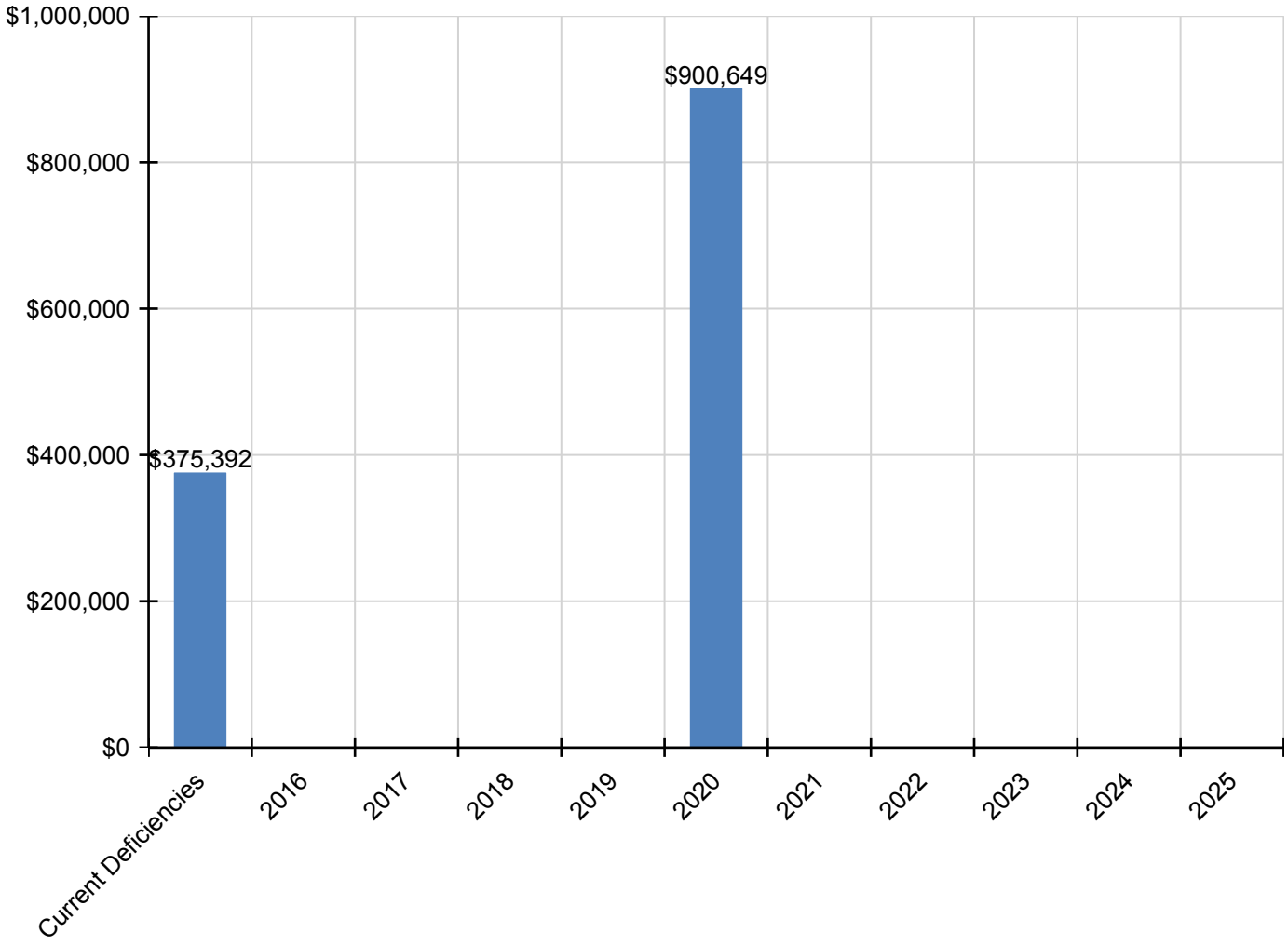
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$375,392**	**$0**	**$0**	**$0**	**$0**	**$900,649**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,276,041**
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**
G2020 - Parking Lots	$4,551	$0	$0	$0	$0	$110,560	$0	$0	$0	$0	$0	**$115,111**
G2030 - Pedestrian Paving	$28,766	$0	$0	$0	$0	$762,290	$0	$0	$0	$0	$0	**$791,056**
G2040 - Site Development	$298,822	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$298,822**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$27,799	$0	$0	$0	$0	$0	**$27,799**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$43,253	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$43,253**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

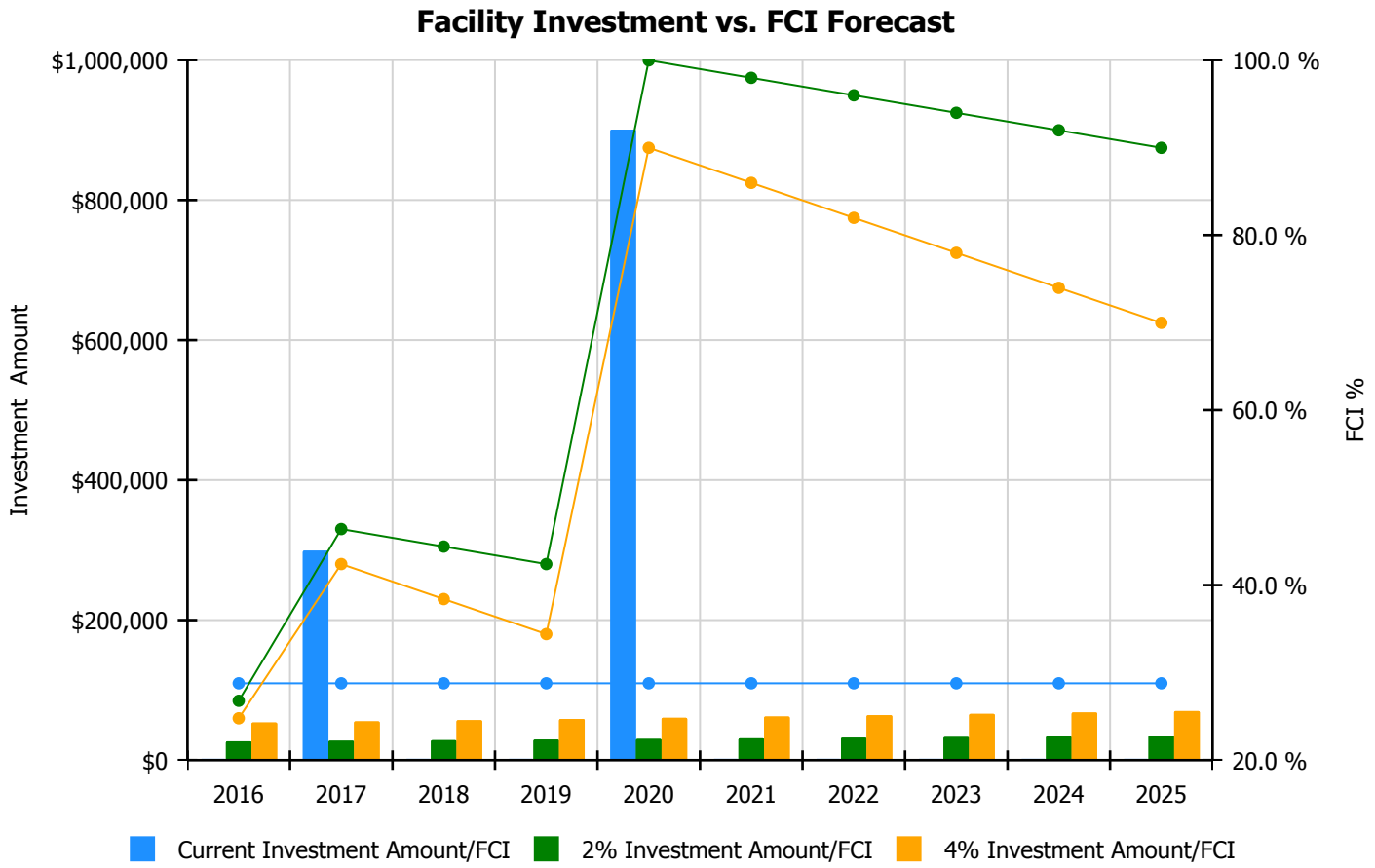
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

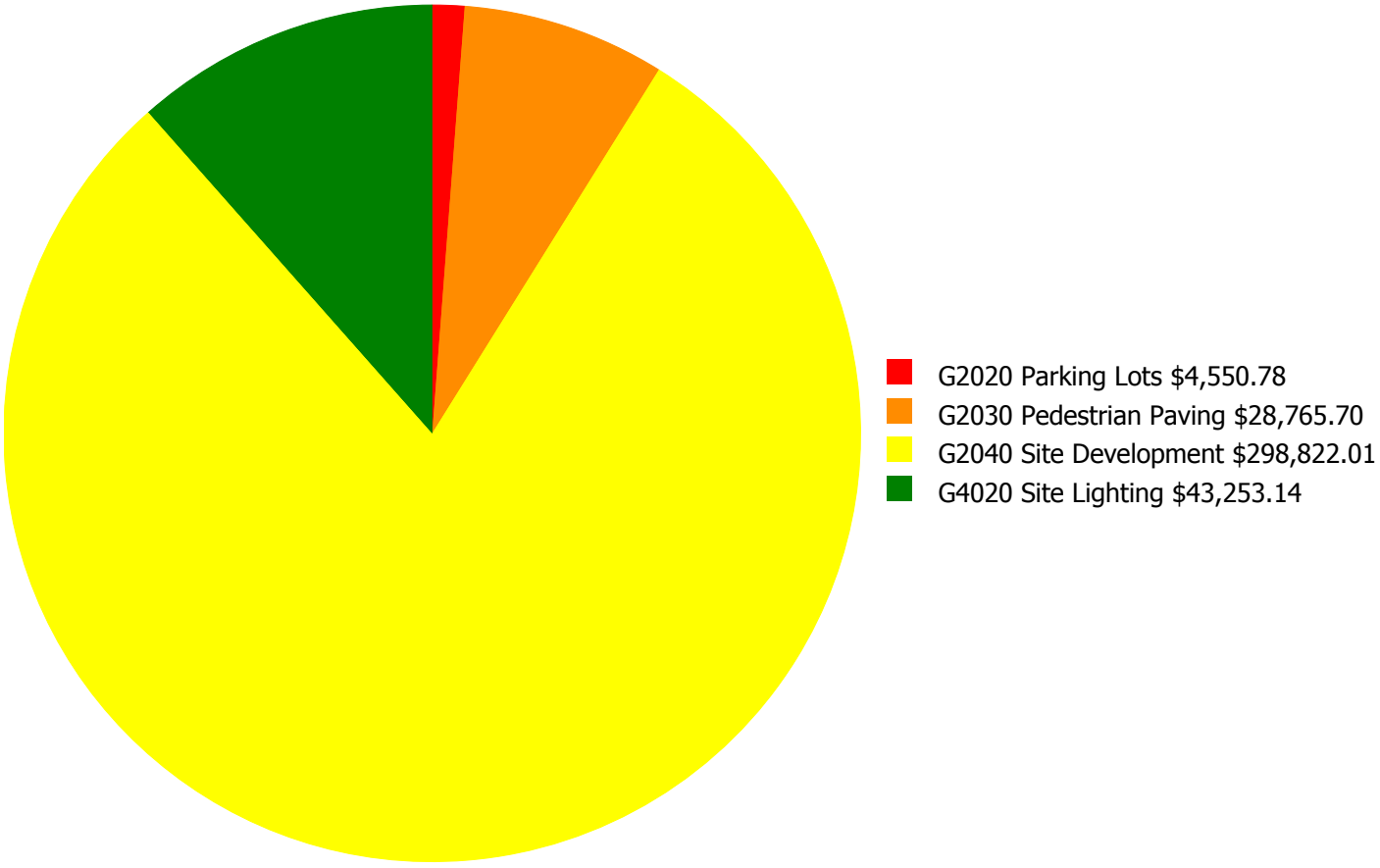
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 28.78%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$26,868.00	26.78 %	$53,736.00	24.78 %
2017	$299,179	$27,674.00	46.40 %	$55,348.00	42.40 %
2018	$0	$28,504.00	44.40 %	$57,009.00	38.40 %
2019	$0	$29,359.00	42.40 %	$58,719.00	34.40 %
2020	$900,649	$30,240.00	99.97 %	$60,481.00	89.97 %
2021	$0	$31,147.00	97.97 %	$62,295.00	85.97 %
2022	$0	$32,082.00	95.97 %	$64,164.00	81.97 %
2023	$0	$33,044.00	93.97 %	$66,089.00	77.97 %
2024	$0	$34,036.00	91.97 %	$68,071.00	73.97 %
2025	$0	$35,057.00	89.97 %	$70,114.00	69.97 %
Total:	**$1,199,828**	**$308,011.00**		**$616,026.00**	

Deficiency Summary by System

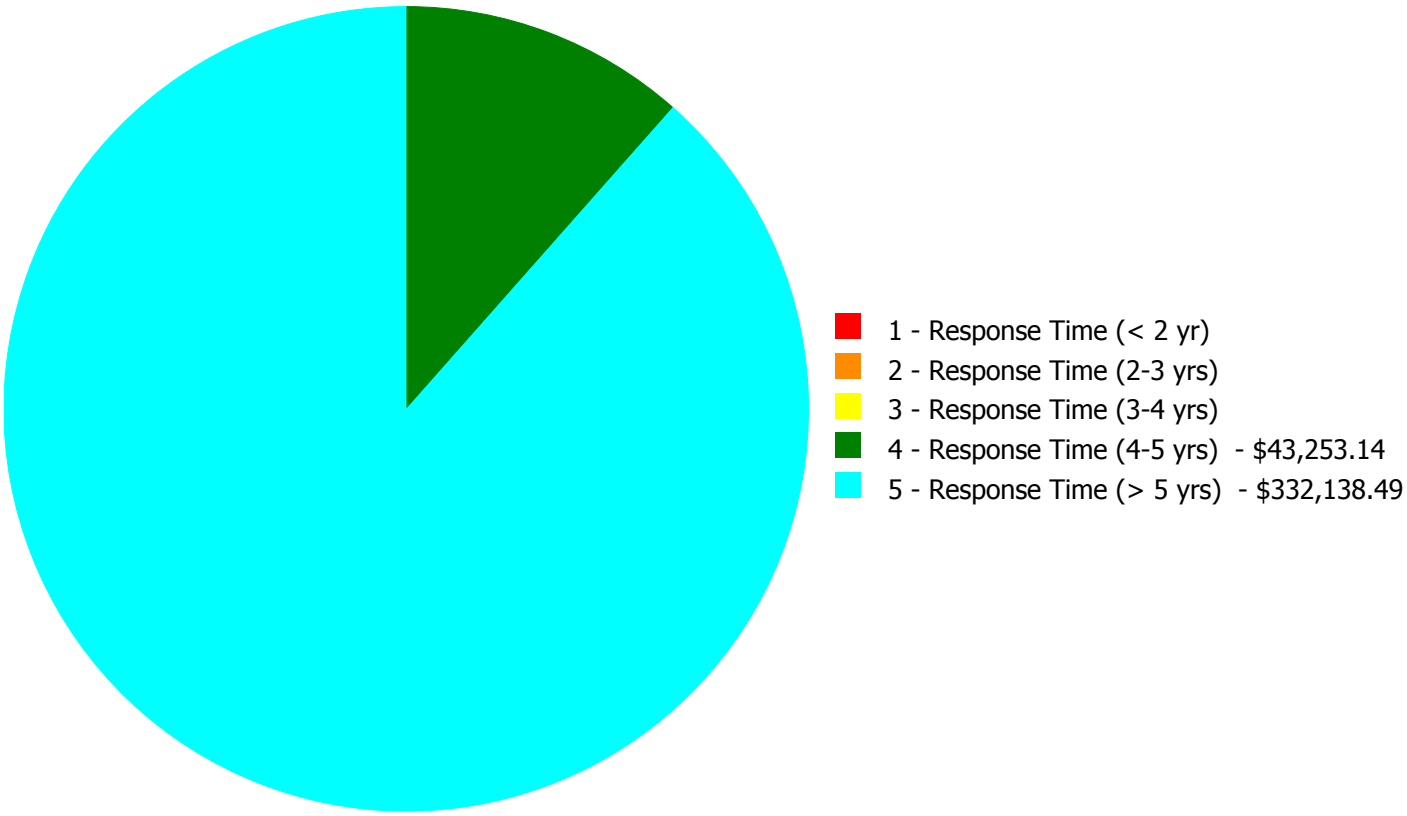
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $375,391.63

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: $375,391.63

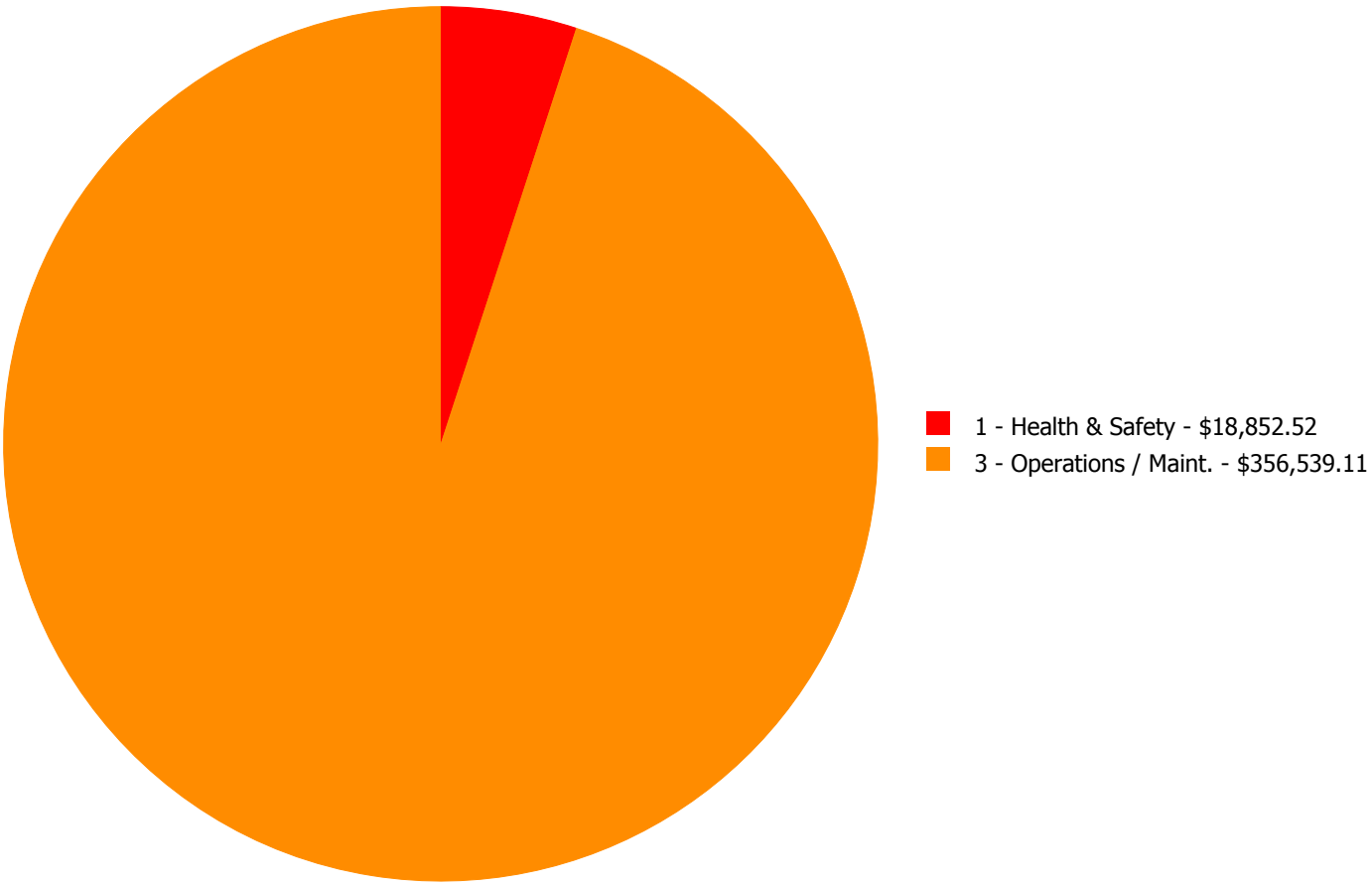
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$0.00	$0.00	$4,550.78	$4,550.78
G2030	Pedestrian Paving	$0.00	$0.00	$0.00	$0.00	$28,765.70	$28,765.70
G2040	Site Development	$0.00	$0.00	$0.00	$0.00	$298,822.01	$298,822.01
G4020	Site Lighting	$0.00	$0.00	$0.00	$43,253.14	$0.00	$43,253.14
	Total:	$0.00	$0.00	$0.00	$43,253.14	$332,138.49	$375,391.63

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: $375,391.63

Deficiency Details by Priority

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

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

System: G4020 - Site Lighting

Location: Site Lighting

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Maintain Site Lighting Fixture

Qty: 5.00

Unit of Measure: Ea.

Estimate: $43,253.14

Assessor Name: Ben Nixon

Date Created: 08/10/2015

Notes: Clean and re-lamp wall mounted site floodlighting fixtures. Include allowance for replacement of up to (5) fixtures.

Priority 5 - Response Time (> 5 yrs):

System: G2020 - Parking Lots

Location: Parking Lot

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Fill cracks in AC paving - by the LF - select appropriate width and depth

Qty: 1,000.00

Unit of Measure: L.F.

Estimate: $4,550.78

Assessor Name: Hayden Collins

Date Created: 09/04/2015

Notes: The asphalt parking area is developing cracks that may turn into hazards and causing determination. It is recommended that the cracks be filled and the play area be resealed with proper area markers to support parking.

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $28,765.70

Assessor Name: Ben Nixon

Date Created: 09/04/2015

Notes: The sidewalk system is original to the buildings construction. There are a several areas of cracking concrete but no tripping hazards. The sidewalk system is expected to expire in the near future. Removal of the entire system is recommended. Universal upgrades are required.

System: G2040 - Site Development

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace chain link fence - 8' high

Qty: 2,500.00

Unit of Measure: L.F.

Estimate: $279,969.49

Assessor Name: Ben Nixon

Date Created: 09/04/2015

Notes: This school has a perimeter fence surrounding the parking / playground area. The fence has several areas of repairs and the mounting post are damaged in several areas, overall the fence is in fair condition. This fence system is recommended to be removed and replaced with a new system within the next five to ten years.

System: G2040 - Site Development

Location: South Entrance

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Ben Nixon

Date Created: 09/04/2015

Notes: The trash dumpster is located near the southwestern fence open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area are 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